

FOI# 14361



NATURAL RESOURCES DEFENSE COUNCIL

October 18, 2013

Via Facsimile (212) 435-7555

Attention: FOI Administrator  
Secretary, The Port Authority of New York and New Jersey  
225 Park Avenue South, 17th Floor.  
New York, NY 10003  
Facsimile: (212) 435-7555

Re: Request for records under the Freedom of Information Code

Dear Secretary:

On behalf of the Natural Resources Defense Council, we request records pursuant to the Port Authority of New York and New Jersey's Freedom of Information Code.

By way of background, the May 2013 Final Environmental Assessment (EA) for the Bayonne Bridge Navigational Clearance Program states that the Port Authority of New York & New Jersey will undertake a number of actions in an attempt to reduce potential health risks associated with construction activities related to the raising of the Bayonne Bridge. In particular, the EA indicates that a Construction Health and Safety Plan (CHASP) will be prepared, air monitoring will be conducted, and soil samples will be taken to reduce health risks associated with construction activities that may disturb contaminated soil in the construction zone. EA at 16-76-16-80. Our record request relates to the Final EA and construction activities that the Port Authority of New York & New Jersey will undertake to raise the Bayonne Bridge. Specifically, we request:

1. All plans, including any CHASP, created to reduce public exposure to hazardous contaminants that may be disturbed by the raising of the Bayonne Bridge. (Hereinafter, the raising of the Bayonne Bridge is referred to as the "Project").
2. All data or analysis considered to create the mitigation plan(s) described in #1 above.
3. The results of any monitoring, sampling or testing performed to assess the presence and amount of hazardous contaminants in or near areas where construction of the Project has or will occur, including but not limited to the results of any air monitoring, groundwater testing, or soil samples.
4. Any analyses of the data mentioned in #3 above, including but not limited to records that characterize pollutant levels or health risks.

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Oct-18-13 01:12pm From-NRDC-LA

October 18, 2013  
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We have access to the Final EA as well as documents posted at <http://www.regulations.gov/#!documentDetail;D=USCG-2012-1091-0118> (the regulations.gov website for the Project). As a result, in responding to this request, the Port Authority need not provide records already publicly available on that website.

Sincerely,



Melissa Lin Perrella  
Senior Attorney

www.nrdc.org

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Oct-18-13 01:12pm FROM-NRDC-LA 3104342399 1-312 P.002/002 F-391

**THE PORT AUTHORITY OF NY & NJ**

March 11, 2014

*FOI Administrator*

Ms. Melissa Lin Perrella  
Natural Resources Defense Council  
1314 Second Street  
Santa Monica, CA 90401

Re: Freedom of Information Reference No. 14361

Dear Ms. Perrella:

This is in response to your October 18, 2013 request, which has been processed under the Port Authority's Freedom of Information Code (the "Code", copy attached) for copies of the following: 1. All plans, including any CHASP, created to reduce public exposure to hazardous contaminants that may be disturbed by the raising of the Bayonne Bridge (the "Project"). 2. All data or analysis considered to create the mitigation plan(s) described in #1 above. 3. The results of any monitoring, sampling or testing performed to assess the presence and amount of hazardous contaminants in or near areas where construction of the Project has or will occur, including but not limited to the results of any air monitoring, groundwater testing, or soil samples. 4. Any analyses of the data mentioned in #3 above, including but not limited to records that characterize pollutant levels or health risks.

Material responsive to your request and available under the Code can be found on the Port Authority's website at <http://www.panynj.gov/corporate-information/foi/14361-O-1.pdf>, <http://www.panynj.gov/corporate-information/foi/14361-O-2.pdf>, <http://www.panynj.gov/corporate-information/foi/14361-O-3.pdf>, <http://www.panynj.gov/corporate-information/foi/14361-O-4.pdf>, <http://www.panynj.gov/corporate-information/foi/14361-O-5.pdf> Paper copies of the available records are available upon request.

Please refer to the above FOI reference number in any future correspondence relating to your request.

Very truly yours,



Daniel D. Duffy  
FOI Administrator

Attachment

225 Park Avenue South, 17th Floor  
New York, NY 10003  
T: 212 435 3642  
F: 212 435 7555

# MEMORANDUM

*Bayonne Bridge Navigational Clearance Program*

*Memo 13-01*

*To:* File

*From:* Dennis Stabile, Program Manager, Bayonne Bridge Navigational Clearance program

***Subject:* Comprehensive Construction Health and Safety Program (CCHASP)**

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The enclosed documentation represents the Comprehensive Construction Health and Safety Program (CCHASP) for the Bayonne Bridge Navigational Clearance Program.

The CCHASP is an evolving document, as it is updated on an ongoing basis to address projected construction activities. In many cases, specific measures are developed for particular activities, to make the CCHASP activity-specific.

Accordingly, there are a number of work specific plans that are currently under review, which will be finalized prior to initiation of that specific work effort, as required by contract documents.

The CCHASP will be updated as contractor submittals are reviewed and finalized.

# Bayonne Bridge Navigational Clearance Program

## Comprehensive Construction Health and Safety Program



# Construction Health and Safety Program Table of Contents

1. Health and Safety Manual
2. Emergency Action Plan
3. Dust Control Plan
4. Construction Air Monitoring Program
5. Materials Management Plan for In-Situ Sampling
6. Materials Management Plan for Stockpiled Soil
7. Lead Abatement Contract Specifications
8. RCRA Hazardous Waste Emergency Contingency Plan

**SKANSKA**  **Kiewit**  
**Health and Safety Manual**

Bayonne Bridge  
Replacement of Main Span  
Contract # AKB-264.039

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## **1 INTRODUCTION TO SKANSKA KIEWIT.**

Skanska Kiewit understands the complexity of construction projects and is totally committed to running an injury-free jobsite.

We are aware of the hazards inherent in all projects and set forth herein our strategies to eliminate and/or protect against these hazards. We will evaluate and plan all activities prior to work commencing to insure that all operations are carried out in a safe manner. We will evaluate the safety concerns as the project progresses and will implement all measures necessary to support our commitment to an injury free workplace.

We realize it is our obligation to protect not only our employees but also the environment and all others who may come in contact with, or are exposed to, our projects. We take this responsibility very seriously and will do all that is necessary to fulfill this obligation.

These policies are to be considered a minimum effort towards compliance and will be re-evaluated on an ongoing basis.

### **Zero Injury Policy**

Management's top responsibility is to clearly set the expectation that ZERO is the only acceptable goal. Any other goal sends a dual message that injuries must occur and are, therefore, acceptable. Acceptance of injuries fosters a loss of control and subsequent loss of willingness and ability to significantly impact severity or frequency of occurrence. Symptomatic is the attitude: "There was nothing we could have done to prevent this injury."

Alternatively, by accepting only ZERO, everyone must take responsibility for accident prevention. Symptomatic of this is the attitude: "There is something we could have done to prevent that injury. Let's figure out what it is!" When management action parallels management desire to accept only ZERO, all employees will begin to believe that management is really serious about safety.

The ZERO injury concept reflects Skanska Kiewit's genuine acceptance of personal responsibility for the welfare of our employees. Nothing positively impacts the culture of an organization more than the realization that management really cares about and trusts the employees.

## 2 HEALTH AND SAFETY PROGRAM - POLICY STATEMENT

Skanska Kiewit employees deserve a work environment that is free of injuries. Therefore, Skanska Kiewit managers shall provide an injury free workplace for all employees and subcontractors. Each of us shall, as a core value, take responsibility for eliminating and managing all workplace hazards. We must seek out, identify, and treat all employee injuries while at the same time holding all employees accountable to acceptable performance standards.

Our aggressive leadership in each of the action items below will ensure attainment of OUR ULTIMATE GOAL - ZERO WORKPLACE INJURIES. We believe that the management skills, commitment, and teamwork required to achieve a zero injury workplace are identical to those required to build an organizationally strong and financially secure company. By striving for Zero, we shall not only be meeting our moral obligation, but also will be guaranteeing our future success.

The following minimum action items have been established:

1. Each January 1st, new INTERMEDIATE SAFETY GOALS shall be specified in order to measure performance and progress towards our ultimate goal. These goals shall be supported with specific new actions to be implemented.
2. Each employee shall be appropriately trained prior to starting a new work assignment. This training shall, at minimum, include WORKPLACE ORIENTATION, care and use of PERSONAL PROTECTIVE EQUIPMENT, and specific ACTIVITY PLANNING instructions.
3. Every potentially injured employee shall be provided with IMMEDIATE MEDICAL ATTENTION by the local established Health Care Clinic.
4. Each NEAR MISS shall be investigated and Managers notified as if it were a lost time injury.
5. SUBCONTRACTORS shall be qualified as to safety performance prior to contract award. Further, safety performance shall be closely monitored and all injuries investigated, documented, and reviewed by Project Management
6. We shall aggressively communicate our HEALTH AND SAFETY PLAN to all subordinates with innovation and effectiveness.
7. The Safety Director will assist Project Management to develop, implement, and monitor compliance in all safety programs, policies, and procedures.



Richard Cavallaro  
President/CEO  
Skanska Kiewit USA Civil Inc.

### **3 STATEMENT OF MANAGEMENT COMMITMENT AND RESPONSIBILITIES**

Any program or procedure is only as good as its implementation. Management will be actively involved with all employees in establishing and maintaining an effective safety program company wide. Members of our management team will participate with projects and employees in program activities that include but are not limited to:

- Promoting safety program participation by all employees;
- Providing safety and health education and training;
- Adopting, reviewing and updating workplace safety rules and regulations; and
- Providing the financial resources necessary to promote a safe workplace.

This safety program has been adopted as the standard of practice for Skanska Kiewit and for compliance with our safety rules that will be required by all employees as a condition of employment.

### **3.1 Responsibilities**

#### **3.1.1 Executive Management**

- Develop Safety Policy;
- Communicate policy and expectations;
- Prioritize activities and allocate resources;
- Oversee compliance with contract terms and conditions;
- Monitor safety performance; and
- Any other responsibilities as defined in this Health and Safety Plan.

#### **3.1.2 Project Manager**

- Same as Executive Management in terms of jobsite overview;
- Develop plans and programs to implement policy and programs;
- Oversee problem identification / corrective action processes;
- Solicit and respond to feedback and lessons learned; and
- Any other responsibilities as defined in this Health and Safety Plan.

#### **3.1.3 Superintendent(s)**

- Develop procedures to implement plans and programs;
- Ensure hazard awareness and communication;
- Oversee work planning and execution;
- Solicit and use worker input;
- Implement corrective actions; and
- Any other responsibilities as defined in this Health and Safety Plan.

#### **3.1.4 Safety Manager / Engineer**

- Ensure safety procedures are established as per policy and programs;
- Ensure safety compliance;
- Assists and Review procedures to implement plans and programs;
- Assist Project Management in developing controls that ensure safety procedures are enforced;
- Solicit and respond to feedback and lessons learned; and
- Any other responsibilities as defined in this Health and Safety Plan.

#### **3.1.5 Foremen**

- Control the work scope;
- Identify hazards;

- Implement hazard controls;
- Authorize jobs / tasks;
- Provide feedback and lessons learned; and
- Any other responsibilities as defined in this Health and Safety Plan.

### **3.1.6 Employees**

- Maintain technical competence;
- Perform work within controls;
- Identify hazards and report incidents;
- Stop work, if necessary; and
- Any other responsibilities as defined in this Health and Safety Plan.

## **4 ZERO TOLERANCE, ACCOUNTABILITY AND DISCIPLINARY PROGRAM**

### **4.1 Purpose**

The purpose of this program is to hold everyone equally responsible for preventing injuries and accidents. We will hold all levels of personnel equally accountable for their actions and subject them to the same levels of discipline.

Zero tolerance means there is no place for persons creating a hazardous condition or performing work in an unsafe manner on our job sites with no exceptions.

### **4.2 Responsibilities**

#### **4.2.1 Project Management shall:**

- Enforce the Zero Tolerance, Accountability, and Disciplinary Program on the project level.

#### **4.2.2 Safety Director and Project Executive shall:**

- Enforce the Zero Tolerance, Accountability, and Disciplinary Program on Project Management.

### **4.3 Procedure**

#### **4.3.1 Communication:**

- This program shall be communicated to all employees; and
- Review of this program is required as part of the employee New Hire Orientation.

#### **4.3.2 Zero Tolerance:**

- There will be no tolerance for anyone creating a hazardous condition or performing work in an unsafe manner;
- There will be no tolerance for anyone damaging company vehicles, equipment, and tools or causing damage to another person's property when taking proper precautions could have prevented the damage;
- There will be no tolerance for anyone violation the Cell Phone User Program; and
- Zero Tolerance holds everyone responsible and accountable for preventing incidents.

#### **4.3.3 Levels of Discipline:**

- Refer to the individual Safety Disciplinary Program for levels of discipline at each B.U.

#### **4.3.4 Auto Incidents:**

- Refer to Fleet Safety Program.

#### **4.3.5 Administration:**

- This program will be enforced without exception.

#### **4.3.6 Recordkeeping:**

- Reprimands will be recorded, whether verbal or written; and
- Reprimands will be filed with the individual employee's records and B.U. / Regional Safety Department.

## **5 AERIAL WORK PLATFORMS (AWPS) – AERIAL LIFTS, BOOM LIFTS AND SCISSOR LIFTS**

### **5.1 Purpose**

The purpose of this program is to establish safe working practices for our employees working on or around Aerial Work Platforms. Aerial Work Platforms (AWPs), including telescoping boom platforms, aerial ladders, articulating boom platforms and vertical towers are covered by this program.

### **5.2 Applicable Regulations**

[OSHA 29 CFR 1926.453](#)

[OSHA 29 CFR 1926.502](#)

[OSHA 29 CFR 1926.952](#)

### 5.3 Responsibilities

#### 5.3.1 Project Management shall:

- Train employees in the requirements identified in this program before they operate an AWP;
- Ensure employees are performing daily, documented visual inspections on AWP; and
- Ensure employees are operating AWP safely.

#### 5.3.2 Operators shall:

- Operate AWP safely and in accordance with the company and manufacturer's guidelines and procedures.
- Perform daily, documented visual inspections prior to operating an AWP (see attachment at the end of this section).

### 5.4 Procedures

#### 5.4.1 Aerial/Boom Lifts:

- Only certified AWP operators will operate aerial/boom lifts;
- The employee will be required to perform an Aerial Lift Pre-Shift Inspection on the machine by filling out the inspection form (see attachment);
- The employee shall wear a full body harness and be tied off with a Self-Retracting Lifeline (SRL) or a shock absorbing lanyard to the manufacturer's designated anchorage point, at all times while operating the machine;
- Tying off to an adjacent pole, structure, or equipment while working from an AWP shall not be permitted;
- Designated operators will be held accountable for the safe operation of the AWP to which they are assigned. If the AWP is operated in an unsafe manner, the operator will be subject to disciplinary action up to, and including, termination;
- Employees shall always stand firmly on the platform of the AWP. An employee shall never stand, sit or climb on the edge of the platform, or use any type of ladder, plank or other device as a work positioning system;
- Boom or basket load limits shall not be exceeded for any reason;
- An aerial boom lift truck shall not be moved when the boom is extended in a working position and employees are in the platform, unless the equipment has been specifically designed for this purpose;
- Climbers shall not be worn while performing work from an AWP;
- The insulating portion of a man lift shall not be altered, or integrity compromised in any way to reduce its insulating value;

- In no instance shall man lifts be used in the manner of a crane or to hoist material; and
- In the event that an AWP is stuck or jammed; the operator must immediately shut down the machine and summon help. The employee will be rescued from the machine by other means, and the lift will be operated from the ground controls to free it.

#### 5.4.2 Scissor Lifts

- Only authorized personnel will operate scissor lifts;
- Employees must follow the manufacturer's recommendations regarding tie off requirements.
- The operator of the machine is required to complete a documented, focused inspection prior to operating the machine. Daily Visual Inspections are to be completed daily using the attached "Aerial Platform Pre-Shift Inspection" (see Exhibit):
- The employee shall wear a full body harness and be tied off with a Self-Retracting Lifeline (SRL) or a shock absorbing lanyard to the manufacturer's designated anchorage point, at all times while operating the machine;
- Do not attempt to operate a man lift that is not functioning properly.

#### 5.5 Training

- All employees required to use an AWP will require site-specific or documented certified training on lift manufacturer unit; and
- The superintendent or designee must observe the employee while the employee operates the machine to ensure that they possess the skill with the machine to operate it safely, including, but not limited to,
  - Safe operation of man lifts;
  - Hazards associated with the operation of AWP's; and
  - How to conduct a daily visual inspection of the machine to which they are assigned.



# SKANSKA Aerial Platform Pre-Shift Inspection



DATE: \_\_\_\_\_ INSPECTOR: \_\_\_\_\_  
 JOBSITE: \_\_\_\_\_ UNIT ID: \_\_\_\_\_  
 Foreman: \_\_\_\_\_

	#	ITEM	CHECK	OK / NG / NA	COMMENT
<b>PAPER WORK</b>	1	Operation Manual	Must be on unit at all times		
	2	AEM Safety Manual	Must be on unit at all times		
	3	ANSI A92.5 or A92.6 Standards	Must be on unit at all times		
<b>GENERAL MAINTENANCE</b>	4	Data Plate	Must be clean and legible		
	5	Emergency Power Motor	Check operation		
	6	Engine Oil	Check oil level		
	7	Fuel Lines	Check for leaks		
	8	Fuel Tank Cap	Visually inspect		
	9	Fuel Tank	Check fuel level		
	10	Engine Coolant	Check fluid level		
	11	Hydraulic Fluid Tank	Check fluid level		
	12	Hydraulic Lines	Check hoses + connections		
	13	Wiring Harnesses	Visually inspect condition		
	14	Battery terminals	Visually inspect (corrosion)		
<b>LOWER UNIT</b>	15	Boom	Visually inspect for damage		
	16	Boom slide pads	Visually inspect for boom wear marks		
	17	Pivot pins	Inspect for excessive play		
	18	Unit Frame and Structure	Visually inspect for damage / cracks		
	19	Outriggers / Stabilizers	Check for damage and function		
	20	Tires	Check for low pressure, cuts, or bulges		
<b>LOWER CONTROLS</b>	21	Lift/ Lower	Check function		
	22	Telescope In / Out	Check function		
	23	Rotation CW / CCW	Check function		
	24	Platform Rotation	Check function		
	25	Platform Tilt	Check function		
<b>UPPER UNIT</b>	26	Guardrail System	Check for damage		
	27	Gate	Check for damage, check latch function		
	28	Platform Floor and foot pedal	Check for damage and proper function		
<b>UPPER CONTROLS</b>	29	Labels	All controls clearly identified		
	30	Foreword / Reverse	Check function		
	31	Steering	Check function		
	32	Travel Speeds Hi / Lo	Check function		
	33	Lift/ Lower	Check function		
	34	Telescope In / Out	Check function		
	35	Rotation CW / CCW	Check function		
	36	Platform Rotation	Check function		
	37	Platform Tilt	Check function		
	38	Emergency Stop	Check function		
<b>WORK AREA INSPECTION</b>	39	Drop-offs or Holes	Check for presence, guard if nearby		
	40	Bumps or Floor Obstructions	Check for presence / note locations		
	41	Overhead Obstructions	Check for presence / note locations		
	42	Overhead Power Lines	No closer than 15' for lines < 50KV		
	43	Hazardous Atmospheres	No combustible atmospheres		
	44	Supporting Structure	Engineering determination of adequacy		
	45	Winds and Weather	Winds no greater than 25 MPH		
	46	Authorized Persons	No untrained, unauthorized operators		
	47	Proper Fall Arrest Equipment	Boomlift requires harness and lanyard		
	48	Platform Loading Limit	Total persons / equipment within capacity		14

## **6 CELL PHONE USER PROGRAM**

### **6.1 Purpose**

It is the program of Skanska Kiewit to provide communication technology capabilities for specific employees to help them remain productive and safe. When employees are entrusted with any technology, it is their responsibility to utilize it in a safe, prudent manner that in no way jeopardizes their safety or that of other employees and the motoring public - this includes protection of equipment, facilities, and other materials.

It is essential that when a conflict exists between safety and the utilization of an in-vehicle cell phone whether in auto or heavy equipment, safety must receive top priority. Similarly, workers who, in their day-to-day work are involved in construction using: tools; working at heights; and working around mechanized equipment, need to have all senses focused on the work area. Cell phones can easily distract from the day-to-day work activities and can very easily lead to a serious accident. Therefore, all employees using such devices in automotive vehicles or heavy equipment, company owned or rented, or working on a project site must receive, read and comply with this program.

### **6.2 Responsibilities**

All employees shall comply with the Cell Phone User Program. Under no circumstances shall any employee be permitted to operate a Skanska Kiewit vehicle or a piece of heavy equipment without a hands-free device. Hands-Free products will be given to all employees who have been assigned a Skanska Kiewit-owned cellular phone. Any employees working on specific job projects will receive their Hands-Free kits from the Project supervision on that site.

Projects are responsible for purchasing appropriate hands-free products for company owned cellular phones with the approval of the Project Executive for that site.

### **6.3 Procedural Overview**

All employees, while operating a Skanska Kiewit piece of heavy equipment or vehicle, whether company owned or rented, shall utilize a cell phone "Hands-Free" product, whether portable or permanently installed in a vehicle or piece of equipment. Any traffic violation or fine issued to the cell phone user due to non-compliance with this program will be the responsibility of the cell phone user, and not Skanska Kiewit

Use of personal cell phones during normal work hours on site is not permitted. Compliance with this program is mandatory and anyone operating a automotive vehicle or a piece of heavy equipment whether company owned or rented not in strict accordance with this program will be reprimanded for failure to comply with the stated program.

## 6.4 Use

- The use of personal cell phones / radios shall not be permitted during normal work hours while on Project Worksite or when operating any equipment / machinery.
- The use of personal cell phones shall be limited to designated breaks and lunch periods.
- If there is an emergency, and someone needs to reach a worker, have that individual call the site office and the worker or worker's foreman will be contacted.

# 7 CONCRETE AND MASONRY

## 7.1 Purpose

The purpose of this program is to establish safe working guidelines when using or performing work with concrete and masonry products.

## 7.2 Applicable Regulations

[OSHA 29 CFR 1926.700](#)

[OSHA 29 CFR 1926.701](#)

[OSHA 29 CFR 1926.702](#)

[OSHA 29 CFR 1926.703](#)

[OSHA 29 CFR 1926.704](#)

[OSHA 29 CFR 1926.705](#)

[OSHA 29 CFR 1926.706](#)

## 7.3 Definitions

**Formwork:** The total system of support for freshly placed or partially cured concrete, including the mold or sheeting (form) that is in contact with the concrete as well as all supporting members including shores, re-shores hardware, braces, and related hardware.

**Jacking operation:** The task of lifting a slab (or group of slabs vertically from one location to another (e.g., from the casting location to a temporary (parked) location, or to its final location in the structure), during the construction of a building/structure where the lift-slab process is being used.

- Lift slab:** A method of concrete construction in which floor, and roof slabs are cast on or at ground level and, using jacks, lifted into position.
- Limited access zone:** An area alongside a masonry wall, which is under construction, and which is clearly demarcated to limit access by employees.
- Precast concrete:** Concrete members (such as walls, panels, slabs, columns, and beams) which have been formed, cast, and cured prior to final placement in a structure.
- Re-shoring:** The construction operation in which shoring equipment (also called re-shores or re-shoring equipment) is placed, as the original forms and shores are removed, in order to support partially cured concrete and construction loads.
- Shore:** A supporting member that resists a compressive force imposed by a load.
- Vertical slip forms:** Forms which are jacked vertically during the placement of concrete.

## 7.4 Responsibilities

### 7.4.1 Project Management shall:

- Enforce the details of this program;
- Designate a Competent Person to oversee Concrete and Masonry activities; and
- Train employees in the hazards of concrete operations including mixing, placing, and precast concrete operations.

## 7.5 Concrete Hazards

### 7.5.1 Health Hazards:

- Working with concrete products such as cement or mortar is dangerous because of the high concentration of lime. When in contact with skin for prolonged periods, these products absorb moisture from the skin and body causing them to dry out, harden and crack. At the same time, concrete can cause a chemical burns that results in raw sores prone to infection;
- People whose skin tends to sunburn and/or dry out or crack easily have a higher risk for concrete burns and must take extra precautions when working around concrete;
- Concrete that soaks into clothing or spills into rubber boots must be addressed immediately upon discovery as continued exposure to the skin may create health hazards;
- Friction caused by sand in the concrete can irritate and expose sensitive skin allowing a severe chemical burn to develop more quickly;
- Workers must wash themselves and change clothes, gloves, and boots immediately if they become soaked. (A mild soap containing lanolin may ease further irritation/injury to sensitive skin);
- Any exposed skin should be protected with barrier cream;
- Water must be available to wash concrete off the skin before it can burn. Vinegar or a commercial neutralizer can be used to counteract the burning effect;
- Eyecups and eyewash must also be kept near concrete placement;
- All concrete burns must be reported and treated immediately. Do not underestimate the seriousness of a concrete burn; minor irritations can become serious infections before you realize what has happened;
- Inhalation of concrete dust containing silica during drilling or mixing operations will cause silicosis
- Engineering & Administrative controls outline in the construction plan will be implemented during to mitigate or minimize exposure;

- Proper PPE shall be worn at all times, specifically respiratory protection. Workers will be medically cleared after completing an MEQ and an evaluation by a licensed PLHCP, and if cleared will be fit tested. Proper air purifying cartridge will be worn with either a ½ -face or a full-face respirator; and
- Surrounding workers will be protected from exposure due to migratory dust.

#### **7.5.2 Physical Hazards:**

- When placing concrete, ensure the ground will support the loaded concrete truck or pump truck;
- Check for buried tanks, shallow sewers and utilities, or loosely back-filled trenches and basements;
- Trucks should stay away from excavated areas where their vibration and weight can cause shifting in unstable excavated areas;
- Pump trucks will deploy and fully extend all outriggers onto firm level ground;
- Pump boom will maintain minimum approach distance to power lines of 15ft for up to 50kV. A spotter may be required to assist if the operator does not have a clear view;
- Concrete weights 150 pounds per cubic foot. Our employees must maintain stable footing and good balance to avoid strains and sprains from over-lifting or shoveling;
- Use caution when unfolding or attaching concrete truck chutes; make sure they are tied off properly to prevent wild jolts and that open chutes are anchored properly before releasing concrete;
- Always provide access across rebar prior to concrete placement. Planks routed to access points will prevent falls between the rebar that result in ankle, knee and back injuries;
- Be aware of pinch points when installing chutes as well as using whip checks on all lines;
- Blanking plate will be used to control or stop flow and when flying hose after pour to prevent any residual concrete debris from falling on workers below; and
- Signalman will direct pump truck into position.

### **7.6 Procedure**

#### **7.6.1 General Requirements:**

- No construction load shall be placed on a concrete structure until it has been determined that it can support the load;
- All protruding reinforcing steel, onto which employees could fall, shall be guarded to eliminate the hazard of impalement;
- No employee, other than those essential to the work, shall be permitted behind the jack during tensioning operation; signs and barriers shall be erected to limit employee access;

- No employee shall be allowed to ride on a concrete bucket;
- Elevated concrete buckets shall be routed so that no employees are exposed to hazards associated with falling concrete and/or buckets;
- No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered;
- Walkways will be setup for proper access/egress;
- Tagline will be used to control bucket as well as to activate release of the bucket, if required;
- Air horns will signal when bucket is being flown overhead; and
- Pre-placement inspection will be performed to verify all of the above controls and inspections are in place.

#### **7.6.2 Equipment and Tools:**

- Concrete mixers with one cubic yard or larger loading skips shall be equipped with a mechanical device to clear the skip of materials and guardrails installed on each side of the skip;
- Powered and rotating type of concrete troweling machines that are manually guided shall be equipped with a control switch (a.k.a. “deadman” switch) that will automatically shut off the power whenever the hands of the operator are removed from the equipment handles;
- Concrete buggy handles shall not extend beyond the wheels on either side of the buggy;
- Concrete pumping systems using discharge pipes shall be provided with pipe supports designed for 100 percent overload;
- Concrete buckets equipped with hydraulic or pneumatic gates shall have positive safety latches;
- Concrete buckets shall be designed to prevent concrete from hanging up on top and the sides;
- Sections of tremies and similar concrete conveyances shall be secured with wire rope (or equivalent materials) in addition to the regular couplings or connections;
- Ensure that all concrete and masonry tools are inspected prior to use;
- Bull flat handles shall be constructed of nonconductive material or insulated with a nonconductive sheath;
- Masonry saws shall be guarded with a semicircular enclosure over the blade. A method for retaining blade fragments shall be incorporated in the design of the semicircular enclosure; and
- No employee shall be permitted to perform maintenance or repair on equipment where the inadvertent operation of the equipment could occur and cause injury, unless all potentially hazardous energy sources have been locked out and tagged.

### **7.7 Cast-In-Place Concrete**

#### **7.7.1 General:**

- Drawings or plans, including all revisions, for the jack layout, formwork (including shoring equipment), working decks and scaffolds, shall be available at the jobsite;
- All shoring equipment (including equipment used in re-shoring operations) shall be inspected prior to erection;
- Erection shoring equipment shall be inspected immediately prior to, during and immediately after concrete placement. If it is found damaged, it shall be immediately reinforced;
- Section off decking area below under concrete placement area with “Do Not Enter” signage;
- The sills for shoring shall be sound, rigid, and capable of carrying the maximum intended load;
- All base plates, shore heads, extension devices, and adjustment screws shall be in firm contact, and secured when necessary, with the foundation and the form;
- Eccentric loads on shore heads and similar members shall be prohibited unless these members have been designed for such loading;
- Whenever single post shores are used on top of another (tiered):
  - A qualified designer shall prepare the design of the shoring and an engineer qualified in structural design shall inspect the erected shoring; and
  - The single post shores shall be vertically aligned, be spliced to prevent misalignment, and adequately braced in two mutually perpendicular directions at the splice level. Each tier shall also be diagonally braced in the same two directions.
- Adjustments of single post shores to raise formwork shall not be made after the placement of concrete; and
- Re-shoring shall be erected, as the original forms and shores are removed, whenever the concrete is required to support loads in excess of its capacity.

#### **7.7.2 Vertical Slip Forms**

- Formwork shall be designed, fabricated, erected, supported, braced and maintained so that it will be capable of supporting, without failure, all vertical and lateral loads anticipated to be applied to the formwork;
- The steel rods or pipes on which jacks climb or by which the forms are lifted shall be specifically designed for that purpose, and adequately braced where not encased in concrete;
- Forms shall be designed to prevent excessive distortion of the structure during the jacking operation;
- All vertical slip forms shall be provided with scaffolds or work platforms where employees are required to work or pass;
- Jacks and vertical supports shall be positioned in such a manner that the loads do not exceed the rated capacity of the jacks;

- The jacks or other lifting devices shall be provided with mechanical dogs or other automatic holding devices to support the slip forms whenever failure of the power supply or lifting mechanism occurs;
- The form structure shall be maintained with all design tolerances specified for plumb during the jacking operation; and
- The predetermined safe rate of lift shall not be exceeded.

#### **7.7.3 Reinforcing Steel:**

- Reinforcing steel for walls, piers, columns, and similar vertical structures shall be adequately supported to prevent overturning and to prevent collapse; and
- Measures shall be taken to prevent unrolled wire mesh from recoiling.

#### **7.7.4 Removal of Formwork:**

- Forms and shores (except those used for slabs on grade and slip forms) shall not be removed until it has been determined that the concrete has gained sufficient strength to support its weight and superimposed loads; and
- Re-shoring shall not be removed until the concrete being supported has attained adequate strength to support its weight and all loads in place upon it.

### **7.8 Precast Concrete Erection**

#### **7.8.1 General:**

- Precast concrete wall units, structural framing, and tilt-up wall panels shall be adequately supported to prevent overturning and to prevent collapse until permanent connections are completed;
- Lifting inserts which are embedded or otherwise attached to tilt-up precast concrete members shall be capable of supporting at least two times the maximum intended load applied or transmitted to them;
- Lifting inserts which are embedded or otherwise attached to precast concrete members, other than the tilt-up members, shall be capable of supporting at least four times the maximum intended load applied or transmitted to them;
- Lifting hardware shall be capable of supporting at least five times the maximum intended load applied or transmitted to the lifting hardware;
- Proper lifting devices will be used for precast such as lifting lugs if applicable, otherwise, a lifting plan will be prepared and made part of the construction plan; and
- No employee shall be permitted under precast concrete members being lifted or tilted into position except those employees required for the erection of those members.

### 7.8.2 Lift Slab Requirements:

- All lift slab operations shall be designed by a Registered Professional Engineer with experience in this field.

### 7.9 Masonry Construction Requirements

7.9.1 A limited access zone shall be established whenever a masonry wall is being constructed. The limited access zone shall:

- Be established prior to the start of construction of the wall;
- Be equal to the height of the wall to be constructed plus four feet, and shall run the entire length of the wall;
- Be established on the side of the wall that does not have a scaffold;
- Be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter the zone;
- Remain in place until the wall is adequately supported;
- All masonry walls over eight feet in height shall be adequately braced to prevent overturning and to prevent collapse unless the wall is adequately supported so that it will not overturn or collapse. The bracing shall remain in place until permanent supporting elements of the structure are in place;
- Establish requirements for supporting masonry walls during construction;
- Limited access zone shall encompass both the front and rear of the work area; and
- No material shall be leaned or stacked against the wall until fully supported.

## 8 CONFINED SPACES/PERMIT-REQUIRED CONFINED SPACES

### 8.1 Purpose

The purpose of this program is to protect our employees from the hazards associated with Permit Required Confined Spaces on our job sites. We will take the necessary steps to correctly evaluate Confined Spaces and Permit-Required Confined Spaces in order to safely enter and perform our work.

All employees taking part in an entry will be trained in accordance with the requirements of this program.

### 8.2 Applicable Regulations

[OSHA 29 CFR 1926.21](#)

[OSHA 29 CFR 1910.146](#)

### 8.3 Definitions Applicable to this Program

<b>Attendant:</b>	The individual stationed outside one or more permit-required confined space(s) who monitors the authorized entrants and who performs all assigned attendant's duties.
<b>Authorized entrant:</b>	One who is authorized by the supervisor to enter a permit-required confined space(s)
<b>Blanking or blinding:</b>	The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.
<b>Confined Space:</b>	A space that is: <ul style="list-style-type: none"><li>• Large enough and so configured that an employee can bodily enter and perform work;</li><li>• Has limited or restricted means for entry and exit; and</li><li>• Is not designed for continuous human occupancy.</li></ul>
<b>Double block and bleed:</b>	The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.
<b>Emergency:</b>	Any occurrence or event, internal or external to the permit-required confined space that could endanger entrants.

<b>Entry:</b>	The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening in the space.
<b>Acceptable entry conditions:</b>	Must exist in a permit-required confined space to allow entry and to ensure that employees involved with permit-required confined space entry can safely enter into and work within the space.
<b>Engulfment:</b>	The surrounding and effective capture of a person by a liquid or finely divided (flow-able) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.
<b>Entry supervisor:</b>	The person responsible for determining if acceptable entry conditions are present at a permit-required confined space where entry is planned, for authorizing entry into the permit-required confined space, for overseeing entry operations, and for terminating entry as required.
<b>Hazardous atmosphere:</b>	An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes: <ul style="list-style-type: none"> <li>• Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL);</li> <li>• Airborne combustible dust at a concentration that meets or exceeds its LFL or obscures vision at a distance of five (5) feet or less;</li> <li>• Atmospheric oxygen concentration below 19.5% or above 23.5%; and</li> <li>• Atmospheric concentration of any substance at or above its published Permissible Exposure Limit (PEL).</li> </ul>
<b>Hot work permit:</b>	The written authorization to perform operations capable of providing a source of ignition such as riveting, welding, cutting, burning, etc.
<b>Immediately Dangerous to Life or Health (IDLH):</b>	Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit-required confined space.
<b>Inerting:</b>	The displacement of an atmosphere in a permit-required confined space by a noncombustible gas such as nitrogen, to such an extent that the resulting atmosphere is non-combustible.
<b>Isolation:</b>	The process by which a permit-required confined space is removed from service and completely protected against the release of energy and material into the space by such means as, blanking or blinding, misaligning or removing sections of lines, pipes, or dusts, a double block and bleed system,

Lockout and Tagout all mechanical linkages.

<b><i>Line breaking:</i></b>	The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.
<b><i>Non-permit confined space:</i></b>	A confined space that does not contain, or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious harm.
<b><i>Oxygen deficient atmosphere:</i></b>	An atmosphere containing less than 19.5 percent oxygen by volume.
<b><i>Oxygen enriched atmosphere:</i></b>	An atmosphere containing more than 23.5 percent oxygen by volume.
<b><i>Permit-Required confined space :</i></b>	<p>A space that meets all three criteria of a confined space and that has one or more of the following characteristics:</p> <ul style="list-style-type: none"><li>• Contains or has the potential to contain a hazardous atmosphere;</li><li>• Contains a material that has the potential for engulfing an entrant;</li><li>• Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.</li></ul>
<b><i>Permit system:</i></b>	A written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.
<b><i>Prohibited condition:</i></b>	Any condition in a permit-required confined space that is not allowed by the permit during the period when entry is authorized.
<b><i>Rescue service:</i></b>	The personnel designated to rescue employees from permit-required confined spaces.
<b><i>Retrieval system:</i></b>	The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.
<b><i>Testing:</i></b>	The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

## 8.4 Responsibilities

### 8.4.1 Project Management shall:

- Evaluate worksites for the presence of Permit-Required Confined Space;
- Inform employees of the presence and location of Permit-Required Confined Spaces on the work site;
- Mark Permit-Required Confined Spaces with signs reading “Danger – Permit-Required Confined Space – Do Not Enter” (or using other similar language that would satisfy the requirement);
  
- Implement the measures necessary to prevent unauthorized entry;
- Train all employees who take part in the entry operations in the requirements of this program;
- Provide all equipment necessary for safe entry into and rescue from Permit-Required Confined Spaces;
- Establish space specific, written procedures for Permit-Required Confined Space entry.
- Designate the persons who have active roles in entry operations, such as, authorized entrants, attendants, entry supervisors, or persons who test and monitor the atmosphere in a permit-required confined space.
- Identify the duties of each employee, and provide each employee with the required training;
- Develop and implement emergency procedures, including, emergency services, rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel from attempting a rescue;
- Develop and implement a system for the preparation, issuance, use, and cancellation of entry permits as required;
- Request a review of entry operations when they believe that the measures taken under the permit-required confined space program may not protect employees. Then revise the program to correct the deficiencies before subsequent entries are authorized; and
- Review the Permit-Required Confined Space program annually by using the retained, canceled permit.
- Review entry operations when Project Management has reason to believe that the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized.
  
- NOTE: Examples of circumstances requiring the review of the permit space program are:
  - Any unauthorized entry of a permit space,
  - The detection of a permit space hazard not covered by the permit,

- The detection of a condition prohibited by the permit,
- The occurrence of an injury or near-miss during entry,
- A change in the use or configuration of a permit space, and
- Employee complaints about the effectiveness of the program.

#### **8.4.2 Authorized Entrants shall:**

- Not enter Permit-Required Confined Spaces unless authorized to do so;
- Follow all entry procedures including but not limited to:
  - Verification of acceptable entry conditions;
  - Continuous air monitoring;
  - Implementation of forced air ventilation if necessary;
  - Proper use of equipment required;
  - Communication with attendant and other entrants; and
  - Any other procedures deemed necessary for safe operations.

#### **8.4.3 Alert attendant when:**

- He/She recognizes any warning sign or symptom of exposure to a hazard; or
- He/She detects a prohibited condition.
- Exit the Permit Space immediately when:
  - An order to evacuate is given by the attendant or the entry supervisor;
  - He/She recognizes any warning sign or symptom of exposure to a hazard;
  - He/She recognizes detects a prohibited condition; or
  - An evacuation alarm is sounded.

#### **8.4.4 Authorized Attendant(s) shall follow all entry procedures including, but not limited to:**

- Verification of acceptable entry conditions;
- Continuous air monitoring;
- Implementation of forced air ventilation if necessary;
- Communication with entrants;
- Any other procedures deemed necessary for safe operations.
- Continuously maintain an accurate count of authorized entrants in the permit–required confined space, noting time of entry and exit;
- Take the following actions when unauthorized persons approach or enter a permit–required confined space while entry is in progress:
- Warn the unauthorized person(s) that they must stay away from the permit–required confined space;
- Advise the unauthorized persons that they must exit immediately, if they have entered the permit–required confined space; and
- Inform the authorized entrants and the entry supervisor if an unauthorized person(s) has entered the permit–required confined space.

- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit–required confined space immediately under any of the following conditions:
  - If the attendant detects a prohibited condition;
  - If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;
  - If the attendant detects a situation outside the space that could endanger the authorized entrants;
  - or
  - If the attendant cannot effectively and safely perform all the required duties;
  - Conduct air monitoring and enter the results on the air-monitoring log throughout the duration of the entry;
  - Remain outside the permit–required confined space during entry operations until reviewed by another approved attendant;
  - Summon rescue and other emergency services as soon as he/she determines that authorized entrants may need assistance to escape from permit space hazards; and
  - Perform non-entry rescues with retrieval equipment.

**8.4.5 Entry Supervisor shall coordinate the entry and establish entry procedures including, but not limited to:**

- Evaluation of the permit–required confined space to determine known and potential hazards;
- Identification of acceptable entry conditions;
- Select appropriate equipment (retrieval, personal protective equipment, air monitors, etc.) based on hazards in the permit–required confined space;
- Verifying that rescue services are available and the means for summoning them are operable;
- Assigning qualified and trained individuals as authorized entrants and attendants;
- Verify, by checking, that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
- Terminate the entry and cancel the permit:
  - When a prohibited condition is detected;
  - When a condition that is not allowed under the entry permit criteria arises inside or near the Permit -Required Confined Space; or
  - When operations covered by the entry permit have been completed.
- Ensure all Material Safety Data Sheets (MSDS) for hazardous chemicals involved with entry are kept available for emergency personnel in the event an employee must receive treatment for overexposure to a substance;

- Provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards;
- Provide lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
- Provide equipment, such as ladders, needed for safe ingress and egress by authorized entrants;
- Remove unauthorized persons who enter or who attempt to enter the permit–required confined space during entry operations; and
- Determine when responsibility for a permit–required confined space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, when entry operations remain consistent with the terms of the entry permit and acceptable entry conditions are maintained.

#### **8.4.6 Rescue Services shall:**

Follow all procedures identified for safe entry according to this program.

## 8.5 Entry Procedures

### 8.5.1 Pre Entry Procedures:

- Isolate the space and implement the measures necessary to prevent unauthorized entry;
- Evaluate the space to determine if it fits the definition of a permit–required confined space;  
NOTE: regardless of type of confined space, an air-monitoring log is to be filled out and maintained at the job site for inspection.
- If the space meets the requirements of a permit–required confined space, test the space for atmospheric hazards in this order: oxygen content, combustible gases, vapors and dusts, and then for toxic gases and vapors. Implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to the following:
  - Specifying acceptable entry condition;
  - Isolating the permit–required confined space;
  - Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazard (purging to be done for at least 30 minutes prior to retesting air quality)  
NOTE: No employee shall be allowed to enter a confined space with an oxygen deficient or potentially toxic/explosive atmosphere, until contacting and receiving approval of Skanska Kiewit's Safety Supervisor or the Project Manager.
- Identification of work tasks to be performed in the space and their potential hazards;
- Selection of rescue and retrieval methods (if these functions will be performed by site personnel) or notification of proper emergency services who may be required to respond;
- Selection of communication method based on configuration of space and work task to be performed.
- Provide the following equipment to employees, maintain the equipment properly, and ensure that employees use the equipment properly:
  - Testing and monitoring equipment;
  - Ventilation equipment needed to obtain acceptable entry conditions;
  - Any necessary communications equipment;
  - Personal protective equipment insofar as feasible engineering and work practice controls do not adequately protect employees;

- Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
- Barriers and shields as required;
- Rescue and emergency equipment needed to comply with this program, except to the extent that the equipment is provided by rescue services;
- Communication means or equipment;
- Any other equipment necessary for safe entry into and rescue from permit–required confined space.
- Fill out pre-entry checklist and Entry Permit, post entry permit at entrance to space (permit must be authorized by the Supervisor before entry may begin); and
- Ensure space attendant is at his/her post outside the space opening.

#### **8.5.2 During Entry:**

- Ensure continuous communication between attendant(s) and entrant(s) to monitor entrant(s) status;
- Attendant must remain outside the space for the duration of the entry unless relieved by another authorized attendant;
- Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained; and
- Evacuate the space immediately when:
  - A prohibited condition is detected inside or outside the space;
  - Entrant(s) exhibit signs of exposure to a hazard;
  - When the order to evacuate is given; or
  - When work in the space is concluded and occupation of the space is no longer necessary.

#### **8.5.3 Post Entry:**

- Remove all entrants and equipment from space;
- Cancel the permit and file it for program review; and
- Replace the cover, hatch, door etc. in space to prevent unauthorized entry.

### **8.6 Permit System**

- Before entry is authorized, the supervisor must complete the entry permit before entry begins, the entry supervisor whose name appears on the permit must sign the entry permit to authorize entry;
- The completed permit must be posted at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed;

- The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit. Permits shall be valid for a period of eight hours or less;
- The Entry Supervisor must terminate entry and cancel the entry permit when:
- The entry operations covered by the entry permit have been completed; or
- A condition that is not allowed under the entry permit arises in or near the permit–required confined space.

The supervisor must give the Safety Department each canceled entry permit, which will be maintained for one year to facilitate a review of the permit-required confined space program. If any problems are encountered during an entry operation, they must be noted on the permit so appropriate revisions can be made to the permit required confined space program.

## 8.7 Training

### 8.7.1 Authorized Entrants must be trained in:

- The hazards that may be faced during entry including the mode, signs or symptoms and consequences of exposure;
- The proper use of equipment for entry;
- Procedures for safe entry; and
- Their responsibilities according to this program.

**NOTE:** Trained and Authorized Entrants will be listed on the Entry Permit. Only those employees may enter the space.

### 8.7.2 Authorized Attendants must be trained in:

- The hazards that may be faced during entry including the mode, signs or symptoms and consequences of exposure;
- The behavioral affects of hazard exposure in authorized entrants;
- The proper use of equipment for entry including retrieval equipment if the Attendant will be required to perform non-entry rescue in the event of an emergency;
- Procedures for safe entry; and
- Their responsibilities according to this program.

**NOTE:** Trained and Authorized Attendants will be listed on the Entry Permit.

### 8.7.3 Entry Supervisors must be trained in:

- The hazards that may be faced during entry including the mode, signs, or symptoms and consequences of exposure;
- Procedures for safe entry;
- Procedures for verifying acceptable entry conditions as well as issuing the authorizing an entry permit; and
- Their responsibilities according to this program.

**NOTE:** Trained and Authorized Supervisors will be listed on the Entry Permit

### 8.7.4 Rescue and Emergency Services must be trained in:

Please note: These requirements apply to supervisors who have employees enter permit-required confined spaces to perform rescue:

- The proper use of personal protective equipment necessary for making rescues into confined spaces;
- Performing assigned rescue duties. Each member of the rescue team must also receive the training required of “authorized entrants”;
- Each member of the rescue team will practice making permit–required confined space rescues at least once every twelve months, by means of simulated rescue operations in which they remove dummies, mannequins, or actual persons from the permit space;
- At least one member of the rescue team must hold a current certification in both Basic First Aid and CPR.

**NOTE:** Trained and Authorized Rescuers will be listed on the Entry Permit

### 8.7.5 These requirements apply to Skanska Kiewit Supervisors who allow sub-contractors to perform permit space rescue:

- Inform the rescue team of the hazards that may confront them when called upon; and
- Provide the rescue team with access to all permit–required confined spaces from which rescue may be necessary so the rescue team can develop appropriate rescue plans.

**NOTE:** Subcontractor Trained and Authorized Entrants will be listed on the Entry Permit.

## **8.8 Non-Entry Rescue**

### **8.8.1 Application:**

- To facilitate non-entry rescue, retrieval systems or methods must be used whenever an authorized entrant enters a permit–required confined space; and
- The only circumstance retrieval equipment is not required is when its use would increase the overall risk of entry or would not contribute to the rescue of the entrant such as with confined spaces with side openings. Note: Side openings in a confined space are those within 3-½ feet of the bottom.

### **8.8.2 Retrieval systems must meet the following requirements:**

Each authorized entrant must use a chest or full body harness with the retrieval line attached at the center of the entrant’s back near shoulder level, or above the entrant’s head. Wristlets may be used in lieu of the chest or full body harness if the use of a full body harness is infeasible or creates a greater hazard. The wristlets must be the safest and most effective alternative in this case.

The other end of the retrieval line must be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device must be available to retrieve personnel from vertical type permit spaces more than five feet deep.

## 9 CRANE AND CRANE RIGGING POLICY

### 9.1 General Policy

The following standards, definitions, and procedures support the acquisition, erection, operations, and maintenance of all cranes under Skanska Kiewit control on any Skanska Kiewit USA Civil projects. This document is designed to be inserted as part of the B.U. / Regional HASP. It includes basic requirements for the operation of cranes in all regions. Project and regional specific requirements are included at the conclusion of each major section. This document is intended to standardize the efforts and actions required by project teams to safely and properly plan and manage the crane operations on each site. Therefore, this document, together with applicable project or agency specifications and OSHA regulations, shall guide all project teams on the safe operation of and the administrative requirements for cranes.

#### 9.1.1 Scope of Applicable Equipment

This standard applies to all cranes, defined as a piece of equipment designed to hoist, lower, and horizontally move a suspended load. It is intended to assist in the use of mobile cranes, truck cranes, rough terrain cranes, crawler cranes, pile drivers, tower cranes, and gantry cranes, but is not intended to provide guidelines for mobile equipment for which the hoisting of loads is a secondary purpose – i.e., an excavator equipped with a hook on the bucket.

#### 9.1.2 Applicable Regulations

ASME B30.5.2011
OSHA 29 CFR 1926.106
OSHA 29 CFR 1926.1400
OSHA 29 CFR 1926.1401
OSHA 29 CFR 1926.1402
OSHA 29 CFR 1926.1403
OSHA 29 CFR 1926.1404
OSHA 29 CFR 1926.1406
OSHA 29 CFR 1926.1407
OSHA 29 CFR 1926.1408
OSHA 29 CFR 1926.1409
OSHA 29 CFR 1926.1410
OSHA 29 CFR 1926.1411
OSHA 29 CFR 1926.1412
OSHA 29 CFR 1926.1413
OSHA 29 CFR 1926.1414
OSHA 29 CFR 1926.1415

OSHA 29 CFR 1926.1416
OSHA 29 CFR 1926.1417
OSHA 29 CFR 1926.1418
OSHA 29 CFR 1926.1419
OSHA 29 CFR 1926.1420
OSHA 29 CFR 1926.1421
OSHA 29 CFR 1926.1422
OSHA 29 CFR 1926.1423
OSHA 29 CFR 1926.1424
OSHA 29 CFR 1926.1425
OSHA 29 CFR 1926.1426
OSHA 29 CFR 1926.1427
OSHA 29 CFR 1926.1430
OSHA 29 CFR 1926.1431
OSHA 29 CFR 1926.1434
OSHA 29 CFR 1926.1435
OSHA 29 CFR 1926.1436
OSHA 29 CFR 1926.1437
OSHA 29 CFR 1926.1441
OSHA 29 CFR 1926.1501
OSHA 29 CFR 1926.20
OSHA 29 CFR 1926.251
OSHA 29 CFR 1926.502
OSHA 29 CFR 1926.550

### 9.1.3 Definitions

**A/D director (Assembly/Disassembly director):** means an individual who meets this policy’s requirements for an A/D director, irrespective of the person’s formal job title or whether the person is non-management or management personnel.

**Anti Collision System** – an electronic operator aid device used to help the operator avoid swing collisions with other cranes, set swing boundaries and zones for safe operation.

**Articulating crane:** means a crane whose boom consists of a series of folding, pin connected structural members, typically manipulated to extend or retract by power from hydraulic cylinders.

**Assembly/Disassembly:** means the assembly and/or disassembly of equipment covered under this policy. With regard to tower cranes, “erecting and climbing” replaces the term “assembly,” and

“dismantling” replaces the term “disassembly.” Regardless of whether the crane is initially erected to its full height or is climbed in stages, the process of increasing the height of the crane is an erection process.

**Assist crane:** means a crane used to assist in assembling or disassembling a crane.

**Attachments:** means any device(s) that expand(s) the range of tasks that can be done by the equipment. Examples include, but are not limited to: An auger, drill, magnet, pile-driver, and boom-attached personnel platform.

**Audible signal:** means a signal made by a distinct sound or series of sounds. Examples include, but are not limited to, sounds made by a bell, horn, or whistle.

**Blocking (also referred to as “cribbing”):** wood or other material used to support equipment or a component and distribute loads to the ground. It is typically used to support lattice boom sections during assembly/disassembly and under outrigger and stabilizer floats.

**Boatswain’s chair:** means a single point adjustable suspension scaffold consisting of a seat or sling (which may be incorporated into a full body harness) designed to support one employee in a sitting position.

**Bogie:** means “travel bogie,” which is defined below.

**Boom (equipment other than tower crane):** means an inclined spar, strut, or other long structural member which supports the upper hoisting tackle on a crane or derrick. Typically, the length and vertical angle of the boom can be varied to achieve increased height, or height and reach, when lifting loads. Booms can usually be grouped into general categories of hydraulically extendible, cantilevered type, latticed section, cable supported type or articulating type.

**Boom (tower cranes):** on tower cranes, if the “boom” (i.e., principal horizontal structure) is fixed, it is referred to as a jib; if it is moveable up and down, it is referred to as a boom.

**Boom angle indicator:** means a device which measures the angle of the boom relative to horizontal.

**Boom hoist limiting device:** Includes boom hoist disengaging device, boom hoist shut-off, boom hoist disconnect, boom hoist hydraulic relief, boom hoist kick-outs, automatic boom stop device, or derricking limiter. This type of device disengages boom hoist power when the boom reaches a predetermined operating angle. It also sets brakes or closes valves to prevent the boom from lowering after power is disengaged.

**Boom length indicator:** indicates the length of the permanent part of the boom (such as ruled markings on the boom) or, as in some computerized systems, the length of the boom with extensions/attachments.

**Boom stop:** includes boom stops, (belly straps with struts/standoff), telescoping boom stops, attachment boom stops, and backstops. These devices restrict the boom from moving above a certain maximum angle and toppling over backward.

**Boom suspension system:** means a system of pendants, running ropes, sheaves, and other hardware which supports the boom tip and controls the boom angle.

**Builder:** means the builder / constructor of equipment.

**Center of gravity:** the center of gravity of any object is the point in the object around which its weight is evenly distributed. If you could put a support under that point, you could balance the object on the support.

**Certified welder:** means a welder who meets nationally recognized certification requirements applicable to the task being performed.

**Climbing:** means the process in which a tower crane is raised to a new working height either by adding additional tower sections to the top of the crane (top climbing), or by a system in which the entire crane is raised inside the structure (inside climbing).

**Come-a-long:** means a mechanical device typically consisting of a chain or cable attached at each end that is used to facilitate movement of materials through leverage.

**Competent person:** means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. Training records are maintained and available.

**Competent Rigging Person:** Typically the foreman of the crew performing the pick, but may be anyone who oversees the pick from rigging to landing the load. They must have undergone Competent Person training in rigging.

**Controlled load lowering:** means lowering a load by means of a mechanical hoist drum device that allows a hoisted load to be lowered with maximum control using the gear train or hydraulic components of the hoist mechanism. Controlled load lowering requires the use of the hoist drive motor, rather than the load hoist brake, to lower the load.

**Controlling entity:** means an employer that is a prime contractor, general contractor, construction manager or any other legal entity which has the overall responsibility for the construction of the project—it's planning, quality and completion.

**Counterweight:** means a weight used to supplement the weight of equipment in providing stability for lifting loads by counterbalancing those loads.

**Crane Location Plan (CLP):** A drawing specific to each crane on a jobsite that based on ground conditions, identifies which locations are appropriate for that crane to set up. It also shows areas of concern, if any, such

as underground vaults or structures. In addition to the above requirement for all crane setups; where Skanska Kiewit is the controlling entity on any jobsite, Skanska Kiewit is responsible to make available to the user and the operator of all cranes on that jobsite of the location of underground hazards in the set-up area (such as voids, tanks, utilities) if those hazards are identified in documents (such as site drawings, as-built drawings, and soil analyses) that are in the possession of Skanska Kiewit (whether at the site or off-site) or hazards that are otherwise known to Skanska Kiewit. Note, this does not relieve each respective user and operator of cranes on the jobsite (e.g. subcontractors) from their responsibility to meet the requirements as stated above.

**Crawler crane:** Means equipment that has a type of base mounting which incorporates a continuous belt of sprocket driven track.

**Crossover points:** means locations on a wire rope which is spooled on a drum where one layer of rope climbs up on and crosses over the previous layer. This takes place at each flange of the drum as the rope is spooled onto the drum, reaches the flange, and begins to wrap back in the opposite direction.

**Dedicated channel:** means a line of communication assigned by the employer who controls the communication system to only one signal person and crane/derrick or to a coordinated group of cranes/derricks/ signal person(s).

**Dedicated pile-driver:** is a machine that is designed to function exclusively as a pile-driver. These machines typically have the ability to both hoist and pile-drive the material.

**Dedicated spotter (power lines):** To be considered a dedicated spotter, the requirements of Signal person qualifications must be met and his/her sole responsibility is to watch the separation between the power line and the equipment, load line and load including rigging and lifting accessories, and ensure through communication with the operator that the applicable minimum approach distance is not breached. Directly under the load: means a part or all of an employee is directly beneath the load.

**Dismantling:** includes partial dismantling (such as dismantling to shorten a boom or substitute a different component).

**Drum rotation indicator:** means a device on a crane or hoist which indicates in which direction and at what relative speed a particular hoist drum is turning.

**Electrical contact:** occurs when a person, object, or equipment makes contact or comes in close proximity with an energized conductor or equipment that allows the passage of current.

**Encroachment:** is where any part of the crane, load line or load (including rigging and lifting accessories) breaches minimum clearance distance required to be maintained from a power line.

**Fall protection equipment:** means guardrail systems, safety net systems, and personal fall arrest systems, positioning device systems or fall restraint systems.

**Fall restraint system:** means a fall protection system that prevents the user from falling any distance. The system is comprised of either a body belt or body harness

**Floating cranes/derricks:** means equipment designed by the manufacturer (or employer) for marine use by permanent attachment to a barge, pontoons, vessel or other means of flotation.

**Free fall (of the load line):** means that only the brake is used to regulate the descent of the load line (the drive mechanism is not used to drive the load down faster or retard its lowering).

**Free surface effect:** is the uncontrolled transverse movement of liquids in compartments which reduce a vessel's transverse stability.

**Hoist:** means a mechanical device for lifting and lowering loads by winding a line onto or off a drum.

**Hoisting:** is the act of raising, lowering or otherwise moving a load in the air with equipment covered by this policy. As used in this policy, "hoisting" can be done by means other than wire rope/hoist drum equipment.

**Insulating link/device:** means an insulating device listed, labeled, or accepted by a nationally recognized testing laboratory

**Jib (Tower Cranes)** means on tower cranes, if the "boom" (i.e., principal horizontal structure) is fixed, it is referred to as a jib; if it is moveable up and down, it is referred to as a boom.

**Jib stop:** (also referred to as a jib backstop), is the same type of device as a boom stop but is for a fixed or luffing jib.

**Lift Director:** directly oversees the work being performed by a crane and the associated rigging crew. The Lift Director is someone appointed on the jobsite, and can be in the capacity of a Project, Manager, Project Superintendent, Foreman or Project Crane Coordinator (PCC).

**List:** means the angle of inclination about the longitudinal axis of a barge, pontoons, vessel or other means of floatation.

**Load:** refers to the object(s) being hoisted and/or the weight of the object(s); both uses refer to the object(s) and the load-attaching equipment, such as, the load block, ropes, slings, shackles, and any other ancillary attachment

**Load moment (or rated capacity) limiter:** means a system which aids the equipment operator by sensing (directly or indirectly) the overturning moment on the equipment, i.e., load multiplied by radius. It compares this lifting condition to the equipment's rated capacity, and when the rated capacity is reached, it shuts off power to those equipment functions which can increase the severity of loading on the equipment, e.g., hoisting, telescoping out, or luffing out. Typically, those functions which decrease the severity of loading on the equipment remain operational, e.g., lowering, telescoping in, or luffing in.

**Locomotive crane:** means a crane mounted on a base or car equipped for travel on a railroad track.

**Luffing jib limiting device:** is similar to a boom hoist limiting device, except that it limits the movement of the luffing jib.

**Marine hoisted personnel transfer device:** means a device, such as a “transfer net,” that is designed to protect the employees being hoisted during a marine transfer and to facilitate rapid entry into and to facilitate rapid entry into and exit from the device. Such devices do not include boatswain’s chairs when hoisted by equipment covered in this document.

**Marine worksite:** means a construction worksite located in, on, or above the water.

**Mobile crane:** means a lifting device incorporating a cable suspended latticed boom or hydraulic telescopic boom designed to be moved between operating locations by transport over the road.

**Multi-purpose machine:** means a machine that is designed to be configured in various ways, at least one of which allows it to hoist (by means of a winch or hook) and horizontally move a suspended load. For example, a machine that can rotate and can be configured with removable forks/tongs (for use as a forklift)

**Operational controls:** means levers, switches, pedals and other devices for controlling equipment

**Operator:** means a person who is operating the equipment or with a winch pack, jib (with a hook at the end) or jib used in conjunction with a winch. When configured with the forks/tongs, it is not covered by this policy. When configured with a winch pack, jib (with a hook at the end) or jib used in conjunction with a winch, it is covered by this policy.

**Nonconductive:** means that, because of the nature and condition of the materials used, and the conditions of use (including environmental conditions and condition of the material), the object in question has the property of not becoming energized (that is, it has high dielectric properties offering a high resistance to the passage of current under the conditions of use).

**Operational aids:** are devices that assist the operator in the safe operation of the crane by providing information or automatically taking control of a crane function.

**Overhead and Gantry cranes:** includes overhead/bridge cranes, semi-gantry, cantilever gantry, wall cranes, storage bridge cranes, launching gantry cranes, and similar equipment, irrespective of whether it travels on tracks, wheels, or other means.

**Pendants:** includes both wire and bar types. Wire type: A fixed length of wire rope with mechanical fittings at both ends for pinning segments of wire rope together. Bar type: Instead of wire rope, a bar is used. Pendants are typically used in a latticed boom crane system to easily change the length of the boom suspension system without completely changing the rope on the drum when the boom length is increased or decreased.

**Personal fall arrest system:** means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, and a body harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these.

**Pick Plan:** is a construction plan which outlines the step-by-step aspects of a particular pick in detail. It includes a Rigging Plan and a Signal Plan.

**Portal crane:** is a type of crane consisting of a rotating upper structure, hoist machinery, and boom mounted on top of a structural gantry which may be fixed in one location or have travel capability. The gantry legs or columns usually have portal openings in between to allow passage of traffic beneath the gantry.

**Power lines:** means electric transmission and distribution lines.

**Project Crane Coordinator (PCC):** is typically NOT a full time position; instead is a multipurpose member of the project staff who serves in the capacity of a field engineer tasked with crane management for their jobsite. The PCC's duties include verification of completion of daily inspections and that all cranes on the project site are in compliance with this document.

**Proximity alarm:** is a device that provides a warning of proximity to a power line.

**Qualified evaluator (not a third party):** is a person employed by the signal person's employer who has demonstrated that he/she is competent in accurately assessing whether individuals meet the qualification requirements in this policy for a signal person.

**Qualified evaluator (third party):** means an entity that, due to its independence and expertise, has demonstrated that it is competent in accurately assessing whether individuals meet the qualification requirements in this policy for a signal person.

**Qualified person:** means a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrates the ability to solve/ resolve problems relating to the subject matter, the work, or the project.

**Qualified rigger:** is a rigger who meets the criteria for a qualified person.

**Range control limit device:** is a device that can be set by an equipment operator to limit movement of the boom or jib tip to a plane or multiple planes.

**Range control warning device:** is a device that can be set by an equipment operator to warn that the boom or jib tip is at a plane or multiple planes.

**Rated capacity:** means the maximum working load permitted by the manufacturer under specified working conditions. Such working conditions typically include a specific combination of factors such as equipment configuration, radii, boom length, and other parameters of use.

**Rated capacity indicator:** See load moment indicator

**Rated capacity limiter:** See load moment limiter

**Regional Crane Coordinator (RCC):**

The Regional Crane Coordinator may be a full time position whose duties include oversight and planning of all monthly and annual crane inspections. The RCC utilizes a Crane Management System to track the location and status of all cranes and their inspections. Each region will have an RCC.

**Repetitive pickup points:** when operating on a short cycle operation, the rope being used on a single layer and being spooled repetitively over a short portion of the drum.

**Rigging Plan:** is a portion of the Pick Plan related to the method and materials used to rig a load. It specifically details all rigging to be used in the pick.

**Running wire rope:** means a wire rope that moves over sheaves or drums.

**Runway:** means a firm, level surface designed, prepared, and designated as a path of travel for the weight and configuration of the crane being used to lift and travel with the crane suspended platform. An existing surface may be used as long as it meets these criteria.

**Side boom crane:** means a track-type or wheel-type tractor having a boom mounted on the side of the tractor, used for lifting, lowering or transporting a load suspended on the load hook. The boom or hook can be lifted or lowered in a vertical direction only.

**Signal Person:** is the individual who gives signals to crane operator. Must be trained as Competent Person in signaling

**Signal Plan:** is the portion of the Pick Plan related to signaling throughout the duration of the pick. It outlines all signal related details for the pick.

**Special hazard warnings:** means warnings of site-specific hazards (for example, proximity of power lines).

**Tagline:** means a rope (usually fiber) attached to a lifted load for purposes of controlling load spinning and pendular motions or used to stabilize a bucket or magnet during material handling operations.

**Tender:** means an individual responsible for monitoring and communicating with a diver.

**Third Party Inspector:** is a certified crane inspector contracted for a specific purpose, such as the oversight of the erection of a tower crane, monthly and annual inspections on rubber tire, crawler, or bridge cranes, and Magnetic Particle Testing (Magnaflux)

**Tilt up or tilt down operation/Tripping:** means raising/lowering a load from the horizontal to vertical or vertical to horizontal position while using 1 or more lines, or utilizing more than 1 piece of equipment i.e.: cranes, excavators, loaders, dozers.

**Tower crane:** is a type of lifting structure which utilizes a vertical mast or tower to support a working boom (jib) in an elevated position. Loads are suspended from the working boom.

**Travel bogie (tower cranes):** is an assembly of two or more axles arranged to permit vertical wheel displacement and equalize the loading on the wheels.

**Trim:** means angle of inclination about the transverse axis of a barge, pontoons, vessel or other means of floatation.

**Two blocking:** means a condition in which a component that is uppermost on the hoist line such as the load block, hook block, overhaul ball, or similar component, comes in contact with the boom tip, fixed upper block or similar component. This binds the system and continued application of power can cause failure of the hoist rope or other component.

**Unavailable procedures:** means procedures that are no longer available from the manufacturer, or have never been available, from the manufacturer.

**Upper works:** means the revolving frame of equipment on which the operating machinery (and many cases the engine) are mounted along with the operator's cab. The counterweight is typically supported on the rear of the upper structure and the boom or other front end attachment is mounted on the front.

**Wire rope:** means a flexible rope constructed by laying steel wires into various patterns of multi-wired strands around a core system to produce a helically wound rope.

#### 9.1.4 Regional/Project Specific Requirements

### 9.2 Site Prep.

#### 9.2.1 Required Documentation

The following documentation shall be present inside the cab before the crane may be placed into service:

- Current Monthly Inspection
- Manufacturer's Load Chart
- Manufacturer's Operating Manual
- It is the responsibility of the Project Management, Operator, and Craft Personnel involved with the crane operation to ensure this documentation is present in the cab of the crane throughout the duration of the crane's presence on a Skanska Kiewit project. If this documentation is not present it should be reported to the Project Crane Coordinator immediately.

#### 9.2.2 Owner Notification/Requirements

Some owners or agencies may require the contractor to follow a specific procedure to notify them of your intent to bring a crane onto their jobsite. All project teams should consult project specifications for notification requirements specific to their projects. In general, project teams should:

- Notify the owner or authority prior to mobilization of any crane.
- Obtain and comply with owner or authority requirements for project crane operations.
- Verify owner or authority requirements regarding crane capacity
- If rented cranes are being used, make sure the Skanska Kiewit Insurance Department is notified.

### **9.2.3 Geotechnical and Crane Location Plan (CLP) Requirements,**

A Crane Location Plan is a drawing encompassing the entire project site, showing acceptable locations for a crane to set up, and at times could be sealed by a professional engineer (PE). This could either be a Skanska Kiewit PE or an outside company (PE). This drawing should include locations of all known underground vaults or other areas of concern for the support of a crane, and shall be known as the Crane Location Plan (CLP). The CLP is applicable to one (1) make and model of crane, and all cranes on the project must have a corresponding CLP. This submittal shall be a description of the crane to which it corresponds, as well as a classification and pictures of the existing ground conditions in each proposed set up location. Include any available geotechnical report along with any soil borings or test pits within the proposed crane locations.

At the discretion of the Skanska Kiewit engineer reviewing the submittal, a job site visit may be scheduled to perform an evaluation of the ground conditions and overhead conditions at each proposed set up location. Cranes without the ability to level themselves (crawler cranes) require ground improvement, at a minimum, to level the area. This will most often be achieved with the construction of a stone crane pad. Crawler Cranes with 200 tons or greater capacity must set up on crane mats. This is the minimum requirement. Note: that poor ground conditions could necessitate matting for cranes of smaller capacity. If the project team can provide calculations that the existing ground conditions are adequate to support a crane with 200 tons or greater capacity, they may request a dispensation from the Regional Crane Coordinator and Skanska Kiewit engineering as well as acquire sign off from the assigned project Vice President or designee. All ground improvements (leveling, stone, matting, etc.) must be noted on the CLP.

The CLP is to be created at the beginning of the project, revisited during the monthly crane program meeting, and routinely adjusted to reflect current site conditions. Each time a crane is moved and set-up on site, a checklist is completed which displays that the site conditions have been examined and are adequate to support the crane.

### **9.2.4 Sub-Contractors**

All sub-contractors working on a Skanska Kiewit jobsite shall abide by the Skanska Kiewit USA Civil Crane Policy.

### **9.2.5 Monthly Project Crane Meeting**

The project team will hold a meeting chaired by the Project Crane Coordinator to discuss crane and rigging related issues once every month. Examples of topics to be discussed with the project team are any reoccurring repairs or issues identified with cranes or rigging that may indicate improper use or maintenance, recent or future changes to the project site that will impact Crane Location Plan's, and any other issues related to cranes or rigging on the project.

### **9.2.6 Annual Project Crane Meeting**

Once per year, the Regional Crane Coordinator will attend a Monthly Project Crane meeting on each project. This will give the project team an opportunity to ask questions about the evolving crane policy as well as give input and suggestions for improvement. At the same time, it will allow the RCC to evaluate how the company-wide crane policies are being implemented at the project level.

### **9.2.7 Regional/Project Specific Requirements**

## **9.3 Operations**

### **9.3.1 Authority to Stop Operation/Emergency Stop**

Whenever there is a concern as to safety for any reason, the operator or any other employee, shall have the authority to stop work and refuse to handle loads until the issue has been corrected. Anyone has the right to give an emergency stop signal.

### **9.3.2 Proper operation required**

Operations must not begin unless all of the devices listed in this section are in proper working order. If a device stops working properly during operations, the operator must safely stop operations. If any of the devices listed in this section are not in proper working order, the equipment must be taken out of service and operations must not resume until the device is again working properly. Alternative measures are not permitted to be used.

### **9.3.3 Notifications**

The optimum minimum notice for project team to provide notice to the RCC for the intended use of a crane is eight weeks. The RCC will consult the Equipment Manager and determine, based on the type of crane and duration required, whether to rent, purchase, or utilize a Skanska Kiewit owned crane. The RCC then updates the Crane Management System to include the additional crane. If a Project Crane Coordinator is not already designated on the jobsite, the RCC and project team will designate one at this time.

### **9.3.4 Safety Devices**

The following safety devices are required on all company owned and rented equipment, unless otherwise specified:

- Anti-Two Block Device
- Boom Angle Indicator
- Crane Level Indicator: The equipment must have a crane level indicator that is either built into the equipment or is available on the equipment; If a built-in crane level indicator is not working properly, it must be tagged-out or removed and replaced. If a removable crane level indicator is not working properly, it must be removed. This requirement does not apply to portal cranes, derricks, floating cranes/derricks and land cranes/derricks on barges, pontoons, vessels or other means of flotation.
- Boom stops, except for derricks and hydraulic booms.
- Jib stops (if a jib is attached), except for derricks.
- Equipment with foot pedal brakes must have locks.
- Hydraulic outrigger jacks and hydraulic stabilizer jacks must have an integral holding device/check valve.
- Equipment on rails must have rail clamps and rail stops, except for portal cranes.
- Horn: The equipment must have a horn that is either built into the equipment or is on the equipment and immediately available to the operator. If a built-in horn is not working properly, it must be tagged-out or removed and replaced. If a removable horn is not working properly, it must be removed. In either case the horn must be replaced or repaired.

### 9.3.5 Assembly/Disassembly

#### **Selection of Skanska Kiewit or Manufacturer Procedures**

When assembling or disassembling equipment (or attachments), Skanska Kiewit must comply with all applicable manufacturer prohibitions and must comply with either:

- Manufacturer procedures applicable to assembly and disassembly: Note: synthetic slings may only be used for assembly and disassembly rigging when specifically approved or directed by the manufacturer, or under an approved Skanska Kiewit A/D Plan.
- Qualified Person: Skanska Kiewit procedures must be developed by a qualified person.
- An Assembly / Disassembly Director will be identified in the construction plan.
- Prevent unintended dangerous movement, and prevent collapse, of any part of the equipment.
- Provide adequate support and stability of all parts of the equipment
- Position employees involved in the assembly/disassembly operation so that their exposure to unintended movement or collapse of part or all of the equipment is minimized.

### **9.3.6 Assembly/Disassembly General requirements: (Applies to all assembly and disassembly operations).**

For all cranes working on a Skanska Kiewit controlled site, including rented, owned, and sub contractor supplied, the assembly/disassembly must be directed by a person who meets the criteria for both a competent person and a qualified person, or by a competent person who is assisted by one or more qualified persons (“Assembly/Disassembly Director”). Where the assembly/disassembly is being performed by only one person, that person must meet the criteria for both a competent person and a qualified person.

### **9.3.7 Knowledge of procedures**

The A/D director must clearly understand the applicable assembly/disassembly procedures.

### **9.3.8 Review of procedures**

The A/D director must review the applicable assembly/disassembly procedures immediately prior to the commencement of assembly/ disassembly unless the A/D director understands the procedures and has applied them to the same type and configuration of equipment (including accessories, if any).

### **9.3.9 Assembly/Disassembly Crew Responsibilities**

The crew has reviewed and signed off on the construction plan, the A/D Plan, and any applicable manufacturer’s requirements.

Before commencing assembly / disassembly operations, the A/D director must ensure that the crew members understand all of the following:

- Their tasks.
- The hazards associated with their tasks.
- The hazardous positions/ locations that they need to avoid.
- During assembly/disassembly operations, before a crew member takes on a different task, or when adding new personnel during the operations the construction plan must be reviewed and updated as necessary by said personnel.

#### **9.3.9...1 Protecting assembly/disassembly crew members out of operator view**

Before a crew member goes to a location that is out of view of the operator and is either in, on, or under the equipment, or near the equipment (or load) where the crew member could be injured by movement of the equipment (or load), the crew member must inform the operator that he/she is going to that location. Where the operator knows that a crew member went to a location out of view, the operator must not move any part of the equipment (or load) until the operator is informed in accordance with a prearranged system

of communication that the crew member is in a safe position.

#### **9.3.9...2 Working under the boom, jib or other components**

When pins (or similar devices) are being removed, employees must not be under the boom, jib, or other components.

Exception - Where the employer demonstrates that site constraints require one or more employees to be under the boom, jib, or other components when pins (or similar devices) are being removed, the A/D director must implement procedures that minimize the risk of unintended dangerous movement and minimize the duration and extent of exposure under the boom. At a minimum, the components must be adequately blocked and when possible supported by an assist crane. A Take 5 shall be performed at this time.

#### **9.3.9...3 Capacity limits**

During all phases of assembly/disassembly, rated capacity limits for loads imposed on the equipment, equipment components (including rigging), lifting lugs and equipment accessories, must not be exceeded for the equipment being assembled/disassembled.

#### **9.3.9...4 Addressing specific hazards**

The A/D director supervising the assembly/disassembly operation must address the hazards associated with the operation which shall be identified in the construction plan.

#### **9.3.9...5 Site and ground bearing conditions**

Site and ground conditions must be adequate for safe assembly/ disassembly operations and to support the equipment during assembly/ disassembly.

#### **9.3.9...6 Blocking material**

The size, amount, condition and method of stacking the blocking must be sufficient to sustain the loads and maintain stability.

#### **9.3.9...7 Proper location of blocking**

When used to support lattice booms or components, blocking must be appropriately placed to:

- Protect the structural integrity of the equipment, and
- Prevent dangerous movement and collapse.

#### **9.3.9...1 Verifying assist crane loads.**

When using an assist crane, the loads that will be imposed on the assist crane during the assembly/disassembly process must be verified by a construction and lift plan.

#### **9.3.9...2 Boom and jib pick points**

The point(s) of attachment of rigging to a boom (or boom sections or jib or jib sections) must be suitable for preventing structural damage and facilitating safe handling of these components.

#### **9.3.9...3 Center of gravity.**

The center of gravity of the load must be identified if that is necessary for the method used for maintaining stability. Where there is insufficient information to accurately identify the center of gravity, measures designed to prevent unintended dangerous movement resulting from an inaccurate identification of the center of gravity must be used.

#### **9.3.9...4 Stability upon pin removal**

The boom sections, boom suspension systems (such as gantry A-frames and jib struts), and components must be rigged or supported to maintain stability upon the removal of the pins.

#### **9.3.9...5 Snagging**

Suspension ropes and pendants must not be allowed to catch on the boom or jib connection pins or cotter pins (including keepers and locking pins).

#### **9.3.9...6 Struck by counterweights**

Rigging and blocking must be sufficient to minimize the potential for unintended movement from inadequately supported counterweights and from hoisting counterweights.

#### **9.3.9...7 Boom hoist brake failure**

Each time reliance is to be placed on the boom hoist brake to prevent boom movement during assembly/disassembly; the brake must be tested prior to such reliance to determine if it is sufficient to prevent boom movement. If it is not sufficient, a boom hoist pawl, other locking device/back-up braking device, or another method of preventing dangerous movement of the boom (such as blocking or using an assist crane) from a boom hoist brake failure must be used.

#### **9.3.9...8 Loss of backward stability**

Backward stability must be ensured before swinging the upper works, travel, and when attaching or removing equipment components.

#### **9.3.9...9 Wind speed and weather**

The effect of wind speed and weather on the equipment (refer to manufacturers procedures) must be considered.

#### **9.3.9...10 Cantilevered boom sections**

Manufacturer limitations on the maximum amount of boom supported only by cantilevering must not be

exceeded. Where these are unavailable, a registered professional engineer familiar with the type of equipment involved must determine in writing this limitation, which must not be exceeded.

#### **9.3.9...11 Weight of components**

The weight of each of the components must be readily available and known to the riggers, or suitable qualified competent person.

#### **9.3.9...12 Components and configuration**

The selection of components and configuration of the equipment that affect the capacity or safe operation of the equipment must be in accordance with manufacturer instructions, prohibitions, limitations, and specifications: Where these are unavailable, a registered Professional Engineer familiar with the type of equipment involved must approve, in writing, the selection and configuration of components. Upon completion of assembly, the equipment must be inspected by a Skanska Kiewit Inspector or a third party inspector.

#### **9.3.9...13 Shipping pins**

Reusable shipping pins, straps, links, and similar equipment must be removed. Once they are removed they must either be stowed or otherwise stored so that they do not present a falling object hazard.

#### **9.3.9...14 Pile driving**

Equipment used for pile driving must not have a jib attached during pile driving operations.

#### **9.3.9...15 Outriggers and Stabilizers**

When the load to be handled and the operating radius require the use of outriggers or stabilizers, or at any time when outriggers or stabilizers are used, all of the following requirements must be met (except as otherwise indicated):

- The outriggers or stabilizers must be either fully extended or, if manufacturer procedures permit, deployed as specified in the load chart.
- The outriggers must be set to remove the equipment weight from the wheels, except for locomotive cranes. This provision does not apply to stabilizers.
- When outrigger floats are used, they must be attached to the outriggers. When stabilizer floats are used, they must be attached to the stabilizers.
- Each outrigger or stabilizer must be visible to the operator or to a signal person during extension and setting.

#### **9.3.9...16 Outrigger and stabilizer blocking must:**

- Be placed only under the outrigger or stabilizer float/pad of the jack or, where the outrigger or stabilizer is designed without a jack, under the outer bearing surface of the extended outrigger or stabilizer beam.

- Must be a minimum 4” solid oak or the equivalent, and be sized such that individual pad blocking covers an area equal to 3X the overall pad dimension. All blocking shall be tightly spaced and in contact with the outrigger pad (cross blocking may be required) or
- Be suitably engineered to carry anticipated loads with a given soil capacity.
- For locomotive cranes, when using outriggers or stabilizers to handle loads, the manufacturer’s procedures must be followed. When lifting loads without using outriggers or stabilizers, the manufacturer’s procedures must be met regarding truck wedges or screws.

### 9.3.9...17 Rigging

When rigging is used for assembly/ disassembly, Skanska Kiewit must ensure that:

- The rigging work is done by a qualified rigger.
- Synthetic slings are protected from: Abrasive, sharp or acute edges, and configurations that could cause a reduction of the sling’s rated capacity, such as distortion or localized compression. “Sling Saver” rigging attachments are recommended.
- When synthetic slings are used, the synthetic sling manufacturer’s instructions, limitations, specifications and recommendations must be followed.

### 9.3.9...18 Operation

Skanska Kiewit shall comply with all manufacturer procedures applicable to the operational functions of equipment, including its use with attachments. Before starting the engine, the operator shall verify that all controls are in the proper starting position and that all personnel are in the clear. The operator shall be familiar with the equipment and its proper operation. If adjustments or repairs are necessary, the operator shall promptly inform the person designated by Skanska Kiewit to receive such information and, where there are successive shifts, to the next operator. Safety devices and operational aids shall not be used as a substitute for the exercise of professional judgment by the operator.

### 9.3.10 Crane Moves

As with any other piece of equipment, whenever a mobile crane is to be moved, a spotter must be present to supplement the operator’s visibility and clear all personnel from the area. The Project Crane Coordinator is responsible to review the starting point, end point, and route of the move with the operator and the spotter prior to the move. The PCC will consult the Crane Location Plan and the Crane Move Checklist to verify that the end point and route are appropriate areas for the crane to travel. If the crane must travel or set up in an area not specified on the CLP, a Project Superintendent or Project Manager must sign off.

### 9.3.11 Updates to Crane Location Plan

Due to the nature of our business, most Skanska Kiewit USA Civil jobsites are in a constant state of flux.

Therefore, any time any portion of the jobsite that is indicated as an approved area for a crane to set up on the Crane Location Plan undergoes a significant change that could impact the area's ability to support that crane, the CLP must be updated. Examples of such changes include excavation, construction or demolition of sheeting or piles, any change in support of excavation, demolition of structures, and any change in ground conditions that could impact the ability of the ground conditions to support a crane. The updated CLP must be submitted to Skanska Kiewit engineering with a description of the changes and photographs where applicable. At the discretion of Skanska Kiewit Engineering, a jobsite visit may be scheduled to evaluate the impact of the changes. At a minimum, regardless of the changes to the ground conditions, the CLP must be updated annually.

#### **9.3.12 Cell Phones or Other Devices**

The operator shall not engage in any practice that diverts his/her attention while actually engaged in operating the crane, such as the use of cell phones or other attention-diverting activities.

#### **9.3.13 Grounding**

While working in close proximity to sources of electrical discharge, cranes working on Skanska Kiewit sites are to be operated in compliance with OSHA 1926.1501 (a) (15) (vii) to ensure work crew safety. Additionally, all sites are to have readily available materials necessary to properly ground cranes and loads as is specified in OSHA 1926.1501 (a) (15) (vii). See appendix C for materials listing.

#### **9.3.14 Leaving the equipment unattended**

At any time on any Skanska Kiewit project, including sub contractors, the operator is not permitted to leave the controls while the load is suspended.

#### **9.3.15 Keeping Clear of the Load**

Where available, hoisting routes that minimize the exposure of employees to hoisted loads must be used, to the extent consistent with public safety. While the operator is not moving a suspended load, no employee must be within the fall zone, except for employees:

- Engaged in hooking, unhooking or guiding a load
- Engaged in the initial attachment of the load to a component or structure;
- Operating a concrete hopper or concrete bucket.

When employees are engaged in hooking, unhooking, or guiding the load, or in the initial connection of a load to a component or structure and are within the fall zone, all of the following criteria must be met:

- The materials being hoisted must be rigged to prevent unintentional displacement;
- Hooks with self-closing latches or their equivalent must be used.

- The materials must be rigged by a qualified rigger.

### 9.3.16 Receiving a Load

Only employees needed to receive a load are permitted to be within the fall zone when a load is being landed. These employees must be on the construction plan.

During a tilt-up or tilt-down operation:

- No employee must be directly under the load.
- Only employees essential to the operation are permitted in the fall zone (but not directly under the load).

An employee is essential to the operation if the employee is conducting one of the following operations and the employer can demonstrate it is infeasible for the employee to perform that operation from outside the fall zone:

- Physically guide the load;
- Closely monitor and give instructions regarding the load's movement; or
- Either detach it from or initially attach it to another component or structure (such as, but not limited to, making an initial connection or installing bracing).

**Note:** Boom free fall is prohibited when an employee is in the fall zone of the boom or load, and load line free fall is prohibited when an employee is directly under the load;

### 9.3.17 Free fall and controlled load lowering

#### 9.3.17...1 Boom free fall prohibitions

The use of equipment in which the boom is designed to free fall (live boom) is prohibited in each of the following circumstances:

- An employee is in the fall zone of the boom or load.
- An employee is being hoisted.
- The load or boom is directly over a power line, or over any part of the area extending the Table A clearance distance to each side of the power line.
- The load is over a shaft.
- The load is over a cofferdam, except where there are no employees in the fall zone.

#### 9.3.17...2 Preventing boom free fall

Where the use of equipment with a boom that is designed to free fall (live boom) is prohibited the boom hoist shall have a secondary mechanism or device designed to prevent the boom from falling

in the event the primary system used to hold or regulate the boom hoist fails, as follows:

- Friction drums shall have:
  - A friction clutch and, in addition, a braking device, to allow for controlled boom lowering
  - A secondary braking or locking device, which is manually or automatically engaged, to back-up the primary brake while the boom is held (such as a secondary friction brake or a ratchet and pawl device).
- Hydraulic drums shall have an integrally mounted holding device or internal static brake to prevent boom hoist movement in the event of hydraulic failure.
- Neither clutches nor hydraulic motors shall be considered brake or locking devices for purposes of this document.
- Hydraulic boom cylinders shall have an integrally mounted holding device.

#### 9.3.17...3 **Preventing uncontrolled retraction**

Hydraulic telescoping booms shall have an integrally mounted holding device to prevent the boom from retracting in the event of hydraulic failure.

#### 9.3.17...4 **Load line free fall**

In each of the following circumstances, controlled load lowering is required and free fall of the load line hoist is prohibited:

- An employee is directly under the load.
- An employee is being hoisted.
- The load is directly over a power line, or over any part of the area extending the Table A clearance distance to each side of the power line.
- The load is over a shaft or cofferdam.

#### 9.3.18 **Compliance with rated capacity**

The equipment shall not be operated in excess of its rated capacity.

#### 9.3.19 **Load weight**

The weight of the load shall be determined from a reliable source (such as the manufacturer of the contents of the load), by a reliable calculation method (such as calculating a steel beam from measured dimensions and a known per foot weight), or by other equally reliable means. When requested by the operator, this information shall be provided to the operator by Skanska Kiewit prior to the lift. The operator shall verify that the load is within the rated capacity of the equipment by slowly beginning to hoist the load to determine its weight, using a load weighing device, load moment indicator, rated capacity indicator, or rated capacity limiter .

- The boom or other parts of the equipment shall not contact any obstruction.
- The equipment shall not be used to drag or pull loads sideways.
- The operator shall test the brakes each time a load that is 90% or more of the maximum line pull is handled by lifting the load a few inches and applying the brakes. In duty cycle and repetitive lifts where each lift is 90% or more of the maximum line pull, this requirement applies to the first lift but not to successive lifts.
- Neither the load nor the boom shall be lowered below the point where less than three full wraps of rope remain on their respective drums.
- A tag or restraint line shall be used if necessary to prevent rotation of the load that would be hazardous.
- The brakes shall be adjusted in accordance with manufacturer procedures to prevent unintended movement.
- The operator shall obey a stop (or emergency stop) signal, irrespective of who gives it.

### 9.3.20 Use of load chart

The competent personnel involved in designing and executing a lift, including the operator, must know how to use a load chart. Know the terminology necessary to use load charts. Know how to ensure that the load chart is the appropriate chart for the equipment in its particular configuration and application. Know how to use load charts. This includes knowing:

The operational limitations of load charts and footnotes.

How to relate the chart to the configuration of the crane, crawlers, or outriggers/stabilizers extended or retracted, jib erected or offset, and various counterweight configurations.

The difference between structural capacity and capacity limited by stability.

What is included in capacity ratings.

The range diagram and its relationship to the load chart.

The work area chart and its relationship to the load chart.

Where to find and how to use the “parts-of-line” information.

Know how to use the load chart together with the load indicators and/or load moment devices.

### 9.3.21 Work area control

Swing radius hazards: The following requirements apply where there are accessible areas in which the equipment’s rotating superstructure (whether permanently or temporarily mounted) poses a reasonably foreseeable risk of:

- Striking and injuring an employee;

- Pinching/crushing an employee against another part of the equipment or another object.

#### 9.3.21...1 **To prevent employees from entering these hazard areas, Skanska Kiewit must:**

- Train each employee assigned to work on or near the equipment (“authorized personnel”) in how to recognize struck-by and pinch/crush hazard areas posed by the rotating superstructure.
- Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas.

**Exception:** When Skanska Kiewit can demonstrate that it is neither feasible to erect such barriers on the ground nor on the equipment, the hazard areas must be clearly marked by a combination of warning signs (such as “Danger—Swing/Crush Zone”) and high visibility markings on the equipment that identify the hazard areas. In addition, Skanska Kiewit must train each employee to understand what these markings signify.

#### 9.3.21...2 **Protecting employees in the hazard area**

Before an employee enters a location in the hazard area that is out of view of the operator, the employee (or someone instructed by the employee) must ensure that the operator is informed that he/she is going to that location. Where the operator knows that an employee went to a location covered by this section, the operator must not rotate the superstructure until the operator is informed in accordance with a prearranged system of communication that the employee is in a safe position. Where any part of a crane/derrick is within the working radius of another crane/derrick, the controlling entity must institute a system to coordinate operations. If there is no controlling entity, the employer (if there is only one employer operating the multiple pieces of equipment), or employers, must institute such a system.

Multiple equipment coordination: Where any part of a crane/derrick is within the working radius of another crane/derrick, the controlling entity shall institute a system to coordinate operations. If there is no controlling entity, the employers shall institute such a system.

#### 9.3.22 **Verification of Approved Location**

The crane must be properly set up in a pre-approved location. The Project Crane Coordinator is required keep a current Crane Location Plan (CLP) of approved set up locations for all cranes on the job. When any crane is set up to make a pick, the PCC is required to consult the CLP specific to that crane and verify that the crane is setting up in an approved location. The PCC must verify that the location, each time a crane is broken down and set up in a new location, is within the original limits of that cranes CLP. All assist cranes required for the mobilization of project cranes will follow the same guidelines listed throughout this document.

Unless the ground is exceptionally well prepared, all outrigger supported cranes need some sort

of dunnage under the outriggers, even small rough terrain cranes. Where possible, 100% outriggers should be used. Partial outriggers may only be used if a manufacturer's load chart is issued for that configuration. If partial outriggers are used, the partial load chart must be used in all lift classification calculations. The PCC must verify that the crane is set up in an appropriate configuration.

### **9.3.23 Pre-Operational Meeting**

For any operation requiring the use of a crane, a pre-operational meeting is required to review the appropriate Pick Plan prior to making any picks associated with the operation. The meeting should include operator, signal person, and all crew members involved in rigging and handling the load. At this time a Lift Director will be appointed, whose responsibility will be to directly oversee the work being performed by the crane and the associated rigging crew. This meeting will be used to make sure everyone involved in the pick is well versed on all details, including what rigging will be used, how the load will be rigged, the exact pick path of the load, who will be giving signals, method of signaling, where the signaler will be located, etc. It should never be assumed that any member of the crew is aware of any single aspect of the pick, and therefore all aspects should be reviewed at the pre-pick meeting. When the conditions of the pick are such that it is an incidental pick, the details of the pick may be relayed to the operator via radio, but some form of communication between the operator and the crew must take place. In order for conditions to be such that a pick is an "incidental pick," two conditions must be met:

- The weight of the load must be negligible and:
- The location of the pick (from pick to landing) must be in the open and away from other operations or structures.

Examples of incidental picks are picking an empty scale pan or a Porta-John® in an open area.

### **9.3.24 Pick and Carry**

A pick and carry on rubber tires is treated as a Critical lift and must be approved by the appropriate management personnel.

A Competent Person shall supervise the operation, determine if it is necessary to reduce rated capacity, and make determinations regarding load position, boom location, ground support, travel route, overhead obstructions, and speed of movement necessary to ensure safety. For equipment with tires, tire pressure specified by the manufacturer is maintained. Rotational speed of the equipment shall be such that the load does not swing out beyond the radius at which it can be controlled.

#### **9.3.24...1 Operator Requirements and Responsibilities**

At a minimum, operators will be held to the NCCCO certification. It should be noted that whenever there is a concern towards safety, anyone has the right to stop and refuse to handle the load until a qualified person has determined that safety has been assured

### **9.3.25 Fall Protection**

Skanska Kiewit's Fall Protection Policy states that at all times when over 6 feet you must be properly equipped with fall protection system.

### **9.3.26 Regional/Project Specific Requirements**

## **9.4 Lift Planning**

For any operation that requires the use of a crane, the section within the construction plan entitled "Lift Information", must be completed. This document assists the project team in developing the proper lift plan for a specific operation by asking a series of questions. Upon answering these questions, a detailed Pick Plan will be generated for use during the pre-operational meeting, especially in regards to planned personnel, critical and major lifts. It is the responsibility of the Project Team to develop this plan with the assistance of the Project Crane Coordinator. A copy of the Planned Personnel and Critical Lift shall be forwarded to the Regional Crane Coordinator for review. If at any time any revisions need to be made to the Pick Plan, the operation must stop, the current Pick Plan must be updated and the PCC must be notified prior to any further action taking place. As with the original plan, the entire crew and operator must be briefed on the amended plan prior to the pick taking place.

### **9.4.1 Lift Classification**

When developing the appropriate Pick Plan and evaluating the weight of the object, capacity of the crane, and radius throughout the pick; a classification of the pick must be made. It is important to note that "capacity" refers to the capacity listed on the load chart posted in the cab of the crane.

### **9.4.2 Planned Personnel Lifts**

The use of a crane to hoist employees on a personnel platform or man basket will be prohibited, except when the erection, dismantling and use of conventional means of reaching a worksite, such as ladder, stairway, aerial lift, scaffold or elevating platform would be more hazardous or is not possible because of work site conditions. In such cases, the project team must request a dispensation for the use of personnel platforms and man baskets by the Skanska Kiewit Safety Department and RCC, the personnel platform or man basket must be designed and stamped by Skanska Kiewit Engineering or a third party PE, and acquire approval from Skanska Kiewit officer or designee..

– Hoisting Personnel for further information pertaining to the written notification contents and requirements.

The requirements of this section apply when one or more employees are hoisted. A Skanska Kiewit construction plan or planned personnel lift must be completed and notification and signatures are required from a Skanska Kiewit officer or delegate, B.U. / Regional Safety Department, Regional Crane Coordinator, Project Crane Coordinator, Project Manager, Site Safety Manager. Due to site location some local governed agencies require notification prior to lifting any personnel.

The use of equipment to hoist employees is prohibited except when Skanska Kiewit can demonstrate that the erection, use, and dismantling of conventional means of reaching the work area, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform, or scaffold, would be more hazardous, or is not possible because of the project's structural design or worksite conditions. This paragraph does not apply to work covered by steel erection.

#### **9.4.2...1 Use of personnel platform**

When using equipment to hoist employees, the employees must be in a personnel platform that meets the requirements specified in this document. An exception is drill shafts - Refer to section 4.3.6 for information.

#### **9.4.2...2 Equipment set up**

The equipment must be uniformly level, within one percent of level grade, and located on footing that a qualified person has determined to be sufficiently firm and stable.

Equipment with outriggers or stabilizers must have them all extended and locked. The amount of extension must be the same for all outriggers and stabilizers and in accordance with manufacturer procedures and load charts.

#### **9.4.2...3 Equipment criteria**

Capacity: Use of suspended personnel platforms.

The total load (with the platform loaded, including the hook, load line and rigging) must not exceed 50 percent of the rated capacity for the radius and configuration of the equipment, except during proof testing. Check the lift plan section of the construction plan to reduce lifting capacity to 50.

Capacity: Use of boom-attached personnel platforms. The total weight of the loaded personnel platform must not exceed 50 percent of the rated capacity for the radius and configuration of the equipment (except during proof testing).

Capacity: Hoisting personnel without a personnel platform. When hoisting personnel without a personnel platform as outlined in this document, the total load (including the hook, load line, rigging and any other equipment that imposes a load) must not exceed 50 percent of the rated capacity for

the radius and configuration of the equipment, except during proof testing.

When the occupied personnel platform is in a stationary working position, the load and boom hoist brakes, swing brakes, and operator actuated secondary braking and locking features (such as pawls or dogs) or automatic secondary brakes must be engaged.

#### 9.4.2...4 Devices

Equipment (except for derricks and articulating cranes) with a variable angle boom must be equipped with all of the following:

- A boom angle indicator, readily visible to the operator, and
- A boom hoist limiting device.
- Articulating cranes must be equipped with a properly functioning automatic overload protection device.
- Equipment with a luffing jib must be equipped with:
  - A jib angle indicator, readily visible to the operator; and
  - A jib hoist limiting device.

Equipment with telescoping booms must be equipped with a device to indicate the boom's extended length clearly to the operator, or must have measuring marks on the boom.

**Anti two-block:** A device which automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component) must be used. The device(s) must prevent such damage/failure at all points where two-blocking could occur.

**Exception:** This device is not required when hoisting personnel in pile driving operations. Instead, specifies how to prevent two-blocking during such operations.

**Controlled load lowering:** The load line hoist drum must have a system, other than the load line hoist brake, which regulates the lowering rate of speed of the hoist mechanism. This system or device must be used when hoisting personnel.

Free fall of the load line hoist is prohibited the use of equipment in which the boom hoist mechanism can free fall is also prohibited.

Proper operation required.

Personnel hoisting operations must not begin unless the devices listed in this section are in proper working order. If a device stops working properly during such operations, the operator must safely stop operations. Personnel hoisting operations must not resume until the device is again working properly. Alternative measures are not permitted.

Direct attachment of a personnel platform to a luffing jib is prohibited.

#### 9.4.2...5 Personnel Platform Criteria.

A qualified person familiar with structural design must design the personnel platform and attachment/suspension system used for hoisting personnel.

The system used to connect the personnel platform to the equipment must allow the platform to remain within 10 degrees of level, regardless of boom angle.

The suspension system must be designed to minimize tipping of the platform due to movement of employees occupying the platform.

The personnel platform itself (excluding the guardrail system and personal fall arrest system anchorages), must be capable of supporting, without failure, its own weight and at least five times the maximum intended load.

All welding of the personnel platform and its components must be performed by a certified welder familiar with the weld grades, types and material specified in the platform design.

The personnel platform must be equipped with a guardrail system which meets the requirements of OSHA §1926 Subpart M, and must be enclosed at least from the toe board to mid-rail with either solid construction material or expanded metal having openings no greater than 1/2 inch (1.27 cm). Points to which personal fall arrest systems are attached must meet the anchorage requirements in § 1926.502. A grab rail must be installed inside the entire perimeter of the personnel platform except for access gates/doors.

Access gates/doors. If installed, access gates/doors of all types (including swinging, sliding, folding, or other types) must:

Not swing outward. If due to the size of the personnel platform, such as a 1-person platform, it is infeasible for the door to swing inward and allow safe entry for the platform occupant, and then the access gate/door may swing outward.

Be equipped with a device that prevents accidental opening.

Headroom must be sufficient to allow employees to stand upright in the platform.

In addition to the use of hard hats, employees must be protected by overhead protection on the personnel platform when employees are exposed to falling objects. The platform overhead protection must not obscure the view of the operator or platform occupants (such as wire mesh that has up to 1/2 inch openings), unless full protection is necessary.

All edges exposed to employee contact must be smooth enough to prevent injury.

The weight of the platform and its rated capacity must be conspicuously posted on the platform with a plate or other permanent marking.

#### 9.4.2...6 Personnel Platform Loading.

The personnel platform must not be loaded in excess of its rated capacity. Personnel platforms must be used only for employees, their tools, and the materials necessary to do their work. Platforms must not be used to hoist materials or tools when not hoisting personnel.

Exception: Materials and tools to be used during the lift, if secured and distributed in accordance with paragraph (8.1.6)(c) of this section may be in the platform for trial lifts.

Materials and tools must be:

- Secured to prevent displacement
- Evenly distributed within the confines of the platform while it is suspended.

The number of employees occupying the personnel platform must not exceed the maximum number the platform was designed to hold or the number required to perform the work, whichever is less.

#### 9.4.3 Attachment and Rigging

Hooks and other detachable devices:

Hooks used in the connection between the hoist line and the personnel platform (including hooks on overhaul ball assemblies, lower load blocks, bridle legs, or other attachment assemblies or components) must be:

- Of a type that can be closed and locked, eliminating the throat opening.
- Closed and locked when attached.
- Shackles used in place of hooks must be of the alloy anchor type, with either:
  - A bolt, nut and retaining pin, in place; or
  - Of the screw type, with the screw pin secured from accidental removal.

Where other detachable devices are used, they must be of the type that can be closed and locked to the same extent as the devices addressed in the beginning of this section. Such devices must be closed and locked when attached.

Rope bridle: When a rope bridle is used to suspend the personnel platform, each bridle leg must be connected to a master link or shackle in a manner that ensures that the load is evenly divided among the bridle legs.

Rigging hardware (including wire rope, shackles, rings, master links, and other rigging hardware) and hooks must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings must be capable of supporting without failure at least ten times the maximum intended load.

Eyes in wire rope slings must be fabricated with thimbles.

Bridles and associated rigging for suspending the personnel platform must be used only for the platform and the necessary employees, their tools and materials necessary to do their work.

The bridles and associated rigging must not have been used for any purpose other than hoisting personnel.

#### 9.4.3...1 Trial lift and inspection

A trial lift with the unoccupied personnel platform loaded at least to the anticipated lift weight must be made from ground level, or any other location where employees will enter the platform, to each location at which the platform is to be hoisted and positioned. Where there is more than one location to be reached from a single set-up position, either individual trial lifts for each location, or a single trial lift, in which the platform is moved sequentially to each location, must be performed; the method selected must be the same as the method that will be used to hoist the personnel. The trial lift must be performed immediately prior to each shift in which personnel will be hoisted. In addition, the trial lift must be repeated prior to hoisting employees in each of the following circumstances:

- The equipment is moved and set up in a new location or returned to a previously used location.
- The lift route is changed, unless the competent person determines that the new route presents no new factors affecting safety.

The competent person must determine that:

- Safety devices and operational aids required by this section are activated and functioning properly.
- Nothing interferes with the equipment or the personnel platform in the course of the trial lift.
- The lift will not exceed 50 percent of the equipment's rated capacity at any time during the lift.
- The load radius to be used during the lift has been accurately determined.

Immediately after the trial lift, the competent person must:

- Conduct a visual inspection of the equipment, base support or ground, and personnel platform, to determine whether the trial lift has exposed any defect or problem or produced any adverse effect.
- Confirm that, upon the completion of the trial lift process, the test weight has been removed.

Immediately prior to each lift:

- The platform must be hoisted a few inches with the personnel and materials/tools on board and inspected by a competent person to ensure that it is secure and properly balanced
- The following conditions must be determined by a competent person to exist before the lift of personnel proceeds
- Hoist ropes must be free of deficiencies
- Multiple part lines must not be twisted around each other.
- The primary attachment must be centered over the platform. If the load rope is slack, the hoisting system must be inspected to ensure that all ropes are properly seated on drums and in sheaves.

Any condition found during the trial lift and subsequent inspections that fails to meet a requirement of this policy or otherwise creates a safety hazard must be corrected before hoisting personnel.

#### 9.4.3...2 Proof testing.

At each jobsite, prior to hoisting employees on the personnel platform, and after any repair or modification, the platform and rigging must be proof tested to 125 percent of the platform's rated capacity. The proof test may be done concurrently with the trial lift.

The platform must be lowered by controlled load lowering, then braked and held in a suspended position for a minimum of five minutes with the test load evenly distributed on the platform.

After proof testing, a competent person must inspect the platform and rigging to determine if the test has been passed. If any deficiencies are found that pose a safety hazard, the platform and rigging must not be used to hoist personnel unless the deficiencies are corrected, the test is repeated, and a competent person determines that the test has been passed.

Personnel hoisting must not be conducted until the competent person determines that the platform and rigging have successfully passed the proof test.

#### 9.4.3...3 Work practices.

Hoisting of the personnel platform must be performed in a slow, controlled, cautious manner, with no sudden movements of the equipment or the platform.

Platform occupants must:

- Keep all parts of the body inside the platform during raising, lowering, and horizontal movement. This provision does not apply to an occupant of the platform when necessary to position the platform or while performing the duties of a signal person.
- Not stand, sit on, or work from the top or intermediate rail or toeboard, or use any other means/device to raise their working height.
- Not pull the platform out of plumb in relation to the hoisting equipment.

Before employees exit or enter a hoisted personnel platform that is not landed, the platform must be secured to the structure where the work is to be performed, unless Skanska Kiewit can demonstrate that securing to the structure would create a greater hazard.

If the platform is tied to the structure, the operator must not move the platform until the operator receives confirmation that it is freely suspended.

Tag lines must be used when necessary to control the platform.

**Platforms without controls.** Where the platform is not equipped with controls, the equipment operator must remain at the equipment controls, on site, and in view of the equipment, at all times while the platform is occupied.

**Platforms with controls.** Where the platform is equipped with controls, all of the following must be met at all times while the platform is occupied:

- The occupant using the controls in the platform must be a qualified person with respect to their use, including the safe limitations of the equipment and hazards associated with its operation.
- The equipment operator must be at a set of equipment controls that include boom and swing functions of the equipment, and must be on site and in view of the equipment.

The platform operating manual must be in the platform or on the equipment.

Environmental conditions.

Wind. When wind speed (sustained or gusts) exceeds 20 mph at the personnel platform, a qualified person must determine if, in light of the wind conditions, it is not safe to lift personnel. If it is not, the lifting operation must not begin (or, if already in progress, must be terminated).

Other weather and environmental conditions. A qualified person must determine if, in light of indications of dangerous weather conditions, or other impending or existing danger, it is not safe to lift personnel. If it is not, the lifting operation must not begin (or, if already in progress, must be terminated).

Employees being hoisted must remain in direct communication with the signal person (where used), or the operator.

Fall protection. Except over water, employees occupying the personnel platform must be provided and use a personal fall arrest system. The system must be attached to a structural member within the personnel platform. When working over or near water, the requirements of § 1926.106 apply. The fall arrest system, including the attachment point (anchorage), must meet the requirements in § 1926.502.

Other load lines. No lifts must be made on any other of the equipment's load lines while personnel are being hoisted, except in pile driving operations.

Factory-produced boom-mounted personnel platforms that inB.U. / Regionala winch as original equipment. Loads are permitted to be hoisted by such a winch while employees occupy the personnel platform only where the load on the winch line does not exceed 500 pounds and does not exceed the rated capacity of the winch and platform.

Traveling—equipment other than derricks. Hoisting of employees while the equipment is traveling is prohibited, except for: Equipment that travels on fixed rails; or Where the employer demonstrates

that there is no less hazardous way to perform the work. This exception does not apply to rubber-tired equipment.

Where employees are hoisted while the equipment is traveling, all of the following criteria must be met: Equipment travel must be restricted to a fixed track or runway. Where a runway is used, it must be a firm, level surface designed, prepared and designated as a path of travel for the weight and configuration of the equipment being used to lift and travel with the personnel platform. An existing surface may be used as long as it meets these criteria. Equipment travel must be limited to boom length. The boom must be parallel to the direction of travel, except where it is

safer to do otherwise.

A complete trial run must be performed to test the route of travel before employees are allowed to occupy the platform. This trial run can be performed at the same time as the trial lift which tests the lift route.

Traveling—derricks. Derricks are prohibited from traveling while personnel are hoisted.

#### **9.4.3...4Pre-lift meeting**

A pre-lift meeting must be held to review the applicable requirements of this section and the procedures that will be followed. It shall be attended by the equipment operator, signal person (if used for the lift), employees to be hoisted, and the person responsible for the task to be performed. The pre-lift meeting shall be held prior to the trial lift at each new work location, and must be repeated for any employees newly assigned to the operation.

#### **9.4.3...5Hoisting personnel near power lines**

Hoisting personnel within 25 feet of a power line that is up to 350 kV and hoisting personnel within 50 feet of a power line that is over 350 kV is prohibited, except for work covered by Section 7.2.9 (Power Transmission and Distribution).

#### **9.4.3...6Hoisting personnel in drill shafts**

When hoisting employees into and out of drill shafts that are up to and including 8 feet in diameter, all of the following requirements must be met:

The employee must be in either a personnel platform or on a boatswain's chair.

If using a personnel platform, paragraphs (a) through (n) of 1926.1400 apply.

If using a boatswain's chair the following paragraphs of § 1926.1400 apply: (a), (c), (d)(1), (d)(3), (d)(4), (e)(1), (e)(2), (e)(3), (f)(1), (f)(2)(i), (f)(3)(i), (g), (h), (k)(1), (k)(6), (k)(8),(k)(9), (k)(11)(i), (m), (n).

- Where the terms “personnel platform” or “platform” are used in these paragraphs, substitute them with “boatswain’s chair.”
- A signal person must be stationed at the shaft opening.
- The employee must be hoisted in a slow, controlled descent and ascent.
- The employee must use personal fall protection equipment, including a full body harness, attached independent of the crane/derrick.
- The fall protection equipment must meet the applicable requirements in § 1926.502.
- The boatswain’s chair itself (excluding the personal fall arrest system anchorages), must be capable of supporting, without failure, its own weight and at least five times the maximum intended load.
- No more than one person must be hoisted at a time.

#### 9.4.3...7 Hoisting personnel for pile driving operations

When hoisting an employee in pile driving operations, the following requirements must be met:

The employee must be in a personnel platform or boatswain’s chair.

For lattice boom cranes: Clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter who is in direct communication with the operator to inform the operator when this point is reached. For telescopic boom cranes: Clearly mark the cable (so that it can be easily seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two blocking, and use a spotter who is in direct communication with the operator to inform the operator when this point is reached.

If using a personnel platform, paragraphs (b) through (n) of this section apply.

If using a boatswain’s chair:

The following paragraphs of OSHA § 1926.1400 apply: (a), (c), (d)(1), (d)(3), (d)(4), (e)(1), (e)(2), (e)(3), (f)(1), (f)(2)(i), (f)(3)(i), (g), (h), (j), (k)(1), (k)(6), (k)(8), (k)(9), (k)(11)(i), (m), and (n). Where the terms “personnel platform” or “platform” are used in these paragraphs, substitute them with “boatswains chair.”

- The employee must be hoisted in a slow, controlled descent and ascent.
- The employee must use personal fall protection equipment, including a full body harness, independently attached to the lower load block or overhaul ball.
- The fall protection equipment must meet the applicable requirements in § 1926.502.
- The boatswain’s chair itself (excluding the personal fall arrest system anchorages), must be capable of supporting, without failure, its own weight and at least five times the maximum intended load.
- No more than one person must be hoisted at a time.

#### 9.4.3...8 **Operational aids**

The devices listed in this section (“listed operational aids”) are required on all equipment covered in this policy, unless otherwise specified.

Operations shall not begin unless the listed operational aids are in proper working order, except where Skanska Kiewit meets the specified temporary alternative measures described in section 4.3.11 of this policy.. More protective alternative measures specified by the crane/derrick manufacturer, if any, shall be followed.

If a listed operational aid stops working properly during operations, the operator shall safely stop operations until the temporary alternative measures are implemented or the device is again working properly. If a replacement part is no longer available, the use of a substitute device that performs the same type of function is permitted and is not considered a modification under § 1926.1434.

Category I operational aids and alternative measures. Operational aids listed in this paragraph that are not working properly shall be repaired no later than 7 days after the deficiency occurs. Exception: If the employer documents that it has ordered the necessary parts within 7 days of the occurrence of the deficiency, the repair shall be completed within 7 days of receipt of the parts.

#### 9.4.3...9 **Boom Hoist Limiting Device**

For equipment manufactured after December 16, 1969, a boom hoist limiting device is required. Temporary alternative measures (use at least one):

- Use a boom angle indicator.
- Clearly mark the boom hoist cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to keep the boom within the minimum allowable radius. In addition, install mirrors or remote video cameras and displays if necessary for the operator to see the mark.
- Clearly mark the boom hoist cable (so that it can easily be seen by a spotter) at a point that will give the spotter sufficient time to signal the operator and have the operator stop the hoist to keep the boom within the minimum allowable radius.
- If the equipment was manufactured on or before December 16, 1969, and was not originally equipped with a boom hoist limiting device, at least one of the measures in paragraphs (d)(1)(i)(A) through (C) of OSHA standard 1926.1400 shall be used, on a permanent basis.

#### 9.4.3...10 **Luffing jib limiting device**

Equipment with a luffing jib shall have a luffing jib limiting device. Temporary alternative measures are the same as in paragraph (d)(1)(i) of OSHA standard 1926.1400, except to limit the movement of the luffing jib.

#### 9.4.3...11 **Anti two-blocking device**

Telescopic boom cranes manufactured after February 28, 1992, shall be equipped with a device

which automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) must prevent such damage at all points where two-blocking could occur. Temporary alternative measures: Clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, and use a spotter when extending the boom.

Lattice boom cranes.

Lattice boom cranes manufactured after Feb 28, 1992, shall be equipped with a device that either automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component), or warns the operator in time for the operator to prevent two-blocking. The device(s) must prevent such damage/failure or provide adequate warning for all points where two-blocking could occur.

Lattice boom cranes, and derricks, manufactured one year after the effective date of this standard shall be equipped with a device which automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) must prevent such damage/failure at all points where two-blocking could occur.

Exception. The requirements of this section do not apply to such lattice boom equipment when used for dragline, clamshell (grapple), magnet, drop ball, container handling, concrete bucket, marine operations that do not involve hoisting personnel, and pile driving work.

Temporary alternative measures. Clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two blocking, or use a spotter.

Category II operational aids and alternative measures. Operational aids listed in this paragraph that are not working properly shall be repaired no later than 30 days after the deficiency occurs.

**Exception:** If the employer can document that it has ordered the necessary parts within 7 days of the occurrence of the deficiency, and the part is not received in time to complete the repair in 30 days, the repair shall be completed within 7 days of receipt of the parts.

Boom angle or radius indicator. The equipment shall have a boom angle or radius indicator readable from the operator's station. Temporary alternative measures: Radii or boom angle shall be determined by measuring the radii or boom angle with a measuring device.

Jib angle indicator. (If the equipment has a luffing jib). Temporary alternative measures: Radii or jib angle shall be determined by ascertaining the main boom angle and then measuring the radii or jib angle with a measuring device.

Boom length indicator. If the equipment has a telescopic boom, except where the rated capacity is independent of the boom length. Temporary alternative measures: One of the following methods shall be used:

Mark the boom with measured marks to calculate boom length; or

Calculate boom length from boom angle and radius measurements; or

Measure the boom with a measuring device.

Load weighing and similar devices. Equipment (other than derricks) manufactured after March 29, 2003 with a rated capacity over 6,000 pounds shall have at least one of the following: load weighing device, load moment (or rated capacity) indicator, or load moment (or rated capacity) limiter.

Temporary alternative measures: The weight of the load shall be determined from a reliable source (such as the load's manufacturer), by a reliable calculation method (such as calculating a steel beam from measured dimensions and a known per foot weight), or by other equally reliable means. This information shall be provided to the operator prior to the lift.

The following devices are required on equipment manufactured after January 1, 2008:

Outrigger position (horizontal beam extension) sensor/monitor. If the equipment has outriggers. Temporary alternative measures: the operator shall verify that the position of the outriggers is correct (in accordance with manufacturer procedures) before beginning operations requiring outrigger deployment.

Hoist drum rotation indicator. If the drum is not visible from the operator's station. Temporary alternative measures: Mark the drum. In addition, install mirrors or remote video cameras and displays if necessary for the operator to see the mark.

#### 9.4.4 Critical Lift:

- More than 75% of the crane's load chart as configured is being utilized during the lift ;
  - The pick requires more than one crane,
  - Equipment which contains an operator's cabin is being lifted,
  - Pick and Carry on rubber tiresThe lift is considered a Critical Lift and the Critical Lift Checklist must be completed. Sign offs must be obtained from RCC, PCC, Project Manager, and Safety Engineer before the pick is made.

#### 9.4.5 Major Lift:

- The item lifted has a significant impact to the project schedule or budget,
- The item has a lead time greater than 12 months, The item is valued at more than \$100,000, or
- The crane is on a barge,

The lift is considered a Major Lift regardless of weight of load or capacity of crane. The Major Lift checklist must be completed, and sign offs must be obtained by PCC, Project Manager, and Safety Engineer before the pick is made. Depending on the weight of the object and the capacity of the crane, a pick could be classified as both a Critical and Major Lift, in which case the Critical Lift checklist and sign offs are solely required.

#### 9.4.6 Standard Lift:

If the weight of the object and its radius throughout the duration of the pick are such that it is less than 75% capacity of the cranes capacity, it is a standard lift. A lift plan must still be completed. No additional checklists are required, and the competent person in charge of the pick can sign off.

#### 9.4.7 Simple Lift:

A lift where the weight and consequences are negligible. This lift does not require a pick plan.

#### 9.4.8 Repetitive / Similar Picks

If a crew is to make the same pick throughout the day, they need only to go through the above process once at the beginning of the day. For example, if the task is to remove spoils from an area with a 45 ton cherry picker and a skip pan, then the weight of the skip pan and radius needs to be evaluated once. A pre-operational meeting must take place before the first pick, and the crew can continue to work at the same operation with the same plan and no additional pre-operational meetings are required, with the exception that all rigging must be visually inspected prior to every lift. However, if any significant aspect of the operation should change, (a larger skip pan is substituted for the one in the plan, the spoils need to be placed in a location that requires a longer boom and larger radius, the nature of the spoils change and therefore the weight of the load changes, or any change is made to any single detail of the operation) the pre-operational meeting should take place again.

#### 9.4.9 Multiple Crane Lifts

- Plan development. Before beginning a crane operation in which more than one crane will be supporting the load, the operation must be planned. The planning must meet the following requirements:
  - The plan must be developed by a qualified person.
  - Where the qualified person determines that engineering expertise is needed for the planning, Skanska Kiewit must ensure that it is provided.
- Plan implementation.
  - The multiple-crane lift must be supervised by a person who meets the criteria for both a competent person and a qualified person, or by a competent person who is assisted by one or more qualified persons.
  - The supervisor must review the plan with all workers who will be involved with the operation.

Some local governed agencies may require notification before a multiple crane lift.

#### 9.4.10 Regional/Project Specific Requirements

#### 9.5 Left Intentionally Blank

#### 9.6 Maintenance and Inspection

##### 9.6.1 Inspection and Oversight Requirements

Prior to any Crane being placed in service, each crane must have an up to date monthly and annual inspection. The Project Crane Coordinator is responsible to ensure that at the time of the crane's arrival at the jobsite, these inspections are up to date and present in the cab. If they are not, the PCC is required to notify the Regional Crane Coordinator, who will arrange for the inspections to be completed as soon as possible. The Crane will not be operated until these inspections are completed or documentation is provided. Upon expiration of initial inspections, Skanska Kiewit is required to provide for subsequent inspections.

##### 9.6.2 On-Hire / Off-Hire Inspections

When a crane arrives on the jobsite, Company owned or rented, an on-hire inspection must be performed. It is the responsibility of the Project Crane Coordinator to insure this activity is performed. This is separate from a safety inspection, and is intended to document incidental damage to the crane body, condition of cab, etc., to protect Skanska Kiewit from claims for alleged damage to the equipment. The condition of the crane should be documented with photographic evidence especially with regard to any pre-existing damage. When a crane is leaving the jobsite, an off-hire inspection must be performed by the PCC or a member of the Project Team to document the condition of the crane with new photographs showing all previously existing damage as well as any new damage. Both reports will be included in the crane file maintained by the Regional Crane Coordinator.

##### 9.6.3 Inspection Requirements

If a company owned or rented crane arrives on any site and it does not have a current monthly inspection, the RCC will determine whether the crane will need to have a monthly inspection completed on that crane. The on-hire inspection should be completed as soon as the crane is assembled and prior to going to work. A full monthly inspection will be completed on rentals longer than five (5) consecutive days. If a rental is less than five (5) consecutive days, then daily inspections should be performed by the appropriate parties. Current, comprehensive inspections are essential to ensure safe operation of all cranes. Therefore, the following mandatory inspections apply to all cranes on Skanska Kiewit USA Civil Projects:

###### 9.6.3...1 Daily/Pre Shift Inspections

Daily and Pre Shift inspections must be conducted by the Operating Engineer assigned to each crane. Regardless of whether the operator agrees to sign the inspection form, it is the responsibility of the Project Crane Coordinator to confirm with the operator that the inspection has been completed each day.

The inspection should be a visual “walk around” inspection and function test:

- Control mechanisms for maladjustments interfering with proper operations;
- Control and drive mechanisms for apparent excessive wear of components and contamination by lubricants, water or other foreign matter;
- Air, hydraulic, and other pressurized lines for deterioration or leakage, particularly those which flex in normal operation;
- Hydraulic system for proper fluid level;
- Hooks and latches for deformation, cracks, excessive wear, or damage such as from
  - chemicals or heat;
- Wire rope reeving for compliance with the manufacturer’s specifications;
- Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation;
- Tires (when in use) for proper inflation and condition;
- Ground conditions around the equipment for proper support, including ground settling under
  - and around outriggers/stabilizers and supporting foundations, ground water accumulation, or similar conditions;
- The equipment for level position within the tolerances specified by the equipment manufacturer’s recommendations, both before each shift and after each move and setup;
- Operator cab windows for significant cracks, breaks, or other deficiencies that would hamper the operator’s view;
- Safety devices and operational aids required for proper operation. Any deficiencies identified during the inspection must be communicated to the PCC, who is required to
  - provide documentation describing the deficiency as well as the corrective action taken to remedy it. All deficiencies found must be reported to the RCC immediately. Deficiencies which are safety related will result in the immediate removal of the crane from service until the deficiencies are corrected. Non-safety related deficiencies shall be repaired as soon as deemed practical. A copy of the completed daily inspection form should be left in the cab of the crane or filed and made available at the jobsite.

### 9.6.3...2 Monthly Inspections

Monthly inspections must be conducted by a qualified Inspector or an approved third party inspection company. Inspections are to be scheduled by the RCC, who is responsible for keeping a current database of cranes on all projects and identifying when inspections are required and completed. Any deficiencies identified during the inspection must be communicated to the PCC, who is required to provide documentation describing the deficiency as well as the corrective action taken to remedy it. All deficiencies found must be reported to the RCC immediately. Deficiencies which are safety related will result in the immediate removal of the crane from service until the deficiencies are corrected. Non-safety related deficiencies shall be repaired as soon as deemed practical. A copy of the completed inspection form should be left in the cab of the crane or at the jobsite. A copy of the inspection will be available on the Skanska Kiewit Crane and Rigging website.

### 9.6.3...3 Annual Inspections/Annual Magnetic Particle Testing

Annual inspections must be conducted by a qualified Inspector or an approved third party inspection company. As with monthly inspections, annual inspections are scheduled by the RCC. Any deficiencies identified during the inspection must be communicated to the PCC, who is required to provide documentation describing the deficiency as well as the corrective action taken to remedy it. All deficiencies found must be reported to the RCC immediately. Deficiencies which are safety related will result in the immediate removal of the crane from service until the deficiencies are corrected. Non-safety related deficiencies shall be repaired as soon as deemed practical.

A non destructive testing method must be completed at least once a year on all lattice boom cranes, hydraulic cranes and pile drivers. This test may include magnetic particle, ultra sound, x-ray, or other means necessary to establish the structural integrity of boom and members. This test is to be performed by a qualified individual. On lattice boom cranes, when intending to increase the boom length, the section of boom to be installed must be tested before it is inserted. Once the section is inserted the crane will have a complete inspection conducted by a qualified inspector or an independent qualified company.

When crane operations or the crane environment may increase the “wear and tear” on the crane, (i.e. pile driving, pulling sheets, barge mounted mobile cranes) additional or more frequent inspections may be required. This possibility of additional or more frequent inspections will be determined by the RCC in conjunction with the Project Team responsible for that crane during the monthly crane program meeting.

If any unusual incident or accident occurs on any project involving a crane, which may affect the strength, stability or potentially may have damaged load bearing components, the crane shall be removed from service until the satisfactory completion of an inspection by a qualified person or third party inspection team is completed

### 9.6.3...4 Modified Equipment Inspection

No modifications will be made to any crane without the manufacturer’s approval or approval from a Professional Engineer in writing.

### 9.6.3...5 Repaired/Adjusted equipment

Equipment that has had a repair or adjustment that relates to safe operation (such as: A repair or adjustment to a safety device or operator aid, or to a critical part of a control system, power plant, braking system, load-sustaining structural components, load hook, or in use operating mechanism), must be inspected by a qualified person after such a repair or adjustment has been completed, prior to initial use. The inspection must meet all of the following requirements:

- The qualified person must determine if the repair/adjustment meets manufacturer equipment criteria (where applicable and available).
  - Where manufacturer equipment criteria are unavailable or inapplicable, the qualified person must:

- Include functional testing of the repaired/ adjusted parts and other components that may be affected by the repair/ adjustment.
- Determine if a registered professional engineer (RPE) is needed to develop criteria for the repair/ adjustment. If an RPE is not needed, Skanska Kiewit must ensure that the criteria are developed by the qualified person. If an RPE is needed, Skanska Kiewit must ensure that they are developed by an RPE.
- Determine if the repair/adjustment meets the criteria developed in accordance with OSHA standard 1926.1400 (b)(i)(c).
- The inspection must included functional testing of the repaired/adjusted parts and other components that may be affected by the repair/adjustment.

#### **9.6.3...6 Post-Assembly Inspection**

Upon completion of assembly, the equipment must be inspected by a qualified person to assure that it is configured in accordance with manufacturer equipment criteria. Where manufacturer equipment criteria are unavailable, a qualified person must:

- Determine if a registered professional engineer (RPE) familiar with the type of equipment involved is needed to develop criteria for the equipment configuration. If an RPE is not needed, Skanska Kiewit must ensure that the criteria are developed by the qualified person. If an RPE is needed, the Skanska Kiewit must ensure that they are developed by an RPE.
- Equipment must not be used until an inspection and function test are complete and the equipment is configured in accordance with the applicable criteria.

#### **9.6.3...7 Equipment Modifications**

Modifications or additions which affect the capacity or safe operation of the equipment are prohibited except where the requirements of this section are met.

#### **9.6.3...8 Manufacturer review and approval:**

The manufacturer approves the modifications/additions in writing

The load charts, procedures, instruction manuals and instruction plates/tags/decals are modified as necessary to accord with the modification/addition.

The original safety factor of the equipment is not reduced.

### 9.6.3...9 **Manufacturer refusal to review request.**

The manufacturer is provided a detailed description of the proposed modification/addition is asked to approve the modification/ addition, but it declines to review the technical merits of the proposal or fails, within 30 days, to acknowledge the request or initiate the review, and all of the following are met:

A registered professional engineer who is a qualified person with respect to the equipment involved, approves the modification/addition and specifies the equipment configurations to which that approval applies; Modifies load charts, procedures, instruction manuals and instruction plates/tags/decals as necessary to accord with the modification/addition; and The original safety factor of the equipment is not reduced.

### 9.6.3...10 **Unavailable manufacturer.**

Modifications or additions which affect the capacity or safe operation of the equipment are prohibited where the manufacturer, after a review of the technical safety merits of the proposed modification/addition, rejects the proposal and explains the reasons for the rejection in a written response. If the manufacturer rejects the proposal but does not explain the reasons for the rejection in writing, the employer may treat this as a manufacturer refusal to review the request under paragraph 6.3.9 of this policy.

### 9.6.3...11 **Severe service**

Where the severity of use/conditions is such that there is a reasonable probability of damage or excessive wear (such as loading that may have exceeded rated capacity, shock loading that may have exceeded rated capacity, prolonged exposure to a corrosive atmosphere), Skanska Kiewit must stop using the equipment and a qualified person must inspect the equipment for structural damage to determine if the equipment can continue to be used safely.

If a deficiency is found and it is deemed unsafe, Skanska Kiewit must stop crane operation until the follow the deficiency is repaired and re-inspected prior to use.

### 9.6.3...12 **Equipment not in regular use**

Equipment that has been idle for 3 months or more must be inspected by a qualified inspector or third party inspector. Prior to use a monthly inspection will be performed.

## 9.6.4 **Tag Out**

### 9.6.4...1 **Tagging out of service equipment/functions**

When Skanska Kiewit has taken the equipment out of service, a tag shall be placed in the cab stating that the equipment is out of service and is not to be used. When Skanska Kiewit has taken a function(s) out of service, a tag shall be placed in a conspicuous position stating that the function is out of service and is not to be used.

### 9.6.4...2 **Response to “do not operate” / Tag Out signs**

If there is a warning (tag-out or maintenance/do not operate) sign on the equipment or starting

control, the operator shall not activate the switch or start the equipment until the sign has been removed by a person authorized to remove it, or until the operator has verified that:

- No one is servicing, working on, or otherwise in a dangerous position on the machine.
- The equipment has been repaired and is working properly.

If there is a warning (tag-out or maintenance/do not operate) sign on any other switch or control, the operator shall not activate that switch or control until the sign has been removed by a person authorized to remove it, or until the operator has verified that the requirements in previous statements above have been met.

### 9.6.4...3 Maintenance and Repair Employees

Maintenance, inspection and repair personnel are permitted to operate the equipment only where the following requirements are met:

- The operation is limited to those functions necessary to perform maintenance, inspect or verify the performance of the equipment.
- The personnel are familiar with the operation, safe limitations, characteristics and hazards associated with the type of equipment.
- Maintenance and repair personnel shall meet the definition of a qualified person with respect to the equipment and maintenance/repair tasks performed.

## 9.6.5 WIRE ROPE - INSPECTION

### 9.6.5...1 Shift inspection

A competent person must begin a visual inspection prior to each shift the equipment is used, which must be completed before or during that shift. The inspection must consist of observation of wire ropes (running and standing) that are likely to be in use during the shift for apparent deficiencies, including those listed below. Untwisting (opening) of wire rope or booming down is not required as part of this inspection.

Apparent deficiencies.

- Category I. Apparent deficiencies in this category include significant corrosion, electric arc damage (from a source other than power lines) or heat damage, improperly applied end connections, or significantly corroded, cracked, bent, or worn end connections (such as from severe service).
- Category II. Apparent deficiencies in this category are visible, broken wires, as follows:
  - In running wire ropes: Six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay, where a rope lay is the length

along the rope in which one strand makes a complete revolution around the rope;

- In rotation resistant ropes: Two randomly distributed broken wires in six rope diameters or four randomly distributed broken wires in 30 rope diameters.
  - In pendants or standing wire ropes: More than two broken wires in one rope lay located in rope beyond end connections and/or more than one broken wire in a rope lay located at an end connection.
  - A diameter reduction of more than 5% from nominal diameter.
- Category III. Apparent deficiencies in this category include In rotation resistant wire rope, core protrusion or other distortion indicating core failure, and prior electrical contact with a power line.

#### 9.6.5...2A broken strand

- Critical review items. The competent person must give particular attention to all of the following:
  - Rotation resistant wire rope in use.
  - Wire rope being used for boom hoists and luffing hoists, particularly at reverse bends.
  - Wire rope at flange points, crossover points and repetitive pickup points on drums.
  - Wire rope at or near terminal ends.
  - Wire rope in contact with saddles, equalizer sheaves or other sheaves where rope travel is limited.

#### 9.6.5...3Removal from service

If a deficiency in Category I is identified, an immediate determination must be made by the competent person as to whether the deficiency constitutes a safety hazard. If the deficiency is determined to constitute a safety hazard, operations involving use of the wire rope in question must be prohibited until the wire rope is replaced.

If the deficiency is localized, the problem is corrected by severing the wire rope in two; the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited. If a rope is shortened, Skanska Kiewit must ensure that the drum will still have two wraps of wire when the load and/or boom is in its lowest position.

If a deficiency in Category II is identified, operations involving use of the wire rope in question must be prohibited until Skanska Kiewit complies with the wire rope manufacturer's established criterion for removal from service or a different criterion that the wire rope manufacturer has approved in writing for that specific wire rope, the wire rope is replaced. If the deficiency is localized, the problem is corrected by severing the wire rope in two; the undamaged portion may

continue to be used. Joining lengths of wire rope by splicing is prohibited. If a rope is shortened , Skanska Kiewit must ensure that the drum will still have two wraps of wire when the load and/or boom is in its lowest position.

Significant distortion of the wire rope structure such as kinking, crushing, unstranding, birdcaging, signs of core failure or steel core protrusion between the outer strands.

If a deficiency in Category III is identified, operations involving use of the wire rope in question must be prohibited until the wire rope is replaced. If the deficiency (other than power line contact) is localized, the problem is corrected by severing the wire rope in two; the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited. Repair of wire rope that contacted an energized power line is also prohibited. If a rope is shortened under this paragraph, Skanska Kiewit must ensure that the drum will still have two wraps of wire when the load and/or boom is in its lowest position.

Where a wire rope is required to be removed from service under this section, either the equipment (as a whole) or the hoist with that wire rope must be tagged-out, until the wire rope is repaired or replaced.

#### **9.6.5...4 Monthly inspection**

Each month an inspection must be conducted in accordance with section 6.5.1 (shift inspection) of this policy.

The inspection must include any deficiencies that the qualified person who conducts the annual inspection determines under section 6.5.2 must be monitored.

Wire ropes on equipment must not be used until an inspection under this paragraph demonstrates that no corrective action under section 6.5.3 is required.

The inspection must be documented.

#### **9.6.5...5 Annual/comprehensive**

At least every 12 months, wire ropes in use on equipment must be inspected by a qualified person as defined in this policy. The inspection must be for deficiencies of the types listed in paragraph of this section.

The inspection must be complete and thorough, covering the surface of the entire length of the wire ropes, with particular attention given to all of the following:

- Critical review items
- Those sections that are normally hidden during shift and monthly inspections
- Wire rope subject to reverse bends
- Wire rope passing over sheaves

Exception: In the event an inspection is not feasible due to existing set-up and configuration of the equipment (such as where an assist crane is needed) or due to site conditions (such as a dense urban setting), such inspections must be conducted as soon as it becomes feasible, but no longer than an additional 6 months for running ropes and, for standing ropes, at the time of disassembly.

If a deficiency is identified, an immediate determination must be made by the qualified person as to whether the deficiency constitutes a safety hazard. If the deficiency is determined to constitute a safety hazard, operations involving use of the wire rope in question must be prohibited until the wire rope is replaced. If the deficiency is localized, the problem is corrected by severing the wire rope in two; the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited. If a rope is shortened, Skanska Kiewit must ensure that the drum will still have two wraps of wire when the load and/or boom is in its lowest position. If the qualified person determines that, though not presently a safety hazard, the deficiency needs to be monitored, the employer must ensure that the deficiency is checked in the monthly inspections. The inspection must be documented

#### **9.6.5...6 Rope lubricants that are of the type that hinder inspection must not be used.**

All documents produced under this section must be available, during the applicable document retention period, to all persons who conduct inspections under this section.

#### **9.6.5...7 Wire rope—selection and installation criteria.**

Original equipment wire rope and replacement wire rope must be selected and installed in accordance with the requirements of this section. Selection of replacement wire rope must be in accordance with the recommendations of the wire rope manufacturer, the equipment manufacturer, or a qualified person.

Wire rope design criteria: Wire rope (other than rotation resistant rope) must comply with either Option (1) or Option (2) of this section, as follows:

Option (1). Wire rope must comply with section 5–1.7.1 of ASME B30.5– 2004 (incorporated by reference, see § 1926.6) except that section’s paragraph (c) must not apply.

Option (2). Wire rope must be designed to have, in relation to the equipment’s rated capacity, a sufficient minimum breaking force and design factor so that compliance with the applicable inspection provisions in § 1926.1413 will be an effective means of preventing sudden rope failure.

Wire rope must be compatible with the safe functioning of the equipment.

#### **Boom hoist reeving.**

- Fiber core ropes must not be used for boom hoist reeving, except for derricks.

- Rotation resistant ropes must be used for boom hoist reeving only where the requirements of this section are met.

#### 9.6.5...8 Rotation resistant ropes.

##### Definitions

**Type I** rotation resistant wire rope (“Type I”). Type I rotation resistant rope is stranded rope constructed to have little or no tendency to rotate or, if guided, transmits little or no torque. It has at least 15 outer strands and comprises an assembly of at least three layers of strands laid helically over a center in two operations. The direction of lay of the outer strands is opposite to that of the underlying layer.

**Type II** rotation resistant wire rope (“Type II”). Type II rotation resistant rope is stranded rope constructed to have significant resistance to rotation. It has at least 10 outer strands and comprises an assembly of two or more layers of strands laid helically over a center in two or three operations. The direction of lay of the outer strands is opposite to that of the underlying layer.

**Type III** rotation resistant wire rope (“Type III”). Type III rotation resistant rope is stranded rope constructed to have limited resistance to rotation. It has no more than nine outer strands, and comprises an assembly of two layers of strands laid helically over a center in two operations. The direction of lay of the outer strands is opposite to that of the underlying layer.

#### 9.6.5...9 Requirements.

Types II and III with an operating design factor of less than 5 must not be used for duty cycle or repetitive lifts. Rotation resistant ropes (including Types I, II and III) must have an operating design factor of no less than 3.5. Type I must have an operating design factor of no less than 5, except where the wire rope manufacturer and the equipment manufacturer approves the design factor, in writing. Types II and III must have an operating design factor of no less than 5, except where the requirements of paragraph (e)(3) of this section are met. When Types II and III with an operating design factor of less than 5 are used (for non-duty cycle, non-repetitive lifts), the following requirements must be met for each lifting operation:

- A qualified person must inspect the rope. The rope must be used only if the qualified person determines that there are no deficiencies constituting a hazard. In making this determination, more than one broken wire in any one rope lay must be considered a hazard.
- Operations must be conducted in such a manner and at such speeds as to minimize dynamic effects.
- Each lift made under § 1926.1414(e)(3) must be recorded in the monthly and annual

inspection documents. Such prior uses must be considered by the qualified person in determining whether to use the rope again.

- Additional requirements for rotation resistant ropes for boom hoist reeving.
- Rotation resistant ropes must not be used for boom hoist reeving, except where the requirements of this section are met.

Rotation resistant ropes may be used as boom hoist reeving when load hoists are used as boom hoists for attachments such as luffing attachments or boom and mast attachment systems. Under these conditions, all of the following requirements must be met:

- The drum must provide a first layer rope pitch diameter of not less than 18 times the nominal diameter of the rope used.
- The requirements in § 1926.1426(a) (irrespective of the date of manufacture of the equipment), and § 1926.1426(b).
- All sheaves used in the boom hoist reeving system must have a rope pitch diameter of not less than 18 times the nominal diameter of the rope used.
- The operating design factor for the boom hoist reeving system must be not less than five.
- The operating design factor for these ropes must be the total minimum breaking force of all parts of rope in the system divided by the load imposed on the rope system when supporting the static weights of the structure and the load within the equipment's rated capacity.
- When provided, a power controlled lowering system must be capable of handling rated capacities and speeds as specified by the manufacturer.
- Wire rope clips used in conjunction with wedge sockets must be attached to the unloaded dead end of the rope only, except that the use of devices specifically designed for deadending rope in a wedge socket is permitted.
- Socketing must be done in the manner specified by the manufacturer of the wire rope or fitting.
- Prior to cutting a wire rope, seizings must be placed on each side of the point to be cut. The length and number of seizings must be in accordance with the wire rope manufacturer's instructions.

## 9.6.6 Regional/Project Specific Requirements

### 9.7 Electrical

#### 9.7.1 Power Line safety – Assembly and Disassembly

Regarding Assembly and/or Disassembly, all Table A clearances apply.

##### 9.7.1...1 Preventing encroachment electrocution

Where encroachment precautions are required under Option (2), or Option (3) of this section, all of the following requirements must be met:

- Conduct a planning meeting with the Assembly/Disassembly director (A/D director), operator, assembly/ disassembly crew and the other workers who will be in the assembly/ disassembly area to review the location of the power line(s) and the steps that will be implemented to prevent encroachment/electrocution.
- If tag lines are used, they must be nonconductive.

At least one of the following additional measures must be in place. The measure selected from this list must be effective in preventing encroachment. The additional measures are:

- Use a dedicated spotter who is in continuous contact with the equipment operator. The dedicated spotter must:
  - Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line of- sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).
  - Be positioned to effectively gauge the clearance distance.
  - Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.
  - Give timely information to the operator so that the required clearance distance can be maintained.
- A proximity alarm set to give the operator sufficient warning to prevent encroachment.
- A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device must be set to give the operator sufficient warning to prevent encroachment.
- A device that automatically limits range of movement, set to prevent encroachment.
- An elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings.

#### **9.7.1...2 Assembly/disassembly below power lines prohibited**

During Assembly/Disassembly No part of a crane/derrick, load line, or load (including rigging and lifting accessories), whether partially or fully assembled, is allowed below a power line unless Skanska Kiewit has confirmed that the utility owner/operator has de-energized and (at the worksite) visibly grounded the power line.

#### **9.7.1...3 Assembly/disassembly inside Table A clearance prohibited.**

During Assembly/Disassembly No part of a crane/derrick, load line, or load (including rigging and lifting accessories), whether partially or fully assembled, is allowed closer than the minimum approach distance under Table A ( See Below) to a power line unless the employer has confirmed that the utility owner/operator has de-energized and (at the worksite) visibly grounded the power line.

#### **9.7.1...4 Voltage information**

Where Option 3, section 7.2.1 is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.

#### **9.7.1...5 Power lines presumed energized.**

Skanska Kiewit must assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be de-energized and visibly grounded at the worksite.

#### **9.7.1...6 Posting of electrocution warnings**

There must be at least one electrocution hazard warning conspicuously posted in the cab so that it is in view of the operator and (except for overhead gantry and tower cranes) at least two on the outside of the equipment.

### **9.7.2 Power Line Safety - Equipment Operations**

#### **9.7.2...1 Hazard assessments and precautions inside the work zone.**

Before beginning equipment operations, Skanska Kiewit must have a construction plan identifying the electrical hazards associated with the work:

Identify the work zone by either:

Demarcating boundaries (such as with flags, or a device such as a range limit device or range control warning device) and prohibiting the operator from operating the equipment past those boundaries, or

Defining the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.

Determine if any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 10 feet to a power line. If so, Skanska Kiewit must meet the following requirements in Option (1), Option (2), or Option (3) of this section, as follows:

- **Option (1)—De-energize and ground**

- Confirm from the utility owner/ operator that the power line has been de-energized and visibly grounded at the worksite.

- **Option (2)—10 foot clearance**

- Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 10 feet to the power line by implementing the measures specified in paragraph 7.1.1, Titled Preventing encroachment/electrocution, of this section.

- **Option (3)—Table A clearance TABLE A—MINIMUM CLEARANCE DISTANCES**

Voltage (nominal, kV, alternating current) Minimum clearance distance (feet)

Note: The value that follows “to” is up to and includes that value. For example,

“up to 200” means up to and including 200kV.

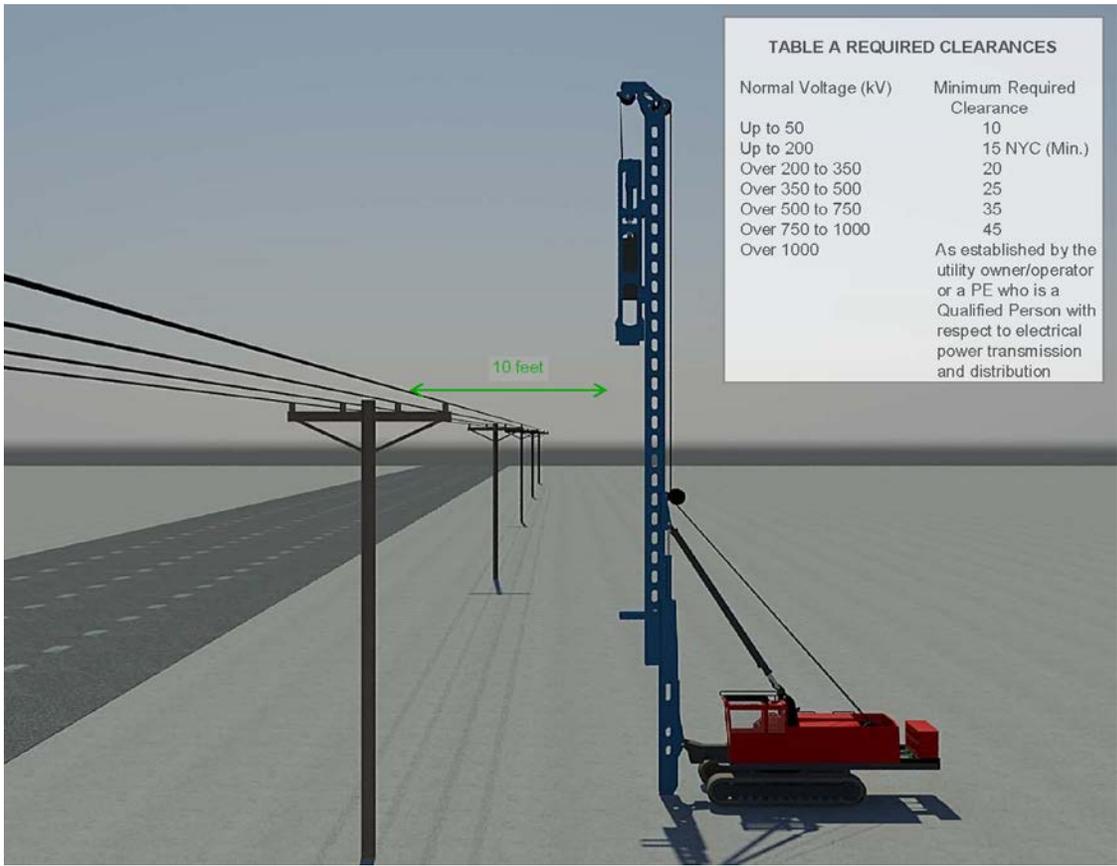
< 50 .....	10
Over 50 up to 200.....	15
Over 200 to 350 .....	20
Over 350 to 500 .....	25
Over 500 to 750 .....	35
Over 750 to 1,000 .....	45

Over 1,000 ..... (as established by the utility owner/operator or registered Professional Engineer who is a qualified person with respect to electrical power transmission and distribution).

- Determine the line's voltage and the minimum approach distance permitted under Table A (See Above).
- Determine if any part of the equipment, load line or load (including rigging and lifting accessories), while operating up to the equipment's maximum working radius in the work zone, could get closer than the minimum approach distance of the power line permitted under Table A (See Above). If so, then Skanska Kiewit must follow the requirements for

Preventing encroachment/electrocution of this section to ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer to the line than the minimum approach distance.







### 9.7.2...2 Preventing encroachment/electrocution Equipment Operations

Where encroachment precautions are required under Option (2) or Option (3) of this section, all of the following requirements must be met:

- Conduct a planning meeting reviewing the construction plan with the operator and the other workers who will be in the area of the equipment or load to review the location of the power line(s), and the steps that will be implemented to prevent encroachment/ electrocution.
- If tag lines are used, they must be non-conductive.

- Erect and maintain an elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings, at 10 feet from the power line (if using Option (2) of this section) or at the minimum approach distance under Table A (See Above) (if using Option (3) of this section).
- Implement at least on one the following measures:
  - A proximity alarm set to give the operator sufficient warning to prevent encroachment; or
  - A dedicated spotter who is in continuous contact with the operator. Where this measure is selected, the dedicated spotter must;
    - ❖ Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line of sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).
    - ❖ Be positioned to effectively gauge the clearance distance. Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator. Give timely information to the operator so that the required clearance distance can be maintained. A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device must be set to give the operator sufficient warning to prevent encroachment. A device that automatically limits range of movement, set to prevent encroachment; or An insulating link/device installed at a point between the end of the load line (or below) and the load.

### 9.7.2...3 Voltage information

Where Option (3) of this section is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.

### 9.7.2...4 Operations below power lines.

No part of the equipment, load line, or load (including rigging and lifting accessories) is allowed below a power line unless Skanska Kiewit has confirmed that the utility owner/ operator has de-energized and (at the worksite) visibly grounded the power line.

Exceptions:

- For equipment with non-extensible booms: The uppermost part of the equipment, with the boom at true vertical, would be more than 25 feet below the plane of the power line

or more than the Table A of this section minimum clearance distance below the plane of the power line.

- For equipment with articulating or extensible booms: The uppermost part of the equipment, with the boom in the fully extended position, at true vertical, would be more than 25 feet below the plane of the power line or more than the Table A of this section minimum clearance distance below the plane of the power line.

#### 9.7.2...5 Power lines presumed energized.

Skanska Kiewit must assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be de-energized and visibly grounded at the worksite.

When working near transmitter/ communication towers where the equipment is close enough for an electrical charge to be induced in the equipment or materials being handled, the transmitter must be de-energized or the following precautions must be taken:

- The equipment must be provided with an electrical ground.
- If tag lines are used, they must be non-conductive.

#### 9.7.2...6 Training

Skanska Kiewit must train each operator and crew member assigned to work with the equipment on all of the following:

The procedures to be followed in the event of electrical contact with a power line, such training must include:

- Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground;
- The importance to the operator's safety of remaining inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates leaving the cab.
- The safest means of evacuating from equipment that may be energized;
- The danger of the potentially energized zone around the equipment (step potential);
- The need for crew in the area to avoid approaching or touching the equipment and the load;
- Safe clearance distance from power lines;
- Power lines are presumed to be energized unless the utility owner/operator confirms that the power line has been and continues to be de-energized and visibly grounded at the worksite;

- Power lines are presumed to be un-insulated unless the utility owner/ operator or a registered engineer who is a qualified person with respect to electrical power transmission and distribution confirms that a line is insulated;
- The limitations of an insulating link/device, proximity alarm, and range control (and similar) device, if used; and
- The procedures to be followed to properly ground equipment and the limitations of grounding.
- Employees working as dedicated spotters must be trained to enable them to effectively perform their task, including training on the applicable requirements of this section. Devices originally designed by the manufacturer for use as: A safety device, operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must meet the manufacturer's procedures for use and conditions of use.
- Skanska Kiewit determines that it is infeasible to do the work without breaching the minimum approach distance under Table A
- The employer determines that, after consultation with the utility owner/operator, it is infeasible to de-energize and ground the power line or relocate the power line.

#### 9.7.2...7 Power line with unknown voltage

- Refer to Option 1.

#### 9.7.2...8 Power line safety (all voltages)—equipment operations closer than the Table A zone.

Equipment operations in which any part of the equipment, load line, or load (including rigging and lifting accessories) is closer than the minimum approach distance under Table A to an energized power line is prohibited, except where Skanska Kiewit demonstrates that the following requirements are met:

- Identified in the construction plan.
- Minimum clearance distance.

The power line owner/operator or registered professional engineer who is qualified person with respect to electrical power transmission and distribution determines the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions. The factors that must be considered in making this determination include, but are not limited to: Conditions affecting atmospheric conductivity; time necessary to bring the equipment, load line, and load (including rigging and lifting accessories) to a complete stop; wind conditions; degree of sway in the power line; lighting conditions, and other conditions affecting the ability to prevent electrical contact.

A planning meeting with the employer and utility owner/operator (or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution) is held to determine the procedures that will be followed to prevent electrical contact and electrocution. At a minimum these procedures must include:

- If the power line is equipped with a device that automatically reenergizes the circuit in the event of a power line contact, before the work begins, the automatic reclosing feature of the circuit interrupting device must be made inoperative if the design of the device permits.

The dedicated spotter must be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

- Be positioned to effectively gauge the clearance distance. Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator. Give timely information to the operator so that the required clearance distance can be maintained.
- An elevated warning line or barricade (not attached to the crane) in view of the operator (either directly or through video equipment) equipped with flags or similar high-visibility markings to prevent electrical contact.
- Insulating link/device An insulating link/device installed at a point between the end of the load line (or below) and the load.
- All employees, excluding equipment operators located on the equipment, who may come in contact with the equipment, the load line, or the load must be insulated or guarded from the equipment, the load line, and the load through an additional means other than a insulating link device. Insulating gloves rated for the voltage involved are adequate additional means of protection for the purposes of this paragraph.
- Nonconductive rigging if the rigging may be within Table A distance during the operation.
- If the equipment is equipped with a device that automatically limits range of movement, it must be used and set to prevent any part of the equipment, load line, or load (including rigging and lifting accessories) from breaching the minimum approach distance established in Table A.
- If a tag line is used, it must be of the nonconductive type.
- Barricades forming a perimeter at least 10 feet away from the equipment to prevent unauthorized personnel from entering the work area. In areas where obstacles prevent the barricade from being at least 10 feet away, the barricade must be as far from the equipment as feasible.
- Workers other than the operator must be prohibited from touching the load line above the insulating link/ device and crane. Operators remotely operating the

equipment from the ground must use either wireless controls that isolate the operator from the equipment or insulating mats that insulate the operator from the ground.

- Only personnel essential to the operation are permitted to be in the area of the crane and load.
- The equipment must be properly grounded.
- Insulating line hose or cover-up must be installed by the utility owner/ operator except where such devices are unavailable for the line voltages involved.
- The procedures developed to comply with this section are documented and immediately available on-site.
- The equipment user and utility owner/operator (or registered professional engineer) meets with the equipment operator and the other workers who will be in the area of the equipment or load to review the procedures that will be implemented to prevent breaching the minimum approach distance established in Table A of this section and prevent electrocution.
- The procedures developed to comply with this section are implemented.
- The utility owner/operator (or registered professional engineer) and all employers of employees involved in the work must identify one person who will direct the implementation of the procedures. The person identified in accordance with this paragraph must direct the implementation of the procedures and must have the authority to stop work at any time to ensure safety.
- If a problem occurs implementing these procedures , or indicating that those procedures are inadequate to prevent electrocution, the employer must safely stop operations and either develop new procedures to comply with this section or have the utility owner/ operator de-energize and visibly ground or relocate the power line before resuming work.
- Devices originally designed by the manufacturer for use as a safety device operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must comply with the manufacturer's procedures for use and conditions of use.

### 9.7.2...9 Safety while traveling under or near power lines with no load

#### **Skanska Kiewit must ensure that:**

- The power lines are identified on the crane location plan.
- The boom/mast and boom/mast support system are lowered sufficiently to meet the requirements of this paragraph.
- The clearances specified in Table T (See Below) of this section are maintained.
- The effects of speed and terrain on equipment movement (including movement of the boom/mast) are considered so that those effects do not cause the minimum clearance distances specified in Table B of this section to be breached.
  
- There is a dedicated spotter. If any part of the equipment while traveling will get

closer than 15 feet to the power line, Skanska Kiewit must ensure that a dedicated spotter who is in continuous contact with the driver/operator is used. The dedicated spotter must: Be positioned to effectively gauge the clearance distance. Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator. Give timely information to the operator so that the required clearance distance can be maintained.

- Additional precautions for traveling in poor visibility: When traveling at night or in conditions of poor visibility, in addition to the measures previously specified in this section Skanska Kiewit must ensure that the power lines are illuminated or another means of identifying the location of the lines is used. A safe path of travel is identified and used

TABLE T —MINIMUM CLEARANCE DISTANCES WHILE TRAVELING WITH NO LOAD

Voltage(nominal, kV, alternating current) While traveling—minimum clearance distance (feet)	
up to 0.75 .....	4
over .75 to 50 .....	6
over 50 to 345 .....	10
over 345 to 750 .....	16
Over 750 to 1,000 .....	20
Over 1,000 .....	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

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**9.7.2...10 Unavailable operation procedures**

Where the manufacturer procedures are unavailable, Skanska Kiewit shall develop and ensure compliance with all procedures necessary for the safe operation of the equipment and attachments. Procedures for the operational controls must be developed by a qualified person.

**9.7.2...11 Accessibility of procedures**

The procedures applicable to the operation of the equipment, including rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions, and operator's manual, shall be readily available in the cab at all times for use by the operator. Where rated capacities are available in the cab only in electronic form: in the event of a failure which makes the rated capacities inaccessible, the operator must immediately cease operations or follow safe shut-down procedures until the rated capacities (in electronic or other form) are available.

### 9.7.3 Regional/Project Specific Requirements

## 9.8 Weather

When a local storm warning has been issued, the competent person shall determine whether it is necessary to implement manufacturer recommendations for securing the equipment.

### 9.8.1 Wind

If wind conditions are such that the operator determines the pick is unsafe, the operation must be stopped. The US weather bureau data from the nearest reporting station may be used for the determination of wind speed. Check the manufacturers wind recommendations prior to use. Objects with large surface area, such as formwork, may require a lower threshold in order to be safely lifted. Any condition that may affect the permissible limits for safe picks should be identified in the Lift Plan.

### 9.8.2 Lightning

The use of a crane during lightning storms and events will be up to the sole discretion of the project team and/or work crews. It should be noted that whenever there is a concern towards safety, the operator shall have the authority to stop and refuse to handle the load until a qualified person has determined that safety has been assured.

### 9.8.3 Winter Months

When using Cranes during the winter months it is important to check the boom and head sheaves for ice at the start of the shift. If at all possible, lower the boom to inspect for ice. If you can not lower the boom make sure the crew and surrounding work crews are aware of the possible danger of ice falling and do not stand under the boom when crane is in use. Also, make sure that all personnel working with the crane stand in front of the crane beyond the hook or headache ball of the crane. In some operations such as cranes on barges ice may form more frequently. In these cases be aware of slips and do not walk under the booms

### 9.8.4 Regional/Project Specific Requirements

## 9.9 Training Programs

### 9.9.1 Signals-General Requirements

Any person who will signal a crane must have passed the Skanska Kiewit Hand Signal Training class or possess a national recognize certificate from an accredited organization. A qualified signal person will display a recognizable visual marking on their hardhat while working on any site where owner requirements do not prohibit such displays. The signal person(s) for each specific lift are to be clearly identifiable by the operator. The preferred method for this identification is the display of a unique colored garment (such as a green hardhat, vest, and gloves) by the signal person(s) during the lift. This unique signal person identifier is to be designated on a project specific basis depending on owner and site conditions.

During operations requiring signals, the ability to transmit signals between the operator and signal person shall be maintained. If that ability is interrupted at any time, the operator shall safely stop operations requiring signals until it is reestablished and a proper signal is given and understood. If the operator becomes aware of a safety problem and needs to communicate with the signal person, the operator must safely stop operations. Operations shall not resume until the operator and signal person agree that the problem has been resolved. Only one person gives signals to a crane/derrick at a time, except in circumstances where the operator cannot see the assigned signal person then it is permitted that a another signal person is set up in view of the operator. This signal person will take the signals from the signal person who is out of view, and relay them to the operator. The construction plan must be amended at this time. Anyone who becomes aware of a safety problem must alert the operator or signal person by giving the stop or emergency stop signal. All directions given to the operator by the signal person shall be given from the operator's direction perspective.

A signal person must be provided in each of the following situations on all Skanska Kiewit projects

- A signal person must be assigned to any working company owned or rented crane.
- When the equipment is traveling.

Signals to operators must be by hand or new signals voice audible,

When using hand signals, the Standard Method must be used (see Appendix B). Exception: where use of the Standard Method for hand signals is infeasible, or where an operation or use of an attachment is not covered in the Standard Method, non-standard hand signals may be used. The following requirements apply to the use of non-standard hand signals:

*Non-standard hand signals.* When using non-standard hand signals, the signal person, operator, and lift supervisor (where there is one) shall contact each other prior to the operation and agree on the non-standard hand signals that will be used.

New signals. Signals other than hand, voice or audible signals may be used where the employer on any Skanska Kiewit project, demonstrates that:

- The new signals provide at least equally effective communication as voice, audible, or Standard Method hand signals, and are suitable.
- The signals used (hand, voice, audible, or new), and means of transmitting the signals to the operator (such as direct line of sight, video, radio, etc.), must be appropriate for the site conditions.

Prior to beginning operations, the operator, signal person and lift supervisor (if there is one), shall contact each other and agree on the voice signals that will be used. Once the voice signals are agreed upon, these workers need not meet again to discuss voice signals unless another worker is substituted, there is confusion about the voice signals, or a voice signal is to be changed. Each voice signal shall contain the following three elements, given in the following order: function (such as hoist, boom, etc.), direction; distance and/or speed; function, stop command. The operator, signal person and lift supervisor (if there is one), shall be able to effectively communicate in the language used.

When using any electronic device for voice / audible signals, back up batteries must be with the signal person prior to operation. A proactive plan must be discussed and documented in the event of device failure.

### **Communication with multiple cranes/derricks**

Where a signal person(s) is in communication with more than one crane/derrick, a system for identifying the crane/derrick each signal is for must be used for each signal, prior to giving the function/direction, the signal person shall identify the crane/derrick the signal is for, or an equally effective method of identifying which crane/derrick the signal is for must be used.

### **Radio or other electronic transmission of signals.**

The device(s) used to transmit signals shall be tested on site before beginning operations to ensure that the signal transmission is clear and reliable. Signal transmission must be through a dedicated channel. Exception: Multiple cranes/derricks and one or more signal persons may share a dedicated channel for the purpose of coordinating operations. The operator's reception of signals must be by a hands-free system

### **Signals – See Hand signal chart in Appendix B**

Hand signal charts must be both posted on the equipment and readily available at the site.

Upon completion of Skanska Kiewit Hand Signal Training Course each individual will be issued a new high visible bright green hard hat, vest (Hand Signal Trained) and gloves.

#### **9.9.2 Electrical Training – See section 7.2.7.**

#### **9.9.3 Dedicated Spotter**

– which is covered in the Hand Signal Training.

#### **9.9.4 Rigging Training**

– All rigging personnel must be trained by a qualified trainer

#### **9.9.5 Regional/Project Specific Requirements**

### **9.10 Unconventional Cranes**

#### **9.10.1 Tower Cranes**

This section contains supplemental requirements for tower cranes; all sections apply to tower cranes unless specified otherwise.

#### 9.10.1...1 **Erecting, climbing and dismantling.**

Assembly/Disassembly – selection of manufacturer or employer procedures, Assembly/Disassembly – general requirements (applies to all assembly and disassembly operations), (Disassembly – additional requirements for dismantling of booms and jibs (applies to both the use of manufacturer procedures and employer procedures), and (Assembly/Disassembly – employer procedures – general requirements), apply to tower cranes (except as otherwise specified), except that the term “assembly/ disassembly” is replaced by “erecting, climbing and dismantling,” and the term “disassembly” is replaced by “dismantling.”

#### 9.10.1...2 **Dangerous areas (self-erecting tower cranes):**

In addition to the requirements for self-erecting tower cranes, the following applies: Employees shall not be in or under the tower, jib, or rotating portion of the crane during erecting, climbing and dismantling operations until the crane is secured in a locked position and the competent person in charge indicates it is safe to enter this area, unless the manufacturer’s instructions direct otherwise and only the necessary personnel are permitted in this area. Note: In some jurisdictions a master rigger is required and proper notification to local governed agencies. This is the responsibility of the jobsite.

#### 9.10.1...3 **Foundations and structural supports:**

Tower crane foundations and structural supports shall be designed by the manufacturer or a registered professional engineer.

#### 9.10.1...4 **Addressing specific hazards:**

In addition to Assembly / Disassembly requirements the A/D supervisor shall address the following:

- **Foundations and structural supports:** The A/D supervisor shall verify that the tower crane foundations and structural supports are installed in accordance with their design.
- **Loss of backward stability:** Backward stability must be considered before swinging self erecting cranes or cranes on traveling or static undercarriages.
- **Wind speed:** Wind must not exceed the speed recommended by the manufacturer or, where manufacturer does not specify this information, the speed determined by a qualified person.

#### 9.10.1...5 **Plumb tolerance.**

Towers shall be erected plumb to the manufacturer’s tolerance and verified by a qualified person. Where the manufacturer does not specify plumb tolerance, the crane tower shall be plumb to a tolerance of at least 1:500 (approximately 1 inch in 40 feet).

#### 9.10.1...6 **Multiple tower crane jobsites.**

On jobsites where more than one fixed jib (hammerhead) tower crane is installed, the cranes shall be located such that no crane may come in contact with the structure of another crane. Cranes are permitted to pass over one another.

#### 9.10.1...7 Climbing procedures.

Prior to, and during, all climbing procedures (including inside climbing and top climbing), the employer shall: comply with all manufacturer prohibitions, have a registered professional engineer verify that the host structure is strong enough to sustain the forces imposed through the braces, brace anchorages and supporting floors, and ensure that no part of the climbing procedure takes place when wind exceeds the speed recommended by the manufacturer or, where the manufacturer does not specify this information, the speed determined by a qualified person. Some local governed agencies require 48 hour notifications.

#### 9.10.1...8 Counterweight/ballast:

Equipment shall not be erected, dismantled or operated without the amount and position of counterweight and/or ballast in place as specified by the manufacturer or a registered professional engineer familiar with the equipment. The maximum counterweight and/or ballast specified by the manufacturer or registered professional engineer familiar with the equipment shall not be exceeded.

#### 9.10.1...9 Signs:

The size and location of signs installed on tower cranes must be in accordance with manufacturer specifications. Where these are unavailable, a registered professional engineer familiar with the type of equipment involved must approve in writing the size and location of any signs.

#### 9.10.1...10 Safety devices:

The following safety devices are required on all tower cranes unless otherwise specified:

- Boom stops on luffing boom type tower cranes.
- Jib stops on luffing boom type tower cranes if equipped with a jib attachment.
- Travel rail end stops at both ends of travel rail.
- Travel rail clamps on all travel bogies.
- Integrally mounted check valves on all load supporting hydraulic cylinders.
- Hydraulic system pressure limiting device.

The following brakes, which shall automatically set in the event of pressure loss or power failure, are required:

- A hoist brake on all hoists.
- Swing brake.
- Trolley brake.
- Rail travel brake.
- Deadman control or forced neutral return control (hand) levers.
- Emergency stop switch at the operator's station.
- Trolley end stops shall be provided at both ends of travel of the trolley.

Proper operation required. Operations shall not begin unless the devices listed in this section are in proper working order. If a device stops working properly during operations, the operator shall safely

stop operations. Operations shall not resume until the device is again working properly. Alternative measures are not permitted to be used.

#### 9.10.1...11 **Operational aids.**

The devices listed in this section (“operational aids”) are required on all tower cranes, unless otherwise specified.

Operations shall not begin unless the operational aids are in proper working order, except where Skanska Kiewit meets the specified temporary alternative measures. More protective alternative measures specified by the tower crane manufacturer, if any, shall be followed.

If an operational aid stops working properly during operations, the operator shall safely stop operations until the temporary alternative measures are implemented or the device is again working properly. If a replacement part is no longer available, the use of a substitute device that performs the same type of function is permitted and is not considered a modification.

#### 9.10.1...12 **Category I operational aids and alternative measures.**

Operational aids listed in this paragraph that are not working properly shall be repaired no later than 7 days after the deficiency occurs. Exception: If the employer documents that it has ordered the necessary parts within 7 days of the occurrence of the deficiency, the repair shall be completed within 7 days of receipt of the parts.

Trolley travel limiting device. The travel of the trolley shall be restricted at both ends of the jib by a trolley travel limiting device to prevent the trolley from running into the trolley end stops. *Temporary alternative measures:*

- Option A. The trolley rope shall be marked (so it can be seen by the operator) at a point that will give the operator sufficient time to stop the trolley prior to the end stops.
- Option B. A spotter shall be used when operations are conducted within 10 feet of the outer or inner trolley end stops.

Boom hoist limiting device: The range of the boom shall be limited at the minimum and maximum radius. *Temporary alternative measures:* Clearly mark the cable (so it can be seen by the operator) at a point that will give the operator sufficient time to stop the boom hoist within the minimum and maximum boom radius, or use a spotter.

Anti two-blocking device. The tower crane shall be equipped with a device which automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) must prevent such damage at all points where two-blocking could occur. *Temporary alternative measures:* Clearly mark the cable (so it can be seen by the operator) at a point that will give the

operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter.

Hoist drum lower limiting device. Tower cranes manufactured more than one year after January 1st, 2011 shall be equipped with a device that prevents the last 3 wraps of hoist cable from being spooled off the drum. *Temporary alternative measures:* Mark the cable (so it can be seen by the operator) at a point that will give the operator sufficient time to stop the hoist prior to last 3 wraps of hoist cable being spooled off the drum, or use a spotter.

Load moment limiting device. The tower crane shall have a device that prevents moment overloading. *Temporary alternative measures:* A radius indicating device shall be used (if the tower crane is not equipped with a radius indicating device, the radius shall be measured to ensure the load is within the rated capacity of the crane). In addition, the weight of the load shall be determined from a reliable source (such as the load's manufacturer), by a reliable calculation method (such as calculating a steel beam from measured dimensions and a known per foot weight), or by other equally reliable means. This information shall be provided to the operator prior to the lift.

Hoist line pull limiting device. The capacity of the hoist shall be limited to prevent overloading, including each individual gear ratio if equipped with a multiple speed hoist transmission. *Temporary alternative measures:* The operator shall ensure that the weight of the load does not exceed the capacity of the hoist (including for each individual gear ratio if equipped with a multiple speed hoist transmission).

Rail travel limiting device. The travel distance in each direction shall be limited to prevent the travel bogies from running into the end stops or buffers. *Temporary alternative measures:* A spotter shall be used when operations are conducted within 10 feet of either end of the travel rail end stops.

Boom hoist drum positive locking device. The boom hoist drum shall be equipped with a device to positively lock the boom hoist drum. *Temporary alternative measures:* The device shall be manually set when required if an electric, hydraulic or automatic type is not functioning.

#### 9.10.1...13 **Category II operational aids and alternative measures.**

Operational aids listed in this paragraph that are not working properly shall be repaired no later than 30 days after the deficiency occurs. Exception: If the employer can document that it has ordered the necessary parts within 7 days of the occurrence of the deficiency, and the part is not received in time to complete the repair in 30 days, the repair shall be completed within 7 days of receipt of the parts.

#### 9.10.1...14 **Boom angle or hook radius indicator:**

- Luffing boom tower cranes shall have a boom angle indicator readable from the operator's station.
- Hammerhead tower cranes manufactured more than one year after the effective date of this standard shall have a hook radius indicator readable from the operator's station.
  - *Temporary alternative measures:* Hook radii or boom angle shall be determined by measuring the hook radii or boom angle with a measuring device.
- Trolley travel deceleration device. The trolley speed shall be automatically reduced prior to the trolley reaching the end limit in both directions.

- *Temporary alternative measure:* The operator shall reduce the trolley speed when approaching the trolley end limits.
- Boom hoist deceleration device. The boom speed shall be automatically reduced prior to the boom reaching the minimum or maximum radius limit.
  - *Temporary alternative measure:* The operator shall reduce the boom speed when approaching the boom maximum or minimum end limits.
- Load hoist deceleration device. The load speed shall be automatically reduced prior to the hoist reaching the upper limit.
  - *Temporary alternative measure:* The operator shall reduce the hoist speed when approaching the upper limit.
- Wind speed indicator. A device shall be provided to display the wind speed and shall be mounted above the upper rotating structure on tower cranes. On self erecting cranes, it shall be mounted at or above the jib level.
  - *Temporary alternative measures:* Use of wind speed information from a properly functioning indicating device on another tower crane on the same site, or a qualified person estimates the wind speed.
- Load indicating device. Cranes manufactured more than one year after the effective date of this standard, shall have a device that displays the magnitude of the load on the hook. Displays that are part of load moment limiting devices that display the load on the hook meet this requirement.
  - *Temporary alternative measures:* The weight of the load shall be determined from a reliable source (such as the load's manufacturer), by a reliable calculation method (such as calculating a steel beam from measured dimensions and a known per foot weight), or by other equally reliable means. This information shall be provided to the operator prior to the lift.

#### 9.10.1...15 Inspections

Pre-erection inspection: Before each crane component is erected, it must be:

- Inspected by a qualified person for damage or excessive wear.
- The qualified person must pay particular attention to components that will be difficult to inspect thoroughly during shift inspections.
- If the qualified person determines that a component is damaged or worn to the extent that it would create a safety hazard if used on the crane, that component must not be erected on the crane unless it is repaired and, upon re-inspection by the qualified person, found to no longer create a safety hazard.
- If the qualified person determines that, though not presently a safety hazard, the component needs to be monitored, the employer must ensure that the component is checked in the monthly inspections. Any such determination must be documented, and the documentation must be available to any individual who conducts a monthly inspection.

#### 9.10.1...16 Post-erection inspection: The following requirements shall be met:

- A load test using certified weights, or scaled weights using a certified scale with a current certificate of calibration, shall be conducted after each erection.

The load test shall be conducted in accordance with the manufacturer's instructions. Where these instructions are unavailable, a registered professional engineer familiar with the type of equipment involved shall develop written load test procedures.

#### 9.10.1...17 **Monthly - The following additional items shall be included:**

- Tower (mast) bolts and other structural bolts (for loose or dislodged condition) from the base of the tower crane up or, if the crane is tied to or braced by the structure, those above the upper-most brace support.
- The upper-most tie-in, braces, floor supports and floor wedges where the tower crane is supported by the structure, for loose or dislodged components.

#### 9.10.1...18 **Annual**

- In addition to the items that must be inspected, all turntable and tower bolts must be inspected for proper condition and torque.

#### 9.10.2 **Derricks.**

This section contains supplemental requirements for derricks, whether temporarily or permanently mounted; all sections of this subpart apply to derricks unless specified otherwise. A derrick is powered equipment consisting of a mast or equivalent member that is held at or near the end by guys or braces, with or without a boom, and its hoisting mechanism. The mast/equivalent member and/or the load is moved by the hoisting mechanism (typically base-mounted) and operating ropes. Derricks include: A-frame, basket, breast, Chicago boom, gin pole (except gin poles used for erection of communication towers), guy, shearleg, stiffleg, and variations of such equipment.

#### 9.10.2...1 **Operation - Procedures**

Section 1926.1417 (Operation) applies except for § 1926.1417(c) (accessibility of procedures),

Load chart contents. Load charts shall contain at least:

- -Rated capacity at corresponding ranges of boom angle or operating radii. -Specific lengths of components to which the rated capacities apply, -Required parts for hoist reeving, -Size and construction of rope shall be included on the load chart or in the operating manual.
- Load chart location.

**-Permanent installations:** For permanently installed derricks with fixed lengths of boom, guy, and mast, **a load chart shall be posted** where it is visible to personnel responsible for the operation of the equipment.

**-Non-permanent installations:** For derricks that are not permanently installed, the **load chart shall be readily available** at the job site to personnel responsible for the operation of the equipment.

#### 9.10.2...2 Construction and anchoring

##### General requirements

-Derricks shall be constructed to meet all stresses imposed on members and components when installed and operated in accordance with the manufacturer's/ builder's procedures and within its rated capacity,

-Welding of load sustaining members shall conform to recommended practices in ANSI/AWS D14.3 - 94 or D1.1-2.

#### 9.10.2...3 Guy derricks

The minimum number of guys shall be 6, with equal spacing, except where a qualified person or derrick manufacturer approves variations from these requirements and revises the rated capacity to compensate for such variations. Guy derricks shall not be used unless the employer has the following guy information:

The anchorage and guying shall be designed to withstand maximum horizontal and vertical forces encountered when operating within rated capacity with the particular guy slope and spacing specified for the application

- The number of guys
- The spacing around the mast
- The size, grade, and construction of rope to be used for each guy

For guy derricks manufactured after December 18, 1970, in addition to the information required in this section, the employer shall have the following guy information:

- The amount of initial sag or tension
- The amount of tension in guy line rope at anchor
- The mast base shall permit the mast to rotate freely with allowance for slight tilting of the mast caused by guy slack

The mast cap shall:

- Permit the mast to rotate freely.
- Withstand tilting and cramping caused by the guy loads.
- Be secured to the mast to prevent disengagement during erection.
- Be provided with means for attaching guy ropes.

#### 9.10.2...4 Stiffleg derricks

The mast shall be supported in the vertical position by at least two stifflegs; one end of each shall be connected to the top of the mast and the other end securely anchored. The stifflegs shall be capable

of withstanding the loads imposed at any point of operation within the load chart range, and the mast base shall:

- Permit the mast to rotate freely (when necessary).
- Permit deflection of the mast without binding.
- The mast shall be prevented from lifting out of its socket when the mast is in tension.

The stiffleg connecting member at the top of the mast shall:

- Permit the mast to rotate freely (when necessary),
- Withstand the loads imposed by the action of the stifflegs.
- Be secured so as to oppose separating forces.
- The mast base and stifflegs shall be anchored.
- The mast base and stifflegs shall be designed to withstand maximum horizontal and vertical forces encountered when operating within rated capacity with the particular stiffleg spacing and slope specified for the application.

#### 9.10.2...5 **Gin pole derrick:**

Guy lines shall be sized and spaced so as to make the gin pole stable in both boomed and vertical positions. Exceptions:

- Where the size and/or spacing of guy lines do not result in the gin pole being stable in both boomed and vertical positions, the employer shall ensure that the derrick is not used in an unstable position.
- The base of the gin pole shall permit movement of the pole (when necessary).
- The gin pole shall be anchored at the base against horizontal forces (when such forces are present).

#### 9.10.2...6 **Chicago boom derrick:**

The fittings for stepping the boom and for attaching the topping lift shall be arranged to:

- Permit the derrick to swing at all permitted operating radii and mounting heights between fittings.
- Accommodate attachment to the upright member of the host structure.
- Withstand the forces applied when configured and operated in accordance with the manufacturer's/ builder's procedures and within its rated capacity.
- Prevent the boom or topping lift from lifting out under tensile forces.

#### 9.10.2...7 Swingers and hoists

The boom, swinger mechanisms and hoists shall be suitable for the derrick work intended and shall be anchored to prevent displacement from the imposed loads. Base-mounted drum hoists shall meet the requirements in the following sections of ASME B30.7–2001:

- Sections 7-1.1 (Load ratings and markings),
- Section 7-1.2 (Construction), except: 7-1.2.13 (Operator's cab); 7-1.2.15 (Fire extinguishers),
- Section 7-1.3 (Installation),

Applicable terms in section 7-0.2 (Definitions).

#### 9.10.2...8 Load tests for new hoists.

The employer shall ensure that new hoists are load tested to a minimum of 110% of rated capacity, but not more than 125% of rated capacity, unless otherwise recommended by the manufacturer. This requirement is met where the manufacturer has conducted this testing.

#### 9.10.2...9 Repaired or modified hoists.

Hoists that have had repairs, modifications or additions affecting their capacity or safe operation shall be evaluated by a qualified person to determine if a load test is necessary. If it is, load testing shall be conducted in accordance with this policy.

#### 9.10.2...10 Load test procedure.

Load tests required by this policy shall be conducted as follows:

- The test load shall be hoisted a vertical distance to assure that the load is supported by the hoist and held by the hoist brake(s),
- The test load shall be lowered, stopped and held with the brake(s),
- The hoist shall not be used unless a competent person determines that the test has been passed.
- 

#### 9.10.2...11 Operational aids.

Section 1926.1416 (Operational aids) applies, except for § 1926.1416 (d)(1) (Boom hoist limiting device) and § 1926.1416(e)(1) (Boom angle or radius indicator) and § 1926.1416(e)(4) (Load weighing and similar devices).

##### **Boom angle aid:**

The employer shall ensure that either:

- -The boom hoist cable shall be marked with caution and stop marks. The stop marks shall correspond to maximum and minimum allowable boom angles. The caution and stop marks shall be in view of the operator, or a spotter who is in direct communication with the operator, or
- -An electronic or other device that signals the operator in time to prevent the boom from moving past its maximum and minimum angles, or automatically prevents such movement, is used.

#### **Load weight/capacity devices.**

Derricks manufactured more than one year after the effective date of this standard with a maximum rated capacity over 6,000 pounds shall have at least one of the following: load weighing device, load moment indicator, rated capacity indicator, or rated capacity limiter. Temporary alternative measures: The weight of the load shall be determined from a reliable source (such as the load's manufacturer), by a reliable calculation method (such as calculating a steel beam from measured dimensions and a known per foot weight), or by other equally reliable means. This information shall be provided to the operator prior to the lift.

#### **9.10.2...12 Post-assembly approval and testing – new or reinstalled derricks**

##### **9.10.2...13 Functional test:**

Prior to initial use, new or reinstalled derricks shall be tested by a competent person with no hook load to verify proper operation. This test shall include:

- Lifting and lowering the hook(s) through the full range of hook travel,
- Raising and lowering the boom through the full range of boom travel,
- Swinging in each direction through the full range of swing,
- Actuating the anti two-block and boom hoist limit devices (if provided),
- Actuating the locking, limiting and indicating devices (if provided)

##### **9.10.2...14 Load test.**

Prior to initial use, new or reinstalled derricks shall be load tested by a competent person.

The test load shall meet the following requirements:

- Test loads shall be at least 100% and no more than 110% of the rated capacity, unless otherwise recommended by the manufacturer or qualified person, but in no event shall the test load be less than the maximum anticipated load,

The test shall consist of:

- Hoisting the test load a few inches and holding to verify that the load is supported by the derrick and held by the hoist brake(s),
- Swinging the derrick, if applicable, the full range of its swing, at the maximum allowable working radius for the test load,
- Booming the derrick up and down within the allowable working radius for the test load, and
- Lowering, stopping and holding the load with the brake(s).

The derrick shall not be used unless the competent person determines that the test has been passed.

Documentation: Tests conducted under this paragraph shall be documented. The document shall contain the date, test results and the name of the tester. The document shall be retained until the derrick is re-tested or dismantled, whichever occurs first.

#### **9.10.2...15 Load testing repaired or modified derricks.**

Derricks that have had repairs, modifications or additions affecting the derrick's capacity or safe operation shall be evaluated by a qualified person to determine if a load test is necessary. If it is, load testing shall be conducted and documented in accordance with this policy.

#### **9.10.2...16 Power failure procedures:**

If power fails during operations, the derrick operator shall safely stop operations. This shall include setting all brakes or locking devices and moving all clutch and other power controls to the off position.

#### **9.10.2...17 Use of winch heads**

Ropes shall not be handled on a winch head without the knowledge of the operator. While a winch head is being used, the operator shall be within reach of the power unit control lever.

#### **9.10.2...18 Securing the boom**

When the boom is being held in a fixed position, dogs, pawls, or other positive holding mechanisms on the boom hoist shall be engaged. When taken out of service for 30 days or more, the boom shall be secured by one of the following methods:

- Laid down
- Secured to a stationary member, as nearly under the head as possible, by attachment of a sling to the load block
- For guy derricks, lifted to a vertical position and secured to the mast
- For stiffleg derricks, secured against the stiffleg.

The process of jumping the derrick shall be supervised by the A/D supervisor. Derrick operations shall be supervised by a competent person. Inspections: In addition to the requirements in § 1926.1412, the following additional items shall be included in the inspections:

- Daily: Guys for proper tension
- Annual: Gudgeon pin for cracks, wear, and distortion
- Foundation supports for continued ability to sustain the imposed loads.

**Section 1926.1427 (Operator qualification and certification) does not apply.**

### **9.10.3 Floating cranes, derricks and land cranes, derricks on barges.**

This section contains supplemental requirements for floating cranes/derricks and land cranes/derricks on barges, pontoons, vessels or other means of flotation (vessel/flotation device); all sections of this subpart apply to floating cranes/derricks and land cranes/derricks on barges, pontoons, vessels or other means of flotation, unless specified otherwise. The requirements of this section do not apply when using jacked barges when the jacks are deployed to the river/lake/sea bed and the barge is fully supported by the jacks;

#### **9.10.3...1 General requirements:**

The requirements in paragraphs (c) through (k) of this section apply to both floating cranes/derricks and land cranes/derricks on barges, pontoons, vessels or other means of flotation;

#### **9.10.3...2 Work area control:**

The requirements of § 1926.1424 (Work area control) apply, except for § 1926.1416 (a)(2)(ii). The employer shall either:

- Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas, or  
The hazard areas shall be clearly marked by a combination of warning signs (such as “Danger – Swing/Crush Zone”) and high visibility markings on the equipment that identify the hazard areas. In addition, the employer shall train the employees to understand what these markings signify.

#### 9.10.3...3 **Keeping clear of the load:**

Section 1926.1425 does not apply.

#### 9.10.3...4 **Additional Safety devices:**

In addition to the safety devices listed in § 1926.1415, the following safety devices are required:

- Barge, pontoon, vessel or other means of flotation list and trim device. This shall be located in the cab or, where there is no cab, at the operator's station;
- Horn;
- Positive equipment house lock;
- Wind speed and direction indicator. A competent person shall determine if wind is a factor that needs to be considered; if it needs to be considered, a wind speed and direction indicator shall be used.

#### 9.10.3...5 **Operational aids:**

- An anti two-block device is required only when hoisting personnel or hoisting over an occupied cofferdam or shaft;
- Section 1926.1416(e)(4) (load weighing and similar devices) does not apply to dragline, clamshell (grapple), magnet, drop ball, container handling, concrete bucket, and pile driving work.

#### 9.10.3...6 **Accessibility of procedures applicable to equipment operation:**

If the crane/derrick has a cab, the requirements of § 1926.1417(c) apply. If the crane/derrick does not have a cab:

- Rated capacities (load charts) shall be posted at the operator's station. If the operator's station is moveable (such as with pendant-controlled equipment), the load charts shall be posted on the equipment;
- Procedures applicable to the operation of the equipment (other than load charts), recommended operating speeds, special hazard warnings, instructions and operators manual, shall be readily available on board.

#### 9.10.3...7 **Inspections:**

In addition to meeting the requirements of § 1926.1412 for inspecting the crane/derrick, the employer shall ensure that the barge, pontoons, vessel or other means of flotation used to support a floating crane/derrick or land crane/derrick is inspected as follows:

Shift inspections: The means used to secure/attach the equipment to the vessel/flotation device shall be inspected for proper condition, including wear, corrosion, loose or missing fasteners, defective welds, and (where applicable) insufficient tension;

Monthly: The vessel/ flotation device used shall be inspected for the following:

- The means used to secure/attach the equipment to the vessel/flotation device shall be inspected for proper condition, including wear, corrosion and (where applicable) insufficient tension;
- Taking on water;
- Deck load for proper securing;
- Chain lockers, storage, fuel compartments and battening of hatches for serviceability as a water-tight appliance
- Fire fighting and lifesaving equipment in place and functional

The shift and monthly inspections shall be conducted by a competent person. If any deficiency is identified, an immediate determination shall be made by a qualified person as to whether the deficiency constitutes a hazard. If the deficiency is determined to constitute a hazard, the vessel/flotation device shall be removed from service until it has been corrected.

Annual: external vessel/flotation device inspection. The external portion of the barge, pontoons, vessel or other means of flotation used shall be inspected annually by a qualified person who has expertise with respect to vessels/flotation devices. The inspection shall include the items identified above as (**Shift**) and (**Monthly**) of this section.

- Cleats, bits, chocks, fenders, capstans, ladders, and stanchions, for significant: corrosion, wear, deterioration, and deformation;
- External evidence of leaks and structural damage;
- Four-corner draft readings checked routinely;
- Firefighting equipment for serviceability;
- Rescue skiffs, lifelines, work vests, life preservers and ring buoys shall be inspected for proper condition.

If any deficiency is identified, an immediate determination shall be made by the qualified person as to whether the deficiency constitutes a hazard or, though not yet a hazard, needs to be monitored in the monthly inspections. If the deficiency is determined to constitute a hazard, the vessel/flotation device shall be removed from service until it has been corrected. If the qualified person determines that, though not presently a hazard, the deficiency needs to be monitored, the employer shall ensure that the deficiency is checked in the monthly inspections.

Quadrennial : internal vessel/ flotation device inspection:

- The internal portion of the barge, pontoons, vessel or other means of flotation used

shall be surveyed once every 4 years by a marine engineer, marine architect, licensed surveyor, or other qualified person who has expertise with respect to vessels/flotation devices;

- If any deficiency is identified, an immediate determination shall be made by the surveyor as to whether the deficiency constitutes a hazard or, though not yet a hazard, needs to be monitored in the monthly or annual inspections, as appropriate;
- If the deficiency is determined to constitute a hazard, the vessel/flotation device shall be removed from service until it has been corrected;
- If the surveyor determines that, though not presently a hazard, the deficiency needs to be monitored, the employer shall ensure that the deficiency is checked in the monthly or annual inspections, as appropriate.

Documentation. The monthly and annual inspections required in this section (above) shall be documented in accordance with §§ 1926.1412 (e)(3) and 1926.1412(f)(7), respectively. The quadrennial inspection required in paragraph (h)(5) of this section shall be documented in accordance with § 1926.1412(f)(7), except that the documentation for that inspection shall be retained for a minimum of 4 years.

#### 9.10.3...8 Working with a diver

The following additional requirements apply when working with a diver in the water:

- If a crane/derrick is used to get a diver into and out of the water, it shall not be used for any other purpose until the diver is back on board. When used for more than one diver, it shall not be used for any other purpose until all divers are back on board;
- The operator shall remain at the controls of the crane/derrick at all times;
- In addition to the requirements in §§ 1926.1419 through 1422 (Signals), either:
  - A clear line of sight shall be maintained between the operator and tender, or
  - The signals between the operator and tender shall be transmitted electronically.
- The means used to secure the crane/derrick to the vessel/flotation device shall not allow any amount of shifting in any direction.
- The employer shall ensure that the manufacturer's specifications and limitations with respect to environmental, operational and in-transit loads for the barge, pontoons, vessel or other means of flotation are not exceeded or violated.

#### 9.10.3...9 Load charts

The manufacturer load charts applicable to operations on water shall not be exceeded. When using these charts, the employer shall comply with all parameters and limitations (such as dynamic/environmental parameters) applicable to the use of the charts. The load charts shall take into consideration a minimum wind speed of 40 miles per hour. The requirements for maximum allowable list and maximum allowable trim as specified in Table M1 of this section shall be met.

**TABLE M1** Equipment designed for marine use by permanent attachment (other than derricks):  
Derricks designed for marine use by permanent attachment:

<b>Operated at</b>	<b>Wind speed</b>	<b>Minimum freeboard</b>
Rated capacity	60 mph	2 ft
Rated capacity plus 25%	60 mph	1 ft
High boom, no load	60 mph	2 ft

The equipment shall be stable under the conditions specified in Tables M2 and M3 of this section. Anything less than minimum freeboard list needs to be approved by a PE.

**TABLE M2**

<b>Rated Capacity</b>	<b>Maximum Allowable List</b>	<b>Maximum Allowable Trim</b>
25 tons or less	5 degrees	5 degrees
Over 25 tons	7 degrees	7 degrees

**TABLE M3** For backward stability of the boom:

<b>Operated at</b>	<b>Wind speed</b>
High boom, no load, full back list (least stable condition)	90 mph

If the equipment is employer-made, it shall not be used unless the employer has documents demonstrating that the load charts and applicable parameters for use meet the requirements of this policy. Such documents shall be signed by a registered professional engineer who is a qualified person with respect to the design of this type of equipment (including the means of flotation). The barge, pontoons, vessel or other means of flotation used shall:

- Be structurally sufficient to withstand the static and dynamic loads of the crane/derrick

- when operating at the crane/derrick's maximum rated capacity with all anticipated deck loads and ballasted compartments;
- Have a subdivided hull with one or more longitudinal watertight bulkheads for reducing the free surface effect;
  - Have access to void compartments to allow for inspection and pumping.

The rated capacity of the equipment (load charts) applicable for use on land shall be reduced to account for increased loading from list, trim, wave action, and wind, be applicable to a specified location(s) on the specific barge, pontoons, vessel or other means of flotation that will be used, under the expected environmental conditions, and ensure that the conditions required in this section are met.

The rated capacity modification required in this section shall be done by the equipment manufacturer, or a qualified person who has expertise with respect to both land crane/derrick capacity and the stability of vessels/flotation devices.

#### 9.10.3...10 List and trim:

The maximum allowable list and the maximum allowable trim for the barge, pontoon, vessel or other means of flotation shall not exceed the amount necessary to ensure that the conditions in table M2 of this section are met. In addition, the maximum allowable list and the maximum allowable trim shall not exceed the least of the following: 5 degrees, the amount specified by the crane/derrick manufacturer, or where an amount is not so specified, the amount specified by the qualified person;

The maximum allowable list and the maximum allowable trim for the land crane/derrick shall not exceed the amount specified by the crane/derrick manufacturer, or where an amount is not so specified, the amount specified by the qualified person;

The following conditions shall be met:

- All deck surfaces of the barge, pontoons, vessel or other means of flotation used shall be above water; and
- The entire bottom area of the barge, pontoons, vessel or other means of flotation used shall be submerged.

#### 9.10.3...11 Physical attachment, corraling, rails system and centerline cable system.

The employer shall meet the requirements in Option (1), Option (2), Option (3), or Option (4) of this section. Whichever option is used, the requirements of paragraph (11.57.12...4) must also be met.

**Option (1)** – Physical attachment: The crane/derrick shall be physically attached to the barge, pontoons, vessel or other means of flotation. Methods of physical attachment include crossed-cable systems attached to the crane/derrick and vessel/flotation device (this type of system allows the crane/derrick to lift up slightly from the surface of the vessel/means of flotation), bolting or welding the crane/derrick to the vessel/flotation device, strapping the crane/derrick to the vessel/flotation device with chains, or other

methods of physical attachment.

**Option (2)** – Corraling: The crane/derrick shall be prevented from shifting by installing barricade restraints (a corraling system). Corraling systems shall not allow any amount of shifting in any direction by the equipment.

**Option (3)** – Rails: The crane/derrick shall be prevented from shifting by being mounted on a rail system. Rail clamps and rail stops are required unless the system is designed to prevent movement during operation by other means.

**Option (4)** – Centerline cable system: The crane/derrick shall be prevented from shifting by being mounted to a wire rope system. The wire rope system shall meet the following requirements:

- The wire rope and attachments shall be of sufficient size/strength to support the side load of crane/derrick;
- The wire rope shall be physically attached to the vessel/flotation device;
- The wire rope shall be attached to the crane/derrick by appropriate attachment methods (such as shackles or sheaves) on the undercarriage which will allow the crew to secure the crane/derrick from movement during operation and to move the crane/derrick longitudinally along the vessel/flotation device for repositioning;
- Means shall be installed to prevent the crane/derrick from passing the forward or aft end of the wire rope attachments;
- The crane/derrick shall be secured from movement during operation.

The systems/means used to comply with Option (1), Option (2), Option (3), or Option (4) of this section shall be designed by a marine engineer, registered professional engineer familiar with floating crane/derrick design, or qualified person familiar with floating crane/derrick design.

Exception: For mobile auxiliary cranes used on the deck of a floating crane/derrick, the requirement to use Option (1), Option (2), Option (3), or Option (4) of this section does not apply where the employer demonstrates implementation of a plan and procedures that meet the following requirements:

- A marine engineer or registered professional engineer familiar with floating crane/derrick design develops and signs a written plan for the use of the mobile auxiliary crane;
- The plan shall be designed so that the applicable requirements of this section will be met despite the position, travel, operation, and lack of physical attachment (or corraling, use of rails or cable system) of the mobile auxiliary crane;
- The plan shall specify the areas of the deck where the mobile auxiliary crane is permitted to be positioned, travel, and operate and the parameters/ limitations of such movements and operation;
- The deck shall be marked to identify the permitted areas for positioning, travel, and operation;
- The plan shall specify the dynamic/environmental conditions that must be present for use of the plan;
- If the dynamic/environmental conditions in paragraph (n)(5)(vi)(E) of this section are exceeded, the mobile auxiliary crane shall be physically attached or corralled in accordance with Option (1), Option (2) or Option (4) of this section.

The barge, pontoons, vessel or other means of flotation used shall:

- Be structurally sufficient to withstand the static and dynamic loads of the crane/derrick when operating at the crane/derrick's maximum rated capacity with all anticipated deck loads and ballasted compartments;
- Have a subdivided hull with one or more longitudinal watertight bulkheads for reducing the free surface effect;
- Have access to void compartments to allow for inspection and pumping.

#### 9.10.4 Overhead & gantry cranes

Permanently installed overhead and gantry cranes

This paragraph applies to the following equipment when used in construction and permanently installed in a facility: overhead and gantry cranes, including semi gantry, cantilever gantry, wall cranes, storage bridge cranes, and others having the same fundamental characteristics;

The requirements of § 1910.179, except for § 1910.179(b)(1), apply to the equipment identified in paragraph above of this section.

Overhead and gantry cranes that are not permanently installed in a facility

- This paragraph applies to the following equipment when used in construction and not permanently installed in a facility: overhead and gantry cranes, overhead/bridge cranes, semigantry, cantilever gantry, wall cranes, storage bridge cranes, launching gantry cranes, and similar equipment, irrespective of whether it travels on tracks, wheels, or other means;
- The following requirements apply to equipment identified in the paragraph directly above in this section:
- Sections 1926.1400 through 1414; §§ 1926.1417 through 1425; § 1926.1426(d), §§ 1926.1427 through 1434; § 1926.1437, § 1926.1439, and § 1926.1441;
- The following portions of § 1910.179:
  - Paragraphs (b)(5),(6),(7); (e)(1),(3),(5),(6); (f)(1),(4); (g); (h)(1),(3); (k); and
  - (n) of § 1910.179;
  - The definitions in § 1910.179(a) except for "hoist" and "load." For those words, the definitions in § 1926.1401 apply;
  - Section 1910.179 (b)(2) applies only to equipment identified in paragraph (b)(1) of this section manufactured before September 19, 2001.
- For equipment manufactured on or after September 19, 2001, the following sections of ASME B.30.2–2005 apply: 2-1.3.1; 2-1.3.2; 2- 1.4.1; 2-1.6; 2-1.7.2; 2-1.8.2; 2-1.9.1; 2-1.9.2;

2-1.11; 2-1.12.2; 2- 1.13.7; 2-1.14.2; 2-1.14.3; 2-1.14.5; 2-1.15.; 2-2.2.2; 2-3.2.1.1. In addition, 2-3.5 applies, except in 2-3.5.1(b), “29 CFR 1910.147” is substituted for “ANSI Z244.1.”

#### **9.10.5 Regional/Project Specific Requirements**

#### **9.10.6 Program Management**

#### **9.10.7 Crane Management System**

The Regional Crane Coordinator is responsible for reporting to and from CGC. The CGC database shall include all information related to every crane currently present on a Skanska Kiewit USA Civil project. It shall include size, capacity, make, model, location, status of inspections, certification number, historical maintenance data, and all other applicable information related to each crane. This CGC equipment module will alert the RCC to upcoming expiring monthly and annual inspections. The RCC will then schedule those inspections with the Project Crane Coordinator on each project. This will be tracked with both the Monthly SHEMS Review meetings and the Monthly PAS Audit.

If at any time a PCC is not available on a jobsite and an action needs to take place the following hierarchy of authority shall govern:

- PCC
- Project Manager
- Project Executive

At times a PCC may be removed from a jobsite for whatever reason. If so and the jobsite team has enough time to choose the new PCC there will be a transition period of one (1) month.

#### **9.10.8 Regional/Project Specific Requirements**

## **10 DEMOLITION**

### **10.1 Purpose**

The purpose of this program is to establish site-specific demolition safety guidelines to ensure the highest level of employee safety during these operations. At Skanska Kiewit we understand that demolition is an extremely hazardous part of the construction process. Accordingly, a Demolition plan shall be developed and implemented before the start of each project.

## 10.2 Applicable Regulations

[OSHA 29 CFR 1926.850](#)

### 10.3 Responsibilities

#### 10.3.1 Project Management shall:

- Develop and maintain a site specific demolition plan according to the guidelines in this program.

#### 10.3.2 Project Manager shall:

- Ensure that a site-specific demolition plan has been developed;
- As part of the plan, he or she must decide if demolition work can safely proceed if certain high-risk utilities are suspected in the demolition area; and
- Review and approve the site-specific demolition plan.

#### 10.3.3 Employees shall:

- Comply with all guidelines set forth by the site-specific demolition plan.

### 10.4 Procedures

#### 10.4.1 Demolition plan:

- Before starting any demolition activities, each job must develop a site-specific demolition plan;
- The demolition plan must indicate the phases of work by method. Risk assessment is a critical component when selecting the final method;
- This plan must be approved by the Project Manager;
- The plan should include, at a minimum if they are applicable:
  - Engineering Survey Report;
  - Demolition Method Plan;
  - Utility Protection Plan;
  - Shoring or Bracing Plan;
  - Fall Protection Plan
  - Worker Access Plan;
  - (Maintenance of People) MOP and (Maintenance of Traffic) MOT Plans;
  - Lead Safety Plan;
  - Dust Control Plan;
  - Waste/Debris Disposal Plan;
  - Pest and Rodent Control;
  - Noise and Vibration Assessment; and
  - Permits.

#### 10.4.2 Engineering Survey:

- Before permitting our employees to start demolition operations, an Engineering Survey Report shall be made by a competent person, of the structure per 29 CFR 1926.850, Subpart T, Demolition; and
- The completed Engineering Survey Report form must be kept on site during all operations.

#### **10.4.3 Utility Protection Plan:**

- To ensure zero utility strikes, all known or suspected utilities must be clearly marked before demolition work begins;
- The demolition plan must list each known or suspected utility and indicate the following:
  - Is the utility scheduled to remain or will it be removed before demolition begins?
  - If the utility remains, is protection required including any bracing or shoring? And
  - Has the utility owner been notified and can the owner shut down or temporarily relocate the utility before demolition?
- Mismarked or unknown utilities are a known hazard and the steps needed to locate all mismarked or unknown utilities must be included in your work plan;
- The Project Manager must decide if demolition work can safely proceed if certain high-risk utilities are suspected in the demolition area;
- The demolition plan must consider when demolition methods are acceptable when working near high-risk utilities;
- A conventional demolition technique, i.e. cutting and dropping a structure, is not allowable when there is an obvious risk of striking a high risk utility;
- Selective demolition, i.e. rigging and picking is often the only means to reduce our risk next to high-risk utilities;
- DO NOT allow outside influences to force your job into accepting an unsafe demolition method next to a high-risk utility; and
- Testing and purging of pipes, tanks or other equipment containing hazardous, flammable or explosive substances must be considered.

#### **10.4.4 Shoring or Bracing Plan:**

- The demolition plan must identify the structures impacted by demolition, including internal walls, flooring or bracing and external structures, particularly party walls that may rely on or be impacted by the demolished structures; and
- Any adjacent structure where employees may be exposed shall also be similarly checked.

#### **10.4.5 Fall Protection Plan:**

- The demolition plan must list each activity requiring fall protection, and should include a sketch or written description of the equipment and materials needed to adhere to our strict fall protection standard;
- The changing nature of demolition work requires us to assess fall protection requirements as the demolition work progresses;
- Effective fall protection requires simple, convenient access to tie-off locations before work begins; and
- Supervision is not immune to fall hazards. Do not enter a work area requiring fall protection without the proper equipment and training.

#### **10.4.6 Worker Access Plan:**

- Proper access is essential to a safe and productive job. The work plan must consider the following:
  - How the workers and equipment will travel to and from work site throughout the day;
  - The movement of debris by heavy equipment or truck must be coordinated with the movement of your craft;
  - Demolition work requires stacking, sorting and loading debris, and the access plan must consider how the workers will traverse the various lay-down or scrap preparation areas throughout the work;
  - Except for the cutting of holes in floors for chutes, holes through which to drop materials, preparation of storage space, and similar necessary preparatory work, the demolition of exterior walls and floor construction shall begin at the top of the structure and proceed downward.
  - Employee entrances to multi-story structures being demolished shall be completely protected by sheds and/or canopies, providing protection from the face of the building for a minimum of 8 feet. All such canopies shall be at least two feet wider than the building entrances or openings (1 foot wider than each side thereof), and shall be capable of sustaining a load of 150 pounds per square foot;
  - Only use stairways, passageways and ladders, designated as means of access to the structure. Other accesses shall be entirely closed at all times; and
  - All stairs, passageways and ladders shall be periodically inspected and maintained in a clean and safe condition.

#### **10.4.7 Maintenance of People (MOP) and Maintenance of Transport (MOT) Plans:**

- The demolition plan must outline what MOP/MOT procedures are required and what, if any permits are needed to begin demolition; and
- The Code of Federal Regulation requires signs posted inside of the work area or structure being demolished to communicate the hazard to the worker.

#### **10.4.8 Lead Safety Plan:**

- Prior to the disturbance/removal of any suspected lead-containing items, take the necessary precautions to ensure worker and project safety.

#### **10.4.9 Dust Control Plan:**

- The demolition plan must state if permitting requires dust control, the type of dust suppressant used, i.e. water, chemical or both, the source i.e. fire hydrant, ponded water or tanker and what the equipment is needed to spray the water, i.e. type of pump, length of hose, nozzles etc; and
- Dust control is the most visible indicator of our safety program to local inspectors and to the public. A low volume water hose, used to control dust on a large structure is not effective, and will encourage public complaints and inevitable inspection of our demolition projects.

#### **10.4.10 Disposal Plan:**

- The demolition plan must list the type of debris requiring disposal and must state where each waste is being disposed;
- Be sure the work plan considers how local regulatory agencies classify the debris and what trucking requirements may apply;
- Be particularly cautious when disposing asphalt and concrete fill on private property permitted to receive "clean" fill and never dispose of any construction debris without the proper authorization beforehand; and
- Each disposal location must be permitted by all applicable agencies including Federal, State and Local organizations. Often times there are multiple permitting bodies within the same organization. For example, the local building department may accept our disposal plan without a permit, but the local environmental department and health department may require a written permit. The two departments often have separate permitting rules although they both fall within the same organization.

#### **10.4.11 Pest and Rodent Control Plan:**

- The demolition plan must state if permitting requires a pest and rodent control plan and the procedures that will be taken.

#### **10.4.12 Noise and Vibration Assessment:**

- The demolition plan must assess noise if applicable; and
- Vibration may result from noise of physical impact; the demolition plan must assess vibration if applicable.

#### **10.4.13 Permit Plan:**

- The demolition plan must list the permits needed for demolition; and
- Be aware that most municipalities permit demolition work only as asbestos abatement job is completed or asbestos survey by a licensed firm indicates no regulated asbestos is present.

## **11 ELECTRICAL SAFETY AND LOCKOUT/TAGOUT**

### **11.1 Purpose**

The purpose of this program is to protect employees from the hazards associated with electricity. Our safeguards against electrical hazards will include a GFCI Program, Lockout/Tagout (LOTO) procedures, and general requirements for work involving any type of electricity or electric tool.

## 11.2 Applicable Regulations

[OSHA 29 CFR 1910.147](#)

[OSHA 29 CFR 1910.303](#)

[OSHA 29 CFR 1926.400](#)

[OSHA 29 CFR 1926.403](#)

[OSHA 29 CFR 1926.416](#)

[OSHA 29 CFR 1926.417](#)

### 11.3 Responsibilities

#### 11.3.1 Project Management shall:

- Ensure electrical systems, tools, cords and lights meet the requirements of this program;
- Develop and maintain a site-specific Temporary Electrical Plan consistent with the requirements in this program;
- Implement the Skanska Kiewit GFCI Program according to the requirement of this program;
- Ensure that Ground Fault Circuit Interrupters (GFCIs) are used according to the requirements of this program;
- Train employees according to the requirements of this program; and
- Ensure Lockout/Tagout (LOTO) measure is correctly carried out according to the requirements of this program.

#### 11.3.2 Employees shall:

- Follow LOTO procedures as stated in this program; and
- Be specifically trained at the Project site for LOTO – please see “LOCKOUT/TAGOUT” section of this Health and Safety Plan.
- Not open, adjust, repair or modify electrical systems or tools unless they are qualified to do so.

### 11.4 General Requirements

#### 11.4.1 Electrical Systems:

- Electrical systems shall be inspected and maintained on a regular basis;
- All equipment shall have positive indication of “ON” (energized) and “OFF” (de-energized) clearly labeled on the device/equipment;
- Electrical equipment shall not be opened, adjusted, repaired, or otherwise handles until it is de-energized and locked-out according to the lockout program;
- De-energized equipment shall be tested before performing any work on the equipment;
- All metal panels, boxes, covers, conduit, etc., that are part of the electrical system shall be grounded;
- All electrical equipment exposed to flammable gases or vapors, combustible dust, or ignitable fibers must meet hazardous location requirements in order to prevent explosions;
- Circuit breakers shall be labeled to show what they control. All circuit breaker panels shall be labeled to show what voltage they contain and shall be marked in accordance with ANSI standards and NEC;
- All panels shall be labeled with voltage, phase and feeder source;
- Panel covers shall be kept in place whenever the panel is energized;

- All cables exiting metal panels or boxes shall be secured with stress relieving clamps;
- Waterproof clamps shall be used as necessary;
- All splices and repairs shall be made inside an approved box or sealed with epoxy or vulcanizing kits; tape alone is not acceptable;
- Electric lines shall not be hung or secured by nails, staples, metal wire or any other conductive object;
- All panels shall be equipped with a lockable door so that power can be turned off and locked out for repairs. Adequate space is needed to open the door at least 90 degrees;
- Clearance shall be according to Table K-1 – Working Clearances (below):

**TABLE K-1 - Working Clearances**

Nominal voltage to ground	Minimum clear distance for conditions(1)		
	(a)	(b)	(c)
	Feet(2)	Feet(2)	Feet(2)
0-150 .....	3	3	3
151-600 .....	3	3 1/2	4

Footnote (1) Conditions (a), (b), and (c) are as follows: [a] Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by insulating material. Insulated wire or insulated bus bars operating at not over 300 volts are not considered live parts. [b] Exposed live parts on one side and grounded parts on the other side. [c] Exposed live parts on both sides of the workplace [not guarded as provided in Condition (a)] with the operator between.

Footnote (2) Note: For International System of Units (SI): one foot=0.3048m.

- Do not unplug electric lines carrying more than 240 or 277 volts until they have been shut off;
- Circuit breakers and Ground Fault Circuit Interrupters (GFCI) circuit breakers that protect hand tool receptacles shall have a maximum rating of 20 amps; and
- Circuit breakers shall be matched as closely as possible to the electrical demands they supply.

#### **11.4.2 Lights:**

- Light bulbs shall have guards unless deeply recessed in reflector housing;
- Fluorescent tube lights shall have guards or bulb covers;
- Outdoor lights shall be of water-resistant construction; and
- Light plants shall have bulb changing hazard stickers placed on each shade cover warning of electrical hazard while changing bulbs.

#### **11.4.3 Electric Tools, Cords and Equipment:**

- All electric tools and equipment must be grounded or double-insulated;
- All extension cords must be grounded regardless of where they are used or what they are used for;
- Electric tools and extension cords shall be inspected before each day's use for proper grounding, cracked housings, damaged cords, non-standardized connectors, and any other electrical problem;
- Cut, frayed, crushed, burned or otherwise damaged extension cords shall not be repaired with tape. Damaged tools and cords shall be removed from service immediately. Spare tools and cords should be readily available to replace damaged items;
- Qualified personnel shall make repairs;
- A check for proper grounding and continuity shall be made after each repair;
- Receptacles supplying more than 120 volts should be clearly marked;
- At a minimum, utilize twelve-gauge, three-wire, heavily insulated Service Oil Resistant (SO) cable for extension cords;
- Extension cords must be kept off stairways and out of walkways, roadways, rain, snow, ice, mud and water; and
- Circular saws shall have 10 foot cords so that they plug does not catch the edge of the wood when cutting 8 foot sheets of plywood.

#### 11.4.4 Temporary Electrical Plan

Each job shall develop a temporary electrical plan. The plan shall include:

- Locations of all spot networks, temporary services, spider boxes, circuit breaker panels, etc;
- One line diagram for temporary service which shall be posted in (a) conspicuous area(s);
- Identification of qualified, licensed Electrical Contractor;
- Labeling and barricading requirements;
- Emergency contact number;
- Inspections; and
- Lockout/Tagout (LOTO) Procedures.

#### 11.4.5 GFCI's

- All portable electric tools, drop cords, extension cords, and similar items will be visually inspected before being put to use at the start of each shift;
- Any items showing signs of possible damage will not be used until repaired as indicated and tested;
- All portable electric tools, extension and drop cords, fixed temporary wiring and receptacles will be tested for continuity of the conductors and for the connection to the exposed frame in the case of tools;

#### 11.4.6 Tests shall be made at the following times:

- Before the first use of any item;
- After repairing any item and before any item is placed back into service;
- After any incident which might reasonably be suspect of causing damage; and
- At intervals not to exceed 3 months, except for temporary wiring and receptacles installed in a fixed position not subject to damage will be tested at intervals not to exceed six (6) months.

#### 11.4.7 Ground Fault Circuit Interrupters (GFCIs)

- The use of Ground Fault Circuit Interrupters (GFCIs) is mandatory;
- The Electrical Contractor shall install panel mounted GFCIs where possible for hand tools and for convenience. Portable GFCIs shall be utilized where panel mounted GFCIs are not utilized.
- When GFCI are used, the following requirements must be met:
  - All 120-volt, single-phase 15 and 20 ampere receptacle outlets on construction sites not a part of the permanent wiring of the building or structure and in use by employees shall have approved GFCIs for personnel protection;
  - Receptacles on two-wire, single-phase portable or vehicle-mounted generators rated at no more than 5 kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with GFCIs; and
  - Buildings that have permanent wiring of the structure cannot use the permanent outlet without proper ground fault protection either at the breaker or by use of a GFCI adapter.

#### 11.4.8 Lockout/Tagout (General)

##### **Lockout – General:**

- All energy sources of power-driven equipment will be locked and/or tagged in the “OFF” position when maintenance is being performed;
- Energy sources that must be locked out include, but are not limited to, electrical, mechanical, hydraulic or pneumatic;

- It is the responsibility of the supervisor to ensure that the proper LOTO procedures are followed. This shall be done by physical inspection, possibly in combination with a study of drawings and equipment manuals;
- All sources to a piece of equipment shall be locked out and tagged out to create a safe environment as some equipment may have other sources of energy (i.e., control power, instrumentation, etc.).
- It is the responsibility of the person performing the maintenance to ensure that all equipment is properly locked and tagged out before starting any maintenance work;
- Both the supervisor and the maintenance employee must check the equipment before restarting it to make sure it is safe to operate;
- Skanska Kiewit mandates that both Lockout and Tagout devices be used during equipment maintenance;
- Only Skanska Kiewit tags shall be utilized for LOTO application(s). [See Exhibit 1].
- All lockout devices must be:
  - Durable to withstand wear;
  - Designed for a 50# pulling force;
  - Available lockout devices include:
    - A disconnect switch, circuit breaker, valve, or other energy isolating mechanism that is placed in the safe on or off position
    - A device placed over the energy isolating mechanism to hold it in the safe position; and
    - A lock attached to the "ON" switch to ensure equipment cannot be energized without removal of the lock.

**Tagout – General:**

Tagout refers to a sign or tag posted on a switch that physically cannot be locked out;

- Once the switch has been placed in the “OFF” position, the tag is placed over the switch and warns other employees that the equipment is under maintenance and should not be started;
- This tag must also identify the person who applied it. In a Tagout, the energy-isolating device is placed in the safe position and a written warning is attached to it;
- Only Skanska Kiewit tags shall be utilized for LOTO application(s). [See Exhibit 1].
- All Tagout materials shall be:
  - Of sufficient durability to withstand wear;
  - Substantial so as to not come off easily;
  - Capable of identifying the person who applied it; and
  - Indicate date and provide a contact phone number for the individual.
- A lock or tag is applied whenever maintenance is performed around any machine where injury could occur from:
  - Unexpected startup of the equipment; and
  - Release of stored energy.

**Lockout/Tagout situations:**

- The following situations will most likely require LOTO:
- When a guard or other safety device must be removed; and
- When any part of the body is placed where moving machinery could catch it, e.g.
  - Electrical maintenance;
  - Control maintenance;
  - Commissioning and Start-up; and
  - Restriction of equipment to be placed into service.
- Other tasks for which LOTO should be used are:
  - Repairing electrical circuits;
  - Cleaning or oiling machinery with moving parts; and
  - Clearing jammed mechanisms.

**11.4.9 Lockout/Tagout Procedures**

**General:**

- When a piece of equipment or machinery is to be inspected, cleaned, repaired or worked on by an individual, that piece of equipment shall be immobilized by the individual prior to commencing work on the equipment;
- Skanska Kiewit tags [Exhibit 1] and locks shall be placed at the control box or main switch by the employee who will perform the maintenance or repair in accordance with the following procedures; and
- An immediate supervisor must approve any deviations from these procedures.

**The following lockout procedures are mandatory and shall be enforced without exception:**

- The trained individual or group supervisor shall lockout at the disconnect switch and/or valve. The locks are to be used to lockout the switchgear at the circuit breaker or disconnect provided for this purpose. These locks will also be used with chains or other safety lockout devices to lockout valves or other controls;
- If more than one trade is working on the same piece of equipment at the same time, each trade shall have a lock on the lockout device. If the primary device will not accommodate each person's lock, multiple locking devices (multi-hasps) shall be used;
- When multiple locking devices are required, the shank of the device must immobilize the equipment and must not merely be attached to the shank of another lock;

All equipment operated pneumatically or hydraulically will be rendered inoperable by:

- All electrical equipment involving the use of disconnect switches as a source of power for their operation will be turned off, locked out in the “OFF” position and tagged with a Skanska Kiewit tag [Exhibit 1];
- After the electrical equipment has been locked out and tagged with a Skanska Kiewit tag, the employee will attempt to start the equipment to ensure that the proper switch has been locked out and equipment will not start
- Turning off the air or hydraulic supply to the equipment;
- Locking and tagging the valve with a Skanska Kiewit tag [Exhibit 1]; and
- Releasing the pressure to a zero state.
- After the pneumatic equipment has been locked out and tagged out with a Skanska Kiewit tag [Exhibit 1], the employee will attempt to start the equipment to make sure that the proper switch and valve were locked out and the equipment will not operate;
- Verify that the equipment will not operate with residual or accumulated pneumatic or hydraulic pressure;
- Gravity is often the ‘forgotten’ energy. It may be necessary to implement additional measures to prevent the release of potential and kinetic\* energy caused by gravity;
- \*Potential Energy is defined as “the energy possessed by a body by virtue of its position to others, stresses within itself, electric charge, and other factors”;
- Kinetic Energy is defined as “energy that a body possesses by virtue of being in motion”;
- Where a keyed switch controls the ignition, the key will be placed in the “OFF” position, removed and the switch tagged with a Skanska Kiewit tag [Exhibit 1];
- If standard lockout switches are not available to immobilize the machinery, fuses should be pulled, terminals disconnected, or other standard safety procedures applicable to the individual piece of equipment should be followed. Skanska Kiewit tags [Exhibit 1] placed at the starter button or switch;
- In the event that tagging and removing the ignition key are not considered adequate protection, the battery cable that is connected to the starter shall be removed at the battery end and tagged with a Skanska Kiewit tag [Exhibit 1];
- All other necessary precautions, such as opening or closing valves, changing valves, tagging and locking valves, installing blind flanges, etc., will be performed prior to starting the job; and
- The supervisor or Competent Person conducting the LOTO and maintenance will fill out the LOTO evaluation form (see Lockout/Tagout Program);

If it becomes necessary to operate the equipment during the work assignment, the following procedure will be followed:

- Each trade lock will be removed only after the Competent Person has verified that everyone has been advised of the procedure, the entire area has been inspected, and everyone is in the clear; and
- One person will be designated or assigned to operate the equipment.
- If employees must leave a job site, the following procedures will apply upon their return to the equipment:
- Each trade lock will be reinstalled to lockout equipment; and
- After checking to ensure that everyone is clear of any danger, the employee will retest the equipment to ensure it is immobilized.

No employee will remove another worker's lock, lockout device or Skanska Kiewit tag [Exhibit 1]. Before leaving the job for another assignment, at shift end or upon completion of that job, each trade employee will personally remove his/her own lock;

After completing work on the equipment, the employee will notify the Supervisor that the equipment has been released back into service. This will be done only after guards have been replaced and no hazardous operating or working conditions have been left;

If an employee fails to remove a lock, that employee will be required to return to remove it in person. If the individual is not available, the lock will not be removed until the Supervisor (or Competent Person) has made a thorough check of the equipment. The Supervisor will verify and make certain the equipment is safe to operate. A minimum of three (3) individuals associated with the management of the work will sign off before a lock or tag is removed; and

The unauthorized removal of any Lockout or Tagout device or system will result in dismissal from the company.

#### **11.4.10 Medium & High Voltage Lockout Procedures (600+ volts)**

Work on high voltage lines or equipment requirement safety precautions in addition to the standard lockout program and procedures.

#### **High Voltage Rooms and Collector Ring Compartments:**

- Whenever any high voltage rooms or areas such as collector ring compartments are unlocked and de-energized, the following must occur:
  - All personnel working in or near these areas shall place their lock and tag on the junction box that is disconnected or at the gate on the appropriate substation or disconnect box; and
  - Multiple lockouts will be used so that each employee has a lock and tag in position.

#### **High Voltage Lines and Equipment:**

- When a high voltage line is to be worked on, it must not be considered de-energized until a qualified person determines that the high voltage line has been de-energized and grounded;

Qualified persons shall visually observe to:

- Determine that the disconnecting devices on the high voltage circuit are in the open position:
- Ensure that each ungrounded conductor of the high voltage circuit, upon which work is to be performed, is properly connected to the system ground medium.
- Grounding of the ungrounded conductor will be on the source side of the circuit on which work is to be performed. Grounding jumpers connected to the ground bus will be provided for this purpose. Grounding will be accomplished by the following procedure:
  - Verifying that the feeder disconnect is open and locked out;
  - Using a ground stick, ground each ungrounded phase to bleed off any residual electrical charge on the circuit; and
  - Attaching grounding jumpers to each ungrounded phase of the circuit on which work is to be performed.
- High voltage circuits will not be energized until:
- All work on the high voltage circuit is completed and inspected;
- All personnel have been cleared from the high voltage area and notified that the circuit will be energized;;
- All protective grounding installed has been removed from ungrounded conductors; and
- The high voltage area has been secured and locked.

## **11.5 Training**

### **11.5.1 General:**

- Employees who will be required to install three-prong, twist-lock plugs on electrical equipment will be trained in the correct procedure(s);
- Employees will be trained in the hazards of the electrical equipment with which they are required to work; and
- Employees required to perform continuity testing (assured grounding tests) on tools will be trained in the correct procedure(s).

### **11.5.2 Lockout/Tagout:**

- Employees performing any service or maintenance work must be made aware of the LOTO program. (This also applies to any vendors or subcontractors doing work on Company job sites);
- Employees will be trained as to the purpose, function and his/her responsibility in performing the LOTO; and
- Employees will receive periodic training to ensure they are up-to-date and knowledgeable on the LOTO program and procedure(s).

EXHIBIT 1

SKANSKA KIEWIT LOCK-OUT TAG



## 12 EMERGENCY SERVICES AND FIRST AID

### 12.1 Purpose

First aid services and provisions for medical care shall be made available for every employee. First Aid/Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) and Bloodborne Pathogens training shall only to be performed by qualified and certified individuals. Employees that take part in the training are not compensated for performing any First Aid on site and retain the right not to perform First Aid if they choose to do so or if the required Personal Protective Equipment is not available. In all cases, employees who are trained in First Aid/CPR/AED and Bloodborne Pathogens are required to follow the required Standards of Care as set forth in their training program. First Aid care should also be performed in strict compliance with laws and regulations as set forth in the AED, CPR and First Aid Program and Bloodborne Pathogens Standard and in compliance with this program. Employees shall not be considered as First Aid Providers until they have completed and received certification for both the required programs pursuant to 29 CFR 1926.50(c).

### 12.2 Applicable Regulations and Standards:

[OSHA 29 CFR 1926.50](#)

[OSHA 29 CFR 1910.1020](#)

[OSHA 29 CFR 1910.1030](#)

[OSHA 29 CFR 1910.1904](#)

ANSI-Z308.1-1978

## **First Aid, CPR, AED and Bloodborne Pathogens Instructor Requirements**

### **12.2.1 First Aid Attendant Requirements**

- Each Skanska Kiewit site shall have, at all times, a minimum of one (1) employee per shift trained in First Aid/CPR/AED and Bloodborne Pathogens.

### **12.3 Requirements for Medical Services and First Aid**

#### **12.3.1 General**

- At the commencement of each Project, provisions shall be made in the Emergency Action Plan for prompt medical attention in case of injury or illness. This shall include, but not be limited to:
  - Contact details and maps to the nearest clinic or hospital;
  - Communication systems in the event of a first aid emergency; and
  - Telephone numbers shall be posted on all sites for physicians, hospitals or ambulances.

#### **12.3.2 First Aid Station**

- Each site shall have a designated First Aid Station complete with, but not limited to:
  - A fully stocked first aid kit in accordance with ANSI-Z308.1-1978;
  - An eye-wash station capable of at least a 15-minute flush;
  - Running water, hot (if feasible) and cold;
  - CPR Resuscitation Masks and Non-Latex Gloves as PPE for First Aid Providers.

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses is prohibited in the First Aid Station.

### **12.4 First Aid Supplies**

- First aid supplies shall be easily accessible when required.
- Each site shall have at least one First Aid Kit. An evaluation of the workplace shall take place to determine the need for further kits according to location, size, number of employees' etc. This evaluation should also determine any additional types and quantities of first aid equipment and supplies in the first aid kits.
- Contents of the first aid kit shall be checked prior to initial use and thereafter on a weekly basis to ensure that any expended items are replaced.
- The contents of the first aid kit shall be placed in a weatherproof container with individual sealed packages for each type of item.

#### **12.4.2 Exposure Determination**

This Program requires that no employee shall render first aid unless they have been trained and certified as completing the First Aid/CPR/AED and Bloodborne Pathogens training sessions. As such, those who

have been designated as First Aid Providers are the only employees who have the potential to be exposed to blood or Other Potentially Infectious Materials (OPIM) and, therefore, are required to comply with the provisions set forth in this program.

### 12.4.3 Methods of Compliance

- All blood and fluid is to be considered potentially hazardous material and, as such, Body Substance Isolation (BSI) techniques shall be observed to prevent contact with blood or OPIM.

### 12.4.4 Engineering and Work Practice Controls

- Engineering and work practice controls shall be used to eliminate or minimize employee exposure.
- Engineering Controls shall be examined, maintained and replaced (as required) on a weekly basis to ensure continued effectiveness;
- Hand washing facilities (running water, hot (if feasible) and cold) shall be available at the First Aid Station. When provision of hand washing facilities is not feasible, the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.
- As soon as the First Aid Provider has treated the victim, PPE should be removed and hands and any skin that has come into contact with blood and/or OPIM should be washed with soap and water. If the First Aid Provider treats the victim at the site of the incident, PPE is to be removed at that location, antiseptic towelettes shall be used immediately and then the Provider is to wash their hands at the First Aid Station.
- Reusable sharps containers shall be available. These containers shall be: puncture resistant; labeled or color-coded (red or orange red); and leak proof on the sides and bottom. Reusable sharps that are contaminated with blood or OPIM shall not be stored or processed in a manner that required Providers to reach by hand into the sharps container. If outside contamination of this container occurs then it should be placed within a second container that complies with the above requirements.
- The First Aid Provider shall not eat, drink, smoke, apply cosmetics or lip balm or handle contact lenses in the First Aid Station or in the work area where there is a reasonable likelihood of occupational exposure.
- All procedures involving blood or OPIM shall be performed in such a manner to minimize splashing, spraying, splattering and generation of droplets of these substances.

### 12.4.5 PPE

- PPE shall be checked to ensure availability and quantity on a weekly basis and shall be stored in an area that is free from potential contamination.
- First Aid Providers shall always wear PPE prior to attending to any victim(s). If the PPE becomes compromised during treatment, then the Provider should replace immediately.

- Appropriate personal protective equipment shall be available, in a variety of sizes, at the First Aid Station and in First Aid Kits. This includes, but is not limited to: gloves; resuscitation devices; face shields or masks and eye protection; and gowns. Hypoallergenic gloves, glove liners, powder less gloves, or similar alternatives shall be readily accessible to those Providers who are allergic to Latex. All PPE shall not permit blood or OPIM to pass through to or reach the Provider's skin, eyes, mouth, other mucous membranes or work clothes.
- PPE is to be considered as single-use and shall be disposed of immediately in an appropriate container following care to the victim(s) and prior to clean up of the work site.

#### 12.4.6 Housekeeping

- All equipment and environmental and working surfaces shall be decontaminated after contact with blood or OPIM. Acceptable decontamination solution will be either an approved cleanser or a 10% bleach solution. The bleach solution should be freshly made daily and should not be kept for more than 24 hours.
- Contaminated work surfaces shall be decontaminated as soon as treatment has been provided.
- Bins, pails, cans and similar receptacles intended for reuse which house contaminated materials shall be inspected and decontaminated as soon as feasible upon visible contamination.
- Broken glass which may be contaminated with blood or OPIM shall not be picked up directly by hands but by mechanical means, such as brush and dustpan or tongs.
- Reusable sharps that are contaminated with blood or OPIM shall not be stored or processed in a way that requires the Provider to reach by hand into a container where they are stored.

#### 12.4.7 Regulated Waste

- Contaminated sharps shall be discarded immediately or as soon as possible in containers that are: closeable; puncture resistant; leak proof on sides and bottom; and labeled or color-coded (red, red-orange).
- The containers shall be stored in the First Aid Station, and shall be maintained in an upright position throughout use. Its contents shall be removed regularly and will not be allowed to overfill.
- When removing the containers from the First Aid Station, the containers shall be closed prior to removal to prevent spillage of contents during handling, storage, transport or shipping. If there is leakage, then the container will be placed in a secondary container.
- All other blood or OPIM waste shall be placed in the appropriate waste storage at the First Aid Station. There will be two forms of containment:

- A garbage can shall be available that is closeable, constructed to contain all contents and prevent leakage of fluids during handling storage, transport or shipping, and color coded or labeled. This can is to remain closed at all times and is subject to the terms set forth in this program.
- All waste inside the garbage can shall be housed in the color coded and labeled waste biohazard bags. Prior to removal from the garbage can, this bag should be closed.

#### 12.4.8 Laundry Provisions

- If, during the course of providing first aid care, there is a compromise in the PPE and the First Aid Provider's clothes become contaminated, the following provisions apply:
- PPE shall be used when handling contaminated laundry, by means of protective gloves and other appropriate PPE.
- Contaminated laundry shall be removed either by the rolling method or shall be cut from the Provider, whichever allows for minimum agitation.
- Contaminated laundry shall be bagged at the location into labeled or color-coded bags and will be collected by Clean Venture or other firm qualified to remove and process such material.

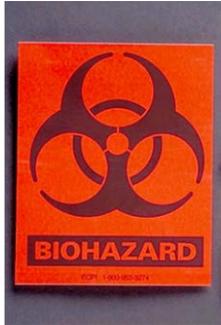
#### 12.4.9 Exposure

- A report of any exposure incident must be made immediately to the Safety Engineer and/or Project Manager.
- Following this report, the employee shall have a confidential medical evaluation and follow-up made available to him/her in compliance with 29 CFR 1910.1030.
- As part of the medical evaluation and follow-up, the following information shall be provided to the Healthcare professional who is responsible for the employee's Hepatitis B vaccination:
  - A copy of 29 CFR 1910.1030;
  - A description of the Employee's duties as they relate to the exposure incident;
  - Documentation of the route(s) of exposure and circumstances under which the exposure occurred;
  - If available, results of the source individual's blood testing; and
  - All medical records relevant to the treatment of the employee.
- Within 15 days, Skanska Kiewit shall obtain and provide the employee with a copy of the healthcare professional's written opinion. The information shall be limited and comply with 29 CFR 1910.1030.
- All medical records shall be maintained in accordance with OSHA Recordkeeping requirements.

#### 12.4.10 Hazard Communication

- Labels

- Warning labels shall be affixed to all containers used to store or transport blood or Other Potentially Infectious Materials (OPIM). Red bags or red containers may be substituted for labels.
- All Labels must include the Biohazard Legend:



- All labels will be orange or orange-red with the lettering and symbols in contrasting color.
- All labels will be affixed as close as feasible to the container by whatever means that prevents their loss or unintentional removal.

#### **12.4.11 Information and Training**

- First Aid and CPR training shall be given to all First Aid Provider candidates before initial assignment. This training certificate will be valid for 2 years after the class has been successfully completed.
- Bloodborne Pathogens training shall be given to all First Aid Providers on commencement of their completion of the First Aid/CPR/AED training course and thereafter, on an annual basis.
- Additional training, for First Aid, CPR, AED and/or Bloodborne Pathogens will take place if there is any modification of tasks or procedures or institution of new tasks or procedures that affect the employee's occupational exposure.
- All training shall be in compliance with the National Safety Council First Aid, CPR, AED and Bloodborne Pathogens training curriculum.

#### **12.4.12 Recordkeeping**

All training records relating to 29 CFR 1910.1030 shall be kept in the Safety and Environmental Department for each B.U./Region and shall be maintained in accordance with the Standard. All medical records will be kept with the each B.U./ Region Risk Management Department. These documents will be available on request to the Assistant Secretary and the director. Transfer of Records shall comply with requirements set forth in 29 CFR 1910.1020.

#### **12.4.13 Medical Records**

Employee medical records shall be provided to the employee, to anyone having written consent of the employee, to the Director and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

#### 12.4.14 Training Records

- Training records shall be maintained for 2 years from the date on which the training occurred.
- Training records shall be available to the employee, to employee representatives, to the Director, and to the Assistant Secretary.

## 13 FALL PROTECTION

### 13.1 Purpose

The purpose of this program is to develop, implement, enforce and maintain a system that creates 100% fall protection for our employees that work in an environment six feet or higher off of the ground or when hazards below six feet dictate enforcement at lesser height. By providing our employees with a fall protection system that guarantees 100% protection, we believe that our employees work efforts can be maximized and used as efficiently as possible.

### 13.2 Applicable Regulations

[OSHA 29 CFR 1926.500](#)

[OSHA 29 CFR 1926.501](#)

[OSHA 29 CFR 1926.502](#)

[OSHA 29 CFR 1926.503](#)

### 13.3 Definitions

**Anchorage** means a secure point of attachment for lifelines, lanyards or deceleration devices.

**Body harness** means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

**Connector** means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

**Controlled access zone (CAZ)** means an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

**Guardrail system** means a barrier erected to prevent employees from falling to lower levels.

- Hole** means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.
- Lanyard** means a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.
- Leading edge** means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.
- Lifeline** means a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
- Personal fall arrest system** means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.
- Rope grab** means a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.
- Safety-monitoring system** means a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
- Self-retracting lifeline/lanyard (SRL)** means a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

## 13.4 Responsibilities

### 13.4.1 Project Management shall:

- Provide the most feasible form of fall protection when a fall hazard 6 feet or greater exists;
- Utilize engineering controls to eliminate fall hazards completely before instituting the use of fall protection systems;
- Write a fall protection plan (according to details outlined in this program) when conventional fall protection systems are infeasible or create a more serious hazard to workers;
- Purchase fall protection equipment or ensure the construction of fall protection systems that meet the requirements of this program;
- Ensure personal fall arrest systems are used properly; and
- Train employees in topics identified in this program.

### 13.4.2 Employees shall:

- Use all fall protection systems according to the direction of their immediate supervisor;
- Inspect their personal fall arrest systems for damage or wear before every use;
- Remove any damaged, defective or worn personal fall arrest equipment from service;

- Secure themselves to an approved anchorage point able to withstand a minimum of 5,000 pounds of force, unless otherwise determined by the Competent Person; and
- When working between 6 and 18 feet, the use of decelerating lanyards shall be prohibited – only Self-Retracting Lanyards (SRLs) shall be used;

## 13.5 Procedures

### 13.5.1 Guardrail systems:

- Standard rail will consist of:
  - Top rail – 42 inches, plus or minus 3 inches. When wire rope is selected it shall be at least ¼ inch diameter and shall be flagged at 6' intervals with high visibility material such as "Caution" ribbon;
  - Mid-rails – must be installed half way between top edge of guardrail and the walking/working surface; and
  - Toe-board – must be minimum 1" x 4" lumber or equivalent.
- When wood railings are used, the posts shall be at least 2-inch by 4-inch lumber spaced not more than 8 feet apart on center; the top rail shall be at least 2-inch by 4-inch lumber; the intermediate rail shall be at least 1-inch by 6-inch lumber;
- When pipe railings are used, posts, top rails, and intermediate railings shall be at least 1-1/2 inches nominal diameter (Schedule 40 pipe) with posts spaced not more than 8 feet apart on center;
- When structural steel railings are utilized, posts, top rails and intermediate rails shall be at least 2-inch by 2-inch by 3/8-inch angles, with posts spaced not more than 8 feet apart on center;
- Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds for the top rail, and 150 pounds for the midrail, applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge;
- A maximum allowable deflection in the system will not exceed 3-inches;
- Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing;
- Duplex nails are not allowed in the construction of handrails;
- When guardrail systems are used at access ways and hoisting areas, a chain, gate or removable guardrail section shall be installed;
- When guardrail systems are used around holes which are used as points of access (such as ladder ways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole;
- Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge;

- When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges; and
- When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.
- Safety Nets:
  - Safety nets shall never be relied upon as a sole form of fall protection;
  - Nets are designed to provide fall arrest under or around an elevated surface such as a bridge or steel structure, and are typically used on projects that are long-term nature unless other means of protection is impractical;
  - The following criteria must be met when using nets:

13.5.1...1 *Place nets as close to the work as possible, and not more than 30 feet below the work surface;*

13.5.1...2 *Install nets so the weight does not come into contact with any lower surface when dropped;*

13.5.1...3 *Extend the net outward from the outermost projection of the work surface as follows:*

<b>Distance Below Work Surface</b>	<b>Projection Distance</b>
Up to 5 feet	8 feet
5 to 10 feet	10 feet
Over 10 feet	13 feet

- Mesh openings shall not exceed six (6) inches by six (6) inches;
- All scrap material that may have fallen into the net shall be removed as soon as possible to help ensure a fallen employee's protection;
- Nets shall be drop-tested, using a 400 lb bag of sand dropped from 42 inches above the highest working surface that employees would be exposed to a fall, on the following occasions:
  - Immediately after installation;
  - Prior to beginning work in the area;
  - After relocation;
  - Following any repairs; or
  - At six month intervals if left in one place.
- A copy of the test results shall be maintained at the jobsite;

- If it is unreasonable to perform a test drop, a Competent Person may certify its compliance with the standards;
- The compliance certificate must include the identification of the net and its installation, date it achieved compliance and the signature of the Competent Person. This certification must be located at the jobsite;
- All defective nets shall be immediately removed from service;
- A border rope for webbing capable of withstanding a minimum breaking strength of 5,000 pounds must be used;
- Connections shall be as strong as the integral net components and not spaced greater than six (6) inches apart; and
- All nets will be inspected on a weekly basis for wear, damage or other deterioration, and after any occurrence that could affect the integrity of the net.
- Warning Line System:
  - Warning line systems can be an effective restraint method for working on elevated slabs or roof;
  - Warning lines should be set up around the work area and be a minimum of six (6) feet back from any unprotected or leading edge;
  - Lines should be 36" high and flagged every six feet to ensure visibility. They should withstand a minimal side load to avoid tipping over
  - Signage must be posted in the area notifying of the leading edge; and
  - Access shall be a path formed by two warning lines leading to the work area.
- Safety Monitoring System:
  - For roofs 50 feet or less in width, OSHA allows an employee to serve as a monitor where fall protection is not feasible.
  - A safety monitoring system will NOT be used without Safety Director approval; and
  - If approved, a detailed, site specific, Fall Protection Plan will be developed.
- Covers:
  - Covers will be placed and labeled "Open Hole", "Hole" or "Hole Cover" on holes in walking/working or road surfaces that present fall hazards and shall be secured by nails or a chocking device;
  - Covers will be capable of supporting, without failure, at least twice the maximum weight of employees, materials and equipment; and
  - Holes in roadways will be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.

## 13.6 Personal Fall Arrest Systems

### 13.6.1 General:

- All personal fall arrest equipment shall be inspected prior to use;

- Any damaged, defective or worn equipment must be removed from service;
- Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service; and
- The project must provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

#### **13.6.2 Full Body Harness/Lanyards Self Retracting Lifelines or “Connectors”:**

- Approved full body harnesses are to be used when a personal fall arrest system must be used.  
Note: the only exception is for lineman performing power transmission work. (Refer to OSHA 1926.959 for specific requirements);
- All lanyards shall be shock absorbing with a locking type snap hook. All connectors must be Self Retracting Lifelines with a locking snap hook which has a gate rated for 3,600 pounds. The anchorage point must be able to withstand a minimum load of not to exceed 5,000 pounds;
- The attachment point of the body harness shall be located in the center of the wearer’s back near shoulder level, or above the wearer’s head; and
- If possible, the anchorage point should ideally be located at shoulder level of the user or above head in order to prevent “swing”-type falls.

#### **13.6.3 Self-Retracting Lifelines (SRL’s, “Yo-Yos”):**

- Self-retracting lifelines when used will be inspected prior to use by the supervisor responsible for the fall protection system;
- The supervisor will ensure the anchorage and use will not injure the worker due to a “pendulum” effect. The anchorage point must be able to withstand a minimum load of not to exceed 5,000 pounds; and

#### **13.6.4 Horizontal/Vertical Lifelines:**

- Lifelines shall be designed, installed, and used, under the supervision of a qualified person and maintain a safety factor of at least two;
- Lifeline systems will be engineered either by the manufacturer or a qualified engineer prior to use and should consider at a minimum:
- The number of personnel tied to the lifeline;
- The size of wire rope to be used. It shall be a minimum 7 x 19-3/8” galvanized aircraft cable. One shock absorber must be connected from the anchorage point (stanchion) to the wire rope. This should provide adequate protection for 2 people using Self-Retracting Lifelines (deceleration) devices;
- Distance between anchorage points (slack);

- Obstructions, permanent material, etc. which may cause injury should a person fall;
- Emergency rescue in case of a fall; and
- Synthetic rope may only be used for vertical applications ( unless an engineered system is approved for horizontal use) prior to selection: exposures to UV rays, extreme weather, abrasion activities and type of work to be performed (i.e. Hot Work) can all degrade the rope to an unsafe condition and must be considered.

#### **13.6.5 Ladder Climbing Safety Devices and Rope Grabs:**

- These devices are attached to a vertical line and allow protection during climbing operations;
- They can either be synthetic or wire rope. Models that require hand manipulation are unacceptable; and
- Where a Self Retracting Lanyard is incorporated in the system, the device must always be located overhead to limit fall distance.

#### **13.6.6 Positioning Devices**

- Positioning device systems and their use shall conform to the following:
  - At no time shall a positioning device be used without fall protection via full-body harness, lanyard and anchorage point;
  - Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet;
  - Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds (13.3 kN), whichever is greater; and
  - Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials.

### **13.7 Fall Protection Plan**

#### **13.7.1 General:**

- A fall protection plan will be instituted for leading edge work that makes conventional fall protection systems infeasible or create a greater hazard;
- The plan will be site specific and developed and maintained up-to-date by a qualified person;
- Any changes to the plan will be approved by a qualified person;
- A copy of the plan will be maintained on the jobsite;
- A Competent Person will implement the plan;
- In the event an employee falls or a Near Miss occurs during the use of a safety monitoring system, an inspection will take place to identify the cause of the incident; and
- Modifications will be made to the plan to prevent similar occurrences.

#### **13.7.2 Components:**

- The plan will detail the measures taken to protect employees from fall hazards;
- The plan will detail why conventional fall protection systems are infeasible or create a greater hazard to workers;
- The plan will detail why a safety-monitoring system or a Controlled Access Zone (CAZ) is the only feasible means of fall protection; and
- The plan will identify safety monitors or employees designated to work in Controlled Access Zones.

### 13.8 Training

- Each employee must be trained in:
  - The recognition of fall hazards;
  - Proper procedures for erecting, maintaining, disassembling and inspecting of fall protection systems they will use;
  - The role of employees in the fall protection plan (including safety-monitoring systems if used); and
  - OSHA requirements regarding fall protection.
  - Retraining will be provided when:
    - Conditions change;
    - New types of fall protection equipment are used; and
    - There is a reason to believe that a trained employee does not have the understanding or skill to meet these requirements.

## **14 FIRE PROTECTION AND PREVENTION**

### **14.1 Purpose**

The purpose of this program is to establish procedures for work site fire protection and prevention measures. Skanska Kiewit will also take all necessary measures to protect our employees from fire hazards and the hazards associate with flammable liquid storage, temporary heating devices and Liquid Propane (LP) Gas and Propane.

Because the above listed equipment holds the possibility for extensive property damage and extreme worker injury, the rules regarding their use listed in this program will be strictly adhered to.

### **14.2 Applicable Regulations**

[OSHA 29 CFR 1926.150](#)

[OSHA 29 CFR 1926.151](#)

[OSHA 29 CFR 1926.152](#)

[OSHA 29 CFR 1926.153](#)

[OSHA 29 CFR 1926.154](#)

[OSHA 29 CFR 1926.155](#)

Standard methods of Fire Tests of Building Construction and Materials, NFPA 251-1995

### 14.3 Responsibilities

#### 14.3.1 Project Management shall:

- Purchase only ABC Fire Extinguishers;
- Ensure that all equipment with an internal combustion engine is equipped with a fire extinguisher;
- Conduct an inspection covering Fire Prevention on a weekly basis as part of the daily/weekly Safety walkthroughs;
- Train employees in requirements identified in all sections of this program;
- Purchase LP Gas or Propane equipment according to the specifications set out in this program; and
- Designate a person to use a soap and water solution to detect leaks in propane tanks, tanks should be corrected immediately upon notice.

#### 14.3.2 Employees shall:

- Correctly store flammable liquids according to this program; and
- Correctly store LP Gas or Propane according to the specifications listed in this program.

### 14.4 Fire Extinguishers

#### General:

- All fire extinguishers will be a ABC Cartridge-type, except for the 2½ lb. extinguishers kept in project vehicles such as pick-up trucks which shall be Type BC; and
- Extinguishers will be inspected monthly for theft, damage, leakage, discharge and block accessibility, metal tags or equivalent will be used to signify proof of inspection.

#### Location:

- A 20 lb. ABC Cartridge-type extinguisher will be installed on:
  - Connex boxes;
  - Welders;
  - Motor graders;
  - Scrapers;
  - Cranes;
  - Backhoes;
  - Off-Highway Trucks;
  - Front End Loaders – 980 and above;
  - Mechanic's trucks;
  - Service trucks;
  - Asphalt lay down machines;
  - Asphalt distributors; and
  - Compressors.

Extinguishers shall be kept readily available during any hot work operation;

A 2-½ lb. Extinguisher will be installed in all project vehicles;

- At least one (1) portable fire extinguisher shall be located not less than 24 feet, nor more than 75 feet, from any flammable liquid storage area located outside;
- Mount two (2) extinguishers to all fuel and lube trucks according to the following guidelines:
- Do not mount the fire extinguishers so close together that both could be made inaccessible by a localized fire;
- Mount them in locations where they will not be knocked off or clogged with mud and ice in the winter; and
- If an extinguisher is mounted inside a cabinet, be sure that it will not become blocked by loose equipment. Put a sign on the cabinet to indicate that a fire extinguisher is located inside.

#### 14.4.2 Fire Response

- Alert others and evacuate the area;
- The first action to take when a workplace fire is detected is to alert others of the fire. Perform an orderly evacuation according to your site-specific evacuation plan.
- Call the Fire Department:
- It is important to call the fire company as quickly as possible to minimize the damage;
- Emergency telephone numbers should be posted by telephones. As with all emergency telephone calls, be prepared to give the specific location, telephone number where you are calling from, your name, and what has happened; and
- Do not hang up first. The dispatcher may need more information. Wait until they hang up.
- Decide if it is safe to fight / control the fire:
- Only attempt to control a fire if you have been properly trained to do so;
- The only means employees will use to fight a fire is a fire extinguisher; and
- We use ABC cartridge-type extinguishers which are designed to fight all types of fires except those involving combustible metals (i.e. magnesium) which will not commonly be found on our projects.
- Discharge the Fire Extinguisher:
- Remove the extinguisher from the bracket;
- Remove the hose from its storage position;
- Pull the pin, push firmly on the "Push" button to activate the CO<sub>2</sub> charge; and
- Squeeze the extinguisher nozzle, point at the base of the fire and use a sweeping motion to fight the fire. **Empty the entire extinguisher!**

#### 14.5 Flammable Liquid Storage

##### 14.5.1 General:

- Smoking is not permitted on any construction site in the five boroughs of New York City;
- Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids;
- Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or normally used for the safe passage of people;
- Structural design requirements for storage of hazardous waste, flammable and non-flammable chemical material:
- Waste containers must be accumulated on a firm working base, such as asphalt or concrete. The base must be impervious and have a minimum thickness of four inches. There shall be a berm of at least six inches around the base or allocation enclosed by walls; and

- The storage structure must have a containment and collection system that is capable of holding in excess of twenty percent (20%) of the total capacity of all containers or one hundred ten percent (110%) of the capacity of the largest container or tank, whichever is greater.

#### 14.5.2 Indoor Storage:

- Design specifications for inside storage rooms are stated in the Standard methods of Fire Tests of Building Construction and Materials, NFPA 251-1995. An inside storage room must be designed in a manner that renders it liquid tight and provides adequate fire resistance to adjoining building areas. The boundary between the walls and floor must be sealed so that liquid cannot leak through. Openings to other rooms must be non-combustible, liquid tight raised sill or ramps that are at least 6 inches in height. An allowable alternative is to make the floor in the storage area 6 inches lower than the floors in the adjoining rooms. The floor must be constructed of a liquid-tight material;
- All transfers of flammable chemicals performed inside a building must be done in the flammable chemical storage area. If there is another room in the building that is separated from other operations in the building, or that is protected by walls with adequate fire resistance, and that is provided with adequate ventilation, then flammable chemical transfers can also be performed in that area;
- The quantity of flammable and combustible chemicals stored outside of the flammable chemical storage cabinet and inside a building must be limited. The following limits are set by OSHA:
  - 25 Gallons of Class 1A liquid in containers;
  - 120 Gallons of Class 1B, 1C, II or III liquids in containers; and
  - 660 Gallons of class 1B, 1C, II OR III liquids in single portable tank.
- OSHA also limits the quantity of flammable chemicals that can be stored in a flammable chemicals storage cabinet. The following limits are set by OSHA: no more than 60 gallons of Class I or Class II liquid or more than 120 gallons of a Class III liquid inside a storage cabinet. When cabinets are used, these shall be vented to an outside area free from external hazards;
- Indoor storage includes building, shops and ventilated Connex boxes;
- Cabinets should be labeled "Flammable – Keep Fire Away";
- At least one (1) portable 20lb. ABC extinguisher shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable or combustible liquids;
- Lighting fixtures shall be an explosion proof type, and general storage area(s) ventilated; and
- Inside storage of flammable liquids or other hazardous materials is discouraged and should be stored in small detached structures or out of doors and not inside buildings.



### 14.5.3 Outdoor Storage:

- Storage of containers (not more than 60 gallons each) shall not exceed 1,100 gallons in any one pile or area;
- Piles or groups of containers shall be separated by a 5-foot clearance;
- Piles or groups of containers shall not be nearer than 20 feet to a building. Minimum distance will also be maintained between the storage area, property lines, and streets, alleys or public ways. For Class I liquids, a minimum distance of 20 feet will be maintained between the flammable chemical storage area and the property line. At least 10 feet of distance must be maintained between the storage area and any street, alley or public way;
- Within 200 feet of each pile of containers, there shall be a 12-foot-wide access way to permit approach of fire control apparatus;
- The storage area shall be graded in a manner to divert possible spills away from buildings or other exposures, or shall be surrounded by a curb at least 6 inches high. When curbs or dikes are used, provisions shall be made for draining off accumulations of ground or rainwater, or spills of flammable or combustible liquids. Drains shall terminate at a safe location and shall be accessible to operation under fire conditions;
- An outside storage building that is located fifty (50) feet or less from another building or adjoining property line must have a blank wall in the exposing side with a fire resistance rating of at least two (2) hours;
- Storage areas must be secured against tampering by trespassers and should be kept free of weeds, debris, or other combustible materials not necessarily in the storage area. It is advisable to provide a covering over all containers; and
- Lighting fixtures used in outdoor flammable chemical storage areas should be at least 8 feet above the containers. If the fixtures are between 5 and 8 feet above the containers, an explosion proof lighting and electrical system must be used.

### 14.5.4 Outdoor Portable Tank Storage

- Portable tanks shall not be nearer than 20 feet from any building;
- A 5-foot clear area having a combined capacity in excess of 2,200 gallons shall separate two or more portable tanks, grouped together;
- A 5-foot-clear area shall separate individual portable tanks exceeding 1,100 gallons;
- Within 200 feet of each portable tank, there shall be a 12-foot-wide access way to permit access for the fire department;
- Storage areas shall be kept free of weeds, debris, and other combustible material not necessary to the storage;

- At least one (1) portable fire extinguisher shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside; and
- Each tank shall be labeled: “(Contents of Tank) – Flammable, No Smoking”.

## 14.6 Temporary Heating Devices

### 14.6.1 General Requirements:

- Combustible materials must be kept at least 10 feet away from heating devices. This includes trash, tarpaulins, plastic covers, straw, cloth, paper, scrap lumber, sawdust and anything else that can burn;
- Fire barrels are not allowed on any project;
- Do not allow clothes, gloves, shoes, etc., to be placed on, overhead, or immediately next to a heater,
- Never store compressed gas (acetylene, propane, etc), gasoline, diesel fuel, paint thinner, or any flammable liquid in a trailer or room where a temporary heating device is in use;
- Do not allow paint or thinner to be sprayed in areas where a heater may ignite the explosive;
- Make sure there is an easy escape route in case a heater malfunctions;
- Keep fire extinguishers readily available and fully charged. Make sure everyone knows how to use them properly; and
- Inspect the entire heating unit frequently for any defects, leaks or worn parts. Make repairs immediately.

### 14.6.2 Combustion Heaters

- Adequate ventilation must be provided. These devices produce highly poisonous carbon monoxide gas that can be fatal. Combustion heaters also require large amounts of oxygen to burn. Confined areas can be extremely dangerous. You can pass out and die from oxygen starvation without ever feeling it. Simple test equipment is available to check the level of oxygen and carbon monoxide;
- Automatic shut-off valves are required to stop the flow of gas or oil anytime the flame goes out;
- Refueling shall be done only after the heater has been turned off and has had time to cool down;
- Safety cans are required for all flammable liquids (including diesel fuel) and shall be used along with funnels or spouts to prevent spills; and
- Read manufacturer’s instructions before lighting a heater.

### 14.6.3 Electric Heaters

- All electric heaters must be properly grounded and used in a dry area to prevent electric shock;

- An automatic shut-off must be built into the unit to turn off if it is tipped over; and
- Care must be taken to keep electric cords out of mud, snow, ice and water. Cords covered with snow and ice may be unknowingly run over and damaged.

#### 14.6.4 LP Gas/Propane Requirements

Equipment specifications:

- Each system shall have containers, valves, manifolds, assemblies, and regulators of an approved type and in good repair;
- Valves and fittings connected directly to the container shall have a rated working pressure of at least 250 psi;
- Every container and every vaporizer shall be provided with one or more approved safety relief valves or devices. These valves shall be arranged to afford free vent to the outer air;
- Portable heaters shall be equipped with an approved automatic device to shut off the flow of gas to the main burner;
- Heaters shall be equipped with an approved regulator in the supply line between the fuel cylinder and the heater unit; and
- Cylinders connectors shall be provided with an excess flow valve to minimize the flow of gas in the event the fuel lines become ruptured.

#### 14.6.5 Storage:

- Containers shall be upright upon firm foundations or otherwise firmly secured (tied off);
- Storage of propane cylinders within buildings or Connex boxes is prohibited;
- Propane storage locations shall be provided with at least an approved portable 20 lb. ABC fire extinguisher;
- Quantities of propane between 500-6,000 pounds will be stored 10 feet from the nearest building; and
- Tanks shall be labeled with "NO OPEN FLAMES" sign clearly mounted.

#### 14.6.6 Use:

- Improper use of propane heaters can result in serious bodily injury or property damage due to hazards of fire or explosion, carbon monoxide poisoning, burn and electrical shock;
- Containers, regulating equipment, manifolds, pipe, tubing, and hose shall be located to minimize exposure to high temperatures or physical damage;
- For temporary heating, heaters shall be located 6 feet from any LP-gas container. Blower and radiant type heaters shall not be directed toward any LP gas container within 20 feet;

- Valves in the assembly of multiple container systems shall be arranged so that replacement of containers can be made without shutting off the flow of gas in the system;
- The minimum separation between propane and flammable sources such as compressors, light plants etc, will be 25 feet. Ignitable material such as weeds and long dry grass will be removed within 10 feet of the container;
- Use of soap and water solution to detect leaks. Leaks should be corrected immediately upon notice; and
- No welding on containers or tanks

## 15 HAZARD COMMUNICATION

### 15.1 Purpose

The purpose of this program is to communicate the hazards associated with the materials and chemicals on a jobsite. By correctly educating our employees about the chemicals with which they work, they will be better prepared to protect themselves and the environment.

This program will also apply to subcontractors on all of our worksites because they may use materials and/or chemicals that are hazardous to their employees as well as ours.

### 15.2 Applicable Regulations

[OSHA 29 CFR 1926.59](#)

[OSHA 29 CFR 1910.1200](#)

### 15.3 Definitions

<b>Chemical</b>	means any substance, or mixture of substances.
<b>Container</b>	means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.
<b>Hazardous Chemical</b>	means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.
<b>Immediate use</b>	means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

**Label** means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

**Safety data sheet (SDS)** means written or printed material concerning a hazardous chemical that is prepared in accordance with paragraph (g) of this section.

**Use** means to package, handle, react, emit, extract, generate as a byproduct, or transfer.

## 15.4 Responsibilities

### 15.4.1 B.U. / Regional Safety and Environmental Department

- B.U. / Regional shall oversee the Hazard Communication program; and
- Audits will be carried out on a periodic basis to ensure this program is in effect.

### 15.4.2 Project Management shall:

- Appoint HazCom Coordinator as per our Safety, Health and Environmental Management System (SHEMS);
- Evaluate materials and chemicals before purchase for potential hazards and explore the use of less hazardous substitutes as per Safety, Health and Environmental Policy;
- Develop a procedure for obtaining Safety Data Sheets (SDS);
- Ensure that an SDS has been obtained for any hazardous chemical on site prior to its use and is included in appropriate construction plans;
- Conduct general awareness Hazard Communication training, at least once a year, and thereafter as required;
- Keep an inventory of all hazardous chemicals on site using Site Hawk ®;
- Make SDS, Chemical Inventories and this Hazard Communication Program available to employees at all times, communicate the location of the above items to all employees; and
- Ensure that SDS is available to all contractors on multi-employer sites via the site Safety Department;
- Project Management shall post Notice of HazCom and Location.

### 15.4.3 Employees shall:

- Review SDS, as part of the Construction Plan, for substances and/or chemicals prior to their use;
- Not use any chemical that has a missing or illegible label; and
- Not use any chemical for which they are not authorized.

### 15.4.4 Procedural Overview

#### Safety Data Sheets (SDS):

- Safety, Health and Environmental Management Program (SHEMP) for SDS will detail roles and responsibilities for obtaining and managing SDS;
- Every jobsite will maintain a file of SDS on every substance on the jobsite;
- These SDS will be available to all employees upon request;
- A flagging procedure to ensure that all required SDS are received and kept current will be established.

**Labels:**

- All material received at Skanska Kiewit jobsites will be properly labeled;
- If labels are not provided, the appropriate supplier will be contacted in order to obtain the required labels;
- All information contained on labels will comply with Federal, State and local laws and/or regulations and include the identity of the chemical products or substances in the container, hazard warnings and names and addresses of the manufacturer or the responsible parties;

- All containers of chemical products, including laboratory bottles, solvent cans, and dispensers will be labeled. Container labels will not be removed and will be replaced if illegible;
- For smaller containers (less than one gallon or 3.7 liters), labels will be consistent with standards stated above;
- Only those chemicals that can be classified “For Immediate Use” (this means the hazardous chemicals are under the control of and used only by the person who transfers it from the labeled container and only for the duration of the shift during which it is transferred) are exempted from the stated labeling procedures;
- In storage areas where similar chemical products are stored, signs or placards to identify the material may be posted in lieu of container labels;
- If any hazardous materials are transferred from a storage tank or container through a pipeline, labels with the required information will be affixed to the line at the discharge point (valve); and
- If a chemical product other than that specified on the container label is placed in a container, the container will be re-labeled to accurately reflect the hazards of the current contents.

## 15.5 Training

### 15.5.1 General:

- Hazard Communication training will be performed as part of the New Hire Orientation;
- HazCom topics will also be revisited during weekly safety toolbox meetings;
- General awareness training on Hazard Communication will be renewed for all employees, at least annually, and
- Specific training will be provided for materials and/or chemicals the employee will be exposed to during his day-to-day operations, as part of construction planning.

## 16 HEXAVALENT CHROMIUM EXPOSURE PROGRAM

### 16.1 Purpose

The purposes of this program is to convey the potential hazards associated with working with hexavalent chromium (a.k.a. chromium (VI), Hex Chrome, Cr<sup>(VI)</sup>) and to provide a means by which employees can protect themselves, their co-employees, the public and the environment. While significant exposure to Hexavalent Chromium would not be expected when working at typical construction sites, employees can best protect themselves by being aware of Hexavalent Chromium concerns and where it might be encountered.

Chromium is a naturally occurring element found in rocks, animals, plants and soil. This naturally occurring form of chromium is called trivalent chromium (chromium +3 or Cr<sup>+3</sup>) and is an essential nutrient, meaning that the body needs small amounts of it to maintain health. However, other forms of chromium such as hexavalent and elemental chromium are produced by industrial processes and can cause significant health effects.

Hexavalent Chromium exposure can occur by inhalation, ingestion and by skin contact. Inhaling Hexavalent Chromium dust can result in irritation to the nose, causing runny nose, nose bleeds, ulcers and even holes in the nasal wall upon high exposures. Ingestion or consumption of Hexavalent Chromium can result in stomach upset and ulcers as well as kidney and liver damage. Skin contact with Hexavalent Chromium can cause skin irritation and some individuals have allergic reactions to this material. Finally, studies have shown that excessive exposure to this compound may increase the risk of lung cancer.

The greatest potential for exposure to employees is in industrial facilities that are making chromium containing pigments, dyes, inks and plastics as well as chrome plating operations. While construction site exposure potential is significantly less, employees may be exposed to Hexavalent Chromium when welding on stainless steel or chromium alloys or conducting hot work on paints or coatings that contain chromium pigments. Another potential source is contact with Portland cement which may have small amounts of Hexavalent Chromium as a contaminant.

### 16.2 Applicable Regulations

[OSHA 1926 CFR 1926.1126](#) Chromium (VI)

[OSHA 29 CFR 1910.134](#)

[OSHA 29 CFR 1910.1020](#)

## 16.3 Responsibilities

### 16.3.1 B.U. / Regional Safety and Environmental Department shall:

- Designate a B.U. / Regional Respiratory Program Administrator; and
- Evaluate the effectiveness and appropriateness of this program, and all Worksite Specific Respiratory Plans (WSRP) as required.

### 16.3.2 Project Management shall:

- Designate Jobsite Respiratory Program Administrator;

- Develop Worksite Specific Respiratory Plan for Hexavalent Chromium as a means to providing management of Hexavalent Chromium related activities;
- Evaluate, and plan, for all work activities for Hexavalent Chromium exposures by means of Construction Plans;
- Institute engineering controls as a first line of protection to reduce Hexavalent Chromium exposures as per Construction Plans;
- Institute all administrative/work practice controls to reduce Hexavalent Chromium exposures when feasible and when engineering controls have been explored and ruled out;
- Institute the use of respirators to reduce exposures when the above mentioned controls fail to reduce Hexavalent Chromium exposure levels;
- Monitor and evaluate construction plans and activities for compliance;
- Provide training when employees are exposed to Hexavalent Chromium hazards; and
- Provide necessary respiratory protection, as well as training in its proper use, when deemed necessary.

### 16.3.3 Employees shall:

- Take part in Hexavalent Chromium field training safety training prior to taking part in any operation involving Hexavalent Chromium exposure
- Follow all construction plans that identify and detail engineering and administrative/work practice controls to reduce their exposure to Hexavalent Chromium;
- Wear respiratory protection to reduce their exposure to Hexavalent Chromium when deemed necessary by their supervisor;
- Participate in air monitoring program when required;
- Take part in any training required; and
- Not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing Hexavalent Chromium.

## 16.4 Exposure Assessment

### 16.4.1 Initial Determination:

- Each project shall determine whether the potential for Hexavalent Chromium exposure exists prior to the start of work. Potential sources of Hexavalent Chromium exposure may be identified in the owner specification or related documents. Information related to Hazard Communication should be reviewed in detail. References to coated or painted steel that involves hot work such as torch cutting, welding, brazing, or other application of heat shall be considered potential flags as would any hot work operation on stainless steel or other unidentified metal alloys or mixtures.

- Additionally, a survey of the project site should be conducted to ensure that other potential sources are identified prior to work commencing. Ongoing assessment must be conducted as surfaces not visible at the start of a project may become apparent as work progresses.
- If the initial determination establishes that Hexavalent Chromium may be present in coatings or paints, paint chip samples shall be collected and forwarded to an accredited laboratory for analysis. The presence of Hexavalent Chromium at detectable levels establishes the need for exposure monitoring as described below. Stainless steel surfaces, by definition, contain Hexavalent Chromium and working on such surfaces utilizing hot methods also requires exposure monitoring.
- Activities that may result in hexavalent chromium exposure:
  - Demolition or salvage of structures where chromium or materials containing chromium are present;
  - New construction, alteration, repair or renovation of structures, substrates, or portions that contain chromium or chromium containing materials;
  - Installation of products containing chromium; and
  - Working with dry or wet Portland cement mixtures that contain Hexavalent Chromium as a contaminant.

## 16.4.2 Air Sampling Frequency

- Baseline sampling shall commence at the beginning of each operation which is identified as a potential for Hexavalent Chromium exposure. Historical data from similar operations producing Hexavalent Chromium exposure can be used as baseline exposure monitoring when feasible, but must be evaluated according to activity, length of operation, conditions in which the samples were taken, etc.;
- If the initial baseline results demonstrates employee exposure to be below the action level, then;
- Personal and Area Air Sampling will take place thereafter at on least three consecutive measurements at least seven (7) days apart;
- Results will be handled as follows:
  - Where results demonstrate that the employee exposure is below the action level  $2.5 \mu\text{g}/\text{m}^3$ , monitoring need not be repeated;
  - Where results demonstrate that the employee exposure is above the action level  $2.5 \mu\text{g}/\text{m}^3$ , but below the permissible exposure limit  $5.0 \mu\text{g}/\text{m}^3$ , monitoring shall be repeated at least every 6 months. The monitoring shall continue until at least two consecutive measurements, taken at least 7 days apart, are below the action level, at which time the monitoring for that employee or operation may be discontinued; and
  - If the initial monitoring reveals that employee exposure is above the permissible exposure limit  $5.0 \mu\text{g}/\text{m}^3$ , the monitoring shall be repeated quarterly. The monitoring shall continue until at least two consecutive measurements, taken at least 7 days apart, are below the permissible exposure level, at which time the monitoring for that employee or operation may be discontinued.
  - Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to Hexavalent Chromium, or whenever Skanska Kiewit has any reason to suspect a change which may result in new or additional exposures to Hexavalent Chromium, additional monitoring shall be conducted; and

- Air monitoring results and exposure assessment shall be supervised by the B.U. / Regional Respiratory Program Administrator.

### 16.4.3 Employee Notifications

- Employees shall be notified of air sampling results within 5 days of results being received by the Company. Sampling results shall be provided to employees by hand delivery at the worksite or by certified letter delivery. If the employee receives the letter by hand, he/she will be required to sign off on the air monitoring results to document that they have received the notification. The Shop Steward should also sign off on any air monitoring results.
- In the event that the monitoring indicates that employee exposure is above the Permissible Exposure Limit (PEL), the Company shall describe in the written correspondence to the employee the corrective steps being taken to reduce the exposure to less than the PEL.

## 16.5 Controls

### 16.5.1 Engineering Controls:

- In operations where there is a potential for exposure to Hexavalent Chromium, engineering controls shall be used as the first line of defense;
- Engineering controls include, but are not limited to:
  - HEPA (High Efficiency Particulate Air) vacuum-shrouded scalers and grinders;
  - HEPA vacuum blasters;
  - Chemical paint stripping;
  - Dust collection / ventilation;
  - Removing paint before burning;
  - Cleaning with HEPA filter vacuums;
  - Wet methods to remove dust;
  - Use of long cutting torches to keep employees further away from any fumes that are generated;
  - Use of local exhaust ventilation equipped with HEPA filtration at the point of fume generation
  - Use of mechanical ventilation to move fumes and dust away from employees; and
  - Positioning employees upwind or otherwise outside of visible fume or dust clouds.

### 16.5.2 Administrative Controls:

- Administrative controls will be used supplemental to engineering controls;
- Where engineering controls cannot be utilized, or are not effective to sufficiently reduce exposure to respirable Hexavalent Chromium, administrative controls will be used to reduce the time of exposure for employees;
- Administrative controls include but are not limited to:
  - No eating, drinking, smoking and/or applying cosmetics shall be allowed; and

- Where exposure limits are at or above the action level, personal protective equipment shall be given to each employee. Where personal protective equipment is provided, trash bins will be available at the exit to each area to allow for employees to discard such items to prevent contamination to other parts of the jobsite, and to the employees personal belongings; and
- Signs and barricades will be placed allowing for only authorized employees may enter an area where operations are taking place that may create exposure to crystalline Hexavalent Chromium. The sign shall read:

**WARNING**

**HAZARD**

**HEXAVALENT CHROMIUM WORK AREA**

**AUTHORIZED EMPLOYEES ONLY BEYOND THIS POINT**

**NO SMOKING, EATING OR DRINKING ALLOWED BEYOND THIS POINT**

**Note** - Employee rotation to different jobs shall not be used as a means of achieving compliance with the chromium standard.

## 16.6 Respiratory Protection:

- Respiratory protection shall be used as the last line of defense in the protection against exposure to Hexavalent Chromium;
- Respiratory protection shall never be used as the sole means of limiting employee exposure;
- Respiratory protection shall be required at the beginning of each identified activity until air sampling results demonstrate that the exposure is below the Action Level; and
- Respirators will be selected based on the criteria identified in the Respiratory Protection section of this manual and according to the Worksite Specific Respiratory Plan for Hexavalent Chromium.

### 16.6.2 Hygiene Controls

- Food and drink is not permitted to be present or consumed in the work area;
- Tobacco products are not permitted to be present or consumed in the work area; and
- A wash station will be available for employees to use so that they can wash up following work in designated Hexavalent Chromium Work Area(s).

### 16.6.3 Protective Work Clothing and Equipment

- If an operation poses the potential to result in skin or eye contact with Hexavalent Chromium, the Company shall provide protective clothing and equipment to the employee. Where issued, employees are required to wear this equipment. Such equipment may be required during the initial installation and implementation of engineering and work practice controls, until monitoring suggests that Hexavalent Chromium exposure is not a concern.

- Cleaning and Replacement of Protective Work Clothing
  - The Company shall be responsible for laundering, cleaning, repairing or replacing all protective clothing or equipment in order to maintain its effectiveness.
  - Hexavalent Chromium shall not be removed from clothing by any methods that disperse the material into the air or onto an employee's body. This includes blowing, shaking, slapping or other aggressive means of removal. Vacuuming with a HEPA vacuum would be an acceptable means of removal.
- Any employee involved in laundering or cleaning protective clothing shall be informed of the potential health effects of Hexavalent Chromium and the need to minimize airborne levels and skin and eye contact.

#### 16.6.4 Medical Surveillance

- The Company shall make medical surveillance available, at no cost to the employee and at a reasonable time and place, where employees:
  - Are occupationally exposed to Hexavalent Chromium at or above the PEL for 30 or more days per year;
  - Are experiencing signs or symptoms of adverse health effects associated with Hexavalent Chromium exposure; or are exposed in an emergency.

#### 16.6.5 Frequency

- Within 30 days of initial assignment, unless the employee has received a Hexavalent Chromium related medical exam within the past 12 months;

#### 16.6.6 Annually;

- Within 30 days after a licensed health care provider provides a written medical opinion recommending an additional examination;
- Whenever an employee shows signs or symptoms of adverse health effects associated with Hexavalent Chromium;
- Within 30 days after exposure during an emergency which results in an uncontrolled release of Hexavalent Chromium; or
- At the termination of employment, unless the last examination that meets the requirement of the standard was less than 6 months prior to the date of termination.
- Contents of Examination
  - Medical and Work History emphasizing

16.6.6...1 *Past, present and anticipated future exposure to Hexavalent Chromium*

16.6.6...2 *Any history of respiratory dysfunction*

16.6.6...3 *Any history of asthma, dermatitis, skin ulceration or nasal septum perforation*

16.6.6...4 *Smoking status and history*

16.6.6...5 *A physical examination of the skin and respiratory tract; and*

16.6.6...6 *Any tests deemed necessary by the examining healthcare provider*

- Information supplied to the Licensed Healthcare Provider
- Skanska Kiewit shall also ensure that the healthcare provider is given a copy of the Hexavalent Chromium standard.
- A description of the personal protective equipment used or to be used by the employee, including when and how long the employee has used the equipment; and
- Information from records of employment-related medical examinations previously provided to the affected employee that are currently within the control of the Company.
- A description of the affected employee's former, current and anticipated duties related to Hexavalent Chromium;
- The employee's former, current and anticipated levels of occupational exposure to Hexavalent Chromium;

#### 16.6.7 Healthcare Providers Opinions

- The healthcare provider shall provide a medical opinion regarding each examination within 30 days of examining the employee. This medical opinion shall contain the following:
- The providers opinion as to whether the employee has any detectable medical condition that would place the employee at increased risk of material impairment to health from further exposure to Hexavalent Chromium;
- Any recommended limitations on the employee's exposure to Hexavalent Chromium or on the use of respirators; and
- A statement that the provider has explained to the employee the results of the medical examination, including any medical conditions associated with Hexavalent Chromium exposure that require further evaluation or treatment, and any special provisions for protective clothing or equipment.
- The healthcare provider shall not reveal to the Company specific findings or diagnoses not related to occupational exposure to chromium.
- The Company shall provide the employee with a copy of the healthcare provider's medical opinion within two weeks of receiving it.

#### 16.7 Training

Employees will be trained in the following:

- Hazards of Hexavalent Chromium exposure;
- The requirements of this program;

- Engineering and administrative/work practice controls, if any, that have been instituted to control Hexavalent Chromium exposures;
- Personal protective equipment specific to their work assignments;
- The employees right of access to exposure monitoring and medical records; and
- Contents of the Hexavalent Chromium Standard

## 16.7.2 Frequency of training:

General training will be given to all employees involved with Hexavalent Chromium Work Area(s) which:

- Shall take place via construction plans prior to each activity commencing. No employees are permitted to go to work without this training;
- Shall take place thereafter, as any change in any element of the original construction plan takes place;
- Refresher training will take place at such times that the jobsite requires; and
- Employees not directly involved with Hexavalent Chromium Work Area(s) will receive training via Toolbox Talks or an equal alternative.

## 16.8 Recordkeeping

### 16.8.1 Air Monitoring

For each air monitoring experience, the following documents, at a minimum, will be kept:

- Air Monitoring Worksheet;
- Chain of Custody;
- Laboratory Analysis; and
- Detailed calculation results.
- Training records shall be kept either with each individual construction plan, or in the toolbox talk safety meeting file, whichever is relevant.
- All of the above records must be kept as per 29 CFR 1910.1020

## 17 HISTOPLASMOSIS (BIRD & BAT DROPPINGS)

### 17.1 Purpose

This program establishes requirements when large amounts of bird or bat droppings are encountered in our work areas. These policies shall be followed to protect our workers from histoplasmosis.

### 17.2 Applicable Regulations

[OSHA 29 CFR 1926.59](#)

[OSHA 29 CFR 1910.1200](#)

### 17.3 Responsibilities

#### 17.3.1 Project Management shall:

- Assess the work area for large amounts of bird (or bat) droppings prior to start work;
- Provide training on histoplasmosis (what it is, where it is found, and procedures while working in infected areas);
- Provide the PPE required when we need to work in these contaminated areas; and
- Provide hand wash facilities.

#### 17.3.2 Procedural Overview

What is Histoplasmosis and what are its affects?

- Histoplasmosis is an infectious disease caused by inhaling the spores of a fungus called *Histoplasma capsulatum*. This fungus is caused by a soil organism that requires the moist, nutrient-rich environment that large amount of bird and bat droppings provide. Pigeons do not carry the organism that causes histoplasmosis. Histoplasmosis is not contagious; it cannot be transmitted from an infected person or animal to someone else
- Histoplasmosis primarily affects a person's lungs and its symptoms vary greatly. The vast majority of infected people are asymptomatic (have no apparent ill effects), or they experience symptoms so mild they do not seek medical attention and may not even realize that their illness was histoplasmosis. If symptoms do occur, they will usually start within 3 to 17 days after exposure, with an average of 10 days. Histoplasmosis can appear as a mild, flu-like respiratory illness and has a combination of symptoms, including malaise (a general ill feeling), fever, chest pain, dry or nonproductive cough, headache, loss of appetite, shortness of breath, joint and muscle pains, chills, and hoarseness. A chest x-ray can reveal distinct markings on an infected person's lung.
- Chronic lung disease due to histoplasmosis resembles tuberculosis and can worsen over months or years. Special antifungal medications are needed to arrest the disease. The most severe and rarest form of this disease is disseminated histoplasmosis, which involves spreading of the fungus to other organs outside the lungs. Disseminated histoplasmosis is fatal if untreated, but death can also occur in some patients even when medical treatment is received. People with weakened immune systems are at the greatest risk for developing severe and disseminated histoplasmosis. Included in this high-risk group are persons with acquired immunodeficiency syndrome (AIDS) or cancer and persons receiving cancer chemotherapy, high-dose, long-term steroid therapy, or other immunosuppressive drugs.

How do you get Histoplasmosis?

- The most common areas where we may encounter infectious areas are during work on exterior steel structures where pigeons and other birds have nested for long periods. These areas can produce large amounts of droppings. If the material is dry and becomes disturbed, it can become airborne and cause infectious exposure by inhalation. The second way of exposure is by handling the material and not washing your hands prior to eating or smoking. Areas with small amounts of dried droppings pose minimal hazard.

Procedure to Limit Exposure:

- An inspection will be made on structural steel work prior to working to determine if there is any exposure and to what extent;
- Work areas with a buildup of droppings will be wetted down prior to working and during the work as necessary to minimize airborne exposure. If it needs to be removed the area will be cleaned with high-pressure water if possible. If not it will be scraped off and wetted down throughout the process. Compressed air WILL NOT be used to remove the droppings because this will increase the potential for exposure;
- All employees will wear a respirator with P100 cartridges for dust in compliance with Respiratory Protection section of this Health and Safety Plan, Tyvek ® (or equivalent)/cotton coveralls, goggles and gloves;
- All employees must thoroughly wash all exposed skin (including hands, face and neck) before eating, drinking or smoking and immediately after working in exposed areas. Good personal hygiene is very important;
- After an area has been cleaned and disinfected with a cleaning agent such as bleach, the additional PPE and precautions are not necessary; and
- All employees involved in cleaning infected areas or are working in infected areas must be trained and review the provisions of this section prior to working.

## 18 HOUSEKEEPING

### 18.1 Applicable Regulations

[OSHA 29 CFR 1926.25](#)

[OSHA 29 CFR 1926.252](#)

### 18.2 General Housekeeping

The following rules apply to general housekeeping:

- Work areas shall be kept in an orderly manner at all times;
- Trash receptacles shall be provided throughout each jobsite with safe means to access same to facilitate removal and shall be emptied regularly to prevent overflow;
- Large waste receptacles, such as dumpsters, which would normally cause employees to have to reach up above their shoulders, are required to have a platform with steps and hand rails in place for employee access;
- Scrap materials and trash shall be disposed of as each task progresses, once the task is completed as well as at the end of each work shift;
- Any extra materials from activities shall be returned to storage facilities at the end of each day;
- Useable scrap shall be retained in an organized scrap area away from the general work areas;
- Oily rags shall be kept and disposed of separately in metal containers with tops;
- All scrap lumber, forms and crates shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures;
- All nails shall be removal from lumber or other material prior to placement on stockpile/staging area for material removal;
- Combustible scrap and debris shall be removed at regular intervals during the course of construction;
- Receptacles shall have self-closing or securable lids to prevent pest and rodent infestation;
- Designated break areas shall be used and shall have a trash receptacle in order to secure food waste(s);
- Food waste shall be disposed of immediately as generated; and
- All trailers and office space shall be kept in good, clean working order at all times.

## 18.3 Handling Waste and Debris

The following rules shall apply to handling waste and debris:

- Waste materials should be handled as little as possible;
- Waste and debris should be put into trash cans or dumpsters early in the disposal process so it can be handled mechanically rather than by hand; and
- Employees handling waste materials will be trained prior to use through the construction plan and training;

## 18.4 Trash Chute

- Materials must never be dropped or thrown from any floor except in trash chutes;
- Chutes shall be enclosed on all sides and shall be fabricated of wood or equivalent material;
- A dumpster or truck shall be maintained at the bottom of the chute at all times. Materials shall not be permitted from the chute if the bottom containment is not in place. Administrative controls shall be used to inform employees as to control methods;
- Burning of waste material is strictly prohibited;
- Any solvent-based waste, oily rags or flammable liquids must be stored in fire-resistant containers until properly removed by the facility's waste manager in accordance with Federal, state and local regulations;
- Chutes shall be closed with rails or barricades not less than 42" high at each floor;
- Signs shall be posted at the opening of each level advising workers of the potential hazard of falling material; and
- A physical barrier shall be maintained around the trash receptacle at the bottom of the chute. "Caution" signs shall be posted on the barrier to warn employees of potential hazards.

## 19 ILLUMINATION

### 19.1 Purpose

The purpose of this program is to ensure that adequate lighting is provided at all locations and during all work operations.

In addition to providing necessary illumination for our workers, we must ensure that adequate lighting is provided for pedestrian traffic that may be passing around our sites. This requirement is more often identified in project specifications and strict adherence shall be required. Inadequate lighting in pedestrian areas exposes Skanska Kiewit to general liability claims.

### 19.2 Applicable Regulations

[OSHA 29 CFR 1926.56](#)

## 19.3 Green Initiative

The use of incandescent lamps and fixtures are to be discontinued. Where possible the use of energy efficient shielded (fully-enclosed) compact tube florescent (CFL) lamps, fluorescent tubes (FL) or metal halide (MH) fixtures shall be encouraged. Skanska Kiewit is to be in compliance with the [US Department of Energy, Energy Independence and Security Act of 2007 \(EISA 2007\)](#).

## 19.4 Color

Due to color rendition, Low Pressure Sodium (LPS) or High Pressure Sodium fixtures (HPS) are not to be utilized unless specified for use, or to blend in to existing lighting design. Color temperature may be between 3000 to 5000°K for fluorescent lamps. Metal Halide may be between 3200 3to 4000°K.

## 19.5 Fixtures

Fixtures are to be rated for the Project environment and/or classification. Fixtures are encouraged to be made out of metal or high-strength plastics with suitable diffusers. Fixture guards are also either required or suggested to reduce brakeage. Fixtures are to be suitably fastened to a solid surface or suspended with proper aerial cable or hangers to support the weight of the fixture, wire and environmental conditions (e.g. ice load). All fixtures are to be UL listed for the application.

- Streamers are discouraged. Any streamers utilized are to have shielded CFL and required guards (cages) of wither plastic or metal. The use of multi-tap 175W, 250W or 400W Metal Halide Pulse Start Temporary Work Light Fixtures with wire guards should be utilized.

## 19.6 Power Source

All connections to fixtures shall be made from individual branch circuits, specifically designated for lighting. Egress signs shall be on a separate circuit from general lighting. A minimum of two (2) circuits will be required in a work area/floor. No "Laundry Drops" or connections for small tools shall be permitted. All circuits shall be clearly labeled to indicate that they are served at the source panel. Fixtures connected to 277/480VAC circuits shall have a separate label indicating voltage. Minimum wire gauge is #12AWG for lighting.

- Branch circuits for lighting shall be supported as not to interfere with construction activities and not rest on the floor or interfere with potential walking/equipment movement.

## 19.7 Task Lighting

Task Lighting may be achieved for work activities utilizing commercially available fixtures/tripods for that purpose. All task lighting fixtures are to be UL listed for the application. The use of halogen lamps for this task lighting purpose is acceptable, providing the fixture has tempered glass and a wire shield.

## 19.8 Lighting Levels

The minimum lighting levels shall be in accordance with OSHA 1926.56 – Illumination. Measurements shall be made from a calibrated light meter either new out of box or calibrated within a six (6) month period of time for use.

## 19.9 General

Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lighted to not less than the minimum illumination intensities listed in Table D-3 while any work is in progress.

## 19.10 Responsibilities

### 19.10.1 Project management shall:

- Ensure all work areas and operations comply with the corresponding illumination measurements identified in the Procedural Overview section of this program;
- Take periodic measurements to ensure the above standards are met. Records of measurements shall be kept with other sampling results; and
- Examine and ensure compliance with project contract specifications regarding illumination in pedestrian areas.

## 19.11 Procedural Overview

- Jobsites shall be lighted to not less than the minimum illumination intensities listed in the following table while any work is in progress.

**Table D-3**

Foot-Candles	Area Of Operation
5	General Construction area lighting.
3	General construction area, concrete placement, excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: warehouses, corridors, hallways, and exits.
5	Tunnels, shafts, and general underground work areas. (Exception: minimum of 10-foot candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of Mines approved cap lights shall be acceptable for use in the tunnel heading).
10	General construction plant and shops (e.g. batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active store rooms, barracks or living quarters, locker or dressing rooms, mess halls, and indoor toilets and work rooms).
30	First aid stations, infirmaries, and offices.

### 1926.56(b)

For areas or operations not covered above, refer to the American National Standard A11.1-1965, R1970, Practice for Industrial Lighting, for recommended values of illumination.

## 20 INCIDENT INVESTIGATION AND REPORTING

### 20.1 Purpose

The purpose of this program is to provide and ensure for proper medical treatment and post-accident care as well as to ensure incidents are promptly reported and investigated. All incident reporting procedures are covered in this section.

Incident investigation is an opportunity to determine causes of and ways to eliminate incidents. Valuable (and positive) information may be obtained during the investigation of an incident that can be applied to other tasks.

Above and beyond the human economic considerations involved with loss control, legal implications alone completely justify the time and effort devoted to incident reporting and investigation.

Whenever this section mentions incidents, this includes, but is not limited to, Company, subcontractor and third party incidents.

All reporting will be done on Intelex Program

### 20.2 Responsibilities

#### 20.2.1 Field Supervisor shall:

Accompany each injured employee to the medical facility where treatment will be provided;

- Explain the circumstances of the injury to the treating physician;
- Provide the treating physician with an authorization for initial treatment and release of medical information form and request that the doctor complete the form;
- Have the injured employee take an authorization for initial treatment and release of medical information for all follow-up doctor's visits;
- Explain to the treating physician that Light or Restricted Duty work is available and his completion of the authorization for initial treatment will help us create a light-duty position that stays within the guidelines and restrictions placed on the patient; and
- All paperwork should be submitted to Project Safety Department on immediate return to the job.

## **20.2.2 Project Management shall:**

- Follow procedure set out in this program.

## **20.2.3 Project Superintendent or Project Manager shall:**

- Report all recordable incidents to the Project Executive and the Safety Director within 24 hours of the incident occurrence;
- Be prepared to discuss the details of the incident with the Project Executive or Safety Director; and
- Conduct a Post Incident Meeting for all first aid cases that require medical treatment away from site, recordable, lost time, near miss or property damage claims by the end of the business day that the incident is reported. This meeting will include the Superintendent, Project Manager, Jobsite Safety Engineer, all Foremen and Project Executive and Safety and Environmental Director, if required.

## **20.2.4 Foreman shall:**

- Participate in all necessary procedures relating to this section; and
- Provide written statements when required.

## **20.2.5 Jobsite Safety Department shall:**

- Notify Safety and Environmental Director immediately where an incident that requires off-site assistance such as medical care beyond first aid, emergency services or environmental remediation;
- Liaise with B.U. / Regional Insurance Department regarding set up of local clinic at commencement of new project;
- Commence and maintain Jobsite OSHA 300 Log and Job Incident Log;
- Reconcile jobsite OSHA 300 Log with the B.U. / Regional Insurance Department Log on a monthly basis;
- Maintain and complete all incident files for each new occurrence. This will include, but is not limited to, documents as defined in this program;
- Issue all relevant forms;

- Initiate Post Incident Review Meeting; and
- Participate in all required meetings as set forth in this program.

## **20.2.6 B.U. / Regional Safety and Environmental Department shall:**

- Ensure all incidents are reviewed and recorded as per OSHA recordkeeping requirements;
- Communicate incident classifications to B.U. / Regional Insurance Department for recording purposes; and
- Develop monthly, quarterly and yearly incident statistics and trends as required.

## **20.2.7 B.U. / Regional Insurance Department shall:**

- Receive all incident classifications from B.U. / Regional Safety and Environmental Department, and record as such;
- Maintain paper files on each incident;
- Communicate with jobsites on return-to-work until completion of each claim;
- Maintain B.U. / Regional Incident Log;
- Communicate with jobsites on monthly basis to reconcile the B.U. / Regional Incident Log and Jobsite OSHA 300 Logs;
- On start-up of new project, consult with Insurance carrier to establish occupational clinics as providers of medical care; and
- Conduct initial meeting with clinic prior to work commencing, to establish relationship and return-to-work program.

## **20.3 Procedure**

In the event of an incident, the following procedure will be followed:

- Superintendents and Safety Department shall ensure that work is stopped until it has been deemed that the incident area is safe and free of any hazards;
- A field supervisor will accompany each injured employee to the medical facility where treatment will be provided; the supervisor will explain the circumstances involved relating to the injury to the treating physician;
- The field supervisor who accompanies the injured employee shall provide the treating physician with an authorization for initial treatment and release of medical information form and request that the doctor complete the form;
- The injured individual is required to take an authorization for initial treatment and release of medical information for all follow-up doctors' visits. Copies of all pertinent information should be submitted to Project Safety Department on immediate return to job; and

- Light duty or restricted duty is generally available to injured employees. The field supervisor will explain this program to the treating physician and explain to the physician that completing the authorization for initial treatment and release of medical information form will help us create a light-duty position that stays within the guidelines and restrictions placed on the patient.

### 20.3.2 Incident Reporting Procedure

Incidents must be reported by the Project Superintendent or Project Manager to the Project Executive, B.U. / Regional Safety and Environmental Director and the B.U. / Regional Insurance Department within 24 hours of the occurrence, and include the following:

- Any accident which involved an injury requiring a doctor's treatment, whether it be a First Aid case, OSHA recordable or lost time case;
  - Any lost time accident will require a phone call by the Project Executive to the Company President and the B.U. / Regional Safety and Environmental Director;
  - Any near miss incident;
  - Auto/Motor fleet incident; and
  - Property damage and public liability incident.
- The project superintendent must be prepared to discuss:

20.3.2...1 *What happened?*

20.3.2...2 *How it happened?*

20.3.2...3 *Why it happened?*

20.3.2...4 *What is being done to prevent reoccurrence?*

### 20.3.3 Incident Reporting Procedure

- Jobsite Safety Department to produce Incident Report for all incidents that occur on site. This is to include, but is not limited to, employee injury or illness; near miss incidents; general liability incidents; and environmental incidents;
- Documents to be attached to the Incident Report are as follows:
  - Authorization for Medical Treatment and Release of Medical Information;
  - Copy of Construction Plan relating to the incident.

### 20.3.4 Post Incident Meeting Report;

A Post Incident Review Meeting will be held by the end of the business day that the incident is reported;

- If incident is classified as Recordable, Lost Time or Near Miss, then a Corrective and Preventative Action Plan is required including, but not limited to:
  - Any relevant photographs; and
  - All Doctors' reports including up to Return-To-Work Full Duty slip.
- Report to be completed and submitted to B.U. / Regional Safety and Environmental Director and B.U. / Regional Insurance Department within 24 hours of each event.

### 20.3.5 Corrective and Preventative Action Plan

- For all recordable, lost time and/or near miss incident, a Corrective and Preventative Action Plan will be completed within 5 days of the incident;
- This meeting shall include the Foreman, Superintendent, Jobsite Safety Engineer, Project Manager, Project Executive and B.U. / Regional Safety and Environmental Director;
- The objective of this meeting is to investigate the incident, to develop Root Cause Analysis, and to establish corrective and preventative actions to prevent future occurrences;
- A Corrective and Preventative Action Plan will be completed at the outcome of this Post Incident Review Meeting which defines the root cause of the incident and details corrective and preventative actions taken on site. Targets and established dates of completion are to be set;
- On completion, a copy of this report must be faxed to the B.U. / Regional Safety and Environmental Department and B.U. / Regional Insurance Department; and
- B.U. / Regional Safety and Environmental Department are to e-mail copy of the Corrective and Preventative Action Plan to all employees to communicate "Lessons Learned".

### 20.3.6 Job Incident Log

- Every project will maintain the Job Incident Log provided by the B.U. / Regional Safety and Environmental Department;
- Every incident must be recorded on this Job Incident Log;
- This log must be kept up-to-date at all times; and
- On completion of the project, this log will be copied onto disk and forwarded to the B.U. / Regional Safety and Environmental Department and B.U. / Regional Insurance Department.

### 20.3.7 B.U. / Regional Incident Log

B.U. / Regional Insurance Department shall maintain the B.U. / Regional Incident Log to include all jobs; and This log must be kept up-to-date at all times.

## 20.4 Monthly Safety Performance Reports

### 20.4.1 Jobsite shall:

- Collect subcontractor certified payroll hours according to Contract specifications;
- Complete Monthly Safety Performance Report by the 2<sup>nd</sup> Friday of each month; and
- Submit Monthly Safety Performance Report to B.U. / Regional Safety and Environmental Department within timeframe noted above.
- B.U. / Regional Safety and Environmental Department shall:
- Receive Monthly Safety Performance Reports from each job by the 2<sup>nd</sup> Friday of each month;
- Maintain hours log and keep up-to-date; and
- Report hours as required and stated in the Skanska Kiewit Safety Strategy.

## 21 LADDERS, STAIRWAYS – ACCESS PROGRAM

### 21.1 Purpose

The purpose of this program is to establish rules regarding the safe use of ladders, the proper design, maintenance and construction, and the proper use of access areas used in construction, alteration, repair and demolition areas. Although potentially hazardous, all three of these work practices can easily be controlled to offer our employees a danger free work environment.

### 21.2 Applicable Regulations

[OSHA 29 CFR 1926.1050](#)

[OSHA 29 CFR 1926.1051](#)

[OSHA 29 CFR 1926.1052](#)

[OSHA 29 CFR 1926.1053](#)

[OSHA 29 CFR 1926.1060](#)

### 21.3 Definitions

- Cleat** means a ladder crosspiece of rectangular cross section placed on edge upon which a person may step while ascending or descending a ladder.
- Double-cleat ladder** means a ladder similar in construction to a single-cleat ladder, but with a center rail to allow simultaneous two-way traffic for employees ascending or descending.
- Equivalent** means alternative designs, materials, or methods that the employer can demonstrate will provide an equal or greater degree of safety for employees than the method or item specified in the standard.

<b>Extension trestle ladder</b>	means a self-supporting portable ladder, adjustable in length consisting of a trestle ladder base and a vertically adjustable extension section, with a suitable means for locking the ladders together.
<b>Failure</b>	means load refusal, breakage or separation of component parts. Load refusal is the point where the structural members lose their ability to carry the loads.
<b>Fixed-ladder</b>	means a ladder that cannot be readily moved or carried because it is an integral part of a building or structure. A <i>side-step fixed ladder</i> is a fixed ladder that requires a person getting off at the top to step to the side of the ladder side rails to reach the landing. A <i>through fixed ladder</i> is a fixed ladder that requires a person getting off at the top to step between the side rails of the ladder to reach the landing.
<b>Handrail</b>	means a rail used to provide employees with a handhold for support.
<b>Individual-rung/step ladders</b>	means ladders without a side rail or center rail support. Such ladders are made by mounting individual steps or rungs directly to the side or wall of the structure.
<b>Job-made ladder</b>	means a ladder that is fabricated by employees, typically at the construction site, and is not commercially manufactured. This definition does not apply to any individual-rung/step ladders.
<b>Ladder stand</b>	means a mobile fixed size self-supporting ladder consisting of a wide flat tread ladder in the form of stairs. The assembly may include handrails.
<b>Lower levels</b>	mean those areas to which an employee can fall from a stairway or ladder. Such areas include ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, material, water, equipment, and similar surfaces. It does not include the surface from which the employee falls.
<b>Maximum intended load</b>	means the total load of all employees, equipment, tools, materials, transmitted loads, and other loads anticipated to be applied to a ladder component at any one time.
<b>Nosing</b>	means that portion of a tread projecting beyond the face of the riser immediately below.
<b>Point of access</b>	means all areas used by employees for work related passage from one area or level to another. Such open areas include doorways, passageways, stairway openings, studded walls, and various other permanent or temporary openings used for such travel.
<b>Portable ladder</b>	means a ladder that can be readily moved or carried.
<b>Riser height</b>	means the vertical distance from the top of a tread to the top of the next higher tread or platform/landing or the distance from the top of a platform/landing to the top of the next higher tread or platform/landing.
<b>Side-step fixed ladder.</b>	See "Fixed ladder."
<b>Single-cleat ladder</b>	means a ladder consisting of a pair of side rails, connected together by cleats, rungs, or steps.
<b>Single-rail ladder</b>	means a portable ladder with rungs, cleats, or steps mounted on a single rail instead of the normal two rails used on most other ladders.
<b>Spiral stairway</b>	means a series of steps attached to a vertical pole and progressing upward in a winding fashion within a cylindrical space.

**Stair rail system** means a vertical barrier erected along the unprotected sides and edges of a stairway to prevent employees from falling to lower levels. The top surface of a stair rail system may also be a "handrail."

**Step stool (ladder type)** means a self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed to be climbed on the ladder top cap as well as all steps. The side rails may continue above the top cap.

**Through fixed ladder.** See "Fixed ladder."

**Tread depth** means the horizontal distance from front to back of a tread (excluding nosing, if any).

**Unprotected sides and edges** means any side or edge (except at entrances to points of access) of a stairway where there is no stair rail system or wall 36 inches (.9 m) or more in height, and any side or edge (except at entrances to points of access) of a stairway landing, or ladder platform where there is no wall or guardrail system 39 inches (1 m) or more in height.

## 21.3.1 Responsibilities

### 21.3.2 Project Management shall:

- Assign the task of constructing job made ladders to a Competent Person and ensure he/she is adequately trained;
- Ensure job built ladders are constructed according to this program;
- Ensure ladders, stairways and access areas are used according to this program;
- Develop an access plan according to the requirements set out in this program; and
- Have employees trained by a competent person.

### 21.3.3 Competent Person shall:

- Train employees according to the requirements of this program.

### 21.3.4 Employees shall:

- Use ladders, stairways and access routes according to this program; and
- Construct job-made ladders, when assigned to do so, according to requirements of this program.

## 21.4 Ladders

### 21.4.1 General requirements:

- A ladder must be provided for workers where there is a break in access elevation of 19 inches or more where there is no ramp, runway, sloped embankment, or personnel hoist provided;
- When there is only one point of access between levels, it must be kept clear to permit free passage by workers;
- All fall protection systems must be installed before employees begin work that requires them to use ladders;
- A double-cleated ladder or two or more ladders must be provided when ladders are the only means of access for 25 or more employees, or when a ladder serves simultaneous two-way traffic;
- Manufactured ladders are not to be modified without manufacturer's consent;
- Ladder rungs, cleats and steps must be parallel, level and uniformly spaced;
- Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use;
- During pit excavations, a job-built ladder will be used and built to accommodate the adding of additional rungs as the excavation goes deeper;
- If splicing is necessary, a Competent Person shall design the splice;
- A metal spreader or locking device must be provided on each stepladder to hold the front and back sections in an open position during use;

- Two or more separate ladders used to reach an elevated work area must be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders;
- Wooden ladders shall not be coated with any opaque covering, except for identification or warning labels which may be placed only on one face of a side rail;
- Skanska Kiewit prohibits the use of metal ladders on all job sites;
- Ladders shall not be used in a horizontal position for use as platforms, runways or scaffolds;
- Rungs and steps of portable fiberglass ladders must be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping;
- The minimum clear distance between side rails for a all portable ladders is 11-½ inches;
- Stepladders may not be used in any configuration other than completely open, locked in place and sitting on firm, level ground;
- Stepladders may not be used in the closed position when leaning against an object; and
- ANSI standard prohibits use of ladders for elevations greater than 30'.

## 21.4.2 Load Capacities:

- Portable Ladders:
  - Self-supporting portable ladders and non-supporting portable ladders must be capable of supporting at least four times the maximum intended load, except Type 1A (Extra Heavy Duty), which must sustain 3.3 times the maximum intended load.
- Fixed Ladders:
  - Fixed ladders must support at least two loads of 250 pounds between any two consecutive attachments, plus anticipated loads caused by ice build-up, wind, rigging and impact loads; and
  - Each rung shall be capable of supporting a single concentrated load of 250 pounds applied in the middle of the rung.

## 21.5 Job-Made Ladders

### 21.5.1 General:

- A Competent Person who has been designated by the job superintendent will build job-made ladders.

### 21.5.2 Single-Cleat Ladder:

- For use by 24 or fewer employees, shall not exceed 30 feet in length;
- Width shall be 15 to 20 inches at the top, side rails shall be parallel or flared top to bottom not more than ¼ inch for each two feet of length; and
- 2 x 4 inch lumber shall be used for side rails up to 16 feet long; 2 x 6 inch lumber shall be used for ladders 16 to 30 feet long.

### 21.5.3 Double-Cleat Ladder:

- For use by 25 or more employees or for two-way traffic; shall not exceed 24 feet in length; and
- Side and middle rails shall be 2 x 4 inch lumber up to 12 feet in length; 2 x 6 inch lumber from 12 to 24 feet in length.
- Cleats:
  - Shall be set into the edges of the side rails ½ inch, or have filler blocks placed between them;
  - Shall be secured with three (3) 10d common wire nails (or equivalent). Double headed nails will not be used;
  - Shall be spaced 12 inches top to top; and
  - When using ¾ inch thick cleats, the width shall be determined by the length of the cleat as shown below:

Length of Cleat (inches)	Width (inches)	
Up to and including 20"	3 ½	
Over 10" and up to and including 30"	3 ¾	
Wood Materials Acceptable for ¾" Thick Cleats		
Oregon Ash	Hackberry	Red Oak
Pumpkin Ash	Hickory	White Oak
White Ash	Holly	Pecan
Beach	Western Larch	Persimmon
Birch	Locust	Southern Yellow Pine
Rock Elm	Hard Maple	Tamarack
Soft Elm	Red Maple	

## 21.5.4 Fixed Ladder Requirements

- Design:
  - Fixed ladders are those placed at 90° angle (vertically). Typical applications are utility towers, stacks, and buildings;
  - There shall be a 7" clearance between the ladder rung and any obstruction behind the ladder to allow for proper footing;
  - There shall be 30" of clearance between the centerline of the fixed ladder and any obstruction on the climbing side of the ladder. If an obstruction is encountered the tolerance can be reduced to 24", provided that a deflection device is installed to guide employees around the obstruction;
  - When stepping from a fixed ladder onto a ladder, the step-across distance will be between 7" – 12". If the distance is greater than 12", a platform must be installed to provide safe access; and
  - Fixed ladders shall be provided with cages, wells, ladder safety devices or self-retracting lifeline where the length of climb is less than 24' but the top of the ladder is at a distance greater than 24' above lower levels.

## 21.5.5 Ladder Safety Devices:

Where the total length of the climb equals or exceeds 24', fixed ladders shall be equipped with one of the following:

- Self-retracting lifelines (SRLs), and rest platforms at intervals not to exceed 150’;
- A cage or well, and multiple ladder sections not to exceed 50’ in length; and
- Ladder sections shall be offset from adjacent sections, and landing platforms shall be provided at maximum intervals of 50’.
- Cages will be clean of projections on the inside of the cage;
- The bottom of a cage will be at a level 7-8’ above the point of access or landing;
- The top of the cage will be a minimum of 42” above the top of the platform;
- Ladder safety climb devices shall be capable of withstanding an 18’ drop of a 500 pound weight;
- Ladder safety climb devices shall permit the employee to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing;
- Ladder safety climb devices shall be activated within 2 feet after a fall occurs;
- The connection between the ladder safety climb device and the point of attachment to the harness shall not exceed 9” in length; and
- A qualified person will inspect all existing fixed ladders provided by the owner prior to use.

## 21.6 Ladder Safety Practices

### 21.6.1 Set-up and use

- When job built ladders are used to access an upper landing, the side rails must extend at least three (3) feet above the upper landing so an employee can walk through the ladder by gripping the side rails while stepping onto the landing;
- When an extension is not possible, the ladder must be secured at the top to a rigid support that will not deflect and a grasping device, such as a grab rail, will be provided to assist employees in accessing the ladder;
- The grasping device must be close enough for an employee to reach without stooping or stretching;
- Under no circumstance may the extension cause the ladder to deflect under a load or slip off its support;
- Non-self supporting ladders must be angled so that the horizontal distance from the top support to the toe of the ladder is approximately one-quarter the working length of the ladder;
- Ladders must be maintained free of oil, grease, and other slipping hazards;
- Ladders must not be loaded beyond the maximum intended load or beyond the manufacturer’s rated capacity;
- Ladders must be used only for the purpose for which they were designed;
- Ladders must be used only on stable and level surfaces unless secured to prevent accidental displacement;
- They must not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement;

- Slip-resistant feet must not be used as a substitute for care in placing, lashing or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that may become slippery;
- Ladders placed in passageways, doorways or driveways, must be barricaded to keep the activities or traffic away from the ladder;
- The area around the top and bottom of ladders must be kept clear of debris and obstructions that would present a tripping hazard or otherwise obstruct employees ascending or descending the ladder;
- The top of a non-self supporting ladder must be placed with the two rails supported equally unless it is equipped with a single support attachment;
- Ladders must not be moved, shifted, or extended while occupied;
- The top or top step of a stepladder must not be used as a work platform;
- Cross-bracing on the rear section of stepladders must not be used for climbing unless the ladders are designed for and provided with steps for climbing on both front and rear sections;
- Single-rail ladders must not be used; and
- Ladders shall be tied, blocked or otherwise secured to prevent displacement.

#### **21.6.2 Housekeeping:**

- Electrical cords, air hoses, welding leads, and other obstructions, will not impede access at the top or bottom of access;
- Should the ladder be located in an area susceptible to mud, water, or snow, it will be inspected prior to use and relocated as needed;
- In areas where muddy conditions are present, crushed stone and/or grating will be located at the bottom to prevent slipping while climbing; and
- Whenever a worker in a muddy area requires continuous access or conditions warrant, miner boots should be provided to the workers.

#### **24.4.3 Ladder Inspection and Repair:**

- A Competent Person shall inspect ladders each shift for visible defects and after any situation that may have affected their safe use;
- Portable and fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, must be withdrawn from service by either immediately marking the ladder in a manner that readily identifies it as defective, or tagging it with “Do Not Use” or similar notices;
- A ladder can also be removed from service by blocking it with plywood or other attachment that spans several rungs;
- Job-built ladder repairs MUST restore the ladder to a condition meeting its original design criteria before the ladder is returned to service;
- Laddertag ® system shall be used for all wooden and job-made ladders. Inspections must be documented on tags a minimum of once per week; and
- No repairs may be made to manufactured ladders that require burning, welding, or other modification. It must be removed from service.

## 21.7 Stairways

### 21.7.1 Design, Construction and Maintenance:

- Stairways that are used by employees during construction work must be designed, constructed and maintained according to the following OSHA requirements:
- Stairways that will not be a permanent part of the structure on which construction work is being performed must have landings at every 12 feet or less of vertical rise;
- Each landing must measure at least 30 inches long by 22 inches wide;
- Stairs must be installed at an angle between 30 degrees and 50 degrees from horizontal;
- Riser height and tread depth must be uniform within each flight of stairs, including any foundation structure used as one or more treads of the stair. In any stairway system, variations in riser height or tread depth must not be more than ¼ inch;
- All parts of stairways must be free of hazardous objects, such as protruding nails; and
- Slippery conditions on stairways must be eliminated.

### 21.7.2 Stair Rails and Handrails:

- Stairways having four or more risers or rising more than 30 inches, whichever is less, shall be equipped with at least one handrail and one stair rail along each unprotected side or edge;
- A standard guardrail shall consist of top rail, mid-rail or equivalent protection and post, and shall have a vertical height within the range of 39 inches to 45 inches from the support surface of the top rail to the floor, platform, runway, or ramp. (The permissible tolerance on height dimensions is one inch);
- Design and construction specification shall be as follows:

- Stair rails must be at least 36 inches high, handrails shall be between 30 and 37 inches;
- When the top edge of a stair rail also serves as a handrail, its height cannot be more than 37 inches nor less than 36 inches;
- For all such height provisions, measure from the support surface of the stair rail to the surface of the tread in line with the face of the riser at the forward edge of the tread;
- Stair rails must include mid-rails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members between the top rail and the stair steps; and
- Mid-rails must be located halfway between the top edge of the stair rail and the stair steps. Screens or mesh must be extended from the top rail to the stair step and along the entire opening between top rail supports. Intermediate vertical members and other equivalent structural members must be not more than 19 inches apart.
- Handrails and the top stair rail must withstand a force of at least 200 pounds applied within two (2) inches of the top edge, in any downward or outward direction;
- Handrails that will not be a permanent part of a structure must have a minimum clearance of three (3) inches between the handrail and walls, stair rail and other objects;
- Additional measures for safeguarding employees include:
  - Surfacing handrails and stair rails to prevent injury from punctures or lacerations and from snagging clothes;
  - Hand holds for grasping to avoid falling;
  - Construction that does not create a projection hazard; and
  - Guardrail protection of stair sides and landing.
- Construction of Guardrails
  - In wooden construction, the posts must be at least 2 x 4 inch nominal material spaced not to exceed six (6) feet, top rails must be smooth with rounded corners and not less than 2 x 4 inch nominal material;
  - Single mid-rails may not be less than 2 x 4 inch nominal material and must be installed on the contact side of the guardrail;
  - Where toe boards are required, they shall be constructed of wood, concrete, metal or other suitable material;
  - The top of the toe board shall not be less than 3½ inches above the platform, walkway, or other working level and the bottom clearance shall not exceed ¼ inch; and
  - All guardrails, connections and anchorage, shall be designed for a live load of 200 pounds per linear foot applied either horizontally or vertically downward at the top rail.

## 21.8 Access Program

### 21.8.1 General:

- A Competent Person will design all access into or onto the referenced access areas;
- The access plan will be reviewed and approved by the Job Superintendent or Project Manager prior to implementation; and
- Access into or onto areas greater than 24 feet above or below ground will require approval of the Project Executive.

## 21.8.2 Access Areas:

- Caissons/cofferdams;
- Pipe Jacking Pits;
- Platforms – permanent or temporary;
- Roof or Mezzanines;
- Cut and cover – prior to and during concrete work;
- Pits in buildings;
- Large manholes / catch basins;
- Barge access (to, from, and into); and
- Tunnels and shafts.

## 21.8.3 Training

- General:
  - Training will be conducted by a Competent Person; and
  - Projects will provide training to employees who use ladders, stairways and access routes as necessary through means of Construction Plans, New Hire Orientation and Tool Box Talk meetings.
- Topics:
  - The components of this program;
  - Recognition of hazards associated with ladders, stairways and access routes;
  - Minimization of hazards associated with ladders, stairways and access routes; and
  - Any of the following as applicable:

21.8.3...1 *Nature of fall hazards in the work area;*

21.8.3...2 *The correct procedures for erecting, maintaining and disassembling fall protection systems to be used;*

21.8.3...3 *The proper construction, use, placement and care in handling of all stairways and ladders; and*

21.8.3...4 *The maximum intended load-carrying capacities of ladders used.*

## 22 LEAD

### 22.1 Purpose

The purpose of this program is to protect workers, the public and the environment from the hazards associated with lead exposures produced by our work operations. This program is designed to minimize the risk of

overexposure to lead and subsequent lead poisoning. Lead poisoning is a serious health hazard that can severely and permanently damage a person's blood-forming, urinary, reproductive and nervous systems.

## 22.2 Applicable Regulations

[OSHA 29 CFR 1926.62](#)

[OSHA 29 CFR 1010.134](#)

### 22.2.1 Responsibilities

#### 22.2.2 Project Management shall:

- Be required to attend a one day supervisory lead safety training course;
- Assess operations and project conditions by which employees or the general public may be exposed to lead;
- Institute engineering and work practice controls whenever feasible to reduce employee exposure to lead below  $30\mu\text{g}/\text{m}^3$ ;
- Provide all necessary Personal Protective Equipment (PPE), respirators, hygiene facilities, etc. to employees performing operations with lead exposure;
- Provide training for employees performing operations involving lead exposure;
- Ensure all employees working with lead take part in the project's medical surveillance program if exposed to airborne concentrations of lead greater than the action level ( $30\mu\text{g}/\text{m}^3$ ) for greater than 30 days in a 12 month period; and
- Maintain all employee medical surveillance records and lead monitoring records.

#### 22.2.3 Employee shall:

- Take part in lead safety training prior to taking part in any operation involving lead exposure;
- Comply with procedures or work plans established by their supervisors for working with lead exposures;
- Use all personal protective equipment issued to them for use when working with lead exposures; and
- Take part in the project's medical surveillance program if exposed to airborne concentrations of lead greater than the action level ( $30\mu\text{g}/\text{m}^3$ ) for greater than 30 days in a 12 month period.

#### 22.2.4 Exposure Assessment

##### Initial Determination:

- Before construction begins, each project will determine whether there is any risk of employee exposure to lead;
- Owner specifications will be reviewed to determine if the identification of lead is present on the project. Additionally, a survey will be completed to see if the Owner did not identify any work that may involve lead; and
- If the initial determination for lead or material suspected of containing lead is positive, the project will collect bulk samples and send them to a laboratory for determination of the lead content, so that employees can be properly protected before commencing work operations.
- Sources of Lead which produce potential Lead exposures:
  - Demolition or salvage of structures where lead or materials containing lead are present;
  - Removal or encapsulation of materials containing lead;
  - New construction, alteration, repair or renovation of structures, substrates, or portions that contain lead, or materials containing lead;
  - Installation of products containing lead;
  - Lead contamination / emergency cleanup;
  - Transportation, disposal, storage or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- Maintenance operations associated with any of the above.

## 22.2.5 Exposure Monitoring

If the presence of lead has been identified, the project will collect personal air samples to establish baseline readings. Samples will be representative of a full shift including at least one (1) sample for each job classification in each work area for either each shift, or, preferably the shift with the highest potential exposure level. These samples must be representative of the monitored employee's regular daily exposure to lead.

Follow-up air monitoring shall be performed as listed below:

- If baseline sampling results demonstrate that the employee is below the action level of  $30 \mu\text{g}/\text{m}^3$  further air monitoring is not required. If a change of equipment, process, control, personnel or a new task has been initiated that may result in exposure to lead at or above the action level, then additional monitoring will be conducted;
- If baseline sampling results demonstrate exposure is at or above  $30 \mu\text{g}/\text{m}^3$ , then two (2) samples, taken at least seven (7) days apart, will be required at least every 6 months until two (2) consecutive samples demonstrate the exposure is below the action level;

- If baseline sampling results demonstrate exposure is at or above  $50 \mu\text{g}/\text{m}^3$ , then two (2) samples, taken at least seven (7) days apart, will be required at least every 3 months until two (2) consecutive samples demonstrate the exposure is below the PEL. Consideration will be taken to the levels of the two (2) consecutive samples. If results are below the PEL, but above the action level, sampling will resume as per the paragraph above. If results are below the action level, then sampling will be conducted as per the first paragraph;
- Whenever an employee complains of symptoms that may be caused by exposure to lead.

## 22.2.6 Recordkeeping and Notification Requirements:

- Baseline and additional sampling results will be recorded and stored at the jobsite and at the B.U. / Regional Safety and Environmental Department;
- Air Sampling Worksheets will be kept with all sampling results as per the Respiratory Program; and
- Within 5 days of receipt of sample results, employees will be notified by letter (see Lead Attachment), of the results of exposure. These letters will either be given to the employee by hand, if at the jobsite, or by certified letter delivery. If the employee receives the letter by hand, he/she will be required to sign off on the air monitoring results to show that they received the notification. The Shop Steward should also sign off on any air monitoring results.

## 22.2.7 Permissible Exposure Limit (PEL):

- No one shall be exposed to lead concentrations greater than  $50 \mu\text{g}/\text{m}^3$ , averaged over an eight-hour day without proper protection; and
- If exposure to lead exceeds eight hours per day, then the maximum time weighted average (TWA) exposure limit in  $\mu\text{g}/\text{m}^3$  of air = 400 divided by hours of exposure during that day:
  - 1)  $400 / 08 = 50 \mu\text{g}/\text{m}^3$  of air for an 8-hour work shift;
  - 2)  $400 / 09 = 44.4 \mu\text{g}/\text{m}^3$  of air for an 9-hour work shift;
  - 3)  $400 / 10 = 40 \mu\text{g}/\text{m}^3$  of air for a 10-hour work shift;
  - 4)  $400 / 11 = 36.3 \mu\text{g}/\text{m}^3$  of air for an 11-hour work shift; and
  - 5)  $400 / 12 = 33.3 \mu\text{g}/\text{m}^3$  of air for a 12-hour work shift.

## 22.2.8 Methods of Compliance

### Engineering and Work-Practice Controls:

- Engineering and work practice controls, including administrative controls, shall be used to reduce and maintain employee exposure to less than  $50 \mu\text{g}/\text{m}^3$ ;
- Where engineering and work practice controls are not able to reduce the exposure to under  $50 \mu\text{g}/\text{m}^3$ , respiratory protection shall be worn to supplement the engineering and work practice controls;

- If work assignment rotation is used as an administrative control to reduce the TWA exposure to lead, then a job rotation schedule will be established. This schedule shall be detailed in the Construction Plan, and will include:
  - The name of each employee affected;
  - The duration and exposure levels at each job or work station where each affected employee is located; and
  - Any other information that may be useful to assess the reliability of job location in reducing exposure to lead.
- Engineering controls shall include, but not be limited to:
  - HEPA Vacuum shrouded scalers and grinders;
  - HEPA Vacuum blasters;
  - Chemical paint stripping;
  - Dust collection / ventilation;
  - Removal of paint before burning;
  - Cleaning with HEPA (High Efficiency Particulate Air) filter vacuums;
  - Utilizing wet methods to remove dust;
  - Use of long cutting torches to keep workers further away from any fumes that may be generated;
  - Use of mechanical ventilation to move fumes and dust away from employees; and
  - Positioning workers upwind or otherwise outside of visible fume or dust clouds.

### 22.2.9 Lead Program:

This written program set forth in this Health and Safety Program, shall be considered the governing compliance program. This will be further supplemented by site-specific programs, such as the Worksite Specific Respiratory Program for Lead, which details overall site controls for lead.

As per our safety, health and management system, each activity also requires individual risk assessment. This will be done in the form of construction planning. The construction plan will detail: all specific elements of the activity; engineering and administrative controls; respirator protection; etc.

Where work involving lead is subcontracted out, the Subcontractor will be responsible for providing a Site Specific Compliance Program. This program shall be approved by the Skanska Kiewit Safety and Environmental Director, prior to the commencing work

### 22.2.10 General

- Protective clothing will be provided for all employees exposed to lead in excess of 30 µg/m<sup>3</sup> of air;
- Protective clothing may include coveralls, disposable suits, gloves, hats and disposable shoe coverlets, face shields or goggles;
- This clothing shall be replaced daily unless the exposure to lead is minimal, such as when exposed to lead less than 15 minutes per day or when welding on "pre-cleaned" steel;
- Damaged protective clothing shall be replaced, as needed, to maintain effectiveness;

- Contaminated protective clothing shall be removed, at the completion of a work shift, only in the designated lead change areas. Employees are not permitted to move to other work areas, offices, trailers etc without removing affected clothing;
- Commercial Laundries that launder protective clothing or equipment shall be notified, in writing, of the potentially harmful effects of exposure to lead;
- Contaminated clothing that is to be cleaned or disposed of, and shall be kept in a closed container. Heavy-duty plastic trash bags work well inside trashcans with lids;
- Seal each bag with a tie when it becomes full. All trash cans and bags that contain contaminated clothing shall be marked with this warning – “Caution – Clothing Contaminated with Lead. Do NOT remove Lead by blowing or shaking. Dispose of Lead-contaminated wash water in accordance with local, state and federal regulations”;
- Lead must not be removed from protective clothing or equipment by blowing, shaking or any other means that could disperse lead into the air; and
- Work boots shall be vacuumed or cleaned with water before being worn off the job.

## 22.2.11 Respirators

### General:

- Respirators shall be used and worn in accordance with the Respiratory Protection section of this Health and Safety Program;
- Respirators are not considered an engineering control – they are used to provide protection while engineering controls are being implemented; and
- Respirators shall be worn at the commencement of the operation, and thereafter until air monitoring results demonstrate that engineering and administrative controls are sufficient in the control of exposure to lead.

## 22.2.12 Respirator Selection:

- Standardized respirators are as follows:
  - Negative Pressure Air Purifying Respirator may be used if the total length of the lead exposure is less than 15 minutes per day, or for up to 10 hours per day welding or cutting pre-abated steel. (In order to be considered pre-cleaned steel, all lead paint must have been removed within six (6) inches in any direction of the weld).
  - Powered Air Purifying Respirator (PAPR) – This positive pressure rubber face piece respirator has filtered air supplied to it by a battery-powered blower. It must be used when an employee is exposed to lead for more than 15 total minutes per day, except as noted above for pre-abated steel or when sandblasting. A PAPR shall also be made available to any employee who requests one.
  - Additionally, the project will provide a PAPR if an employee requests one and it adequately provides protection for the individual (Refer to Table 1 for selection).

22.2.13 Table 1. Respiratory Protection for Lead

Airborne Concentration of Lead or Condition of Use	Required Respirator *
Not in excess of 0.5 mg/m <sup>3</sup> or 500 µg/m <sup>3</sup>	Any air-purifying respirator equipped with HEPA filters. **
Not in excess of 1.25 mg/m <sup>3</sup> or 1,250 µg/m <sup>3</sup>	Any powered, air-purifying respirator equipped with HEPA filters. **
Not in excess of 2.5 mg/m <sup>3</sup> or 2,500 µg/m <sup>3</sup>	Any air-purifying full-face piece respirator equipped with HEPA filters. ** or Any powered, air-purifying respirator with a tight fitting face piece and HEPA filters. **
Not in excess of 50 mg/m <sup>3</sup> or 50,000 µg/m <sup>3</sup>	Any supplied air respirator operated in a pressure-demand or other positive-pressure mode.
Not in excess of 100 mg/m <sup>3</sup> or 100,000 µg/m <sup>3</sup>	Any supplied air respirator that has a full face piece and is operated in a pressure-demand or other positive-pressure mode.
Greater than 100 mg/m <sup>3</sup> , unknown concentration, or fire fighting.	Any self-contained breathing apparatus that has a full face piece and is a pressure-demand or other positive-pressure mode.

\* Respirators specified for high concentrations can be used at lower concentrations of lead.

\*\* An HEPA filter is at least 99.97% efficient against particles that are 0.3 micron in diameter.

## 22.2.14 Training and Respiratory Usage

- All employees on projects, where exposures higher than the action level of lead are expected, shall be notified of the existence of OSHA regulations regarding lead. A notice will be posted on the jobsite bulletin board or wherever all employees will see it; and
- All employees who will potentially be exposed to lead shall be properly trained before that exposure begins. Training shall be repeated annually and will cover the following items:
  - The content of applicable state and federal regulations;
  - A list of specific operations (burning, welding, etc.) that can result in lead exposure;
  - The purpose, proper selection, fitting, use and limitations of respirators;
  - The purpose and a description of the medical surveillance and medical removal protection programs;
  - Information on the health problems associated with excessive lead exposure. Particular emphasis should be placed on topics such as reproductive problems that lead can cause in both men and women;
  - Engineering controls and work practices that will be used to control lead exposure;
  - A warning that chelating agents should not be used to decrease blood lead levels and should only be used under the direction of a licensed physician.
- Skanska Kiewit will also make readily available to all affected employees, a copy of the regulations pertaining to lead. Videos can be used to provide some of the necessary training.
- The project's designated Respiratory Coordinator will ensure that the Respirator Program is followed and that all employee have been properly fit-tested;
- Employee representatives should be notified that facial hair may prevent a proper fit test;
- Whenever a filter respirator is selected for use, the employee will be permitted to change the filter elements whenever an increase in breathing resistance is detected. Filters do not have an expiration date or mechanical detector for signifying expiration. The only adequate means of assessing filter life is breathing resistance;
- Employees wearing respirators will be allowed to leave work areas to wash their face and respirator when necessary to prevent skin irritation;
- When respirators are chosen that require fit testing, all employees will be properly fit tested;
- Employees will fill out and sign a Lead Health and Safety Agreement upon completion of training; and
- Upon completion of training, employees will complete the self-examination.

## 22.2.10 Housekeeping

General:

- All surfaces shall be kept as free as practical of lead accumulations;
- Compressed air shall not be used for cleaning;
- Vacuuming is the preferred choice for cleaning, however, wet methods such as washing, wet sweeping, wet shoveling and wet brushing may be used when vacuuming is not practical; and
- Vacuums will be equipped with HEPA filters and shall be emptied in a manner that minimizes the release of lead into the air.

## 22.2.11 Hygiene Facilities and Practices

### Change Areas:

- Clean change areas to remove contaminated clothing will be provided for employees exposed above the PEL and as protection during initial monitoring;
- Change areas will be equipped with separate storage facilities for protective work clothing and equipment and for street clothes to prevent cross-contamination; and
- Employees will not be allowed to leave the job wearing any protective clothing or equipment.

### Showers:

- The project will provide shower facilities, where feasible, for use by employees whose airborne exposure to lead is above the PEL;
- OSHA area offices should be contacted to get a better definition of enforcement on showers and their feasibility;
- If a project does provide shower facilities, **use will be mandatory at the end of the work shift.** Cleaning agents and towels will be provided.

### Eating Facilities:

- Lunchroom facilities will be provided for employees exposed over the PEL;
- This facility will be as free as practicable from lead contamination;
- Before using the facilities, employees will wash their hands and face prior to eating, drinking or smoking;
- Employees should not enter the facility with their protective clothing unless the surface lead dust has been removed by vacuuming or similar means; and
- Periodic wipe testing should be considered to prove the effectiveness of the program.

### Hand Washing Facilities:

- The project will provide adequate hand washing facilities for use by employees exposed to lead;
- When showers are not provided, the project will assure all employees wash their hands and face at each break and the end of the work shift; and
- Portable hand wash facilities with filtration devices should be considered.

**Warning Signs:**

- The following warning signs shall be posted in each lead exposure areas above the PEL:

***WARNING - HAZARD***  
***LEAD WORK AREA***  
**NO SMOKING, EATING OR DRINKING**

## 22.2.12 Medical Surveillance

**Initial Testing:**

- The project will conduct an initial test for Blood Lead and Zinc Protoporphyrin (ZPP) levels on all employees exposed to lead on any day in a 12 month period at or above the Action Level of 30  $\mu\text{g}/\text{m}^3$ ;
- The project will arrange for these tests as part of the pre-employment sign up procedures;
- The project should consider making only a conditional offer of employment and not put new hires in a lead environment until after the results of the initial blood leads are received. (Many medical facilities will do this at their facility and have the ability to draw blood samples on site with a minimum number of employees. This option should be considered.);
- If the duration of the lead project will be exposing employees at or above the Action Level for more than thirty (30) days a year, the project will set up a medical surveillance program. This program will be performed by, or under the supervision of, a licensed physician;
- Employees have the option of a “multiple physician review”. This enables employees to have a second physician review the initial physician’s findings, and if necessary, do additional exams and testing. The project has the right to condition its participation, including payment, based on the following employee requirements that must happen within fifteen (15) days:
  - Notify the project of the desire for a second opinion; and
  - Employee’s promptly setting up an appointment.
  - If by chance the two (2) physicians disagree, the project and employee will work together to get the physicians to resolve the matter;
  - If these two physicians do not agree, then the employee and the project will select a third physician to perform any necessary tests;
  - The third physician’s findings will be what the project will adhere to unless the project and the employee resolve the matter consistent with any of the three (3) physicians; and
  - To avoid the “Multiple Physician Review” process, it is important for the project to select a physician who is competent to evaluate lead in construction, is willing to answer the employees’ questions and concerns, and is accepted by employee representatives.

#### **Frequency of Testing:**

- If a project will last more than thirty (30) days a year, then testing will be done at least every two (2) months for the first six (6) months after the initial test. It will then be done every six (6) months thereafter;

- Blood Lead Levels vary among humans. Please see below for levels of note:
  - 25 µg/dl indicates the need for concern. State health officials require laboratories to send copies of employee reports to them for follow-up;
  - 40 µg/dl triggers the need for a full medical evaluation;
  - 50 µg/dl indicates the level at which an employee must be removed from lead exposure and receive a full medical evaluation.

**NOTE:** The project should discuss the above with the employee's physician or state regulatory agency;

- If an employee's blood level lead test indicated a blood lead level at or above 40 µg/dl, the project will continue blood tests at least every two (2) months until two (2) consecutive blood samples indicate a blood lead level below 40 µg/dl;
- If an employee's blood lead test indicates a blood lead level at or above 50 µg/dl, the project will retest two (2) weeks after the first result;
- If the retest is less than 50 µg/dl, the project will go back to bi-monthly testing. If the result is greater than 50 µg/dl on retest, the project will test as often as possible (minimum monthly), until two (2) consecutive results are less than 40 µg/dl /dl;
- Exit exams will be administered for employees leaving the project. Results should be forwarded to the home address with a request that they sign the second copy and return it to the project; and
- If an employee refuses to take an exit exam, it should be documented and, if possible, signed by the employee.

#### **Notification of Blood Test Results:**

- Within five (5) working days after the receipt of blood test results, the project will notify each employee in writing of his or her blood lead level;
- Jobs should use **Appendix A** as sample forms that should be sent to the employee;
- Employees shall be asked to sign a copy of the blood lead test for recordkeeping purposes and to ensure the results were received;
- The project will notify each employee whose blood lead level exceeds 50 µg/dl that OSHA requires that person to be removed from the lead area; and
- If no work is available where the lead is exposure below 30 µg/m<sup>3</sup>, the employee will be eligible for benefits under "Medical Removal Protection.

#### **Medical Examination and Consultations:**

- The project will make available to employees exposed at or above the Action Level, exams and consultation based on the following schedule:
  - At least annually for each employee for whom a blood test conducted at any time during the preceding twelve (12) months indicated a blood lead level at or above 40 µg/dl.
  - As soon as possible, if the employee(s) indicate that they have developed signs or symptoms commonly associated with lead intoxication, that they desire medical advice concerning the effect of current or past exposure to lead and their ability to have a healthy child, that she is pregnant, or that they have demonstrated difficulty in breathing during a respirator fit test or during use;
  - As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining impairment to health, or otherwise limited pursuant to a final medical determination.
- These examinations and consultations will include a variety of tests depending on the situation or symptoms. The projects will refer to the standard under 1926.62(j) (ii) for more detailed information;
- Prior to a project's implementation of medical surveillance, medical examination and consultations, it is necessary to provide the physician with the following information:
  - A copy of OSHA regulation 1926.62 for lead, including all Appendices;
  - A description of the affected employee's duties as they relate to the employee's exposure;
  - The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);
  - A description of any personal protective equipment used or to be used;
  - Prior blood-lead determinations; and
  - All prior written medical opinions concerning the employees in the employer's possession or control.
- The project will provide the same information to a second or third physician conducting a medical examination or consultation upon request either by the physicians, or by the employee.

## **Written Medical Opinions:**

- The Project will provide copies of medical opinions to the employee. This information should contain only the following:
- The physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of material impairment of the employee's health from exposure to lead;
- Any recommended special protective measures to be provided to the employee, or limitations to be placed upon the employee's exposure to lead;
- Any recommended limitation upon the employee's use of respirators, including a determination as to whether the employee can wear a powered air purifying respirator if a physician determines that the employee cannot wear a negative pressure respirator; and
- The results of the blood lead determination.

The project is responsible for instructing the physician not to include in his opinion any diagnosis unrelated to lead exposure. In addition, the physician will only advise the employee of any medical condition, occupational or non-occupational, which dictates further medical examination or treatment; and

If a physician suggests therapeutic or diagnostic treatment, the project will assure that it be done under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring and that the employee is notified, in writing, prior to its occurrence.

## **Medical Removal Protection:**

- The project will remove an employee from work having an exposure of lead at or above the action level when the blood lead level is at or above 50 ug/dl. The employee can be assigned to other tasks on the project where lead exposure is below the 30 ug/m<sup>3</sup> action level. The employee may also be removed if the physician believes the employee has a medical condition which places the employee at risk. If the physician recommends special protective measures or limitations on the employee's exposure to lead, the project will implement the recommendation;
- An employee may return to his/her former position when the following occurs:
  - For an employee removed due to a blood lead level of above 50 µg/dl when two (2) consecutive blood sampling tests indicate that the employee's blood lead level is at or below 40 µg/dl; and
  - For an employee removed due to a physician's recommendation when the employee no longer has a detectable medical condition which places the employee at increased risk.
- The project will provide up to eighteen (18) months of removal protection benefits on each occasion that an employee is removed from exposure to lead. The project will provide these benefits as long as the project from which the employee was removed continues. These benefits will be the total normal earnings, including seniority and other employment rights and benefits, and their risk to their former job status;
- The project can condition these benefits upon their participation in follow-up medical surveillance; and
- If an employee files a Workers' Compensation claim, the project will refer to the OSHA Standard 1926.62 for specific details.

## LEAD – PERSONAL AIR SAMPLING RESULTS (SAMPLE LETTER)

Date

Dear **Name**,

Attached are two (2) copies of the personal air sampling results, which were completed on <<Date>> at <<Job Site>>. Please sign both copies and return one to Laura Villani. The duplicate copy is for your records. These results show:

- The airborne lead exposure was below the OSHA Action Level of 30µg/m<sup>3</sup>. Our project's designated competent person, <<insert name of Safety Engineer>>, will discuss with you the information contained in this report and to let you know what additional actions the company is taking to protect your health.

or

The airborne lead exposure was above the OSHA Action Level of  $30\mu\text{g}/\text{m}^3$ , but below the OSHA Permissible Exposure Limit of  $50\mu\text{g}/\text{m}^3$ . Our project's designated competent person, <<insert name of Safety Engineer>>, will discuss with you the information contained in this report and to let you know what additional actions the company is taking to protect your health.

or

The airborne lead exposure was above the OSHA Permissible Exposure Limit of  $50\mu\text{g}/\text{m}^3$ . Our project's designated competent person, <<insert name of Safety Engineer>>, will discuss with you the information contained in this report and to let you know what additional actions the company is taking to protect your health.

Sincerely,

Nick Bishop  
Environmental/IH Director

Employee File

## 23 LOCKOUT/TAGOUT (GENERAL)

### 23.1 Applicable Regulations

[OSHA 29 CFR 1910.147](#)

[OSHA 29 CFR 1926.417](#)

### 23.2 Definitions applicable to this policy

**Affected Employee(s):** Employee(s) whose job requires them to operate or use equipment or systems on which construction, servicing or maintenance is being performed under lockout/tagout or whose job requires them to work in an area in which such servicing or maintenance is being performed. This is to include vendors, sub tiered contractors, client representatives, etc.

**Authorized Employee:** A person who locks and tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment in order to perform servicing or maintenance on that machine or equipment. An authorized employee becomes

an affected employee when those employees' duties include performing construction, servicing or maintenance covered under a clearance.

**Clearance Holder:** An individual designated by the Qualified Person or Project Electrical or Project Trade Superintendent as being trained and able to request a clearance. These individuals must be trained and understand the requirements of this procedure. A clearance holder may also be a Qualified Person. Although the clearance holder (craft supervisor) is an authorized employee, this person shall not perform the duties of a qualified employee.

**Competent Person:** A person who has acquired through training, qualification or experience, or a combination of them, the knowledge and skills to carry out a particular task. A qualified person is to ensure these skills and training are up to date for each individualized competent person and will also be required to oversee any relevant LOTO operations the competent person is performing.

**Line Blanking (or Blinding):** The absolute closure of a pipe, line or duct by fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

**Qualified Person:** Project Electrical or Project Trade Superintendent to authorize all clearance requests. This person locks or implements a lockout/tagout system procedure on equipment or systems to perform the construction, servicing or maintenance on that equipment or system. Qualified person(s) duties also include performing maintenance or service on a machine or equipment, which must be, locked out/tagout, another qualified person must verify the clearance. A Register of Qualified Employees can be found on Skanska Kiewit's CGC training database and will be kept near the jobsite Lockout / Tagout office or station box.

## 23.3 Responsibilities:

### 23.3.1 Affected Employee shall:

- Promptly notify supervisor on completion of work.
- The supervisor is to sign off on Exhibit 4 as the assigned work has been completed and the work area secured from tools and material that may present a hazard. All affected employees shall be notified.

### 23.3.2 Project Electrical or Project Trade Superintendent or Qualified Person shall:

- Fully understand the work to be done and the protection required.
- Provide such protection.
- Make a record of the protected transaction.
- Notify the clearance holder when protection is in effect.
- Remove the attached locks and tags, which have been used in the transaction.
- A list will be posted in the control room and in the site lockout/tagout log of those who are Qualified persons.

### 23.3.3 Clearance Holder (Craft Supervisor) shall:

- Notify the Qualified Person of the Lockout Tagout.
- Make certain that adequate protection is provided
- Maintain Exhibit 2 being responsible for all affected personnel.
- Ensure that the clearance holder (craft supervisor) signs off and a new craft supervisor signs on the Identification Form (Exhibit 2) prior to leaving the site when a clearance is continued beyond an initial shift.
- Be responsible for promptly releasing his/her clearance via Exhibit 4 after ensuring that the work is complete and that everyone affected by the clearance is clear of the work area. Exhibit 4 will be turned in to the Qualified Person when releasing the clearance.

## 23.4 Lockout – General:

- All energy sources of power-driven equipment will be locked and/or tagged in the off position when maintenance is being performed;
- Energy sources that must be locked out include but are not limited to electric, mechanic, hydraulic or pneumatic;
- It is the responsibility of the Qualified Person to ensure that the proper lockout/tagout procedures are followed;
- It is the responsibility of the Qualified Person and the Clearance Holder performing the maintenance to ensure that all equipment is properly locked and tagged out before starting any maintenance work;

- Both the Qualified Person and the Clearance Holder must check the equipment before restarting it to make sure it is safe to operate;
- Skanska Kiewit mandates that both lockout and tagout devices be used during equipment maintenance;
- All lockout devices must be:
  - Durable to withstand wear;
  - Substantial so they won't come off easily;
  - Capable of identifying the person who applied it; and
  - Designed for a single use application.
- Available lockout devices include:
  - A disconnect switch, circuit breaker, valve, or other energy isolating mechanism that is placed in the safe on or off position;
  - A device placed over the energy isolating mechanism to hold it in the safe position; and
  - A lock attached to the 'on' switch to ensure equipment cannot be energized without removal of the lock.

## 23.5 Tagout – General:

- Tagout refers to a sign or tag posted on a switch that physically cannot be locked out; (See below for the tags to be used on all Skanska Kiewit Jobsites, [Exhibit 1]).
- Once the switch has been placed in the “off” position, the tag is placed over the switch and warns other employees that the equipment is under maintenance and should not be started;
- This tag must also identify the person who applied it. In a tagout, the energy-isolating device is placed in the safe position and a written warning is attached to it;
- All Tagout materials must be:
  - Durable to withstand wear
  - Substantial so they will not come off easily;
  - Capable of identifying the person who applied it; and
  - Designed for a single use application.
- A lockout or tagout is applied whenever maintenance is performed around any machine where injury could occur from:
  - Unexpected startup of the equipment; and
  - Release of stored energy.

## 23.6 Lockout/Tagout situations:

- Two situations are most likely to need lockout/tagout:
  - When a guard or other safety device must be removed; and

- When any part of the body is placed where moving machinery could catch it.
- Some jobs for which lockout/tagout should be used are:
  - Repairing electrical circuits;
  - Cleaning or oiling machinery with moving parts; and
  - Clearing jammed mechanisms.

## 26.3 Construction Lockout/Tagout Procedures

### General:

- When a piece of equipment or machinery is to be inspected, cleaned, repaired or worked on by an individual, that piece of equipment must be immobilized by the individual prior to commencing work on the equipment;
- Skanska Kiewit's "Do Not Start" tags and locks must be placed at the control box or main switch by the employee who will perform the maintenance or repair in accordance with the following procedures; and all trained employees are required to identify their names, supervisor and contact number(s) on the Skanska Kiewit tag.
- An immediate Qualified Person must approve any deviations from these procedures.

### 23.6.2 Detailed Information

The Following requirements will establish a uniform practice to be followed from isolating all potentially hazardous energy and locking out and tagging.

**Note:** This lockout procedure is to be covered during initial orientation of all new hires and periodically in the weekly safety meetings.

- The Project Electrical or Project Trade Superintendent shall be responsible for authorization of the clearance procedure. He/she may assign a designated person (Qualified Person) to install the locks and tags
- Only locks and tags on the isolation points that are capable of being locked out will be permitted. Tags, in lieu of locks are prohibited; Isolation points that cannot be locked out must be mechanically blocked and identified by a tag. (Only Skanska Kiewit tags and locks shall be used)
- Every discipline that is required to work on the equipment will be listed on the clearance form and will verify that locks and tags are properly placed.
- A Skanska Kiewit Lockout / Tagout Form (Exhibit 2) shall be filled out by the Qualified Person and the requester (Clearance Holder) by reviewing the proposed clearance. The supervisor of the craft working on the equipment shall be listed on the form. Once the clearance request is entered into the clearance log, the qualified person proceeds to secure the equipment and hand the locks and tags.
- For locks(s), personnel working under craft supervisors shall sign the clearance list for each discipline, prior to handing the locks(s) and tag(s).
- Only coded locks specifically designated for the lockout procedure shall be used. Each lock shall be individually keyed. These locks may be numbered sequentially and shall be maintained in the lock and key log.
  
- Switchgear, valves and controls shall, in most cases, never be locked in the ON or OPEN position. Exceptions to this can only be authorized by the site Construction Manager and Commissioning Manager.
- After clearance has been verified, no device shall be operated with a lock attached regardless of the circumstances.
- Personnel working under (Clearance Holder) craft supervisors must sign Exhibit 2 list prior to working on their assigned task.
- Under no circumstances shall the Qualified Person's locks and tags be removed from an isolated device until all Craft Supervisor(s) have signed the release and craft personnel have signed Exhibit 2 list (as applicable).

## **WARNING**

**ANY PERSON WHO OPERATES A VALVE, SWITCH, OR DEVICE TO WHICH  
A LOCK IS ATTACHED WILL BE SUBJECT TO IMMEDIATE TERMINATION.**

## 23.7 Procedure for Lock out Tag out

This procedure for isolating equipment or systems that are to be worked on shall cover the following items and actions and shall be done in the following sequence

### 23.7.1 Preparation for Shutdown

- The Project Electrical or Project Trade Superintendent (Qualified Person) shall authorize the shutdown of the equipment after it has been established that:
  - The Qualified Person requesting the shutdown has a complete understanding of the equipment or system to be cleared;
  - The Qualified Person has knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled and the method to control the energy; and
  - A survey was made to locate and identify all isolating devices to be sure which breaker, valve, switch or other energy isolating devices are required to lock out the equipment or system. All items to be isolated will be listed on the clearance form under "devices to be isolated."

### 23.7.2 Shutdown

- After PREPARATION FOR SHUTDOWN items have been satisfied, the Qualified Person will review the Lockout / Tagout identification Form for completeness and accuracy.

### 23.7.3 Isolation

- To isolate the equipment or system from its energy source, the following actions shall be taken in the following sequence:

- The Qualified Person lists all devices that must be locked out on the clearance form.
- The Qualified Person shall self perform or assign another qualified person to physically operate all necessary devices to isolate the equipment or system (e.g. de-energize, drain, vent, close valves, etc.)

#### 23.7.4 Lockout

- To lockout the equipment, the following actions shall be taken in the following sequences:
  - The Qualified Person shall attach a locking device with lock and Skanska Kiewit's "Do Not Operate" tag. All affected craft supervisors shall verify the locks and tags have been hung.
  - The Qualified Person & Clearance Holder shall initial the clearance form to verify the isolation is complete and that the key(s) will be maintained in or near the Lockout office.
  - The key lock boxes or rods for the isolation lock(s) will be maintained in at a predetermined, secure location. The Qualified person shall drop his key into the lock box. The Clearance Holder (craft supervisor) shall add his lock to the lock box.

#### 23.7.5 Verification of Isolation

- Before starting work on the equipment or system, the following actions shall be taken in the following sequence:
  - After ensuring that no personnel are exposed and having checked on all disconnected energy sources, start the equipment or system.
  - Return all controls to the "OFF" position after the test.
  - The equipment or system is now verified as safe to work on.
  - The Qualified Person shall notify the Clearance holder that the lockout procedure is complete. The Clearance Holder and Affected Employees shall then discuss the specific equipment or system to be worked on and understand all the system boundaries (i.e. location of all locks and tags).
  - The Qualified Person and Clearance holder return to the control room and sign Skanska Kiewit's Shutdown Equipment Form (Exhibit 3), signifying that the system is safe to work and isolation is complete
  - The Clearance holder (craft supervisor) informs the affected employees the system has been locked out and verified. The clearance holder drops his/her key in a separate lock box, all affected employees lock onto the box.
  - Work can now begin.

#### 23.7.6 Release from Lockout (Return to Service)

- Before lockout devices are removed and energy is restored to the equipment or system, the following procedures shall be followed and actions taken by the qualified person and shall use Skanska Kiewit's Release from Lockout Form, Exhibit 4.
- After work on the equipment or system is complete, the area shall be inspected to ensure nonessential items have been removed and equipment or system components are intact.
- The work area shall be checked to be sure that all employees have been safely positioned or removed.
- All affected employees shall be notified that the lockout devices are to be removed.
- If testing is required, see "Testing" section, below.

- The Qualified Person shall use the Identification Form, Exhibit 2 as a guide to ensuring that all isolation devices listed in the identification form are properly accounted for. The following sequence is to occur.
  - The Clearance Holder verifies that all affected persons on the clearance form have signed Exhibit 4 and show evidence of notification.
  - All Craft Supervisors who are listed on the clearance form shall return to the lock out station and sign and date the log book.
  - The Qualified Person shall remove all locks.
- Should it become necessary to have a clearance released when the clearance holder (craft supervisor) is off duty, the procedure shall be as follows:
  - The Qualified person shall contact the clearance holder (at home if necessary) and request a release of the clearance. If unable to do so, the clearance holder's supervisor shall be notified.
  - The supervisor shall check the work prior to authorizing the release. They will then sign the clearance holder's name and his/her own name on the appropriate line of the identification form.

### 23.7.7 Testing

- The following steps shall be taken to test equipment or systems under the clearance procedures
  - Notify all craft supervisors on the clearance form that the system and/or isolated components are to be test;
  - The Qualified Person along with the craft supervision will "walk down" the system to verify that component isolation/activation will not compromise the safety of personnel working in this area;
  - Each Clearance Holder and the Qualified Person will sign the test release on the clearance form;
  - Affected employees (listed on Exhibit 2) in the immediate area of the isolated test shall be notified by verbal warning, barricades, warning tape, etc, or by other appropriate means;
  - Locks will be removed on the isolated component by the Qualified Person and the test shall be completed;
  - If no further work is required, the craft supervisor will initial the clearance form, returning the device into service; and
  - If further work needs to be done on the component, the isolation devices (locks, blind, etc) will be reattached and this policy beginning from section 26.7.1 forward will be re-enacted.

### 23.7.8 Management Training and Communications

Skanska Kiewit management shall provide training to ensure that all affected employees understand the purpose and function of the Lockout/tagout policy. The training shall include the following:

- Communications
  - Each Qualified Person shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control;
  - Each Clearance Holder (craft supervisor) of the Affected Employee(s) shall be instructed in the purpose and use of clearance procedure;
  
  - All other employees who work in construction or startup operations and may be in an area where energy control procedures may be utilized shall be instructed about the procedure and about preventing any attempt to restart or re-energize equipment or systems which are locked out.
- Employee Retraining
  - Retraining shall be provided for all Clearance holders, Qualified Persons and Affected Employees whenever there is a change in their job assignments, equipment or processes that present a new hazards, or when there is a change in the safety Clearance procedure
  - Additional retraining shall also be conducted wherever a periodic inspection of the section reveals or whenever management has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures
  - Management shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee's name, dates of training and who conducted the training.
- Identification Form – Exhibit 4
  - Refer to Exhibits 1, 2, 3 and 4

### 23.7.9 Definitions on Identification Form

**Clearance to work on:** A brief description of the equipment or system to be work on.

**Authorized By:** Project Electrical or Project Trade Superintendent and/or Qualified Person. This person must have a thorough understanding of the equipment or system.

**Devices to be Isolated:** List in order all devices that are to be isolated and the equipment number (e.g. Feed Pump #1, Flow Control valve V-301). List lock number applied to each. Initialing by the Qualified Person after verification of construction. Exhibit form 4 shall be used for the identification process.

**Isolation Initials:** Initials of both the Qualified Person and the Craft Supervisor(s) verifying that isolation is complete and that the keys to the locking devices are in/on the lock rod or lock box.

**Component Test Release Initials:** Initials of the Qualified Person, Craft Supervisor, and Affected Employees activity listed on the clearance form verifying that test on an isolated component(s) within an already isolated system does not compromise the safety of personnel working under this clearance form.

**Devices Returned to Service (Release from Lockout):** The Qualified Person and Craft Supervisor shall initial this column after the qualified person has removed the locks and tags.

- Verifications of Isolation:** After an attempt is made to start the equipment or system the equipment or system does not start. Signed by the Qualified Person.
- Craft Supervisor:** Craft Supervisor(s) whose personnel will be required to work on the equipment or system.
- Work to be performed:** Brief description of work to be performed (e.g. align feed water pump, pack condensate pump discharge valve)
- Issuing:** To be dated and timed by the Qualified Person.
- Released By:** Signed by the Craft Supervisor(s) after his/her personnel have completed assigned work.
- Releasing:** Date and timed by the Craft Supervisor.
- Test Required:** The Qualified Person is to select whether a test of the equipment or system is necessary. If yes, sign the Tested By line.
- Test By:** Name of the qualified person who performed or overviewed the specific test.
- Test Start/Complete:** The Qualified Person is to fill in the time and date that the test is started and completed.
- Released From Test:** Once the test is completed the Qualified Person signs in this location.
- Additional Clearance Required:** The Qualified Person is to check yes or no. If yes, a new clearance will be initiated.
- All Locks Returned:** Verified and signed by the Qualified Person when all locks are returned and accounted for.
- All Tags Destroyed:** Verified and signed by the Qualified Person.
- Clearance Released:** Signed by the Qualified Person.

## 23.7.10 The following lockout procedures are mandatory and shall be enforced without exception:

- Skanska Kiewit shall provide the trained employee one lock for each piece of equipment being locked out and shall have only one key for each. Each employee must lockout at the disconnect switch and/or valve. Do not trust someone to lockout for you;
- If more than one person is working on the same piece of equipment at the same time, each person is to have a personal lock on the lockout device. If the primary device will not accommodate each person's lock, multiple locking devices are to be used;
- When multiple locking devices are required, the shank of the multiple devices must immobilize the equipment and must not merely be attached to the shank of another lock;
- Gravity is often the 'forgotten' energy. It may be necessary to lockout/tagout energy caused by gravity;
- Where a keyed switch controls the ignition, the key will be placed in the "off" position, removed and the switch tagged with a "do not start" tag;
- If standard lockout switches are not available to immobilize the machinery, fuses should be pulled, terminals disconnected, or other standard safety procedures applicable to the individual piece of equipment should be followed. Skanska Kiewit's "do not start" tags placed at the starter button or switch;
- In the event that tagging and removing the ignition key are not considered adequate protection, the battery cable that is connected to the starter shall be removed at the battery end and tagged with a "do not start" tag;
- All other necessary precautions, such as opening or closing valves, changing valves, tagging and locking valves, installing blind flanges, etc., will be performed prior to starting the job;
- No employee will remove another person's lock, lockout device or "do not start" tag. Before leaving the job for another assignment, at shift end or upon completion of that job, each employee will personally remove his/her own lock; and
  
- If an employee fails to remove a lock, that employee will be required to return to remove it in person. If the individual is not available, the lock will not be removed until the foreman in charge has made a thorough check of the equipment. The foreman will verify and make certain the equipment is safe to operate.

## 23.7.11 Medium and High Voltage Lockout Procedures (600 + volts)

Work on high voltage lines or equipment requirement safety precautions in addition to the standard lockout program and procedures.

- High Voltage Rooms and Collector Ring Compartments:
  - Whenever any high voltage rooms or areas such as collector ring compartments are unlocked and de-energized, the following must happen:
    - 23.7.11...1 *All personnel working in or near these areas shall place their lock and tag on the junction box that is disconnected or at the gate on the appropriate substation or disconnect box; and*
    - 23.7.11...2 *Multiple lockouts will be used so that each employee has a lock and tag in position.*
- High Voltage Lines and Equipment:
  - When a high voltage line is to be worked on, it must not be considered de-energized until a qualified person determines that the high voltage line has been de-energized and grounded;
  - Qualified persons shall visually observe to:
    - 23.7.11...1 *Determine that the disconnecting devices on the high voltage circuit are in the open position;*
    - 23.7.11...2 *Ensure that each ungrounded conductor of the high voltage circuit, upon which work is to be done, is properly connected to the system ground medium.*
    - 23.7.11...3 *Grounding of the ungrounded conductor will be on the source side of the circuit on which work is to be performed. Grounding jumpers connected to the ground bus will be provided for this purpose. Grounding will be accomplished by the following procedure:*
      - 23.7.11...3.1 Verifying that the feeder disconnect is open and locked out;
      - 23.7.11...3.2 Using a ground stick, ground each ungrounded phase to bleed off any residual electrical charge on the circuit; and
      - 23.7.11...3.3 Attaching grounding jumpers to each ungrounded phase of the circuit on which work is to be performed.
      - 23.7.11...3.4 High voltage circuits will not be energized until:
        - 23.7.11...3.4.1 All work on the high voltage circuit is completed and inspected;
        - 23.7.11...3.4.2 All personnel have been cleared from the high voltage area and notified that the circuit will be energized;
        - 23.7.11...3.4.3 All protective grounding installed has been removed from ungrounded conductors; and
        - 23.7.11...3.4.4 The high voltage area has been secured and locked.

## 23.7.12 Training

### General:

- Employees who will be required to install three-prong, twist-lock plugs on electrical equipment will be trained in the correct procedure;
- Employees will be trained in the hazards of the electrical equipment with which they are required to work; and
- Employees required to perform continuity testing (assured grounding tests) on tools will be trained in the correct procedure.

***Lockout/Tagout:***

- Employees performing any service or maintenance work must be made aware of the lockout and tagout program. (This also applies to any vendors or subcontractors doing work on Company job sites);
- Employees will be trained as to the purpose, function and his/her responsibility in performing the lockout and tagout; and
- Employees will receive periodic training to ensure they are up-to-date and knowledgeable on the lockout and tagout program and procedure.

**Exhibit 1**

**SKANSKA KIEWIT LOCK-OUT TAG**



**DANGER**

**DO NOT REMOVE  
THIS TAG**

**TO DO SO WITHOUT  
AUTHORITY WILL MEAN  
IMMEDIATE DISCHARGE.**

**IT IS HERE  
FOR A PURPOSE**

**SKANSKA**

**SEE OTHER SIDE**



**DANGER**

**DO NOT  
OPERATE**

**MEN WORKING  
ON MACHINERY**

**SKANSKA**

SIGNED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

CONTACT INFO: \_\_\_\_\_

Control of Hazardous Energies - LOTO

Lockout / Tagout Identification - **Exhibit 2**

Individual Performing Lockout:		
Project Name and Number:		
Equipment / System Name:		
Job or Task Description:		
Notify Responsible Manager(s):	Name:	
	Title:	
	Phone:	
Notify all Affected Employees	<b>Note:</b> List all individuals notified in this area, including all non-Skanska Kiewit employees.	
	1.	6.
	2.	7.
	3.	8.
	4.	9.
	5.	10.
Type(s) and Magnitude(s) of Energy		
Identify type(s) and Magnitude(s) of energy, its hazards and the methods to control the energy. Also specify any special lockout devices required.		
Type of Energy	Magnitude	Control Method

<b>Control of Hazardous Energies - LOTO</b>
Shut Down Equipment Form - <b>Exhibit 3</b>

Note: If the equipment is operating, shut it down using the normal shutdown procedures.

Types of Operating Controls	Location	Position (open, off shut)
<p align="center"><b>Isolate Energy Sources and Lockout Devices</b></p> <p>Isolate the energy by positioning the isolating device to positively isolate the equipment from the energy source. Lock-out the energy isolating device(s) with assigned individual lock(s) and attach a completed <b>Skanska Kiewit</b> LOTO tag.</p>		
Type of Lockout Device (Sequential Listing)	Location	ID Number (Breaker ID / Valve)
<p align="center"><b>Control Stored Energy</b></p>		
Types of Stored Energy	Methods to Dissipate or Restrain	
<p align="center"><b>Verify and Test</b></p>		
Method of Verification	Check Points	

When the possibility of re-accumulation of stored energy to a hazardous level exists, continuously verify adequacy of isolation until no such hazards exist.

**THE EQUIPMENT OR SYSTEM IS NOW SAFELY LOCKED OUT**

**Control of Hazardous Energies - LOTO**

**Exhibit 4**

**Release from Lockout (Return to Service)**

**Restoring Equipment to Service**

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken in accordance with Skanska Kiewit's policies.

- 1. If work on the equipment or system is complete, the area shall be inspected to ensure nonessential items have been removed and equipment or system components are intact.
- 
- 2. The work area shall be checked to be sure that all employees have been safely positioned or removed.
- 
- 3. All affected employees shall be notified that the lockout devices are to be removed.
  
- 4. Verify that the controls are in neutral.
  
- 5. Remove the lockout devices and reenergize the machine or equipment. Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.
  
- 6. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

**Remarks:**

**Approval**

At the time this procedure was prepared or revised, the Responsible Manager (or trained designated employee) has verified that this procedure is accurate and complete by signing and dating below.

Name	Signature	Date	Revision Number / Re-Verification

## 24 MAINTENANCE AND PROTECTION OF TRAFFIC AND WORKERS (M&PT)

### 24.1 Purpose

The purpose of this program is to develop maintenance of traffic regulations to protect not only our employees but to the public when Skanska Kiewit is involved in operations that directly impact traffic and the flow of it. This is a program that will be made site-specific according to the environment and needs of the site.

### 24.2 Applicable Regulations

[OSHA 29 CFR 1926.200](#)

[OSHA 29 CFR 1926.201](#)

Manual on Uniform Traffic Control Devices (MUTCD).

## 24.2.1 Responsibilities

- Job Superintendent shall:
  - Ensure that all employees have been trained according to company safety and health regulations regarding the Manual on Uniform Traffic Control Devices (MUTCD).
- All project Management shall:
  - Comply with all company safety and health regulations (including MUTCD, federal, state and local regulations)..

## 24.2.2 Procedures

### 24.2.3 Maintenance of Traffic (MOT) plan shall include:

- Copy of current specifications;
- Barricade log;
- Duration of plan;
- Traffic conditions (volume, speed, etc.);
- Existing traffic control measures;
- Photos and/or video of existing conditions along with periodic photos as the plan changes;
- MOT Permit;
- Specialized Vehicles:
  - Projects that require extensive traffic control may set up specific traffic control vehicles with flashing/rotating lights or beacons, sign racks, cone racks, worker platforms, protective railing and impact absorption capabilities (Attenuator Trucks);
  - The cone truck should be a 1 ton flat bed outfitted with two warning beacons visible from all directions and a Type II flashing arrow sign controlled from within the cab;

- There should be two platforms on the truck for workers to stand while setting out the cone pattern, one on each side built into the bed frame. These can be a stand-in type cages so that the worker can stand upright while placing or removing the cones. This design will help to ensure the safety of the worker while reducing the possibility of an injury due to excessive bending;
- The crash truck should be a 5-ton flat bed, outfitted with the same warning devices as the cone truck - check with local authorities for your area as some require Type I arrow signs on crash trucks;
- There should be an approved Truck-Mounted Attenuator attached to the rear of the truck for added protection against vehicle impacts. The Attenuator shall be used ; and
- There will be two-way communication between all vehicles and the Superintendent in charge of traffic control
- Flagger Control. Flaggers are required::
  - When workers or equipment intermittently block a traffic lane;
  - When plans call for one lane to be used for two directions of traffic with a flagger at each end;
  - When safety determines there is a need; and
  - When required by the Owner.
- Flaggers shall be alert, intelligent, have good hearing and eyesight and trained in the techniques of flagging traffic before placement in this position;
- They must be far enough away from the work to slow or stop traffic before it enters the work zone;
- All flaggers must wear protective clothing to include: an orange vest during daylight hours and a reflectorized garment (ANSI/ISEA 107-240 Class II) at night including reflectorized gloves, hard hats, safety glasses, sign paddles and when necessary, carry two-way radios;
- From sunset to sunrise, flagger stations must be illuminated so the flagger is clearly visible to approaching traffic;
- When communicating through radios, a spare battery pack should be readily available; and
- If communication breaks down between the flaggers, the operation is to be shut down immediately until the situation is remedied.
- Documentation:
  - One person should be responsible for documenting traffic control;
  - The same individual should carry out routine inspections of the traffic control installation;
  - A traffic control inspection report should be completed and signed every day by the designated traffic control person and included in the documentation; and
  - Further documentation shall include a camera for recording any accidents or incidents. These pictures shall be in a successive series from advance warning, all the way up to and including termination of the traffic pattern.
- Documentation records should include:
  - Starting and ending times of work;
  - Location of work;
  - Names of crewmembers;
  - Types of equipment used;

- Changes in temporary or permanent regulatory devices;
- Installation, change and removal of traffic control devices; and
- Drawing of working closure to include all devices.
  
- When an inspection requires correction to include maintenance, the documentation should include:
  - Description of the corrections needed, and when it was noted and by whom;
  - Corrections made or deferred and why;
  - Replacements made or deferred and why; and
  - Any other needed actions.

#### 24.2.4 Control Warning and Guidance Devices

Effective warning and guidance devices are planned out in advances, and should be uniformly placed and well maintained. There are six categories of devices: signs, barricades, and delineators, high-level warning devices, warning lights/illumination, and flashing arrow/message boards.

- Traffic signs for functional groups:
  - Construction signs are used only for construction or maintenance work on or adjacent to the roadway;
  - Warning signs generally apply to permanent situation, but may have some applications on temporary construction sites;
  - Guidance signs are similar to warning signs; and
  - Regulatory signs are used for posting speed limits, are enforced by local law enforcement agencies and are maintained by the contractor when placed within or adjacent to the work area.

#### 24.2.5 Use:

- Sign location depends on alignment, grade, location of street intersections and posted speed limits;
- They must face and be visible to oncoming traffic and be mounted to resist displacement;
- Advance warning signs are located on the right-hand side of traffic lanes;
- On divided highways, supplemental advance warning signs shall be placed on the divider;
- Messages conveyed during hours of darkness must be on reflectorized or illuminated signs;
- Signs shall be installed before work begins and will be removed or covered immediately after work has been completed; and
- If at any time a sign is not required, it shall remain covered or be removed.

#### 24.2.6 Barricades:

- Used to mark or block off specific hazard or to channel traffic. They may not be placed in a moving lane of traffic without advance warning, such as high level warning devices (i.e., flashing arrow signs, etc.) and appropriate delineators;
- When closing off a street, barricades should be placed to prevent vehicles from passing through, except where access is necessary for local traffic or emergency vehicles;

- Marking barricade rails is done by alternating orange and white stripes on a downward slant at 45 degrees. The entire area of white and orange must be reflectorized for night time use. The width of the stripes depends on the size of the rails. Rails less than three (3) feet required four (4) inch wide stripes, all other rails require six (6) inch stripes. Barricades shall have a minimum of 270 square inches of retro-reflective area facing traffic when used on freeways, expressways, and other high-speed highways. Barricades with stripes that begin in the upper right side and slope downwardly to the lower left are designated right barricades. Barricades with stripes that begin in the upper left side and slope downwardly to the lower right are designated left barricades. Barricades should slope with the direction of traffic; and
- On high-speed highways or in situations where barricades are susceptible to overturning in the wind, sandbags should provide ballasting. Sandbags may be placed on lower parts of the frame or stays to provide the required ballast but shall not be placed on top of any striped rail.

## 24.2.7 Delineators:

- Markers used to aid a driver in determining the location and alignment of the traffic lane;
- During daylight, delineator effectiveness is determined by position, spacing, form, texture, size and color;
- During night time, effectiveness is determined by position and visibility;
- All delineators used at night must be adequately reflectorized;
- Delineators are used for the following instances:
  - To channel and divert traffic in advance of work zones;
  - To define traffic lanes through work zones;
  - To define a change in the position of the existing lane around work zones; and
  - To define curves and edges of the roadway on detours.
- Delineators shall be constructed to withstand impact without appreciable damage to the device, the striking vehicle or passing traffic, including damage from knockdown by wind or turbulence from passing vehicles.

<b>Minimum Recommended Delineator and Sign Placement</b>				
<b>Traffic Speed</b>	<b>Taper Length (Each Lane)</b>	<b>Delineator (Taper)</b>	<b>Spacing (Tangent)</b>	<b>Sign Spacing (Advance of Taper &amp; Between Signs)</b>
25 MPH	150 Feet	25 Feet	50 Feet	150 Feet
30 MPH	200 Feet	30 Feet	60 Feet	200 Feet
35 MPH	250 Feet	35 Feet	70 Feet	250 Feet
40 MPH	350 Feet	40 Feet	80 Feet	350 Feet
45 MPH	550 Feet	45 Feet	90 Feet	550 Feet
50 MPH	600 Feet	50 Feet	100 Feet	600 Feet

55+MPH	1000 Feet	50 Feet	100 Feet	1000 Feet
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## 24.2.8 Warning Lights/Illumination:

- Lights should be used on top of channelizing devices for intermediate and long-term closures especially at tapers, shifts and turnarounds
- Illumination should be provided in lane closures at night.
- Flashing Arrow / Message Signs:
  - Are panels with a matrix of electric lights, capable of sequential arrows displays or messages. They are intended to supplement, not replace, other work area traffic control devices by providing additional, high level, advance warning of lane closures. They are effective for all lane closures and should be considered for all high-speed situations; and
  - Flashing arrow / message signs shall be repaired immediately or taken out of service if:
    - Any of the lamps are out;
    - The panel is not dimming properly; and
    - Lamps are out of alignment.

## 24.2.9 Closures

### 24.2.10 Day Closures:

The largest number of vehicle accidents involved on construction sites occurs during daylight hours. It is vital that all closures begin well in advance of the area where work is conducted to provide a strong cushion of worker safety.

- Devices should be installed in the direction of traffic in the following order:
  - First Advance Warning Sign;
  - Advance Warning Zone;
  - Transition Zone;
  - Buffer Zone;
  - Work Zone; and
  - Termination Zone.
- When signs and channelizing devices are installed and removed several times during an operation, a spot should be painted or marked where each sign or device is located to minimize time required to reset the signs or devices;
- Drivers do not expect to see workers in the roadway setting up a traffic control zone. Since the goal is to make the entire operation safe, flashing vehicle lights should be used to warn the drivers of the presence of workers;
- All aspects of the closure should provide clear, concise direction to all drivers. Be sure of positioning and visibility of all signs, flashing arrow/message signs, barricades and delineators; and
- Any part of the pattern that has been disturbed should be reset as soon and as quickly as possible.

## 24.2.11 Night Closures:

- During night operations, a “back-up”, “shadow”, or “protection” vehicle should be used and should be positioned 100 feet or more behind the “cone” truck as the first signs are placed. This process is to be followed for set-up and teardown;
- All crews working in or around the closure need to be outfitted with personal protective equipment, including bright clothes conforming to ANSI standards, hard hats, safety glasses and Class II reflectorized vests;
- All workers should be visible at a distance of 1,000 feet and, if working together, should all be wearing the same clothing to prevent confusing approaching motorists;
- Other applicable accessories include:
  - Retro reflective striping on hard-hats;
- Before making night time closures, all materials and equipment must be inspected and in good working order;
- All message boards and flashing arrow signs shall be tested to ensure all lights and switches are functioning properly and that the equipment is fueled and fully charged;
- All inspections and maintenance procedures shall be documented daily and/or nightly;
- Devices maintained in project inventory shall be kept clean, stored properly to avoid marring and organized to verify that all items are in stock and readily retrievable;
- Devices shall be inspected when they are returned to inventory;
- Any devices that are non-standard or in poor condition shall be retired, modified or repaired; and
- Equipment on work sites must be in good operating condition to avoid breakdowns and delays.

## 25 MARINE AND DIVING OPERATIONS

### 25.1 Purpose

The purpose of this program is to protect our employees from the hazards of working in or around water. Since our company cannot guarantee that all of our employees can swim efficiently, we must provide preventative measures first, and then protection in case an emergency arises and their safety is potentially compromised.

### 25.2 Applicable Regulations

[OSHA 29 CFR 1926.605](#)

[OSHA 29 CFR 1926.106](#)

[OSHA 29 CFR 1910.401](#)

[United States Coast Guard Diving Policies and Procedures Manual, June 2009](#)

## 25.3 Responsibilities

### 25.3.1 Project Management shall:

- Enforce the requirements of this program;
- Designate specific employees to respond to water emergencies and operate lifesaving boats;
- Ensure any boats on site meet the Coast Guard (and project Owner) requirements;
- Ensure that barges meet the requirements stated in this program; and
- Ensure diving operations meet the requirements stated in this program.

### 25.3.2 Employees shall:

- Wear all personal protective equipment at times deemed necessary by the Competent Person; and
- Comply with the requirements of this program.

## 25.4 General Requirements

### 25.4.1 Personal Protective Equipment:

- Ring Buoys (or Type II or Type IV Personal Floatation Devices – used specifically for rescues) with 90ft line. Distance between rescue equipment shall not exceed 200 feet;
- All employees shall wear Coast Guard-approved life vests when they are on boats, barges, near the water's edge, or over water;
- Many people cannot swim; accordingly, workers shall work in pairs, particularly in isolated areas;
- Projects must consider float coats and pants in high hazard and cold weather conditions;
- A whistle shall be attached to each life vest; and

- If working nights, a small flashlight or other portable lighting device shall be attached to the individual so he/she can signal for help in an emergency.

## 25.4.2 Lifesaving Boats:

- A boat shall be kept ready and immediately available for emergency rescue and shall meet Owner's requirements (e.g. requirements with regard to steam cleaning prior to launch in order to eliminate introduction of invasive marine life such as zebra mussels);
- The boat must be in the water or capable of being quickly launched by one person;
- There must be at least one person present and specifically designated to respond to water emergencies and operate the boat at all times when there are employees above water;
- When the operator is on break, another operator must be designated to provide the coverage while employees are above water;
- The designated operator must either man the boat at all times or remain in the immediate area such that the operator can quickly reach the boat and get underway;
- The boat operator may be assigned other tasks provided the tasks do not interfere with the operator's ability to quickly reach the boat and get underway;
- The communication system, such as a walkie-talkie, must be used to inform the operator of an emergency and to inform the operator where the boat is needed;
- The boat must be equipped with both a motor (e.g., restrictions in certain waterways, no 2-stroke engines in NYCDEP waterways) and oars; and
- Boats must not be overloaded and should be secured to prevent theft or joy rides (or just a note here to secure the boat(s) to prevent use by unauthorized individuals) during non-working hours. Employees must stay seated when traveling in small boats to keep them stable.

## 25.4.3 U.S. Coast Guard Requirements for Boats:

- Anchor or mooring lines;
- Horn or whistle;
- 20 pound ABC dry chemical fire extinguishers;
- Lights for night operation; and
- Life ring and 90 feet of rope (tug or other large boat).

## 25.4.4 Water Rescue:

- With regard to the number of skiffs required and the appropriate maximum response time, the following factors must be evaluated:

25.4.4...1 *The number of work locations where there is a danger of falling into water;*

25.4.4...2 *The distance to each of those locations;*

25.4.4...3 *Water temperature;*

25.4.4...4 *Currents;*

25.4.4...5 *Other hazards such as, but not limited to, rapids, dams, water intakes/water outfalls and temperature issues.*

## 25.4.5 Barges

### 25.4.6 General:

- Each barge shall be equipped with:
  - Life rings with 90 feet of rope secured either to a stationary anchor or stanchion;
  - Two 20 pound ABC dry chemical fire extinguishers;
  - A First Aid kit and stokes basket (stretcher) with removable back board and neck brace/stabilizer;
  - A gangplank with a hand rail;
  - Mooring lines;
  - Spill kits;
  - Flashlights;
  - Additional life preservers; and
  - A two-way radio
- Ladders for access and rescue must be of sufficient length to be able to reach the water.
- The foreman on each barge is responsible for keeping a supply of personal protective equipment on hand. This will reduce time wasted traveling to find supplies and eliminate the urge to work without protective equipment that develops when it is not readily available;
- All superintendents, engineers, and foremen shall have up-to-date First Aid/CPR/AED training;
- Adequate first-aid supplies shall be kept on each manned barge to handle severe injuries. We must at least be able to stop the bleeding from large wounds;
- Fire prevention and suppression is critical. Keep at least two fully charged, 20 pound, ABC dry chemical fire extinguishers on hand near each major piece of equipment. Water will not put out a gasoline, diesel fuel, or hydraulic oil fire;
- Signs should be posted on the barge with company name and emergency contact phone number so the company can be contacted should the barge break free;
- "NO WAKE" signs shall be posted. We typically work with float stages and the wake can cause the workers to lose their balance and fall into the water;
- Tires should be maintained on the sides of the barge in the areas of the ladders. This will help prevent damage to the ladder and provides a crushing safe zone if someone falls into the water; and
- Barges that have fuel storage compartments must have a "Shipboard Oil Pollution Emergency Plan (SOPEP)".

### 25.4.7 Access to Barges

- Ramps for access of vehicles to or between barges shall be of adequate strength, provided with sideboards, well maintained, and properly secured;
- Unless employees can step safely to or from the wharf, flat, barge, or tugboat either a ramp or a safe walkway, shall be provided;
- A catwalk or aluminum pick with at least one handrail shall be provided between the bulwark and the deck. Tides should be considered when placing access as the fluctuation can displace and damage access;
- Obstructions shall not be laid on or across the gangway;
- The means of access shall be adequately illuminated for its full length;
- Non-slip paint or tape can shall be used to improve traction and cleats are needed on steep walkways;
- Keep walkways clean and clear, wash off mud, clean up trash and oil spills, remove ice and snow, keep tools, materials and equipment properly stored, keep rigging materials on racks, coil up ropes, hoses, electric cords, etc., and keep them out of walkways; and
- Do not climb over materials such as timber piling or debris unless they are stable and a reasonable walkway has been provided.

#### 25.4.8 Working Surface of Barges:

- Three-foot clear walkway grab rail or taut hand line will be provided around the perimeter of barges;
- Marine superintendents shall have an access and lay-down of each barge to assist in housekeeping; and
- Fuel and oil tanks must not be filled beyond the manufacturer's capacity due to thermal expansion of fluids. Absorbent materials must be kept readily available to immediately contain and clean up spills. Contact an environmental clean-up service before storing large quantities of fuel or oil on a barge. They must be able to respond immediately if a spill occurs that is too large for us to handle. In addition to contacting local environmental authorities, the U.S. Coast Guard and Construction Manager must be contacted.

#### 25.4.9 Securing of Barges:

- Each barge, tug, crew boat, or other sizeable vessel should be secured with at least two spuds,, anchors, or mooring lines. Rope lines need to be inspected on a daily basis so that rotted, worn, or undersized ropes will be replaced before they break. DO NOT leave a vessel until it has been properly secured;
- Our superintendents must monitor the rise and fall of the tide and make sure that mooring lines have enough slack, so they will not be stretched to the breaking point;
- Areas where anchor lines cross our barge decks will be painted with bright colored striping. Do not sit or stand on anchor lines, or use them as a handhold. Serious injuries can occur if the cable tightens due to rough water, barge movement or winching;

- Do not stand where a cable can strike you if it snaps. Also do not stand in the “v” made by a cable that runs through a snatch block or fairlead. The cable will strike you if the snatch block or fairlead fails. Make sure everyone is clear before winching a cable;
- Lights are required to warn boaters of our barges, anchor lines, and other marine obstructions. When lights aren’t possible, buoys, flags, signs, Styrofoam ® (or equivalent) blocks, balls, or other visual warnings must be used;
- Written notice shall be given to the U.S. Coast Guard requesting that they publish the location of our barges and other marine obstructions in the “Notice to Mariners”. The names and phone numbers of the U.S. Coast Guard representatives shall be posted in case of an emergency;
- Berms or sideboards shall be used on docks, roads, ramps, flexi-floats, barges, etc., where vehicles or equipment are being driven or operated. Berms or sideboards shall be of adequate strength and height to keep equipment from driving off into the water;
- The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch life ring with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that he is working the barge.
- All rubber tired equipment and unstable objects that can roll or be thrown overboard by wind, waves, or vandals, should be bolted, locked, tied, choked, welded or otherwise secured in place;
- Stub ups and tie downs that are no longer in use shall be removed from the decks of our barges to prevent us from tripping. Protrusions that cannot be removed shall be marked with a bright colored paint, flat, cone or other obvious marking;
- Cranes shall be equipped with swing radius protection. Cranes must also be tied down to the barge during operation;
- A marine rated load chart shall be posted in every crane that is set up on a barge or other marine vessel. Operators must be made clearly aware of the reduced lifting capacity and other dangerously different handling characteristics of a barge-mounted crane. Cranes and other aerial equipment such as man lifts must stop immediately (except to correct the list) on any barge that is listing out of the ordinary;
- Boats, barges, and Flexifloats ® (or equivalent) must be loaded and unloaded carefully to keep them stable and balanced. Even large marine vessels can flip over and sink if they become severely unbalanced;
- The Competent Person on each shift shall visually check our floating equipment for listing or instability due to leaks or unbalanced loads;
- Pumps need to be kept readily available to pump out leaking boats and barges. Repair leaks as soon as practical, before they become severe;

- Never enter a barge unless it has been thoroughly ventilated. The rusting process uses up oxygen inside a barge, making it a deadly place to enter. If a large fan or other means of forced air ventilation is not available, then air out the barge for several hours and use a test meter to make sure there is enough oxygen. Follow the Confined Space Procedures section of this manual;
- Install handrails or temporary barricades around all open hatches; and
- Develop a flood and hurricane plan that is appropriate for your job before you need it. Determine what conditions will halt the use of small boats, such as strong currents or large waves.

## 25.5 Diving

### 25.5.1 General:

- If a project encounters work where diving operations is expected, the Safety Director will be contacted;
- This section includes subcontractors performing the work;
- A site-specific diving plan shall be developed;
- Divers shall not be used if work can be accomplished by other means;
- If divers are used, a dive plan shall be developed and implemented;
- Surface supplied air shall be utilized whenever possible in accordance with the practical constraints of diving operations;
- Breathing air shall be provided in accordance with the type of work being performed and shall be Grade D or higher;
- Contractors shall develop and maintain a safe practice manual that encompasses the entire diving program;
- A decompression chamber must be on-site for divers to use;
- Arrangements shall be made with the local facility associated with the Diver's Alert Network;
- See US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual Section 30; and
- Contact Diving Operations for further information.

### 25.5.2 Divers/Dive Team:

- Contractors shall demonstrate that:
  - Each diver is medically fit as attested by a licensed physician; and
  - Each diver team member has documented training.
- Divers must wait a minimum of 12-hours before flying after every dive. This must be extended to 24 hours after multiple days of repetitive diving;
- Each dive team shall have nationally recognized certification in First Aid and CPR. The use of oxygen systems must be part of the training; and
- Diving logs must be maintained and submitted to the Safety Manager/Engineer daily.

## 26 MATERIAL HANDLING

### 26.1 Purpose

The purpose of this program is to establish safe procedures for material handling, storage, use and disposal. By properly handling materials with mechanical means, safe work practices and correct storage methods, our employees can reduce the risk for injury or illness significantly.

### 26.2 Applicable Regulations

[OSHA 29 CFR 1926.250](#)

[OSHA 29 CFR 1926.251](#)

[OSHA 29 CFR 1926.1501](#)

#### 26.2.1 Responsibilities

#### 26.2.2 Project Management shall:

- Ensure that material storage and handling is in accordance with the requirements of this program;
- Train employees in safe material handling and safe lifting procedures;
- Ensure compliance with this program; and
- Purchase and provide, at no cost to employees, personal protective equipment for material handling.

#### 26.2.3 Employees shall:

- Comply with the requirements of this program; and
- Wear appropriate personal protective equipment to handle materials.

### 26.3 General Requirements

#### 26.3.1 Material Storage:

- Areas designated, as storage space shall be planned for accessibility and safe clearances;
- There will be no obstructions across passageways, traffic routes or rail beds;
- All storage space will be kept neat and clean for safe movement of materials and equipment;
- Materials shall not be stacked to an unsafe height and should be stable and secured if necessary;
- Permanent passageways should be permanently marked with “standard” traffic control signs and devices;
- Proper drainage must be planned before the lay down of materials is initiated;
- Clearance signs to warn of clearance limits for stacks of materials should be posted and highly visible;

- Overhead power lines and structures that could be hazardous to material handling equipment will be clearly marked with warning signs to keep employees away;
- All parts of cranes and material handling equipment, including loads hoisted should be kept at least 10 feet from energized overhead electrical lines or equipment. Minimum clearance will change according to line voltage, in cases where voltage exceeds 50KV;
- Underground utilities must be given sufficient protection from loads imposed by equipment;
- Materials must be stored in accordance with their compatibility as indicated on SDSs;
- Fire suppression equipment must be provided in accordance with the specific class and size of fire potential posed;
- Materials bound by wrapping, banding or other means should be placed on racks, blocked, interlocked, or otherwise secured to prevent it from sliding, falling or collapsing; and
- Load limits for the floor or shelf of the structure being used for storage must be determined and not exceeded.

### 26.3.2 Manually Moving Materials:

- Inspect materials for splinters, material that could splinter off and rough or sharp edges;
- Determine the weight of the load before applying force to move it;
- Know your own capacity for lifting;
- Clear the pathway of obstacles;
- Keep hands free of oil and grease;
- Firmly grip objects before moving and be careful to keep fingers out of pinch points;
- Use gloves and forearm protection when handling sharp-edge materials;
- Get assistance for large and/or heavy loads, getting help when you cannot properly grasp the load, cannot see around it, or cannot handle it safely;
- Use dunnage blocks under raised loads that require manual placement;
- Support loads safely with suitable blocking material or timbers. Avoid using material with evidence of cracks, rounded corners, splintered pieces, or dry rot;
- Attach handles and holders to loads when possible to reduce pinching or smashing fingers;
- Wear personal protective equipment to eliminate or reduce injury; and
- Hoist all loads with tag lines.

### 26.3.3 Manually Operated Mechanisms

- Wheel wells with safety hooks, jibs or other lifting mechanisms should be used when manually lifting material overhead;
- Equipment is to be installed as per manufacturers recommendations;
- Lifts are to be reviewed by competent person; and

- When lifting loose materials overhead a boot should be used to prevent materials from slipping out of rigging.

#### 26.3.4 Lifting Techniques:

- Have feet shoulder width apart, with one foot a little ahead of the other;
- Keeping your back straight, squat as close to the load as possible;
- Use diagonal opposite corners to hold the load. Use one hand to pull the load towards you and the other to lift;
- If necessary, tilt the load towards you to get a grip of the load;
- Bring the load as close to your body as possible using your arms;
- Always lift the load from your legs, keeping your back straight. Where squatting is not possible, bend the knees and allow them to take the weight of the load, relieving any strain on the back;
- When turning, make no unnecessary twists with your body moving only your legs and feet;
- When setting the load down, reverse the above process and squat, easing the load onto one corner as to protect the fingers from being pinched;
- If the load is too heavy or too bulky to carry, request the help of another employee or use a hand truck, four-wheel dolly or pallet jack;
- When more than one person is lifting a load, care should be taken to ensure that everyone makes the lift at the same time and that one person takes responsibility for calling the orders;
- When loads are lifted from a high place, position should be taken into consideration. Is the employee able to lift above themselves or will a ladder or suchlike device be required.
- Moving Long and/or Bulky Materials
- When carrying more than one long load, materials should be tied together in several places before being carried;
- Always try to carry the load high in front to allow for good field of vision;
- Take care when turning not to strike any person(s), materials, etc.; and
- Any large sheet material that may be caught by the wind etc requires two or more employees.

#### 26.3.5 Mechanically Moving Materials:

- Barrels are never to be picked without the proper lifting device;
- Cutting lifting eyes into barrels to move is not acceptable;
- Consider the weight, size and shape of the material when selecting equipment to move it;
- Consult the equipment's rated load chart to determine maximum weight and condition capacity. Rating charts should be posted on the equipment and not exceeded;
- Ensure that loads are centered and stable against shifting and induced dynamic loading;
- Keep the load in the lowest position possible on the equipment for traveling;
- Stacked loads should be correctly piled and cross-tiered;

- Scale Boxes or Skip Buckets for moving material or debris must be permanently rigged with a bolted shackle and may not be loaded above their water line;
- Semi-annual load test shall be performed on all lifting boxes; and
- Daily Visual Inspection is to be performed and documented on lifting boxes.

### 26.3.6 Stacking Materials:

- Stacking of materials should be based on the frequency of need. Special bins should be used for odd shapes or fragile material and height limitations should be determined when planning storage space;
- **Lumber:** lumber cannot be stacked more than 16 feet high (if moved by hand) or more than 20 feet high (if moved by forklift). All nails must be removed from used lumber before stacking. Lumber must be stacked and leveled on solid supports and the stacks must be stable and self supporting;
- **Masonry Blocks and Bricks:** stacks of loose bricks cannot be greater than 7 feet high. At 4 feet, the stack shall be tapered back 2 inches for every foot above 4 feet. At 6 feet, the stack shall be tapered back on-half block for each tier above 6 feet;
- **Bags and Bundles:** bags and bundles must be stacked in interlocking rows to remain secure. Bagged material must be stacked by stepping back the layers and cross-keying the bags at least ever ten layers. Boxed materials must be banded or held in place with cross-ties or shrink wrap plastic fiber.
- **Drums, Barrels, and Kegs:** stacking must be symmetrical. When stored on their sides, bottom tiers must be blocked to prevent rolling. If stacking material two or more tiers high, the bottom tier must be choked to prevent shifting in either direction. When stacked on end, planks or sheets of plywood or pallets must be placed between each tier to provide a flat, firm surface.
- **Cylindrical Materials, Bar Stock, and Structural Steel:** These materials should be stored in racks, when possible. Racks shall not face main aisles or traffic lanes nor create hazards to passersby when supplies are being removed. When racks are not available, material shall be stacked and blocked to prevent spreading or tilting; and
- Large structural steel beams shall be placed on solid level ground. They should be braced, especially when the height exceeds the width to prevent accidental tipping over.

### 26.3.7 Banding:

- Flat and round steel strapping helps palletize and reinforce wood or containers during handling and shipping. Both are applied under tension: flat banding ends are overlapped and joined by a crimped metal seal; round strapping ends are twisted together to form a joint;
- Hazards associated with steel strapping include shifting or moving loads, loose ends, whipping, improper use of banding as handholds, tripping over banding and cuts from sharp edges;
- **Load movement:** banding should be removed with caution because loads may have shifted during transport and can tumble when tension is released;

- **Loose End Whip:** when tension is released from removal of banding or breaks caused by incorrect strapping, loose ends will whip away from the package with enough force to cause serious injury. Always use caution when working around bundles strapped under pressure;
- **Improper Use of Handholds:** banding is not to be used as a handhold to access the load. Sharp metal edges can cause serious injury. In addition, if banding comes loose, the bundle may topple;
- **Tripping and Cutting:** tripping and cutting hazards are created when steel straps are not disposed of as soon as possible. Good housekeeping is essential when unloading bundles of material;
- **Improper Use/Care of Machines:** improperly maintained or abused tools and banding machines may malfunction during operation and increase the possibility of strap breakage. As with all equipment, banding machines must be kept in good condition and employees using the machine will be properly trained;
- **Personal Protection:** when applying or removing steel strapping, eye or face protection must be worn. If there is a break, the direction that strapping will whip is unpredictable, gloves must be worn while handling steel strapping. Leather palm gloves that extend to the wrist are recommended;
- When working around strapping machines, workers will not wear loose fitting clothes that might get caught;
- Safe removal of strapping from bound material will be with steel cutting tools designed to cut steel banding. Do not use a claw hammer, crowbar, chisel, or anything that applies leverage to a steel strap. Use of such tools will cause the band to fly apart with additional force;
- Before cutting a strap ensure other employees and/or machinery are clear of the work area to avoid being struck by flying straps or shifting loads;
- Two-hand operated strap cutters are recommended because they are designed to cut the strap and absorb the energy released when the strap is cut;
- If duck billed shears must be used, place a gloved hand on the strap and make the cut so the ungrasped end is too short to reach the worker. Then, if the strap springs, it will fly away from the cutter's face and body, which should be positioned out of direct line of the strap; and
- Straps should be cut square and not at an angle. Straps cut on an angle have sharper ends and increases potential cut hazards.

## 26.4 Conveyors

### 26.4.1 General:

When using conveyors workers' hands may be exposed to nip points where the conveyor runs over support members or rollers; workers may be struck by material falling off the conveyor; or they may become caught on or in the conveyor thereby being drawn into the conveyor path;

- Employees must never ride on material handling conveyors;
- Where the conveyor passes over work areas or aisles, guards must be provided to keep employees from being struck by falling objects;

- Crossovers must be guarded to protect employees and either marked with a warning sign or painted a highly visible color; and
- Screw conveyors must be completely covered except at loading and discharge points.

## 26.4.2 Guards and Emergency Stops:

- Guards must be provided at loading and discharge points to protect employees from contacting the moving screw;
- Guards are moveable and must be interlocked to prevent conveyor movement when not in place;
- Emergency buttons or pull cords designed to stop the conveyor must be installed at the employee workstation; or, the station must be adequately guarded to positively prevent all injury exposure;
- Access points on the conveyor should have an emergency stop cable that extends the entire length of exposed belt, or guarded; and
- The emergency stop switch must be designed to be reset before the conveyor can be restarted.

## 26.5 Disposal of Waste Material

### 26.5.1 General:

When materials must be dropped more than 20 feet to any point lying outside the exterior walls of a structure, an enclosed chute of wood or equivalent material shall be used as a ramp. When debris is dropped through holes or openings in the floor without the use of a chute, the area onto which the material is dropped shall be completely enclosed with barricades;

Enclosure requirements are as follows:

- Barricades must be at least 42 inches high and at least six (6) feet back from the projected edge of the opening above;
- Wind velocity and potential for carrying materials should be calculated into the disposal plan; and
- Signs warning of the hazard of falling materials should be posted at each level.
- A spotter can be posted, if necessary, at the area of retrieval to keep area clear of unnecessary traffic;
- Debris shall not be removed from the disposal site until all handling ceases from above;
- All scrap lumber, waste material, and rubbish should be removed from the immediate work area as the work progresses;
- All solvent waste, oily rags, and flammable liquids should be kept in fire resistant, covered containers until removed from the work site;
- Used oil will be recycled; and
- Refer to our environmental program for compliance.

## 27 MOTOR VEHICLES & MECHANIZED EQUIPMENT

### 27.1 Purpose

The purpose of this program is to establish rules and regulations for safe operation of motor vehicles, and safe and proper use of mechanized equipment. As a company, we can avoid any unwanted loss incidents by preparing and training our employees on the proper way to operate vehicles and equipment.

Not only are motor vehicles and equipment potential hazards to employees' safety, but also equipment damage incidents are financial losses. The details of this program have been instituted to prevent such situations.

### 27.2 Applicable Regulations

[OSHA 29 CFR 1910.178](#)

[OSHA 29 CFR 1926.20](#)

[OSHA 29 CFR 1926.600](#)

## 27.2.1 Responsibilities

### 27.2.2 Project Management shall:

- Ensure that motor vehicles and equipment are operated and maintained according to this program, in addition to manufacturers, federal, state, and local; and
- Enforce the rules of this program.

### 27.2.3 Employees shall:

- Operate vehicles and equipment for which they are qualified;
- Perform daily visual inspections on vehicles to which they are assigned; and
- Comply with the rules of this program.

## 27.2.4 Procedure

### 27.2.5 General:

- Parked equipment shall have the wheels chocked and parking brake set;
- No modifications which affect the capacity of safe operation of equipment shall be made; and
- Replace any damaged or worn parts.
- Daily Visual Inspections:
- Daily visual inspections must be performed on each piece of equipment prior to use;
- All applicable checklists shall also be completed, and turned into supervisor; and
- All safety defects shall be corrected before the vehicle is used.

## 27.2.6 Vehicle/Equipment Safety Equipment:

- Every vehicle with Roll Over Protective Structures (ROPS) must have a seat belt;
- Seat belts must be worn in all vehicles supplied with them;
- Every vehicle must be equipped with an audible reverse signal alarm;
- All Skanska Kiewit pick-ups will have a back-up alarm;
- Equipment left unattended at night next to a highway or active construction area must have lights or reflectors to identify the location of the equipment;
- All haulage vehicles: loaders, cranes, shovels etc. must have a cab shield and/or canopy; and
- All rubber-tired vehicles shall be equipped with fenders.

## 27.2.7 Safe Operation:

- Tools and equipment must be secured when transported in employee compartment;
- Start the engine only from the operator's compartment;
- Never short across the starter terminals or across the batteries, as this could bypass the engine neutral-start system as well as damage the electrical system;
- Be certain no one is working on, underneath, or close to the machine before starting the engine or beginning to move the machine;
- Mount and dismount the machine only where steps and/or handholds are provided;
- Do not allow riders on the machine unless additional seat, seat belt, and Rollover Protective Structure (ROPS) or Falling Object Protective Structure (FOPS) are provided;
- Riding in the bed of pick-up trucks is prohibited;
- Do not operate equipment at unsafe speeds; and
- Pushing equipment with vehicles or other equipment is strictly prohibited.

## 27.2.8 Maintenance:

- No employee shall use any motor vehicle equipment having an obstructed view to the rear unless the reversing signal alarm is audible above the surrounding noise level. The vehicle is backed up only when an observer or spotter signals that it is safe to do so;
- Heavy machinery equipment which is suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling and shifting. Safety tire rack cage or equivalent protection shall be provided and used when infusing, mounting and dismounting tires, installed or split rims or rims equipped with locking rings; and
- Trucks with dump bodies shall be equipped with positive means of support permanently attached and capable of being locked in position to prevent accidental lowering of the body when maintenance or inspection work is done.

## 28 NOISE EXPOSURE

### 28.1 Purpose

The purpose of this program is to establish a noise exposure program to prevent any temporary or permanent noise-induced hearing loss to our employees. Although the one way to prevent hearing loss is to provide hearing protection, we must examine the feasibility of engineering controls to reduce noise levels as well as administrative/work practice controls to reduce the time of exposure to noise by our employees. The use of hearing protection must only be implemented after all other controls have been ruled out to reduce noise levels.

### 28.2 Applicable Regulations

[OSHA 29 CFR 1926.52](#)

[OSHA 29 CFR 1926.101](#)

ANSI S3.19

## 28.2.1 Responsibilities

### 28.2.2 Project Management shall:

- Evaluate operations, equipment and tools for the presence of hazardous noise levels; when conditions warrant, monitor and identify workplace noise levels to determine which employees in specific areas have excessive exposure to noise;
- Monitor noise levels in the course of day-to-day work, and when there is a change in production, equipment or controls to existing activities;
- Conduct personal and area monitoring to evaluate occupational noise exposure;
- Provide hearing protection, at no cost to employees, when monitored noise levels demonstrate their need;
- Implement control measures as required;
- Ensure that client-specified or county, municipal, local, city or town levels are not exceeded during work shifts;
- Train employees in topics identified in this program, and
- Enforce the rules of this program.

### 28.2.3 B.U. / Regional Safety Director shall:

- Evaluate operations and noise monitoring results on projects and its impact on workers and the public.

### 28.2.4 Employees shall:

- Wear hearing protection when deemed necessary by their supervisors and/or Competent Person; and

- Use engineering and administrative controls as directed in construction plan(s) to minimize or reduce exposure levels and duration.

## 28.3 Procedure

### 28.3.1 General:

- On all projects workplace noise levels shall be identified and monitored using a calibrated sound level meter in the course of day-to-day work, and whenever there is a change in production processes, equipment, or controls;
- The goal of monitoring noise levels is to determine if employees in specific areas have exposure to noise that exceed OSHA regulations (refer to Table D-2);
- Employees will wear hearing protection until noise monitoring demonstrates that there is no exposure;
- All employees exposed to sound levels greater than 85dBA shall use mandatory hearing protection complying with ANSI S3.19;
- Controlling noise at the source utilizing engineering controls must be considered first before any other tactics are implemented;
- Warning signs will be posted in conspicuous locations at worksites near the high noise level areas to ensure that hearing protection is worn when required; and
- When the following tasks are being performed, hearing protection is mandatory and exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level:
  - Pile driving;
  - Jack hammering;
  - Chipping concrete or steel with power tools;
  - Operating gasoline chain or cut-off saws;
  - ARC gouging; and
  - Hoe Ram Operator.
- Permissible Noise Exposure

**Table D-2**

(A-scale readings on sound level meter at slow response)

Duration per Day (Hours)	Sound Level dBA Slow Response
8	90
6	92
4	95
3	97

2	100
1.5	102
1	105
.5	110
.25 or less	115

## 28.4 Hearing Protection:

- The project shall order and provide a variety of adequate hearing protection devices for employees. All employees subject to work in those areas must be provided with appropriate hearing protection devices from among the types listed in the table below;
- Employees are required to wear company-provided hearing protection and at no time may an employee tamper with or modify any hearing protection equipment;
- Damaged or defective equipment must be discarded and replaced immediately, and;
- Failure to follow hearing conservation program and rules set forth by the company may result in disciplinary action up to and including retraining and/or termination.

## Appropriate Hearing Protection Devices

Type	Advantages	Disadvantages
Ear Muffs	<ul style="list-style-type: none"> <li>• One size fits most adults.</li> <li>• Can easily be seen at a distance.</li> <li>• Can be put on, adjusted, etc. while wearing gloves.</li> <li>• Can be warming to the ears in cold environments.</li> <li>• Better impact noise attenuation.</li> </ul>	<ul style="list-style-type: none"> <li>• Usually have a lower noise reduction rating than earplugs, but still provide effective protection.</li> <li>• They are bulky and cannot fit in pockets or stored in tool kits.</li> <li>• May interfere with and not sit properly when glasses, hearing aids, etc. are worn. Because of their size, may not be suitable for the work quarters.</li> <li>• Excessive heat and sweat accumulation may make them uncomfortable to wear in hot locations.</li> <li>• Are more difficult to clean than earplugs.</li> </ul>
Ear Plus (2 types: Pre-formed Expandable)	<ul style="list-style-type: none"> <li>• Have highest noise reduction rating and are very effective in protection your hearing when properly worn.</li> <li>• Do not interfere with work in close quarters.</li> <li>• Are easily carried and stored when not in use.</li> <li>• Compatible with glasses or any other type of headgear without affecting performance.</li> <li>• Disposable.</li> </ul>	<ul style="list-style-type: none"> <li>• Fitting can be complicated. Ear canals vary in diameter and the left and right ear canals are not necessarily similar in size, shape or position.</li> <li>• Can be easily left in other work clothes or fall out of the jacket or shift pocket and become lost.</li> <li>• Cannot be seen at a distance that makes it difficult to evaluate if person is wearing them.</li> <li>• Gloves must be removed and hands washing prior to putting in earplugs.</li> </ul>

## 28.5 Training

### 28.5.1 General:

- Training will be conducted for all employees during New Hire Orientation;
- Training will be conducted on an annual basis through means such as tool box talks; and
  
- Retraining will be conducted when there are changes in the program, equipment, process, etc.

### 28.5.2 Topics

- Effects of noise on hearing;
- The purpose of hearing protectors;
- The advantages, disadvantages, protection levels, various types of hearing protection;
- The proper use, care, cleaning and fitting of hearing protection;
- The purpose of audiometric testing; and
- The details of this program.

### 28.5.3 Retraining:

- Retraining will be conducted at least on an annual basis, or sooner if required; and
- Information provided on the retraining program will be updated to be consistent with changes in work processes and/or protective equipment.

## 28.6 Recordkeeping

### 28.6.1 General:

- The project will maintain accurate records for all noise level surveys and employees exposures;
- Records of noise monitoring will be provided to employees, or designated representatives thereof, upon written request to the project.

## 29 PERSONAL PROTECTIVE EQUIPMENT (GENERAL)

### 29.1 Purpose

The purpose of this program is to establish guidelines for the use of Personal Protective Equipment (PPE). Although PPE can prevent an employee from injury or illness, engineering and administrative controls should **always** be considered prior to relying on PPE.

### 29.2 Applicable Regulations

[OSHA 29 CFR 1910.132](#)

[OSHA 29 CFR 1926.95](#)

[OSHA 29 CFR 1926.100](#)

[OSHA 29 CFR 1926.102](#)

ANSI Z89.1-1968

ANSI Z87.1

#### 29.2.1 Responsibilities

#### 29.2.2 Project Management shall:

- Assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, Project Management shall:
  - Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;
  - Communicate selection decisions to each affected employee; and
  - Select PPE that properly fits each affected employee.
- Provide training to each employee who is required to use PPE. Each such employee shall be trained to know at least the following:
  - When PPE is necessary;
  - What PPE is necessary;
  - How to properly don, doff, adjust and wear PPE;
  - The limitations of the PPE; and
  - The proper care, maintenance, useful life and disposal of the PPE.
- Provide a hard hat, high visibility vest, safety glasses, cut-resistant work gloves and any other personal protective equipment necessary upon initial hire;

- Evaluate operations for application of engineering controls as a first line of defense before using personal protective equipment as a means of protection from the hazard;
- Enforce the use of personal protective equipment by employees; and
- Upon initial hire train employees in topics identified in this program.

### 29.2.3 Employees shall:

- Wear all personal protective equipment provided to them by management when deemed necessary; and
- Return old used personal protective equipment in exchange for a new issue.

## 29.3 Procedure

### 29.3.1 Hardhats:

- Hard hats shall be worn on site at all times;
- Bump caps are not permitted on site;
- All hard hats must meet ANSI Class B type, Z89.1-1968;
- At no time shall any type of baseball cap be worn underneath a hardhat;
- A hardhat must be replaced if it has been damaged, cracked or has received a heavy blow;
- Painting or drilling of any sort will not be permitted on any hardhat;
- Suspensions shall be replaced annually; and
- The shell of the hardhat shall be replaced 5 years after the date it was first placed into service, NOT the date of manufacture.

### 29.3.2 Safety Glasses

- Safety glasses shall be worn on site at all times;
- Employees who have prescription glasses shall meet the ANSI Z-87.1 guidelines. If the glasses do not meet the specified qualifications, the employee shall wear goggles or face shields and shall either be provided with prescription safety glasses or over glasses, goggles or face shields;
- All eye protection will meet ANSI Z-87.1; and
- All safety glasses will have a Z-87.1 symbol embossed on the product.
- Employees shall not wear dark shaded safety glasses while working indoors. They may only be allowed to wear clear or light colored glasses when indoors. If the employee is working outdoors then dark shaded glasses will be acceptable.

### 29.3.3 Goggles and Face Shields:

- In addition to safety glasses, face shields must be worn when exposure from work operations creates airborne particulates and handling chemicals; and

- These operations include, but are not limited to:
  - Concrete chipping;
  - Any overhead operations (drilling);
  - Cutoff saw operation;
  - Chain saw operations (wire mesh face shield only)
  - Grinding; and
  - Blowing with compressed air.
- Goggles or safety glasses with face shield shall be used when operating circular wood cutting saw or reciprocating saw.

#### 29.3.4 Welding Hoods:

- Welding hoods adaptable to hard hats must be worn at all times during welding operations.

#### 29.3.5 Welding and Chipping Goggles:

- Welding and chipping goggles must be worn during burning operations;
- Welding and chipping goggles must be cupped to protect against slag and sparks; and
- Safety glasses do not meet this requirement.

#### 29.3.6 Filter Lens Shades:

The following table shall be used as a guide for the selection of the proper shade numbers of filter lenses or plates used in welding.

Welding Operation	Shade Number
Shielded metal-arc welding 1/16, 3/32, 1/8, 5/32 inch diameter electrodes	10
Gas-shielded arc welding (non-ferrous) 1/16, 3/32, 1/8, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16, 3/32, 1/8, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16, 7/32, 1/4 inch diameter electrodes	12
5/16, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to one inch	3 or 4

Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to 1/8 inch	4 or 5
Gas welding (medium), 1/8 inch to 1/2 inch	5 or 6
Gas welding (heavy), over 1/2 inch	6 or 8

### 29.3.7 Laser Protection

Employees whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles which will protect for the specific wavelength of the laser and be of optical density (O.D.) adequate for the energy involved. Table E-3 lists the maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 through 8.

TABLE E-3 - SELECTING LASER SAFETY GLASS

Intensity, CW maximum power density (watts/cm <sup>2</sup> )	Attenuation	
	Optical density (O.D.)	Attenuation factor
10(-2)	5	10(5)
10(-1)	6	10(6)
1.0	7	10(7)
10.0	8	10(8)

- Output levels falling between lines in this table shall require the higher optical density;
- All protective goggles shall bear a label identifying the following data:
  - The laser wavelengths for which use is intended;
  - The optical density of those wavelengths; and
  - The visible light transmission.

### **29.3.8 Protective Clothing:**

### **29.3.9 High visibility vests are required on site at all times;**

- Flame-Resistant, duck or leather must be worn in environments exposing workers to extreme heats and sparks;
- Rubber, neoprene, vinyl or other protective material suits must be worn to protect employees when working in or around wet conditions, acids, corrosives, chemicals and dusts;
- US Coast Guard approved life jackets or buoyant work vests will be worn working on or near to water, or where the danger of drowning exists; While performing hot work under these conditions, the life jackets are to be flame retardant and will be the employer's responsibility to hand them out to Skanska Kiewit's craftsmen.
- When an employee removes his/her protective clothing, he/she must:

- Inspect it for damage;
- Report anything that is torn or worn;
- Remove contaminated clothing from the top down, do not let clothing touch skin; and
- Place soiled or contaminated clothing in the assigned places for cleaning or disposal

## 29.3.10 Hand Protection:

- The employer shall enforce the standardized mandatory glove policy at all times.
- Leather work gloves will be issued where required by construction plan(s);
- Anti-vibration gloves will be issued to all appropriate employees during operations such as chipping and drilling;
- Rubber, neoprene or vinyl gloves will be issued to protect against chemicals;
- Check MSDSs for specific instructions on which type you need for protection; and
- Things to remember:
  - Check in the gloves before wearing them to make sure they are not damaged, cracked or torn in any way;
  - Make sure that the gloves fit properly (they should cover hands completely and fit comfortably); and
  - Gloves with straps used as tightening devices should never be used as they may get entangled in machinery or equipment.
  - For optimal protection, the appropriate glove must be worn for every activity at all times.
  - This glove policy shall be posted throughout the site for all employee personnel to see.
  - A full detailed description of the glove policy can be found below in Section 37.3.13.

## 29.3.11 Foot and Leg Protection:

- All employees, craft and management shall have safety toe boots in accordance with OSHA 29 CFR 1926.95.
- Good, heavy, leather, work boots with safety toes shall be worn at all times and should be 6" in height;
- Foot guards shall be used when handling heavy objects, or running hand tampers (jumping jacks, jackhammers etc.); and
- Kevlar-type chaps with metatarsal protection shall be worn when using a chain saw to give additional protection to the legs.

## 29.3.12 Training

Employees required to use personal protective equipment will be trained in the following:

- Correct donning and doffing of personal protective equipment;
- Correct uses and protection levels;
- Cleaning, maintenance and storage when applicable; and
- Limitations of the personal protective equipment with which they have been provided.

## Skanska Kiewit USA Civil Glove Policy

The Skanska Kiewit Standardized Glove Policy is in addition to our current standard PPE policies. All personnel while on site (including visitors) must wear gloves. An appropriate form of glove specific to the activity is a required piece of an employee's PPE.

Employees must wear gloves suited for the hazard the worker may be exposed to. The appropriate type of gloves must be considered when developing construction plan(s), also check the MSDS for additional considerations.

Some examples are:

Fire retardant leather work gloves are best suited for workers who are burning and or welding

Anti-vibration gloves are best suited for operations involving percussion such as chipping and drilling;

Rubber, neoprene or vinyl gloves are best suited for operations to protect against chemicals.

The minimum glove all workers must wear unless engaged in activity that may require specialty gloves is a "Leather Palm" work glove.

## 30 DRUG AND ALCOHOL TESTING PROGRAM FOR EMPLOYEES

### 30.1 Purpose

Today, millions of Americans struggle with substance abuse-related issues, both at home as well as in the workplace. Skanska Kiewit values its employees and customers and recognizes the adverse effects that substance abuse – including the use of illegal drugs, the abuse of alcohol, and the misuse of prescription drugs and over-the-counter medications – can have on the work environment. Employees who use drugs and abuse alcohol are less productive, less reliable, and pose a direct threat to the safety and well-being of others.

Skanska Kiewit has a drug-free workplace program to ensure that our business is functioning safely, efficiently and cost-effectively. Skanska Kiewit will require all employees and job applicants to participate in, consent to, and comply with the dictates of this program as a condition of employment and continued employment. For those who refuse to cooperate fully with the terms and conditions of this program, the Company will take appropriate measures to address the situation promptly and directly. Skanska Kiewit will not tolerate substance abuse in the least degree.

### 30.2 Program

#### 30.2.1 Authority

Employees with questions or information pertinent to Skanska Kiewit drug-free workplace program should consult their Supervisor.

#### 30.2.2 Coverage

Skanska Kiewit drug-free workplace program covers all part- and full-time employees. Job applicants also are covered by this program inasmuch as Skanska Kiewit has extended a conditional offer of employment and a pre-employment drug test is required. Skanska Kiewit reserves the right to implement drug and alcohol testing at any of its business operations in accordance with any applicable state laws.

#### 30.2.3 Education & Training

To help employees and supervisors better understand the nature of the substance abuse problem and how it affects the workplace, as well as the terms and conditions of this program, Skanska Kiewit makes available, from time to time, educational materials and training sessions on an as-needed basis.

#### 30.2.4 Voluntary Treatment & Counseling

- Skanska Kiewit supports early diagnosis and treatment efforts for substance abuse problems. The Company encourages employees to seek help voluntarily and confidentially.
- For current listings of local providers of treatment and counseling services or referrals for such services, individuals may refer to the local Yellow Pages under “Alcohol Abuse and Addiction, Information and Treatment” and/or “Drug Abuse Addiction, Information and Treatment”. Individuals may also refer to the local White Pages under Alcoholics Anonymous (AA) for a local chapter or call AA’s national number (212-870-3400) or the national Narcotics Anonymous toll-free number (818-773-9999).

## 30.2.5 Work Rules

- Whenever employees are working, operating Company vehicles or equipment, present on Company premises, or present in any other location performing services for the Company, they are prohibited from:
  - Using, possessing, buying, selling, manufacturing, distributing, dispensing or transferring illegal drugs; and
  - Being under the influence of illegal drugs or alcohol.
- Violation of this Work Rule will result in Termination.

## 30.2.6 Possessing or consuming alcohol

- Employees should report to work fit for duty and free of any adverse effects of illegal drugs or alcohol;
- Employees may consume or possess alcohol provided by the Company at authorized Company functions or in certain legitimate business settings such as client entertainment. At all such times, however employees are expected to act responsibly and not to drink to the point that they are under the influence. The Company may withdraw these privileges if they are abused by an employee or if an employee violates this program; and
- This program does not prohibit employees from the lawful possession and use of prescribed medications. Employees have the responsibility, however, to consult with their doctors or other licensed medical practitioners about the effect of prescribed medications on their ability to perform their specific job duties in a safe manner and to promptly disclose any work restrictions to their supervisors or the Safety Department. Employees should not, however, disclose underlying medical conditions, impairments or disabilities to their supervisors or the Safety Department unless specifically directed to do so by their doctors or other licensed medical practitioners.

## 30.2.7 Testing

- Skanska Kiewit reserves the right to drug and alcohol test job applicants and employees in order to achieve a safe and productive work environment. The Company will conduct drug and alcohol testing within the parameters of any applicable state and federal laws. Skanska Kiewit will use scientifically valid methods and procedures;
- The Company reserves the right to use on-site testing procedures, e.g. Drug Check™ for pre-employment testing. In the case of a positive drug test result, the employee will be re-tested at a medical testing facility; and
- The Company will test for alcohol and the following drugs: marijuana, cocaine, opiates, amphetamines, and phencyclidine.

## 30.2.8 Pre-employment Testing

- Applicants for all positions will be notified that they may be required, once offered a position, to successfully pass a drug test as a condition of being hired. Applicants will be required to sign a consent form and present a valid photo identification card (driver's license). A positive drug test or refusal to participate in a drug test, or any effort to tamper with a sample or to alter a test result will disqualify an applicant from employment;
  - This provision will apply to all former employees who are eligible to reapply for employment with the Company after 6 months; and
  - The Company reserves the right to use on-site testing procedures, e.g. Drug Check™ for pre-employment testing. In the case of a positive drug test result, the employee will be re-tested at a medical testing facility:
- **Negative Result:** The employee will receive a copy of the Medical Review Officer's (MRO's) written report from the Project Manager.
- **Positive Result:** The employee will be terminated immediately for not complying with the Company program. He/she will receive a copy of the MRO's written report from the Project Manager.

## 30.2.9 Conditions of Re-Hire for Positive Test

- All conditional employees will be eligible for another drug screen if the following requirements are met:
- A period of 180 days has passed since the original screen;
- A position is available for that person after the mandated 180 days; and
- Conditional employee must be tested at Skanska Kiewit designated facility within 4 hours of notification.

## 30.2.10 Reasonable Suspicion Drug and Alcohol Testing – Both Craft and Non-Craft Personnel

Employees will be required to submit to a drug and/or alcohol test when a supervisor and/or manager have reasonable suspicion, of prohibited drug and/or alcohol use. Reasonable suspicion will be documented and will not be based on rumor, speculation or unsubstantiated information.

## 30.2.11 Post-Accident Drug and Alcohol Testing

- All employees who may have caused or contributed to an accident during work time or while of Skanska Kiewit business or on Skanska Kiewit property will be subject to drug and alcohol testing;
- A post-accident drug test must take place within 32 hours of the time of the accident. A post-accident alcohol test must take place within 8 hours of the time of the accident. Any employee who fails to report a work-related accident is in violation of this program and is subject to disciplinary action, up to and including termination. Under certain state laws, employees testing positive may be ineligible for workers' compensation benefits; and
- A covered accident is one that takes place during work time or on Company property and involves:

- Fatality;
- Injury that requires medical attention or results in lost work time;
- Damage to Company property; and/or
- Damage to Company vehicles owner of leased by the Company or being used for Company purposes.

## 30.2.12 Consequences for Program Violations

- Employees who violate any of the conditions of Skanska Kiewit drug-free workplace program are subject to discipline, up to and including termination at Skanska Kiewit sole discretion. The degree of action chosen will depend on the circumstances of each case. However, each Skanska Kiewit employee should understand that certain program violations, such as possession, sale or use of controlled substances or drugs, as defined in this program, on Company premises or on Company time will normally result in immediate termination;
  - Employees involved in post-accident or reasonable suspicion testing will be removed from their positions and receive a non-disciplinary suspension under Skanska Kiewit receives the results of the test(s); and
  - An employee or job applicant who receives a confirmed positive test result may contest or explain the result to the medical review officer within 5 working days after receiving written notification of the test result. If an employee's or job applicant's explanation or challenge is unsatisfactory to the medical review officer, the medical review officer shall report a positive test result back to Skanska Kiewit.
- **Negative Result:** The employee will receive a copy of the MRO's written report from the Project Manager.
  - **Positive Result:** The employee will be terminated immediately for not complying with the Company program. He/she will receive a copy of the MRO's written report from the Project Manager.

## 30.2.13 Right to Search

- Employees and their property, including but not limited to lunch boxes and toolboxes, are subject to search while on Company premises. Searches may be conducted without prior warning and may include entire work groups or specific individuals, if management has reason to suspect the employee is in violation of this program. Trained narcotic dogs may be used in searches. Searches of employees and their clothing will be by a person of the same gender; and
- Employees who refuse to cooperate will not be forcibly detained or searched, but failure to cooperate will result in disciplinary action up to and including termination.

## 30.2.14 Confidentiality

- All information, interviews, reports, statements, memoranda, documentation, and drug and alcohol test results, written or otherwise, are confidential. Skanska Kiewit and any of its agents associated with drug and alcohol testing (i.e. the laboratory, collection site, Medical Review Officer, testing administrator) who receive or have access to information concerning test results shall keep all information confidential. No such information shall be released without the written consent of the employee unless the release is on a need-to-know basis, is required by law, and is relevant to a legal claim asserted by the employee, or as otherwise provided by law;
- In the event of a positive drug test, the reason for termination shall be referred to as “employee failed to comply with Company program”; and
- Skanska Kiewit workers’ compensation carrier may be notified of results of post-accident tests that may affect Skanska Kiewit insurance program as provided for by state laws.

## 30.2.15 Reservation of Rights

- Skanska Kiewit reserves the rights to administer, interpret, change or rescind the program in whole or in part, with or without notice or consideration. In addition, changes to applicable state and federal laws or regulations may require Skanska Kiewit to modify or supplement the program;
- The program does not create an employment contract and should not be interpreted or considered as such; and
- This program does not, in any way, change the nature of the at-will employment relationship on the part of the employee or Skanska Kiewit.

## 31 PRE-PROJECT PLANNING AND STARTUP

### 31.1 Purpose

It is the commitment of our company to perform work in the safest manner possible consistent with good construction practices. To fulfill the requirement of this program, an organized and effective Safety, Health and Environmental Management System (SHEMS) must be implemented at each location where work is performed.

The SHEMS has been developed and established to guide management teams at new projects through the process of identifying and addressing all environmental and health hazards associated with the work to be performed. The process will also include the development of individual programs (SHEMPS) to address risk associated with each identified hazard.

The management system in itself shall ensure that the following is adhered to.

### 31.2 Applicable Regulations

OSHA Act of 1970 / OSHA General Duty Clause

[OSHA 29 CFR 1926](#)

### 31.3 Applicable Certificates of Registration

ISO 14001 Standard

OHSAS 18001 Standard

### 31.4 Cross Reference HASP Sections

Incentive Programs / Risk Assessment Program / Safety Inspections / Safety Meetings / Training

## 31.5 Responsibilities

### 31.5.1 Project Manager shall:

- Ensure that the policies, procedures and programs established in the Safety, Health and Environmental Management System is implemented at their project.
- Ensure that this Health and Safety Plan is reviewed and updated to include any site-specific requirements; and
- Provide assistance and resources necessary to properly implement our B.U. / Regionalsafety program.

### 31.5.2 Project Management shall:

- The project management team shall be responsible for the safety of our people, our equipment and the public.
- Set objectives for safe work performance. The objectives shall be:

- **Specific:** safety objectives should be clear to all personnel. It should be communicated whether or not objectives are by job, operation, crew, man-hours worked, etc;
- **Realistic:** safety objectives must be realistic so that crews are motivated to achieve them;
- **Time Bound:** to motivate workers, have objectives for this month, week, shift, etc.;
- **Measurable:** safety objectives must be quantifiable;
- **Rewarded:** incentive programs will be in place to reward our crews for safe work. Incentive programs will be both B.U. / Regional and Site-Specific and performance based; and
- **Crew involvement:** the crew must accept Safety objectives and incentive programs. 100% participation in the program is vital for its success.

## 31.6 Project Startup Management Safety Meeting

### 31.6.1 A SHEMS Development Meeting shall be held to achieve the following objectives:

- Identification of all environmental and health and safety risk associated with the project in Attachments 1, 2, 4 & 5 of the SHEMS;
- Development of Attachment 6 Safety, Health and Environmental Management Programs (SHEMPS) which will detail operational controls, performance indicators and relevant policies and procedures associated with each individual hazard;
- Familiarize the management team with the written safety program;
- Establish a clear understanding of project management's roles and responsibilities under the written safety program;
- Establish any required training and development needs for company personnel assigned to the project;
- Detail all equipment needs for the project to include but not limited to, PPE, monitoring equipment, first aid supplies, firefighting equipment and/or any other needs dependant on the scope of work and identified risk;
- Establish a weekly site safety inspection with members of the management team on a routine basis.  
The meeting shall be held according to the following:
  - Prior to commencing work on a new project;
  - The meeting should be conducted when most of the project's management team has reported to the project;
  - The meeting shall be conducted at the jobsite;
  - The Project Manager / Safety Engineer will conduct the meeting; and
  - The Project Manager / Superintendent must inform the Project Executive and the Safety Director, of the date and time of the meeting.
- Meeting agenda shall include, but is not limited to:
  - The development of the project Organization Chart;
  - Review of current B.U. / Regional targets and goals associated with the safety program;
  - Development of the SHEMS including Risk Identification and Program Development
  - The assignment of Roles and Responsibilities associated with implementing the system; and
  - Comments and recommendations regarding the project safety program shall be submitted to the B.U. / Regional Safety and Environmental Director for approval prior to any changes being made.

- The following persons shall attend the meeting:
  - Project Executive / B.U. / Regional Safety Director;
  - Project Manager;
  - Superintendents;
  - Engineers; and
  - Safety Manager/Safety Engineer.

## 31.7 Project Assessment System (PAS)

- A monthly audit of the project to assess the progress of the project management team shall be conducted.

## 32 PROJECT LIGHTING

### 32.1 Applicable Regulations

US Department of Energy, Energy Independence and Security Act of 2007 (EISA 2007)

[OSHA 29 CFR 1926.56](#)

### 32.2 Purpose

To set the basic minimum guidelines associated with lighting at the Project site and environs.

#### 32.2.1 Green Initiative

The use of incandescent lamps and fixtures is to be discontinued. Where possible, the use of energy-efficient, shielded (fully-enclosed) compact fluorescent lamps (CFL), fluorescent lamps (FL), metal halide (MH) or Light Emitting Diode (LED) fixtures shall be encouraged. Skanska Kiewit is to be in compliance with the US Department of Energy's Energy Independence and Security Act of 2007 (EISA 2007).

#### 32.2.2 Branch Circuits

Branch circuits for lighting shall be supported as not to interfere with construction activities and shall not rest on the floor or interfere with potential walking/equipment movement.

#### 32.2.3 Color

Due to color rendition, Low Pressure Sodium (LPS) or High Pressure Sodium fixtures (HPS) are not to be utilized, unless specified for use, or to blend in to existing lighting design.

- Color temperature may be between 3000 to 5000°K for fluorescent lamps.
- Metal Halide may be between 3200 to 4000°K.

#### 32.2.4 Fixtures

- Fixtures are to be rated for the Project environment and/or classification.
- Fixtures are encouraged to be made out of metal or high strength plastics with suitable diffusers.
- Fixture guards are also either required or suggested to reduce breakage.
- Fixtures are to be suitably fastened to a solid surface or suspended with proper aerial cable or hangers to support the weight of the fixture, wire and environmental conditions (e.g. ice load).
- All fixtures are to be UL listed for the application.

## 32.2.5 Inspection

- Inspection of the lighting system(s) shall be performed prior to each working shift.
- Egress lighting and exit lighting shall be left on at all times.
- Security lighting shall be controlled via photocell or time clock(s), or as the Project dictates.

## 32.2.6 Lighting Levels

- The minimum lighting levels shall be in accordance with OSHA 1926.56 – Illumination (See Table D-3, below).
- Measurements shall be made from a calibrated light meter either new out of box or calibrated within a six (6) month period of time for use.

## 32.2.7 Logical Spares

- As a minimum, one (1) fixture of each type should be kept at the Project site.
- Where there are anticipated or constant “moves” of fixtures, a minimum of six (6) of each type of fixtures shall be kept as spares on site..
- Where Metal Halide fixtures are utilized, a minimum of two (2) ballasts shall be kept on site with the proper voltage characteristics.
- Replacement guards or shield shall also be required to be in inventory.
- Project conditions shall indicate the requirements of additional material.

## 32.2.8 Power Source

- All connections to fixtures shall be made from individual branch circuits, specifically designated for lighting.
- Egress signs shall be on a separate circuit from general lighting.
- A minimum of two (2) circuits will be required in a work area/floor.
- No “Laundry Drops” or connections for small tools shall be permitted.
- All circuits shall be clearly labeled to indicate area served at the source panel.
- Fixtures connected to 277/480VAC circuits shall have a separate label indicating voltage.
- Minimum wire gauge is #12AWG for lighting.

## 32.2.9 Streamers

- Streamers are discouraged. Any streamers utilized are to have shielded CFL and required guards (cages) of either plastic or metal.
- The use of multi-tap 175W, 250W or 400W Metal Halide Pulse Start Temporary Work light Fixtures with wire guards should be utilized.

## 32.2.10 Task Lighting

- Task Lighting may be achieved for work activities utilizing commercially available fixtures/tripods for that purpose.
- All task lighting fixtures are to be UL listed for the application.
- The use of halogen lamps for this task lighting purpose is acceptable, providing the fixture has tempered glass and a wire shield.

### 32.2.11 General

Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lighted to not less than the minimum illumination intensities listed in Table D-3 (below) while any work is in progress:

**TABLE D-3 - MINIMUM ILLUMINATION INTENSITIES IN FOOT-CANDLES**

Foot-Candles	Area of Operation
5.....	General construction area lighting.
3.....	General construction areas, concrete placement, excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas.
5.....	Indoors: Warehouses, corridors, hallways, and exit ways.
5.....	Tunnels, shafts, and general underground work areas: (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of Mines approved cap lights shall be acceptable for use in the tunnel heading.)
10.....	General construction plant and shops (e.g., batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active store rooms, mess halls, and indoor toilets and workrooms.)
30.....	First Aid stations, infirmaries, and offices.

Other areas: For areas or operations not covered above, refer to the American National Standard A11.1-1965, R1970, Practice for Industrial Lighting, for recommended values of illumination.

## 33 RESPIRATORY PROTECTION

### 33.1 Purpose

The purpose of this program is to establish, implement and maintain an appropriate Respiratory Protection Program to protect employees from respiratory hazards on our jobsites. Respiratory Protection is an area of Safety and Health that Skanska Kiewit takes extremely seriously.

Through education and training, we believe that working in and around respiratory hazards and environments can be managed safely and effectively. As a company, we believe in engineering out or administratively controlling respiratory hazards and environments. When these controls cannot be instituted, we will use appropriate respiratory protection. Skanska Kiewit shall ensure that respiratory hazards within our sites are evaluated and that information concerning these hazards is transmitted to all affected employees through our construction planning process.

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.

### 33.2 Applicable Regulations

[OSHA 29 CFR 1910.134](#)

[OSHA 29 CFR 1926.103](#)

### 33.3 Definitions

**Air-purifying respirator** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

**Assigned protection factor (APF)** means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section.

**Atmosphere-supplying respirator** means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

**Canister or cartridge** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

**Demand respirator** means an atmosphere-supplying respirator that admits breathing air to the face piece only

when a negative pressure is created inside the face piece by inhalation.

**Emergency situation** means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

**Employee exposure** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

**End-of-service-life indicator (ESLI)** means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

**Escape-only respirator** means a respirator intended to be used only for emergency exit.

**Filter or air purifying element** means a component used in respirators to remove solid or liquid aerosols from the inspired air.

**Filtering face piece (dust mask)** means a negative pressure particulate respirator with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium.

**Fit factor** means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit test** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

**Helmet** means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

**High efficiency particulate air (HEPA) filter** means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

**Hood** means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

**Immediately dangerous to life or health (IDLH)** means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

**Interior structural firefighting** means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)

**Loose-fitting face piece** means a respiratory inlet covering that is designed to form a partial seal with the face.

**Maximum use concentration (MUC)** means the maximum atmospheric concentration of a hazardous

substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

**Negative pressure respirator (tight fitting)** means a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

**Oxygen deficient atmosphere** means an atmosphere with an oxygen content below 19.5% by volume.

**Physician or other licensed health care professional (PLHCP)** means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of [OSHA 29 CFR 1910.134](#)

**Positive pressure respirator** means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

**Powered air-purifying respirator (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

**Pressure demand respirator** means a positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

**Qualitative fit test (QLFT)** means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

**Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

**Respiratory inlet covering** means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

**Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

**Service life** means the period of time that a respirator, filter or sorbent or other respiratory equipment provides adequate protection to the wearer.

**Supplied-air respirator (SAR) or airline respirator** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

**This section** means this respiratory protection standard.

**Tight-fitting face piece** means a respiratory inlet covering that forms a complete seal with the face.

**User seal check** means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

## 33.4 Responsibilities

### 33.4.1 B.U. / Regional Safety Department shall:

- The B.U. / Regional Safety Director is responsible for the respiratory protection program and has the authority to make necessary decisions to ensure its implementation and maintenance. The VP of Safety has the authorization to halt any company operation where there is danger of serious personal injury. The B.U. / Regional Safety Director also has the authority to designate this role to additional individuals in the organization as deemed necessary to ensure compliance – this will be documented in the project(s)' Worksite Specific Respiratory program(s);
- B.U. / Regional Safety Director shall be appointed and shall approve all site specific respiratory programs prior to implementation at the site, and thereafter review as required;
- The program shall be reviewed and evaluated on an annual basis, or when changes occur to 29 CFR 1910.134 that prompt revision of this document or when facility operational changes occur that require a revision to the program;
- The B.U. / Regional Safety Director shall conduct routine evaluations to ensure the written program is being followed. Topics to be considered during the evaluation shall consist of: respirator fit, selection, maintenance, interference with job performance, discomfort, employee concerns; and
- Provide a database of Medical Evaluation Questionnaires and Fit Test results of each employee required to wear respiratory protection.

### 33.4.2 Project Management shall:

- Evaluate work activities for the presence of respiratory hazards and prepare construction plans for each activity;
- Institute engineering and administrative controls, as a first line of defense against respiratory hazards;
- Purchase suitable respirators to protect employees from respiratory hazards;
- Ensure each employee wearing respiratory protection has the required medical clearance and fit test record prior to wearing the respirator;
- Train employees in topics identified in this program; and
- Enforce the use of respirators.

### 33.4.3 Employees shall:

- Correctly wear respirators in accordance with instructions and training during operations designated by their supervisor;
- Not have facial hair of any type that interferes with the correct fit of a respirator;
- Properly clean, store and maintain respirators according to the direction of their supervisor; and
- Guard against damage to the respirator and shall immediately replace suspect respirators and shall report such damage or malfunction of the respirator to their supervisor.

## 33.5 Procedure

### 33.5.1 Site-Specific Respiratory Protection Program

- For the purposes of compliance with OSHA 1910.134, this program will provide the framework for the Worksite Specific Respiratory Plan. All required information shall be contained in this program; and
- Construction Plan(s) will address specific engineering and administrative controls and specify any requirements for respiratory protection.

### 33.5.2 Surveillance of Work Area Conditions

- As each activity progresses, surveillance of work area conditions and degree of employee exposure or stress shall be monitored and measured; and
- The Site Safety Manager will make a reasonable estimate of employee exposure by conducting a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency.
- The evaluation may include:
  - Identification and review of a list of hazardous substances used in the work area;
  - Review of work processes to determine source of potential hazardous substances;
  - Review of process records;

### 33.5.3 Employee interviews;

- Air Monitoring (may be mandatory if the contaminant is regulated by a separate OSHA Standard e.g. Asbestos, Lead, Silica, Methylene Chloride, etc.);
- Published studies by trade associations, manufacturer(s), historical data;
- Mathematical approaches using physical & chemical properties of the contaminant;
- If a reasonable estimate cannot be obtained then Immediately Dangerous to Life and Health (IDLH) atmosphere must be assumed; and
- The Site Safety Engineer will revise and update the hazard assessment as needed.
- Air Sampling will be conducted as per the requirements in this section.

### 33.5.4 Air Sampling Procedure:

- Baseline sampling shall commence at the beginning of each operation which is identified as a potential for airborne exposure. Historical data from similar operations producing airborne exposure can be used as baseline exposure monitoring, when feasible, but must be evaluated according to activity, length of operation, conditions in which the samples were taken, etc;
- Personal air sampling shall always be the first method to determining actual employee exposure. Area monitoring shall be used to supplement personal air sampling but shall not be the only method of determining exposure;

- Air Sampling will be representative of the exposure that the employee is exposed to throughout his daily shift;
- An Air Monitoring Worksheet shall be completed for each sample taken on any given day. If several different samples are taken on the same day then one Air Monitoring Worksheet can be filled out providing the conditions for each employee are the same, otherwise a separate worksheet is required;
- A Chain of Custody will be completed for each batch of samples that are to be sent to the Laboratory for analysis, along with the Air Monitoring Worksheet. Both these documents are to remain with analysis received back from the Laboratory;
- If the initial baseline results demonstrates employee exposure to be below the action level, then ;
- Personal and Area Air Sampling will take place thereafter on at least three consecutive measurements taken at least seven (7) days apart;

### 33.5.5 Air Sampling Frequency

Results shall be managed as follows:

- Where results demonstrate that the employee exposure is below the action level, monitoring shall be continued until sampling shows no exposure on at least three consecutive measurements taken at least seven (7) days apart;
- Where results demonstrate that the employee exposure is above the action level, but below the permissible exposure limit, monitoring shall be repeated at least every 6 months. The monitoring shall continue until at least two consecutive measurements, taken at least 7 days apart, are below the action level, at which time the monitoring for that employee or operation may be discontinued; and
- If the initial monitoring reveals that employee exposure is above the permissible exposure limit, the monitoring shall be repeated quarterly. The monitoring shall continue until at least two consecutive measurements, taken at least 7 days apart, are below the permissible exposure level, at which time the monitoring for that employee or operation may be discontinued.
- Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to any contaminant, or whenever Skanska Kiewit has any reason to suspect a change which may result in new or additional exposures, additional monitoring shall be conducted; and
- Air monitoring results and exposure assessment shall be supervised by the B.U. / Regional Respiratory Program Administrator.

### **33.5.6 Medical Evaluation:**

- Persons shall not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment;

- The B.U. / Regional approved physician will be used in all instances for medical evaluate and clearance for respirator use;
- Prior to work commencing, each required employee shall complete a Medical Evaluation Questionnaire (MEQ) in accordance with CFR 1910.134. This shall be sent to the approved physician for clearance;
- The examining physician will then evaluate the employee, based on their answers, and certify clearance for respirator use under any conditions that they see fit. This may involve clearance by MEQ alone, consultation with the Physician and/or a medical examination;
- This clearance will be forwarded to the B.U. / Regional Respiratory Program Administrator and the Site Respiratory Program Administrator for processing and recordkeeping. Any conditions stated on the clearance will be followed; and
- Additional medical evaluations shall be provided when:
  - An employee has any change in medical status;
  - An employee reports medical signs or symptoms that are related to ability to use a respirator; and
  - The physician states that the employee needs to be re-evaluated.

### 33.5.7 Fit Test Procedure:

- The procedures in Appendix A in section 29 CFR 1926.103 are to be followed. A medical evaluation needs to be completed prior to fit testing an employee;
- Fit testing will be performed using Quantitative Fit Testing measures. If this is not available, then Qualitative means may be used for ½ face Air Purifying Respirators only until the quantitative means are available;
- Select respirators from a sufficient number of respirator models and sizes to assure that the respirator is acceptable to, and correctly fits, the user;
- Fit tests will be done before using the respirator in the field and will be repeated annually, when a different type or brand of respirator is worn or when there is a significant physical difference in the employee such as body weight, facial scarring, dentures, broken jaw;
- The absence of one or both dentures can seriously affect the fit of a face piece. The worker's diligence in observing these factors shall be evaluated by periodic checks;
- To assure proper protection, each wearer will complete positive and negative checks every time a respirator is donned to ensure the respirator is properly sealed;
- Hair. Fit testing shall not be conducted if there is any hair growth between the skin and the face piece seal surface.
- Respiratory Difficulty during Tests. If an employee exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respiratory diseases or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties;

- Respirator Use Determination. The test subject shall be given the opportunity to wear the assigned respirator for one week. If the respirator does not provide a satisfactory fit during actual use, the test subject may request another fit test, which shall be performed immediately;
- Filter Replacement. Filters used for qualitative or quantitative fit testing shall be replaced weekly, whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily or sooner if there is any indication of breakthrough by the test agent.
- Because the seal of the respirator may be affected, quantitative fit testing shall be repeated immediately when the test subject has a:
  - Weight change of 20 pounds or more;
  - Significant facial scarring in the area of the face piece seal;
  - Significant dental changes; i.e., multiple extractions without prosthesis, or acquiring dentures;
  - Reconstructive or cosmetic surgery; and
  - Any other condition that may interfere with the face piece seal.
- Fit Test Recordkeeping Requirements. A summary of all test results shall be maintained for three (3) years. The summary shall, as a minimum, include:

33.5.7...1 *Name of test subject;*

33.5.7...2 *Date of testing;*

33.5.7...3 *Name of the test conductor; and*

33.5.7...4 *Fit factors obtained from every respirator tested (indicate manufacturer, model, and size and approval number).*

### 33.5.8 Selection of Respirators

- Dust masks are not permitted for use on any project under any circumstances;
- The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it is designed;
- Respirators shall be chosen according to the Assigned Protection Factors (APFs). APFs are numbers that indicate the level of workplace respiratory protection that a respirator or class of respirators is expected to provide to employees when used as part of this respiratory program. The number is based upon the exposure limit of a contaminant and the level of the contaminant in the workplace.
- To determine which respirator is adequate to protect against the contaminant, the following calculation is to be made:

$$\text{OSHA PEL}^* \text{ or NIOSH REL}^{**} \times \text{APF} = \text{Maximum Use Concentration}$$

\* PEL = Permissible Exposure Limit

\*\*REL = Recommended Exposure Limit

- Once the Maximum Use Concentration is known, utilize the following table to ascertain which respirator shall be used during the operation:

Type of Respirator	Assigned Protection Factor <sup>2</sup>			
	Half Face	Full Face	Helmet / Hood	Loose-Fitting Face piece
Air Purifying Respirator (APR)	10	50	-	-
Powered Air-Purifying Respirator (PAPR)	50	1,000	25 / 1,000 <sup>1</sup>	25
Supplied-Air Respirator (SAR) or Airline Respirator				
▪ Demand Mode	10	50	-	-
▪ Continuous Flow Mode	50	1,000	25 / 1,000 <sup>1</sup>	25
▪ Pressure-demand or other positive pressure mode	50	1,000	-	-
Self-Contained Breathing Apparatus (SCBA)				
▪ Demand Mode	10	50	50	-
▪ Pressure-Demand or other positive-pressure mode (e.g., open/closed circuit)	-	10,000	10,000	-

Note:

<sup>1</sup> Evidence must be provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. Absence of such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting face piece respirators, and receive an APF of 25.

<sup>2</sup> These APFs do not apply to respirators used solely for escape. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d) (2) (ii).

All filter cartridges and canisters shall be labeled with the appropriate NIOSH approval label that has been certified under the NIOSH 42 CFR Part 84. This label is not to be removed, obscured, or defaced while in service. Only series 100 filters certified under 42 CFR Part 84 shall be used when HEPA filters are called for;

Gas or Vapor protection – If a respirator with an End of Service Life Indicator (ESLI) is not available, a change-out schedule will be specified on a site specific basis. Every effort will be made to obtain objective information and data to assure that the cartridges are changed out prior to end of service life;

Respirators will be selected based on the specific hazard involved and shall be selected in accordance with the manufacturer's instructions or other related requirements (OSHA or ANSI Standards, NIOSH, etc.). The criteria specified in the following table shall be used:

Hazard	Respirator*
Oxygen Deficiency	Self-contained breathing apparatus. Hose mask with blower. Combination airline respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Gas & Vapor (Contaminants immediately dangerous to life and health)	Self-contained breathing apparatus. Hose mask with blower. Air purifying full-face piece respirator with chemical canister (gas mask). Self rescue mouthpiece respirator (for escape only). Combination airline respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Gas & Vapor (Contaminants NOT immediately dangerous to life and health)	Airline respirator. Hose mask without blower. Air purifying half-mask or mouthpiece respirator with chemical cartridge.
Particulate Contaminants (Contaminants immediately dangerous to life and health)	Self-contained breathing apparatus. Hose mask with blower. Air purifying full-face piece respirator with chemical canister (gas mask). Self rescue mouthpiece respirator (for escape only). Combination airline respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Particulate Contaminants (Contaminants NOT immediately dangerous to life and health)	Air-purifying half-mask or mouthpiece respirators with filter pad or cartridge. Airline respirator. Airline abrasive-blasting respirator. Hose mask without blower.
Combination Gas, Vapor & Particulate (Contaminants immediately dangerous to life and health)	Self-contained breathing apparatus. Hose mask with blower. Air purifying full-face piece respirator with chemical canister (gas mask with filter). Self rescue mouthpiece respirator (for escape only). Combination airline respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Combination Gas, Vapor & Particulate (Contaminants NOT immediately dangerous to life and health)	Airline respirator. Hose mask without blower. Air purifying half-mask or mouthpiece respirator with chemical cartridge and appropriate filter.

\* For the purpose of this part, "Immediately Dangerous to Life and Health" is defined as a condition that poses either an immediate threat to life and health or an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse delayed effects on health.

### 33.5.9 Use of Respirators

- The correct respirator shall be specified for each job and the respirator type shall be specified in the site specific respiratory plan by the site safety Engineer or designated individual, who supervises the respiratory protection program. This shall be specified through each and every Construction Plan.
- Each employee will be assigned his or her own respirator. Sharing respirators is not permitted.

- Dangerous Atmospheres. Written procedures and/or checklists for specific routine tasks/jobs shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies:
- In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional person shall be present. Communications (visual, voice, or signal line) shall be maintained between both individuals present. Planning shall be such that one individual shall be unaffected by any likely incident and have the proper rescue equipment to be able to assist other(s) in case of an emergency; and
- When a self-contained breathing apparatus (SCBA) or hose masks with blowers are used in atmospheres immediately dangerous to life or health (IDLH), standby personnel must be present with suitable rescue equipment.
- Respirators shall not be removed while inside a work area that requires respiratory protection. Employees shall be permitted to leave the work area to maintain, clean, change filters, replace parts, or to inspect their respirator if it is impeding their ability to work or if the respirator stops functioning as intended. Employees shall notify supervisor of when leaving the work area.
- To assure the continuing respirator effectiveness, appropriate surveillance shall be maintained of the work area conditions and the degree of employee exposure or stress. This shall include a fit check evaluation to assure proper protection. This shall be accomplished by the Site Safety Engineer.
- Hair / Apparel. If hair growth or apparel interferes with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit;
- Corrective Vision. If an employee wears corrective glasses or goggles or other personal protective equipment. A check shall be made to ensure that such equipment when worn does not interfere with the seal of the face piece to the face of the user. If the employees wear other safety equipment with their respirators, the employee must pass an appropriate fit test while wearing the equipment to determine a correct seal.
- Corrective vision requirements (Full-Face Respirators). Full-Face respirators having provisions for optical inserts shall be reviewed. These inserts when used shall be used according to the manufacturer's specification. The face piece and lenses shall be fitted by qualified individuals to provide good vision, comfort and a satisfactory face seal.
- Conventional eye glasses shall not be used with full-face respirators. A proper seal cannot be established if the temple bars of eyeglasses extend through the sealing edge of the full face piece.
- Contact lenses shall not be used with full-face respirators. Wearing contact lenses in contaminated atmospheres with a respirator shall not be allowed.
- Identification of chemical cartridges is by means of its label. The secondary means is by color code. All cartridges purchased or used shall be properly labeled and/or color coded in accordance with 29 CFR 1910.134 before they are placed into service. The labels and colors shall be properly maintained at all times until disposal.

- Color coding. Each cartridge is painted a distinctive color or combination of colors indicated in Table 1-1 below. All colors used are such that they are clearly identifiable by the user and clearly distinguishable from one another.

**TABLE I-1 from 29 CFR 1910.134**

<b>ATMOSPHERIC CONTAMINANT(S)</b>	<b>COLOR(S) ASSIGNED</b>
Acid gases	WHITE
Hydrocyanic acid gas	WHITE with a 1/2 inch GREEN stripe completely around the canister near the bottom
Chlorine gas	WHITE with a 1/2 inch YELLOW stripe completely around the canister near the bottom
Organic vapors	BLACK
Ammonia gas	GREEN
Acid gases and ammonia gas	GREEN with 1/2 inch WHITE stripe completely around the canister near the bottom
Carbon monoxide	BLUE
Acid gases and organic vapors	YELLOW
Hydrocyanic acid gas and chloropicrin vapor	YELLOW with 1/2 inch BLUE strip completely around the canister near the bottom
Acid gases, organic vapors, and ammonia gases	BROWN
Radioactive materials, excepting tritium and noble gases	PURPLE (Magenta)
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the gases or vapors	Canister color for contaminant as designated above, with 1/2 inch GRAY stripe completely around the canister near the top
All of the above atmospheric contaminants	RED with 1/2 inch GRAY stripe completely around the canister near the top

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**NOTE:** GRAY is not assigned as the main color for a canister designed to remove acids or vapors.

**NOTE:** ORANGE is used as a complete body or stripe color to represent gases not included in this table. The user shall need to refer to the canister label to determine the degree of protection the canister shall afford.

## 33.5.10 Identification of Particulate Filters.

- The 42 CFR Part 84 standard creates three new series of particulate filters (“disposable”) designated by NIOSH as N, R, and P. The N series is tested against sodium chloride (NaCl) and is limited to use in atmospheres containing non-oil based particulates. Both the R and P series are tested against dioctyl phthalate (DOP) and are intended for filtering any solid or oil-based liquid particulates.

<u>FILTER SERIES</u>	<u>FILTER TYPE DESIGNATION</u>	<u>MINIMUM EFFICENCY</u>
“N” Series: Non-oil	N95	95%
	N99	99%
	N100	99.97%
“R” Series: oil-Resistant	R95	95%
	R99	99%
	R100	99.97%
“P” Series: oil-Proof	P95	95%
	P99	99%
	P100	99.97%

## 33.5.11 Air Quality

- Compressed air, compressed oxygen, liquid air and liquid oxygen used for respiration shall be of high quality;
- Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen;
- Cylinders of purchased breathing air shall meet at least the requirements of the specification for Type 1 – Grade D breathing air as described in Compressed Gas Association Commodity Specifications G-7.1-1989;
- Cylinders of purchased breathing air should have certificate of analysis from the supplier that the breathing air meets the requirements of Type 1 – Grade D air;
- Compressed oxygen shall not be used;
- Oxygen must never be used with airline respirators. Breathing air may be supplied to respirators from cylinders or air compressors;
- Cylinders shall be tested and maintained as prescribed in the shipping Container Specification Regulations of the Department of Transportation (49 CFR PART 173 and 178);
- Oxygen concentrations greater than 23.5% are to be used only in equipment designed for oxygen service distribution;

- Moisture content in the cylinder shall not exceed a dew point of -50 degrees F at 1 atmosphere;
- Supplied Air compressors purchased by Skanska Kiewit for supplying air shall be equipped with the necessary safety and standby devices. A breathing-air type compressor shall be used. The type compressor used shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable inline air purifying absorbent beds and filters installed to further assure breathing air quality. The filter panel must have a tag indicating the last absorbent bed, filter change out and PM work, as well as the signature of the person authorized to perform the change. A receiver of sufficient capacity to enable the respirator wearer to escape from the contaminated atmosphere in the event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high temperature alarm is installed in the system, the air from the compressor shall be frequently tested for carbon monoxide to ensure that levels are below the exposure limit for carbon monoxide (currently 10 ppm);
- Air-line couplings used shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air-line respirators with non-respirable gases or oxygen;
- Compressor shall be set up to minimize moisture content; and
- Breathing gas containers shall be properly marked and stored in accordance with NIOSH respirator certification standard 29 CFR 1910.101.

### 33.5.12 Cleaning and Disinfecting

- Respirators shall be regularly cleaned and disinfected using the procedures in Appendix B-1 of the Respirator standard or in accordance with the manufacturers written instructions
- Respirators are required to be cleaned prior to each use, and thereafter as required;
- Respirators used in fit testing and training shall be cleaned and disinfected before and after each use;
- Respirator cleaning will take place prior to the shift ending; and
- All cleaning supplies will be provided.
- The following procedure is recommended for cleaning and disinfecting respirators:
  - Remove any filters, cartridges or canisters;
  - Wash face piece and breathing tube in cleaner-disinfectant or detergent solution (see following paragraphs). Use a hand brush to facilitate removal of dirt;
  - Rinse completely in clean, warm water;
  - Air dry in a clean area;
  - Clean other respirator parts as recommended by manufacturer;
  - Inspect valves, head straps and other parts, replace with new parts if defective;
  - Insert new filters, cartridges or canisters, make sure seal is tight; and
  - Place in plastic bag or container for storage.
- Cleaner-disinfectant solutions shall be used to effectively clean respirators. The respirator should be immersed in the solution, rinsed in clean, warm water and air-dried; and

- Strong cleaning and disinfecting agents can damage respirator parts. Temperatures above 185 degrees Fahrenheit and vigorous mechanical agitation should not be used. Solvents, which affect elastomeric or rubber parts, should be used with caution.

### 33.5.13 Storage

- Respirators shall be stored in a convenient, clean and sanitary location;
- After inspection, cleaning and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals;
- Respirators placed at stations and work areas for emergency use should be stored in compartments built for the purpose, be quickly accessible at all times and be clearly marked;
- Respirators should not be stored in such places as lockers or toolboxes unless they are in carrying cases or cartons;
- Respirators should be packed or stored so that the face piece and exhalation valve will rest in a normal position and function will not be impaired by the elastomeric setting in an abnormal position;
- Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid; and
- If required, Emergency-use respirators will be placed at stations and work areas for emergency use only. Emergency use respirators shall be immediately accessible at all times and shall be stored in compartments built for the purpose and in accordance with the manufacturer's recommendations. These compartments shall be clearly marked. Instructions for the use and storage of respirators are typically mounted inside the carrying case lid.

### 33.5.14 Routine Inspections

- All respirators shall be inspected routinely before and after each use. The manufacturer's inspection criteria shall be used as the basis for the inspection;
- Emergency escape respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in working condition. Emergency escape only respirators shall also be inspected before being carried into the work area. The respirator manufacturer's inspection criteria shall be used as the basis for the inspections. A record shall be kept of inspection dates and findings for respirators maintained for emergency use;
- Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly;
- Respirator inspection shall include a check of the tightness of connections and the condition of the face piece, headband, valves, connecting tube and canisters;

- Rubber or elastomeric parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomeric parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage;
- Random inspections shall be conducted to assure that respirators are properly selected, used, cleaned and maintained. The respirator manufacturer's inspection criteria shall be used as the basis for inspections. Each jobsite will identify and document the employees who will perform random inspections; and
- Replacement or repair. Only the site Safety Engineer or designated individual, with NIOSH approved parts designed for the respirator, shall do replacement or repairs. No attempt shall be made to replace components or make adjustments or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair. Respirators that have failed inspection will be taken out of service.

## 33.6 Training

### 33.6.1 General

- For safe use of any respirator, it is essential that the user be properly instructed in his/her selection, use and maintenance;
- Training shall be provided to each affected employee:
  - Before the employee is first assigned duties that require respiratory protection; and
  - At a minimum, annually thereafter;

### 33.6.2 Before there is a change in assigned duties;

- Whenever there is a change in operations that present a hazard for which an employee has not previously been trained;
- Whenever there is a reason to believe that there are deviations from established respiratory procedures required by this instruction or inadequacies in the employee's knowledge or use of these procedures; and
- The training shall establish employee proficiency in the duties required by this instruction and shall introduce new or revised procedures, as necessary, for compliance with this instruction or when future revisions occur.

### 33.6.3 Training topics shall include, as a minimum:

- Respiratory Protection Program;
- The OSHA Respiratory Protection standard;

- Respiratory hazards encountered within the scope of work and their health effects; whether acute, chronic or both, and an honest appraisal of what may happen if the respirator is not used;
- Need for respiratory protection and the consequences of improper fit, use, or maintenance;
- Proper selection and use of respirators;
- Inspection and seal checking of respirators;
- Limitations and capabilities of respirators;
- Respirator donning and user seal (fit) checks;
- Emergency use procedures; Classroom and field training will help with recognizing and coping with emergencies. This will include situations where the respirator malfunctions;
- Maintenance and storage procedures;
- Medical signs and symptoms limiting the effective use of respirators;
- Explanation of why more control that is positive is not immediately feasible. This shall include recognition that every reasonable effort is being made to reduce or eliminate the need for respirators; and
- Fit Evaluation: the wearer shall be trained how to check the face piece's fit each time they put on the respirator by conducting a positive/negative pressure seal check as specified In appendix B -1 of the respiratory protection standard.

#### 33.6.4 Recordkeeping

The following records shall be kept at the jobsite:

- Medical Evaluation Questionnaire result(s);
- Fit Test Records;
- Air Sampling Worksheets for each sample;
- Chain of Custody for each sample;
- Laboratory sample analysis for each sample;
- Calculations of exposure;
- Employee exposure notification records; and
- Training records.

The following records shall be kept at the B.U. / Regional Safety and Environmental Department:

- Medical Evaluation Questionnaire result(s);
- Fit Test Records;
- Air Sampling Worksheets for each sample;
- Chain of Custody for each sample;
- Laboratory sample analysis for each sample;
- Calculations of exposure; and
- Worksite Specific Respiratory Plan (WSRP).

## Worksite Specific Respiratory Plan

**Jobsite:**

**Site Respiratory Program Administrator:**

⇒ **Task Description:**

⇒ **Atmospheric Hazards:**

- What is the oxygen content of the atmosphere and how was it determined?

- What is the nature and concentration of the atmospheric contaminant(s) requiring the use of respirators and how was it determined?

- What monitoring and/or sampling procedures will be used to ensure that the respirators provide adequate ongoing protection during the course of the work?

- What is the OSHA PEL for the contaminant(s)? Is an SDS for the contaminant(s) on site?



⇒ **Engineering Controls:**

⇒ **Respirators:**

- Type of respirator(s):      Assigned Protection Factor:      Maximum Use Concentration:




- Cartridges to be used and replacement criteria:

- Procedures for use and maintenance of respirators (cleaning, inspecting, storing, etc.):

⇒ **Authorized Employees (MEQ passed, fit tested, respirator trained, and activity trained):**


--	--	--	--	--

⇒ **Emergency recognition and response:**

- Signs and symptoms of overexposure:

--

- First aid / evacuation procedures:

--

- Proper use of respirators during emergencies:

--

⇒ **Signatures**

Site Respiratory Program Administrator

\_\_\_\_\_

Site Superintendent

\_\_\_\_\_

Corp. Respiratory Program Administrator

\_\_\_\_\_

## 33.7 Respirator inspection record

### RESPIRATOR INSPECTION RECORD

Name of Employee: \_\_\_\_\_  
 Respirator Type, Model and Size: \_\_\_\_\_  
 Date of Inspection: \_\_\_\_\_

Item	OK	Defective	Comments
Face piece	<input type="checkbox"/>	<input type="checkbox"/>	_____
Inhalation Valve	<input type="checkbox"/>	<input type="checkbox"/>	_____
Exhalation Valve Assembly	<input type="checkbox"/>	<input type="checkbox"/>	_____
Headbands	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cartridge Holder	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cartridge / Canister	<input type="checkbox"/>	<input type="checkbox"/>	_____
Filter	<input type="checkbox"/>	<input type="checkbox"/>	_____
Harness Assembly	<input type="checkbox"/>	<input type="checkbox"/>	_____
Hose Assembly	<input type="checkbox"/>	<input type="checkbox"/>	_____
Speaking Diaphragm	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gaskets	<input type="checkbox"/>	<input type="checkbox"/>	_____
Connection	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other Defects	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Comments:**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspector's Name and Title (Print) \_\_\_\_\_ Signature \_\_\_\_\_

<b>Job Name and #:</b>							
<b>Foreman</b>							
<b>Name of Employee:</b>							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Date of Inspection:</b>							
Face piece							
Inhalation Valve							
Exhalation Valve Assembly							
Headbands							
Cartridge Holder							
Cartridge / Canister							
Filter							
Harness Assembly							
Hose Assembly							
Speaking Diaphragm							
Gaskets							
Connection							
Other Defects							

Face piece							
<b>Employee's Initials</b>							
Notes:							

Item Inspected and OK

Item requires immediate repair/replacement – Safety Engineer required to initial and date

**33.7.1 Medical Evaluation Questionnaire (MEQ)**

**EMPLOYER: PLEASE FILL OUT THE FOLLOWING INFORMATION**

**Company's Name:** SKANSKA KIEWIT

**Job-Site Name &**

**Address:**

**No.** \_\_\_\_\_

**Job-Site**

**Address:** \_\_\_\_\_

**Co. Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**Site Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**Employee's Name:** \_\_\_\_\_

**Employee's SSN:** \_\_\_\_\_

**Check Type of Respirator(s) to be Used** (Check  All That

- Air-purifying (Non-powered)       Air purifying  
(powered)

Respirator

Combination Airline and SCBA

Continuous Flow Respirator

Open Circuit SCBA

Dust Mask     ½ Face with

Canisters

**Make:** \_\_\_\_\_ **Model:** \_\_\_\_\_ **Cartridge:** \_\_\_\_\_

**(Check  All That Apply)**

High Places     Temperature     Mostly Cold

Extremes

Enclosed     Protective Clothing     Mostly Hot

Places

Other(s): \_\_\_\_\_

Questionnaire Will             E-Mailed

Be:                      Faxed                      Mailed

Other: \_\_\_\_\_

**Extent of Usage** (Check  All That Apply)

On a daily basis \_\_\_\_\_ Total Hours

Occasionally, but not more than twice a week \_\_\_\_\_ Total Hours

Rarely—or for emergency situations only \_\_\_\_\_ Total Hours

**Expected Physical Effort Required** (Check  All That

Light                       Moderate                       Heavy

**Extent of Usage** (Check  All That Apply)

Arsenic                       Benzene

Coke Oven

Cotton Seed/Dust

Cadmium

Formaldehyde

Methylene Chloride

Lead

Textiles

Chromium

Welding Fumes

Concrete/Silica

Other(s): \_\_\_\_\_

**EVALUATION AUTHORIZATION BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

Signature of Employer Representative

NOTE TO EMPLOYEE AND EMPLOYER: DO NOT WRITE BELOW THIS LINE—FOR USE BY THE PLHCP ONLY

**PLHCP WRITTEN STATEMENT FOR THE USE OF RESPIRATORS**

This report may contain confidential medical information and is intended for the designated employer contact only. The American with Disabilities Act (ADA) imposes very strict limitation on the use of information obtained during physical examination of qualified individuals with disabilities. All information must be collected and maintained on separate forms, in separate files, and must be treated as a confidential medical record. With the following exceptions:

- Supervisors and Managers may be informed about necessary restrictions on the work or duties of an employee and necessary accommodations.

- First Aid and Safety Personnel may be informed, when appropriate, if the disability might require emergency treatment.

**Based upon my findings, I have determined that this individual (Check  All That Apply)**

- Further Testing/Evaluation is Required
- Class I – No Restrictions on Respirator Use
- Class II – Some Specific Use Restrictions  Emergency Response or Escape Only  Other: \_\_\_\_\_
- Class III – Respirator Use is **NOT PERMITTED**

**Physician or other Licensed Healthcare Professional (Check  All That Apply)**

- The above individual **HAS** been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirator or change of any physical status to their Supervisor or the PLHCP. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- I **HAVE NOT** examined the above individual for respirator fitness. The employee’s medical evaluation consisted of a review of OSHA’s Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirator or change of any physical status to their Supervisor or PLHCP. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- In accordance with specific OSHA requirements, I have informed the above named individual of any positive results of this evaluation regarding respirator or respirator use or further evaluation.

\_\_\_\_\_  
**PLHCP’s Signature**

\_\_\_\_\_  
**PLHCP’s Name Printed**

\_\_\_\_\_  
**Physician’s License Number (Optional in Most States)  
Expiration Date**

\_\_\_\_\_  
**Date of Evaluation**

**PART A-SECTION 1**

**MUST BE FILLED OUT ON EACH PAGE**

Name (last, first, middle)		Social Security Number:	Today's Date:
Age (to nearest year):	Sex : (check one) <input type="checkbox"/> Male <input type="checkbox"/> Female	Job Title:	Home Telephone:
Height: _____ feet _____ inches		Weight: _____ lbs.	

Can you read?  Yes  No

Your employer must allow you to answer this questionnaire during normal working hours at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers. This questionnaire will be administered and reviewed by the health care professionals at:

**Dickinson Occupational Clinic, 1711 S. Stephenson Avenue, Suite 200, Iron Mountain, MI 49801-4696,  
Phone 906-779-7111 or 800-262-4155, Fax: 906-779-7115**

**Please answer the following questions:**

1. Do you know how to contact the health care professional who will review this questionnaire?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>2. Indicate the type of respirator you will use (you can select more than one category):</b> N, R, or P disposable respirator (filter-mask, non-cartridge type only) (specify) _____ Other type (for example, half- or full-face piece type, powered-air purifying, supplied-air, self-contained breathing apparatus: (Specify) _____			
3. Have you ever worn a respirator?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, what type(s): _____			
<b>PART A-SECTION 2</b>		<b>If yes, please comment.</b>	
1. Do you currently smoke tobacco or have you smoked tobacco in the last month?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Have you ever had the following conditions?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
a. Seizures (fits)?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Diabetes (sugar disease)?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Allergic reactions that interfere with your breathing?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Claustrophobia (fear of closed-in places)?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Trouble smelling odors?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. <b>PULMONARY OR LUNG PROBLEMS:</b> Have you ever had the following pulmonary or lung problems?		<b>If yes, please comment.</b>	
a. Asbestosis?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Asthma?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Chronic bronchitis?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Emphysema?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Pneumonia?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
f. Tuberculosis?		<input type="checkbox"/> Yes	<input type="checkbox"/> No

g. Silicosis?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
h. Pneumothorax (collapsed lung)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
i. Lung cancer?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
j. Broken ribs?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
k. Any chest injuries or surgeries?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
l. Any other lung problem that you've been told about?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>4. DO YOU CURRENTLY HAVE ANY OF THE FOLLOWING SYMPTOMS OF PULMONARY OR LUNG ILLNESS?</b>			<b>If yes, please comment.</b>
a. Shortness of breath?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Shortness of breath when walking with other people at an ordinary pace on level ground?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
d. Have to stop for breath when walking at your own pace on level ground?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Shortness of breath when washing or dressing yourself?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
f. Shortness of breath that interferes with your job?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
g. Coughing that produces phlegm (thick sputum)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
h. Coughing that wakes you early in the morning?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
i. Coughing that occurs mostly when you are lying down?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
j. Coughing up blood in the last month?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
k. Wheezing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
l. Wheezing that interferes with your job?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
m. Chest pain when you breathe deeply?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
n. Any other symptoms that you think may be related to lung problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Name (last, first, middle)		Social Security Number:	Today's Date:
<b>5. CARDIOVASCULAR OR HEART PROBLEMS:</b> Have you ever had any of the following cardiovascular/heart problems?			<b>If yes, please comment.</b>
a. Heart attack?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Stroke?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Angina?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
d. Heart failure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Swelling in your legs or feet (not caused by walking)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
f. Heart arrhythmia? (Heart beating irregularly)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
g. High blood pressure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
h. Any other heart problem that you've been told about?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>6. HAVE YOU EVER HAD ANY OF THE FOLLOWING CARDIOVASCULAR OR HEART SYMPTOMS?</b>			<b>If yes, please comment.</b>
a. Frequent pain or tightness in your chest?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Frequent pain or tightness in your chest during physical activity?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Pain or tightness in your chest that interferes with your job?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

d. In the past two years, have you noticed your heart skipping or missing a beat?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Heartburn or indigestion that is not related to eating?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
f. Any other symptoms that you think may be related to heart or circulation problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>7. CURRENT MEDICATIONS:</b> Do you currently take medications for any of the following problems?			<b>If yes, please comment.</b>
a. Breathing or lung problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Heart trouble?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Blood pressure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
d. Seizures?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Any other medications for any reason (including over-the-counter medications)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>8. PROBLEMS WHILE USING A RESPIRATOR</b>			<b>If yes, please comment.</b>
<b>Have you ever had any of the following problems using a respirator? If you have never used one, check this box <input type="checkbox"/> and proceed to question 9.</b>			
a. Eye irritation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Skin allergies or rashes?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Anxiety?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
d. General weakness or fatigue?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Any other problems that interfere with your use of a respirator?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>9. Would you like to discuss specific issues with the healthcare professional who will review this questionnaire?</b>			
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No
Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.			
<b>VISION PROBLEMS:</b>			<b>If yes, please comment.</b>
10. Have you ever lost vision in either eye (temporarily or permanently)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
11. Do you currently have any of the following vision problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
a. Wear contact lenses?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Wear glasses?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Color blindness?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
d. Any other eye or vision problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>HEARING PROBLEMS:</b>			<b>If yes, please comment.</b>
12. Have you ever had an injury to your ears, including a broken eardrum?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
13. Do you currently have any of the following hearing problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
a. Do you currently have difficulty hearing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Do you currently wear a hearing aid?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

c. Do you currently have any other hearing or ear problem?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>MUSCULOSKELETAL PROBLEMS:</b>			<b>If yes, please comment.</b>
14. Have you ever had a back injury?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
15. Do you currently have any of the following musculoskeletal problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
a. Weakness in either of your arms, hands, legs, or feet?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
b. Back pain?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
c. Difficulty fully moving your arms and legs?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
d. Pain or stiffness when you lean forward or backward at the waist?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Difficulty fully moving your head up or down?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
f. Difficulty fully moving your head from side to side?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
g. Difficulty bending at your knees?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
h. Difficulty squatting to the ground?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
i. Difficulty climbing a flight of stairs or a ladder carrying more than 25 lbs.?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
j. Any other muscle or skeletal problem that interfered with using a respirator?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

## 34 RIGGING POLICY

The following policy, definitions, and procedures support the safe use, maintenance and inspection of lifting equipment and associated gear under Skanska Kiewit control on any Skanska Kiewit USA Civil project. It is applicable to all personnel (Company, Contract and Sub-Contract) working on Company projects. Together with the Skanska Kiewit USA Civil Crane policy, it is designed to provide personnel involved in lifting operations a minimum level of guidance. It is not intended to replace the efforts required by the project team to properly plan manage their project, rather, it is intended to assist and compliment their efforts. Also, it is not intended to replace in whole or in part any existing regulatory body regulations or industry accepted standards governing such equipment and operations.

### 34.1 Applicable Regulation(s)

[OSHA 29 CFR 1926.32](#)

### 34.2 Hoisting and Rigging Management System

Each Skanska Kiewit USA Civil project is responsible for identifying a competent rigging person. It is the responsibility of that person to ensure all hoisting and rigging equipment and associated gear on the project is inspected prior to use. They are responsible to make sure that all hoisting and rigging equipment is only used by qualified personnel, that it is in good working conditioned and maintained according to industry accepted standards and that all relevant certification is up to date, on file and readily accessible for inspection.

Each project shall develop a hoisting and rigging equipment register to record and track all lifting components requiring certification. The register shall be kept up to date, shall ensure all hoisting and rigging equipment and associated gear has its own identification number and this number is marked firmly in place. The competent rigging person will ensure that there is a preventative maintenance system in place for the maintenance and inspection of all lifting equipment and associated gear. Those records will be maintained by the competent rigging person and kept up to date for inspection upon request. The competent rigging person will also ensure that all hoisting and rigging equipment is inspected monthly, along with prior to each use, by a competent person who is qualified in the inspection and testing of lifting equipment and is approved to do so.

In most cases, an RFID system will be in place and implemented on each project to assist the competent rigging person to complete the above mentioned tasks. The RFID system will be made available to all personnel on the project site along with the Company Crane Coordinator.

In cases where an RFID system is unavailable or impractical to establish, the above mentioned information will be kept in a database that is comparable to what the RFID system will produce.

### 34.3 Definitions:

**Below the Hook Lifting Device** Device that, used singularly or in combination, alters or transfers the direction or sequence of loading from the lifting device to the load, such spreader bars, structural lifters, magnetic lifters etc.

**Bird Cage** A colloquial term describing the appearance of wire rope forced into compression. The outer strands form a "cage" and, at times, displace the core.

**Bridle Sling** Sling composed of multiple wire rope legs with a fitting that attaches to the lifting hook.

**Choker** A wire rope or synthetic fiber rigging assembly that is used to attach a load to a hoisting device.

**Competent Rigging Person** (Also defined in OSHA 29 CFR 1926.32) One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**D/d ratio** The ratio between the curvature taken by the sling, D, and the diameter of the component rope, d.

**Design Factor** An industry term denoting a product's theoretical reserve capability. (Usually computed by dividing the catalog ultimate load by the Working Load Limit. Generally expressed as a ratio, e.g., 5 to 1.)

**Dog Leg** Permanent short bend or kink in wire rope caused by improper use.

**Kink** Permanent distortion of wires and strands resulting from sharp bends.

**Lifting Devices** Devices that are not reeves onto the hoist ropes, such as hook-on buckets, magnets, grabs, load-spreader bars, and other supplemental units used for ease of handling certain types of loads. The weight of these devices is to be considered part of the working load.

**Overhead Lifting** The Process of lifting which would leave a freely suspended load to such a position that dropping the load would present the possibility of bodily injury or property damage

**Proof Load** The average force applied in the performance of a proof test; the average force to which a product may be subjected before deformation occurs.

**Proof Test** A test applied to a product solely to determine injurious material or manufacturing defects.

**Qualified Person** One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

**Rigging** The connecting of a load to a source of power so that it can be lifted and moved safely and predictably.

**Rigging Hardware or Accessories** Items such as shackles, eyebolts, rings, swivels hoist rings, turnbuckles, wire rope clips and load indicating devices.

**Rigging Hooks** A rigging hardware component typically attached to wire rope or suspension members.

**Static Load** The load resulting from a constant applied force or load.

**Shock Load** A force that results from the rapid application of a force (such as impacting or jerking) or rapid movement of a static load. A shock load significantly adds to the static load.

**Synthetic Sling** Synthetic fiber made into forms, and with or without fittings, for handling loads.

**Working Load** The maximum mass or force which the product is authorized to support in a particular service.

**Working Load Limit (WLL)** - The maximum mass or force which the product is authorized to support in general service when the pull is applied in-line, unless noted otherwise, with respect to the centerline of the product. This term is used interchangeably with the following terms:

- WLL
- Rated Load Value
- Resultant Working Load

**Wire Rope Sling (Steel Choker)** Wire rope made into forms, and with or without fittings, for handling loads,

**Ultimate Load** The average load or force at which the product fails or no longer supports the load.

#### 34.4 Sub-Contractors

All sub-contractors working on a Skanska Kiewit jobsite shall abide by the Skanska Kiewit Rigging Policy.

#### 34.5 Shackles

**Skanska Kiewit will only use Crosby Shackles on all projects**

#### 34.6 Chain

Chains are not permitted for use on any Skanska Kiewit project unless it has been engineered and approved by a P.E.

#### 34.7 Lifting Devices

Any purchased lifting device must be stamped with the maximum working load limit, date of manufactured, and manufacturer.

At times a lifting device could be fabricated by Skanska Kiewit. If so before use the lifting device must be sent out to a professional testing service and the lifting device must be tested 5 to 1 the intended lifting load weight. The lifting device must be tagged with the date of test, WLL, and manufacturer an RFID Chip should be put on the lifting device. Certifications will be kept on file at the job and a copy will be submitted to the CCC.

#### 34.8 Storage

All rigging should be stored in an area where they will not be subjected to mechanical damage, corrosive action, moisture, direct sunlight, extreme temperatures, or kinking. Rigging should not be stored in the immediate work area.

When possible on all Skanska Kiewit projects a storage box should be supplied and designated for rigging storage.

#### 34.9 Rigging Plan

A detailed rigging plan must be attached to the Construction Plan for all categories of lifts. The rigging plan must be completed by a Qualified Person. The following questions are guideline questions that should be followed on all Skanska Kiewit projects. All though some of the questions are not asked in the Construction Plan most of them are covered in the sign off section of our Lift Plans.

The basic rigging plan shall answer the following:

- Who is responsible for the rigging?
- Have means of communications been established?
- Is the rigging in acceptable condition?
- Is the rigging appropriate for lifting?
- Does the rigging have proper identification?
- Does all gear have known working load limits?
- What is the weight of the load?
- Where is the center of gravity?
- What is the sling angle?
- Will there be any side or angular loading?
- Are the slings padded against sharp corners?
- Are the working load limits adequate?
- Is the load rigged to the Center of Gravity?
- Is the hitch appropriate for the load?
- Is a tag line needed to control the load?
- Will personnel be clear of suspended loads?
- Is there any possibility of fouling?
- Will the load lift level and be stable?
- Are there any unusual environmental concerns?
- Are there any special requirements?
- Will the lift take place near any power lines?

#### **34.10 Rigging Standards for Synthetic Slings and Round Slings**

On all Skanska Kiewit projects Sling users shall be trained or have knowledge in the selection, inspection, cautions to personnel, effects of environment, and rigging practices. Skanska Kiewit will ensure that the sling will be maintained properly. Sling identification shall be done by the sling manufacturer. Written records of the most recent periodic inspection shall be maintained at the jobsite.

##### **Synthetic web/round sling proper use:**

- Slings shall not be shortened with knots or bolts or other makeshift devices.
- Sling legs shall not be kinked.
- Slings shall not be loaded in excess of their rated capacities.
- Slings used in a basket hitch shall have the loads balanced to prevent slippage.
- Slings shall be securely attached to their loads.
- Slings shall be padded or protected from the sharp edges of their loads.
- Shock loading is prohibited.
- A sling shall not be pulled from under a load when the load is resting on the sling.
- Each day before a shift and before a lift and after a lift, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person

##### **Synthetic web/round slings removable criteria:**

- Acid or caustic burns
- Melting or charring of any part of the sling surface
- Snags, punctures, tears or cuts
- Broken or worn stitches or distortion of fittings
- Missing or illegible identification tags
- Any damaged or defective sling shall not be used.
- Holes, tears, cuts, abrasive wear, or snags that expose the core yarns
- Discoloration, brittle or stiff areas on any part of the sling that may indicate damage
- Other conditions that cause doubt as to the continued use of the sling

#### 34.11 Wire rope slings:

On all Skanska Kiewit projects wire rope sling users shall be trained or have knowledge in the selection, inspection, cautions to personnel, effects of environment, and rigging practices. Skanska Kiewit will ensure that the wire rope sling will be maintained properly. Sling identification shall be done by the sling manufacturer. Written records of the most recent periodic inspection shall be maintained at the jobsite.

Wire rope sling proper use:

- Slings shall not be loaded in excess of their rated capacities.
- Slings used in a basket hitch shall have the loads balanced to prevent slippage.
- Slings shall be securely attached to their loads.
- Slings shall be padded or protected from the sharp edges of their loads.
- Shock loading is prohibited.
- A sling shall not be pulled from under a load when the load is resting on the sling.
- Each day before a shift and before a lift and after a lift, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person

Wire rope sling removable criteria:

- 10 randomly distributed broken wires in 1 rope lay, or 5 broken wires in 1 strand in 1 rope lay.
- Wear or scraping of 1/3 the original diameter of outside individual wires
- Kinking, crushing, bird caging or any other damage resulting in distortion of the wire rope structure
- Evidence of heat damage
- Missing or illegible identification tags

#### 34.12 Hardware

On all Skanska Kiewit projects hardware users shall be trained or have knowledge in the selection, inspection, cautions to personnel, effects of environment, and rigging practices. Skanska Kiewit will ensure that all hardware will be maintained properly. Hardware identification shall be done by the hardware manufacturer. Written records are not required ASME B30.26

**Hardware proper use:**

- The screw pin shall be fully engaged, with the shoulder in contact with the shackle body.
- If a shackle is designed for a cotter pin, it shall be used and maintained in good working condition.
- Contact with sharp edges that could damage the shackle should be avoided.
- Shock loading should be avoided.
- The load applied to the shackle should be centered in the bow of the shackle to prevent side loading of the shackle.
- Multiple sling legs should not be applied to the shackle pin.
- If the shackle is to be side loaded, the rated load shall be reduced according to the recommendations of the manufacturer or a qualified person.

- The screw pin shackle shall not be rigged in a manner that would cause the pin to unscrew.
- For long-term installations, bolt type shackles should be used; if screw pin type shackles are used, the pin shall be secured from rotation or loosening.
- Shackles should not be dragged on an abrasive surface.
- Multiple slings in the body of a shackle shall not exceed 120 deg included angle.
- When a shackle is used in a choker hitch, the pin shall be connected to the choking eye of the sling.

**The inspection of rigging hardware:**

- A visual inspection shall be performed by the user or designated person each day before the rigging hardware is used.
- A periodic inspection shall be performed by a designated person, at least annually. The rigging hardware shall be examined and a determination made as to whether they constitute a hazard.
- Semi-permanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed.
- **Written records are not required.**

**Hardware removal criteria:**

- Missing or illegible manufacturer's name or trademark and/or rated load identification (or size as required);
- A 10% or more reduction of the original dimension;
- Bent, twisted, distorted, stretched, elongated, cracked or broken load bearing components excessive nicks, gouges, pitting and corrosion;
- Indications of heat damage including weld spatter or arc strikes,
- Indications of unauthorized welding loose or missing nuts, bolts, cotter pins, snap rings, or other fasteners and retaining devices; and/or
- Unauthorized replacement components or other visible conditions that cause doubt as to the continued use of the sling

**34.13 Inspections:**

**34.13.1 Initial inspection(s)**

- Initial inspections shall be conducted before any new rigging item is placed into service it shall be inspected by a designated person.

**34.13.2 Frequent Inspection(s)**

- Visual inspection for damage shall be performed by the user or other designated person each day or shift the rigging is used. Written records are not required for frequent inspections.

**34.13.3 Periodic Inspection(s)**

- A complete inspection for damage of rigging shall be periodically performed by a designated person. This inspection is a documented monthly inspection. On some Skanska Kiewit projects RFIDs are being used to document the monthly inspection(s) This method of data logging is deemed acceptable.

## 35 RISK ASSESSMENT PROGRAM

### 35.1 Purpose

Risk assessment, by way of Construction Plan, will be performed for each activity to identify significant safety, occupational health hazards or environmental aspect(s) as a result of our activities, products and/or services. The intention of the Construction Plan is to methodically and systematically prepare for each activity prior to work commencing in the field. By pre-planning, we will be able to identify any potential risks and develop controls that will be used to eliminate the risk(s) as the activity commences.

### 35.2 Responsibilities

#### 35.2.1 Project Manager, General Superintendent and Safety Manager shall:

- Conduct a SHEMS Development Meeting to identify all risk associated with the project (Reference the Project Pre-Planning / SHEMS Development section of the HASP);
- Identify the need and timeline for Construction Plan development at progress/scheduling meetings;
- Review all Construction Plans and sign-off prior to distribution;
- Ensure Construction Plans are prepared for each site specific operation; and
- As work operations change, ensure construction plans are reviewed and updated where required by conducting audits on a scheduled basis.

#### 35.2.2 Project Manager shall:

- Initiate Construction Plans according to the schedule; and
- Designate responsibility of the construction plan to the relevant engineer to that activity.

#### 35.2.3 Superintendent / Field Engineer shall:

- Develop Construction Plans for all operations;
- Continually review and audit those plans throughout the activity to ensure that all the controls are being used and are working;
- If the activity changes or deviates from the Construction Plan in any way, revision(s) shall be required to be made to the Construction Plan to detail new controls that will be required to mitigate the hazard; and
- Hold a Construction Plan training session with the employees involved in the activity, to detail the construction process and the controls that should be in place during the activity to eliminate hazards to the workers. This training should be held prior to commencement of work and thereafter as required until completion of the activity.

#### 35.2.4 Foremen shall:

- Participate in the development of Construction Plans for their operations;
- Review the Construction Plan with members of his or her crew prior to beginning operations, and thereafter as required, until completion of the activity;
- Conduct Daily Job Briefings to consistently communicate hazards and risk associated with assigned work; and
- Request revisions to the Construction Plan as needed.

#### 35.2.5 Employees shall:

- Participate in the review of all Construction Plans applicable to their job responsibilities prior to taking part in operations, and thereafter as required, until completion of the activity; and
- Sign off on all Construction Plans prior to taking part in operations, and thereafter as any further training sessions are held relating to that activity;
- Report any deviation from the original plan to the assigned foreman so a risk assessment can be done and revisions made to the original plan can be made.

### 35.3 Procedure

- Hazard Identification and Assessment will be conducted on two levels.
  - **Firstly**, risk assessment will be conducted as part of our management system, potential onsite hazards will be identified by means of a pre-set core list of hazards. Management of each hazard will be generic by nature and intended to be the minimum requirements that are expected in the management of each hazard.
  - **Secondly**, for each individual activity, hazards will further be identified and managed by way of Construction Planning. The object of construction planning is to detail all the identified hazards for that activity and to implement methods and controls to eliminate hazards related to that activity. It is the intention that both of these requirements will feed each other in the hazard identification and control process.
- For each specific activity, a Construction Plan will be completed prior to the start of the work.
- The plan will cover all general information regarding that activity and will include, but not be limited to:
  - The name of the jobsite;
  - The name and/or description of the activity that the risk assessment is being completed for;
  - The cost code(s);
  - Whether or not the activity is on the critical path;
  - Where on the site the activity will take place;
  - A list of all responsible individuals, including Project Manager, Field Engineers, Superintendent, Safety Engineer, Foremen, and Competent Person(s) required under OSHA.

- The scope of work will be completed as a narrative description of the activity. It will be all encompassing and include all elements of the task in a sequential order, detailing means and methods to be used throughout the activity. Information regarding the scheduled start shall be provided along with all equipment, exhaustible materials, small tools and safety equipment will be listed. Emergency provisions, beyond the site's Emergency Action Plan, are required to be completed for each activity, including, but not limited to:
  - Fall Protection rescue;
  - SCBA standby;
  - HazMat team, etc.; and
  - Any attachments to the activity (e.g., drawings, SDS sheets, cut sheets etc.).
- Triggers are defined as: any piece of equipment, tool, material and task environment(s) (an element of the task that is not linked to equipment / tools and/or materials, i.e. working in a confined space, working at heights, adjacent operations, etc.) that have been identified as part of the scope of work and will be utilized at some point in the activity. Once the Triggers and Hazards have been identified, an Initial Risk Level will be applied to the specific task. The Initial Risk Level will be determined by using the Matrix system outlined in Attachment 9 of the SHEMS.
- Controls will be developed and documented with the intention to reduce the risk (severity or likelihood) to the lowest possible level. The SHEMP that corresponds to that trigger should be used as the primary means of identifying control measures for that risk. Any other specific control measures will also be detailed. The following hierarchy should be followed, in the prescribed order, when determining controls for each trigger:
  - Elimination of Hazards may be accomplished by utilizing one of the following:
    - Product Substitution, e.g. substitution of a product that is less hazardous; or using the same product but in a different form;
    - Engineering Controls, e.g. fitting mufflers to equipment to reduce noise at the source; use of local exhaust, use of ventilation systems, etc.;
    - Administrative Controls, e.g. utilizing enclosures, shift rotation, signage, barriers, etc.; and
    - Personal Protective Equipment (PPE).
  - Once controls have been identified, the Residual Risk Level for the task will be determined by applying the same Matrix system in Attachment 9 of the SHEMS that was used to determine the Initial Risk Level. Once hazards have been identified and controls put into place, responsibilities for control implementation, monitoring and evaluation will be documented.
  - At the time of commencement of the activity, the highest remaining risk level will determine the activity's overall risk level and this will be documented on the acknowledgement sheet that is attached to the Risk Assessment and Control Worksheet.

- The Risk Control Adequacy Statement is required to be completed and signed by the Superintendent, Safety Engineer, and the “Risk Acceptance Authority” (RAA). The identity of the RAA is determined by the overall risk level of the activity as indicated on the acknowledgement sheet of the Construction Plan.

#### **35.4 Follow up**

- Evaluate the operation as it proceeds;
- Make sure the Construction Plan is followed. If any deviations are found, the construction plan shall be reviewed and amended with new controls to manage or eliminate the risk. The crew will then be trained in any changes made to the construction plan; and
- Determine what changes, if any, are necessary to improve the operation, amend the Construction Plan and retrain the crew.

## 36 SAFETY COMMITTEES

### 36.1 Purpose

The purpose of the Skanska Kiewit Safety Committee program is to improve the attitude of every person working at a Skanska Kiewit project. With regard to Health and Safety, we strive to attain continuous reductions in unsafe practices and improvement in the working environment.

A Safety Committee will be established at each Skanska Kiewit jobsite. The Safety Committee program is to have all levels of project management and crafts involved in the safety program. Members of the committee will democratically elect a chairperson and co-vice chairperson. Skanska Kiewit management will support the committee with all necessary resources to ensure its essential quality.

### 36.2 Responsibilities

#### 36.2.1 Job Safety Committee shall:

- Review and make recommendations regarding all incidents;
- Conduct regular inspection of the work;
- Assess hazards;
- Review job safety performance and suggestions made by any employee regarding our safety procedures;
- Hold a minimum of one Safety Committee meeting per month (weekly meetings are encouraged) and forward the meeting minutes to the B.U./Regional Safety Director;
- Develop a written agenda for conducting meetings. The agenda should prescribe the order in which committee business will be addressed; and
- Hold special meetings when warranted or after Lost Time accidents.

#### 36.2.2 Project Management shall:

- Ensure Safety Committee meetings are being held on a regular basis;
- Respond to any Safety Committee recommendations, in writing, within a reasonable amount of time;
- Serve as members of the Safety Committee; and
- Establish a democratic system for nomination and election of committee chairperson and co-chairperson.

#### 36.2.3 Employees shall:

- Serve as members of the Safety Committee; and
- Elect their peers to the Safety Committee.

## 36.3 Procedure

### 36.3.1 The Safety Committee shall consist of:

- No fewer than two members for any job of twenty or less employees;
- No fewer than four members for any job of twenty or more employees;
- Management should be represented on the Committee for all trades;
- A chairperson elected by the committee members that is a Skanska Kiewit representative; and
- A cross-section representative of the major work activities and trades on site (jobs should consider having subcontractors represented as well).

### 36.3.2 Safety Committee activities include, but are not limited to:

- Holding regular meetings at least once a month; (weekly meetings are encouraged)
- Holding special meetings when warranted or after any lost time accident;
- Actively involve all employees in the jobsite safety and health program;
- Establishment of a system for members to obtain safety related suggestions, reports of hazards or other information directly from all persons involved in the operations on the jobsite. The information obtained must be reviewed at the next committee meeting and shall be recorded in the minutes for necessary review and action by supervision;
- Assisting management in evaluating our accident and illness prevention program and make written recommendations to improve the program, where applicable;
- Establish procedures for workplace inspections by the Safety Committee inspection team to locate and identify safety, health and environmental hazards;
- Conduct workplace inspections weekly,
- Recommend to supervision how to eliminate hazards and unsafe work practices at the jobsite;
- Form an inspection team comprised of Supervision and Craft representatives. This team will submit reports with location and identity of hazards; and
- Review inspection reports and correspondence.

### 36.3.3 Training

- All Safety Committee members will be trained in topics including, but not limited to:
  - Applicable OSHA and Company safety rules for the work, including, but not limited to:

36.3.3...1 ***OSHA 10-hour or OSHA 30-hour training;***

36.3.3...2 ***General Awareness and/or Competent Person training.***

## **37 SAFETY INSPECTIONS AND TOURS**

### **37.1 Purpose**

The purpose of this program is to establish timetables, personnel involvement and focuses for jobsite safety inspections. By involving all levels of management in inspection programs not only is safety awareness promoted, but, the process also educates our people.

The other focus of our inspection program is to correct safety hazards. A thorough inspection will identify safety hazards and establish priority for their correction.

### **37.2 Responsibilities**

#### **37.2.1 Project Management shall:**

- Take part in weekly safety meetings as required;
- Assist the Safety Department in ensuring that project team members meet required targets; and
- Provide assistance and resources to correct all compliance issues in a timely manner.

#### **37.2.2 Supervisor(s) and Safety Manager(s)/Engineer(s) shall:**

- Participate in weekly safety tours;
- Correct and report unsafe conditions immediately; and
- Allocate time to perform the required audits/inspection and achieve associated targets.

### **37.3 Procedure**

#### **37.3.1 Daily Inspections**

- Required by all levels of staff with field responsibilities; and
- Notification of unsafe conditions shall be made to the responsible party immediately with abatement time and date logged into the Daily Report in the Monthly Safety Communication File.

#### **37.3.2 Weekly Compliance Audit**

- Safety Manager/Engineer shall complete the Weekly Compliance Audit on a scheduled basis and will inform members of the project team of the schedule. This team will be composed of:
  - Project Executive;
  - Project Manager;
  - Superintendent(s);
  - Safety Manager/Engineer; and
  - Employee representative(s).

- Safety Engineer shall record the audit findings, compliance issues and abatement dates on the associated Weekly Compliance Audit in the Monthly Safety Communication File; and
- Compliance issues will be discussed in the morning foreman meeting with corrective actions in place to prevent reoccurrences.

### 37.3.3 CSP Inspections

- At projects where a Certified Safety Professional is required, the Safety Manager/Engineer, along with available staff, will attend the scheduled site visit; and
- Compliance issues will be abated immediately and close out shown on associated reports.

### 37.3.4 Construction Plans / Focused Inspections

- Safety Manager/Engineer will establish and maintain schedules for Construction Plan Crew Reviews and Focused Inspections;
- Project staff will be assigned targets to complete the scheduled Construction Plan Crew Review along with a Focused Inspection associated with the work being performed; and
- The project level targets are as follows:
  - Project Executive will complete one on site Crew Review/inspection per month (one off-site)
  - Project Managers will complete two Crew Reviews/inspections per month
  - Superintendents will complete two Crew Reviews/inspections per month
  - Safety Engineers will complete two Crew Reviews/inspections per month
  - Focused Inspections will be distributed to craft personnel upon request for Safety Super League credit.
- Additional Inspections:
  - ESSV – Executive Site Safety Visits - Will be conducted on a monthly basis by B.U. / Regional executives. Safety Engineers and project staff shall make themselves available to discuss the project and conduct an audit and site inspection in accordance with the following:

37.3.4...1 *B.U. / Regional will issue a schedule each month by Executive and Site;*

37.3.4...2 *The Executive shall contact the Site Safety Department to coordinate date and time of visit; and*

37.3.4...3 *Insurance Carrier Inspections – Will be scheduled in advance and shall be conducted with the site Safety Engineer present.*

- Client Inspection – May occur daily, weekly, monthly and/or quarterly. Inspections shall be conducted with the site Safety Engineer present.

### 37.3.5 Records

- Daily Diary Log is to be completed by the Safety Engineer at the end of each day – logs are to be retained at the jobsite for the life of the project;
- Weekly Safety Summary should be completed at the end of the week and submitted to B.U. / Regional Safety and Environmental Department for review;
- All inspections from outside agencies shall be answered in a timely manner with any compliance issues abated and records maintained; and
- Photographs should be taken with all inspections and safety walkthroughs and attached to associated reports.

## **38 SAFETY MEETINGS**

### **38.1 Purpose**

The purpose of this program is to establish guidelines for conducting safety meetings on the job sites. Safety meetings are an important tool in conveying our safety message and concerns, pre-planning and communicating hazards associated with work to be performed and provide information to project personnel on daily safety items that may need to be addressed.

In addition, all other meetings that take place in our company will start out by discussing safety including, but not limited to, operations meetings, foreman meetings etc.

#### **38.1.1 Responsibilities**

#### **38.1.2 Project Management shall:**

- Ensure all assigned work has a Construction Plan in place to be reviewed at field level;
- Review completed Daily Job Briefings;
- Allocate time to field personnel to review relative safety items;
- Attend a weekly Tool Box Talk; and
- Hold and attend Site Safety Committee Meeting.

#### **38.1.3 Crew Foremen shall:**

- Conduct one Safety Tool Box Talk each week;
- Review all Construction Plans before the start of a new activity;
- Review all B.U. / Regional generated safety reports to craft; and
- Conduct a Daily Job Briefing at the beginning of each shift.

#### **38.1.4 All Project Personnel shall:**

- Attend all relative safety meeting upon request;
- Sign-off to acknowledge that related topics have been communicated; and
- Comply with the procedures / Safety Meeting to be conducted.

### **38.2 Morning Meeting**

- This meeting is generally held with Superintendents and Foremen to discuss work schedules for that day. The meeting should start with any safety related items including, but not limited to; weather conditions, general site conditions, compliance issues, training needed, construction plan development and any company safety related items.

### 38.3 Construction Plan Review

- Prior to the start of any activity a Construction Plan will be in place to give a detailed description of how to perform the assigned work safely.
- Before each new task is to be performed the Foremen will conduct a review of the plan with the assigned craft and sign off from the crew to acknowledge that all hazards were communicated will be completed.

### 38.4 Daily Job Briefings

- This meeting is to be conducted each day by the foreman; it will include any items from the morning meeting that needs to be communicated to craft level, hazards associated with the task to be performed and Environmental Aspects associated with the task. It is also an opportunity to receive feedback from craft on any safety related issues that they may have.
- Daily Job Briefings are to be reviewed by the assigning super and the safety department when they are turned in to ensure any potential compliance issues are reviewed and addressed.

### 38.5 Tool Box Talks / Lessons Learned & Corrective Action Reports / GSSDs

- Each week a Tool Box Talk (TBT) will be issued by our B.U. / Regional Safety Department to project level which will be communicated to all project personnel including subcontractors. Tool Box Talks are generally issued to foremen who will review and complete the sign sheet with their assigned crew. TBTs when completed will be returned to the project Safety Department for record retention.
- Lessons Learned and Corrective Action Reports are issued through the B.U. / Regional Safety Department to communicate safety items between projects. Part of creating the safest possible work environments is to share information with all projects to ensure that repeat incidents are prevented.
- Global Safety Stand Down (GSSD) – Unfortunately, if this meeting is being conducted, there has been a fatality experienced somewhere in the Skanska Kiewit family. In the event of such an occurrence, a detailed report will be issued from our headquarters in Sweden and it will be mandated that every project will stop work, acknowledge our loss with a moment of silence and review the events that led to the unfortunate incident. Dates and time of when this meeting will take place will be issued with the report.

### 38.6 Management Review Meeting

- As required by our Safety, Health and Environmental Management System (SHEMS) Procedure 13, a monthly meeting will be conducted with a set agenda followed. This meeting shall include project staff and will ultimately analyze how effectively our system is working at project level. Review of systems, policies and procedures on a monthly basis will allow each project team to make necessary adjustments as needed to ensure that we are effectively implementing our safety programs and ensure that all risk associated with our work is assessed properly.

### 38.7 Safety Committee Meeting

- Referenced in Safety Meetings section of HASP and SHEMS Procedure 5.

## **39 SANITATION AND WELFARE**

### **39.1 Purpose**

This program establishes requirements for job site sanitation and worker welfare. We establish this program as part of our safety and healthy working environment.

### **39.2 Applicable Regulations**

[OSHA 29 CFR 1926.51](#)

### 39.3 Responsibilities

#### 39.3.1 Project Management shall:

- Provide clean drinking water at all work locations;
- Provide toilets at the worksite;
- Provide washing facilities or an acceptable alternative to employees. Washing facilities shall be maintained in a sanitary condition;
- Providing changing rooms and employee clothing storage facilities when work tasks require it (i.e. Lead work); and
- Take necessary measures to control vermin on the worksite.

### 39.4 Procedural Overview

#### 39.4.1 Drinking Water

- Clean drinking water shall be available at all times;
- Containers used to dispense drinking water shall be cleaned daily using soap and water, clearly marked, and equipped with a tap and tight fitting lid;
- Water shall not be dipped and/or scooped from containers;
- Use of a drinking cup by more than one person is not acceptable; A ready suppl of drinking cups shall be provided at water stations.
- A sanitary container for unused cups and a trash can for used cups shall be provided;
- Water containers and outlets that are not suitable for drinking shall be clearly marked; and
- Non-potable water shall be so labeled.

#### 39.4.2 Toilets

- Toilets shall be available at the worksite. This does not apply to mobile crews that have transportation available to nearby toilet facilities;
- Separate toilets should be considered for females when the project conditions justify this;
  
- Toilets shall be serviced and cleaned as often as necessary to maintain sanitary conditions;
- Toilets in poor repair shall be removed or repaired as soon as possible; and
- The minimum amount of toilets that shall be provided at each jobsite will be as follows:

Number of Employees	Minimum Facilities
Less than 20	1 toilet seat

20 or more	1 toilet seat and 1 urinal for each 40 workers
200 or more	1 toilet seat and 1 urinal for each 50 workers

### 39.4.3 Washing Facilities

- Washing facilities shall be provided near the worksite. Cleaning agents and towels or similar products shall be provided. Hand wipers are an alternative that can be considered.

### 39.4.4 Change Rooms

- Change rooms complete with storage for street clothes and separate storage for protective clothing shall be provided when employees must wear protective clothing to handle toxic materials (see Lead Program).

### 39.4.5 Vermin Control

- Enclosed workplaces, buildings, storage trailers, etc., shall be constructed, maintained, cleaned and organized to prevent the entrance and harborage of rats, mice, insects and other vermin. Extermination measures shall be used when their presence is detected.

### 39.4.6 Eating and Drinking

- Eating and drinking shall not be allowed in areas exposed to toxic materials.

### 39.4.7 Insect Control

- Establish operational controls to protect animal life and prevent vermin infestation;
- Reduce areas of standing water to prevent mosquitoes breeding. Where standing water cannot be removed treat with larvicides as per the manufacturer's instructions. If these controls are ineffective an industrial-style pesticide will be used as per EPA guidelines. Insect repellent containing DEET® (N,N-Diethyl-meta-toluamide) will be provided for employees;

- Minimize mosquito breeding grounds to prevent nuisance and reduce the risk of communicable diseases;
- Good housekeeping is essential in the prevention of vermin infestation. Construction and office waste will be regularly collected for disposal. Bags of putrescible waste shall not be left on the ground but placed in sealed dumpsters/bins. Make sure wheelbarrows, buckets, and other containers are turned upside down when not in use so they do not collect standing water; and
- Provide training and communicate to personnel, sub-contractors and vendors.

## 40 SCAFFOLDS

### 40.1 Purpose

The purpose of this program is to establish guidelines for working on or around scaffolding. This program will inform our employees not only about the hazards of working with scaffolding, but also about the proper terminology, different types of scaffolds, and tagging systems.

### 40.2 Applicable Regulations

[OSHA 29 CFR 1910.145](#)

[OSHA 29 CFR 1926.200](#)

[OSHA 29 CFR 1926.450 Subpart L](#)

[OSHA 29 CFR 1926.451](#)

[OSHA 29 CFR 1926.454](#)

### 40.3 Responsibilities

#### 40.3.1 Project Management shall:

- Ensure that there is a Competent Person on site at all times when scaffolding is being used;
- Ensure all project Management are trained in the proper use of scaffolding;
- Identify a qualified person as the Competent Person for the erection and use of scaffolding, this person's knowledge of scaffolding will be consistent with the specifications as stated in this program; and
- Ensure that subcontractors have identified a Competent Person whose knowledge of scaffolding is consistent with the requirements stated in this program.

#### 40.3.2 Subcontractors shall:

- Identify their scaffolding Competent Person prior to the erection of any scaffolding system; and
- Train their employees in the requirements identified in this program.

#### 40.3.3 Competent Person shall:

- Supervise the erection and use of scaffolding systems on site; and
- Train employees in the requirements identified in this program.

## 40.4 General Requirements

### 40.4.1 Competent Person:

- A Scaffolding Competent Person will meet the following requirements:
- Identify existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees;
- Take prompt corrective actions to eliminate the hazards; and
- Have the authority to stop operations involving scaffolds when they pose a threat to employees' safety and health.

### 40.4.2 Load Capacity:

- All scaffolds must be capable of supporting at least four times the maximum intended load; and
- The maximum intended load is the total load of all persons, equipment, tools, materials, transmitted loads, and other anticipated loads to be applied to a scaffold or scaffold component at any one time.

### 40.4.3 Lumber Standards:

- All wooden load-carrying components of scaffold framing must be a minimum of 1,500 fiber construction grade lumber;
- All dimensions are nominal sizes as provided in the American Lumber Standards; and
- When rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.

### 40.4.4 Planking

- All planking shall be 2 x 10 inch scaffold-grade or equivalent, as recognized by approved grading rules for species of wood used;
- Laminated planking that provides the equivalent strength of scaffold grade planking is also suitable;
- The maximum permissible span for 2 x 10 inch or wider planks of full thickness undressed lumber is:
  - 10 feet with a working load of 25 psf.;
  - 8 feet with a working load of 50 psf.; and
  - 6 feet with a working load of 75 psf.
- The maximum permissible spans for 2 x 10 inch or wider planks of nominal thickness lumber (not recommended for heavy use) are:
  - 8 feet with a working load of 25 psf.; and
  - 6 feet with a working load of 50 psf.
- The maximum permissible span for 1- $\frac{1}{4}$  x 9 inch or wider plank of full thickness lumber must be four (4) feet with medium duty loading of 50 psf.;
- All planking must overlap by a minimum of 12 inches, or be secured from movement;

- Scaffold planks must extend over their end supports at least six (6) inches but no more than twelve (12) inches (unless cleated to prevent slipping);
- All working levels on scaffolds shall be fully planked; and
- Poles, legs, or uprights of scaffolds must be set plumb and securely and rigidly braced to prevent swaying and displacement.

#### 40.4.5 Ropes Used for Suspension:

- Wire, synthetic, or fiber rope used for scaffold suspension must support at least six (6) times the rated load.

#### 40.4.6 Guardrails and Toe boards:

- Guardrails and toe boards must be installed on all open sides and ends of platforms more than six (6) feet above the ground or floor, except needle beam scaffolds and float scaffolds;
- Guardrails must be 2 x 4 inches or equivalent, 42 inches high with a 3" tolerance and a mid-rail. Supports must be at intervals not to exceed 8 feet; and
- Toe boards must be at least 1 x 4 inch lumber or equivalent.

#### 40.4.7 Safety Practices:

- Scaffolds shall be securely anchored and be capable of carrying the maximum intended load without settling or displacement;
- Unstable objects, such as barrels, boxes, loose brick, or concrete blocks, may not be used to support scaffolds or planks;
- The use of shore or lean-to scaffolding is prohibited;
- No scaffold may be erected, moved, dismantled, or altered except under the supervision of competent persons;
- Any scaffold component including accessories such as braces, brackets, trusses, screw legs, ladders, etc., that have been damaged or weakened in any way, must be immediately repaired or replaced;
- An access ladder or equivalent safe access to the scaffold shall be provided;
- Neither the diagonal bracing nor scaffold rungs that are not uniformly spaced qualify as "equivalent safe access";
- Climbing the end frames is prohibited unless their design incorporates an approved ladder;
- Scaffolds shall not be overloaded. Tools and materials will be brought up as needed and excess materials and scrap removed as soon as possible;
- When employees must work underneath a scaffold, an 18-gauge screen, ½-inch wire mesh or equivalent protection must be placed between the toe board and the guardrail;
- Scaffold tagging procedures must be followed at all times; and
- Workers who use and construct scaffolding will be trained for the following:

- Types of scaffolding hazards: electrical, fall and falling objects;
- Correct procedures for erecting and maintaining scaffolding
- Maximum intended load and intended use of the scaffold; and
- Comply with the requirements of OSHA Standard 29 CFR 1926.450 Subpart L.

#### 40.4.8 Tubular Welded Frame Scaffolds

- Metal tubular frame scaffolds, including accessories such as braces, brackets, trusses, screw legs, ladders, etc. must be designed, constructed, and erected to safely support four times the maximum intended load;
- Bracing must be cross bracing or diagonal bracing, or both to secure vertical members laterally;
- Cross bracing must square and align vertical member to keep scaffolding plumb at all times;
- All bracing connections must be secure;
- Legs must be set on adjustable bases or plain bases placed on mud sills or other foundations adequate to support the maximum load;
- Frames shall be placed on top of another using coupling or stacking pins for vertical alignment;
- Panels shall be locked together vertically by pins or other equivalent suitable means to prevent uplifting;
- Scaffolding will be secured to a structure at intervals no greater than 30 feet horizontally or 26 feet vertically;
- Drawings and specifications for all frame scaffolds over 125 feet above the base plates must be designed by a registered professional engineer;
- Upon receipt of shipment of tubular scaffolds, always make a complete and thorough inspection of all components;
- Do not assume the scaffold is complete, in proper working condition or will support all designed loads; and
- Perform a thorough inspection to ensure the safety of the crew.

#### 40.5 Manually Propelled Ladder Stands and Scaffolds

The design and construction of mobile work platforms (ladder stands) and rolling (mobile) scaffolds (towers) shall conform to the following:

- Work platforms and scaffolds, including all parts and accessories, shall be capable of carrying the design load under varying circumstances depending upon the conditions of use;
- The designed working load of ladder stands must be calculated on the basis of one or more 200-pound persons together with 50 pounds of equipment per person;
- **Light Duty Scaffolds** must be designed and constructed to carry a working load of 25 pounds per square foot;
- **Medium Duty Scaffolds** must be designed and constructed to carry a working load of 50 pounds per square foot;

- **Heavy Duty Scaffolds** must be designed and constructed to carry a working load of 75 pounds per square foot;
- All ladder stands and scaffolds must be capable of supporting at least four times the designed working load;
- The height of rolling scaffolds shall not exceed four (4) times the minimum base dimension;
- Designs must produce a mobile ladder stand or scaffold that will safely sustain the specified loads;
- The material selected must be strong enough to meet test requirements and must be protected against corrosion and deterioration;
- The material selected must be strong enough to meet test requirements and must be protected against corrosion and deterioration;
- The materials used must meet manufacturer's standards, including strength, dimension and weight specifications; and they must safely support the working load;
- Nails, bolts, and other fasteners used in the construction of ladders, scaffolds and towers must be of adequate size and in sufficient number to develop the designed strength of the unit;
- Nails must be driven full length;
- Steps must be fabricated from slip-resistant treads; and
- Leveling of elevated work platforms, screw jacks or other suitable means for adjusting the height must be provided in the base section of each unit.

#### 40.6 Manually Propelled Ladder Stands and Scaffolds Safety Practices:

- No one shall ride rolling scaffolds when they are being moved;
- Rolling scaffolds shall only be used on level surfaces;
- Caster brakes must be locked when the scaffold is in use or not in motion;
- Loose material and equipment will be secured or removed before moving scaffold;
- When moving scaffolds, make certain the route is clear, watch for holes and overhead obstructions, have enough assistance to hand; and
- Any exposed surface must be free of sharp edges, burrs, or other safety hazards.

##### 40.6.2 Suspended Scaffolds (Swing Stage Scaffold)

Design:

- Suspended scaffolds shall not be less than 20 inches nor more than 36 inches wide;
- Wire ropes used to suspend scaffolds must have a safety factor of six (6) times the maximum intended load; and
- Non-conducting, insulated material shall be placed over scaffold suspension cables if there is any chance of contact with an electrical arc.

##### 40.6.3 Suspended Scaffolds (Swing Stage Scaffold) Safety Practices:

- Employees working from a two-point suspended scaffold must wear a full body harness and be tied off to an independent lifeline;
- Multi-stage scaffolds require additional safety suspension lines and full protection devices;
- Ropes shall be protected from burning or welding operations;
- Suspended scaffolds shall not be less than 20 inches nor more than 36 inches wide;
- Wire ropes used to suspend scaffolds must have a safety factor of six (6) times the maximum intended load; and
- Non-conducting, insulating material shall be placed over scaffold suspension cables if there is any change of contact with an electrical arc.

## 40.7 Scaffold Tag System

### 40.7.1 General:

- A scaffold tag system will be implemented to ensure that scaffolds are erected and used safely;
- All scaffolds will be inspected before use to prevent exposing employees to unsafe conditions;
- The job superintendent or designated Competent Person will inspect and sign off on all scaffolds (including subcontractor scaffolding) and will be responsible for placing tags on scaffolding and will be accountable for ensuring safe conditions are provided;
- Scaffolding will be tagged appropriately during construction, use and dismantling; and
- Tags will be located at each access ladder and kept current.

### 40.7.2 Scaffolding Tag Identification Code:

- **Red Tag** = DO NOT USE
- Prohibits use of scaffolding during installation, alteration or dismantling except by the erection crew;
- **Yellow Tag** = NOT ERECTED TO CODE
- Indicates restriction or special use conditions of scaffold, i.e. a requirement for fall protection; and
- **Green Tag** = APPROVED FOR USE
- Indicates scaffold is erected to all safety standards and company policies and is ready for use.

### 40.7.3 Training

- Competent Persons will be trained by manufacturer or by use of Clarity (DuPont) video and comprehensive test;
- Employees will be introduced to scaffolding as part of their new hire orientation; and
- Training will include the review of the New Hire Orientation Manual, the New Hire Orientation Picture Book and Orientation Power Point presentation.

#### 40.7.4 Scaffold Erector/Users:

- Will be trained by a Qualified Person in the following areas:
- Nature of fall hazards in the work area;
- Correct procedures for erecting, maintaining and disassembling fall protection to be used;
- Proper construction, use, placement, and care in handling;
- Maximum intended load-carrying capacities; and
- Retraining shall be provided as necessary so that the employee maintains a thorough understanding on compliance with these subjects.

## 41 SILICA EXPOSURE PROGRAM

### 41.1 Purpose

The purpose of this program is to establish procedures to protect employees from the health hazards associated with exposure to airborne crystalline silica. Crystalline silica can be found in masonry, concrete and natural rock to varying extents. Unless testing has shown otherwise, crystalline silica should always be assumed to be present in these materials. Activities such as abrasive blasting, chipping, hammering, sawing, grinding or demolition of concrete or rock all have the potential to generate airborne dust. Since these activities are frequently conducted by Skanska Kiewit employees, the potential for worker exposure is significant.

If engineering controls and/or PPE aren't used, airborne silica that is of respirable size can be inhaled deep into the lungs. Exposure to high concentrations of silica over a long duration can result in an illness called silicosis which causes scarring of the lung tissue that interferes with breathing, resulting in symptoms such as shortness of breath, possible fever, fatigue and eventual respiratory failure. Silicosis also renders a person more susceptible to other diseases of the lungs, such as tuberculosis. Where there is concrete or natural rock, there is a potential silica exposure so it is essential to monitor work activities and take the necessary corrective actions to protect all company employees.

### 41.2 Applicable Regulations

[OSHA 29 CFR 1910.1020](#)

[OSHA 29 CFR 1926.20](#)

[OSHA 29 CFR 1926.21](#)

[OSHA 29 CFR 1926.55](#)

[OSHA 29 CFR 1926.57, Appendix A](#)

[OSHA 29 CFR 1926.59](#)

[OSHA 29 CFR 1926.103](#)

#### 41.2.1 Responsibilities

#### 41.2.2 B.U. / Regional Safety and Environmental Department shall:

- Designate a B.U. / Regional Respiratory Program Administrator; and
- Evaluate the effectiveness and appropriateness of this program, and all Worksite Specific Respiratory Plans (WSRP) as required.

#### **41.2.3 Project Management shall:**

- Designate Jobsite Respiratory Program Administrator;
- Develop Worksite Specific Respiratory Plan for Silica as a means to providing management of silica related activities;
- Evaluate, and plan, for all work activities for silica exposures by means of Construction Plans;
- Institute engineering controls as a first line of protection to reduce silica exposures as per Construction Plans;
- Institute all administrative/work practice controls to reduce silica exposures when feasible and when engineering controls have been explored and ruled out;
- Institute the use of respirators to reduce exposures when the above mentioned controls fail to reduce silica exposure levels;
- Monitor and evaluate construction plans and activities for compliance;
- Provide training when employees are exposed to silica hazards; and
- Provide necessary respiratory protection, as well as training in its proper use, when deemed necessary.

#### **41.2.4 Employees shall:**

- Follow all construction plans that identify and detail engineering and administrative/work practice controls to reduce their exposure to crystalline silica;
- Wear respiratory protection to reduce their exposure to crystalline silica when deemed necessary by their supervisor;
- Participate in air monitoring program when required;
- Take part in any training required; and
- Not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.

### **41.3 Procedure**

#### **41.3.1 Exposure Assessment:**

Work tasks that must be monitored for crystalline silica exposure include but are not limited to:

- Jack hammering and chipping;
- Grinding concrete;
- Tunneling;
- Sandblasting;
- Dry sweeping or blowing concrete debris, sand or rock dust;
- Demolition of concrete/masonry structures;
- Drilling rock or concrete;
- Crushing, loading, dumping rock or concrete; and

- Saw cutting concrete or rock.

#### 41.3.2 Air Sampling Frequency

- Baseline personal and area sampling shall commence at the beginning of each operation which is identified as potentially involving silica exposure. Historical data from similar operations producing silica exposure that has been collected within the past 12 months can be used as baseline exposure monitoring when available, but must be evaluated to ensure that the activity, material worked on, length of operations, controls and environmental conditions were essentially the same as the current task.
- If the initial baseline results demonstrate employee exposure to be below the action level (50% of the PEL), then
- Additional personal and area air sampling will take place thereafter on two separate occasions at least seven (7) days apart;
- Results will be dealt with as follows:
- Where results demonstrate that the employee exposure is below the action level (50% of the PEL), monitoring need not be repeated;
- Where results demonstrate that the employee exposure is above the action level (50% of the PEL), but below the permissible exposure limit (100% of the PEL), monitoring shall be repeated at least every 6 months. The monitoring shall continue until at least two consecutive measurements, taken at least 7 days apart, are below the action level, at which time the monitoring for that employee or operation may be discontinued; and
- If the initial monitoring reveals that employee exposure is above the permissible exposure limit (100% of the PEL), the monitoring shall be repeated quarterly. The monitoring shall continue until at least two consecutive measurements, taken at least 7 days apart, are below the permissible exposure limit. If the level remains above the Action Level, monitoring shall be repeated at least every 6 months. If the level drops below the Action Level, additional monitoring for that operation shall be discontinued.
- Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to silica, or whenever the Company has any reason to suspect a change which may result in new or additional exposures to silica, additional monitoring shall be conducted; and
- Air monitoring results and exposure assessments shall be supervised by the B.U. / Regional Respiratory Program Administrator.

#### 41.3.3 Engineering Controls:

- In operations where there is a potential for exposure to silica, engineering controls shall be used as the first line of defense;
- Engineering controls include, but are not limited to:
- Use of dust collection systems;

- Wetting down surfaces ideally with a fine mist sprayer;
- During saw cutting, use equipment that provides water to the blade;
- During rock drilling, use water through the drill stem to reduce the amount of dust in the air;
- During abrasive blasting use abrasives with a low silica or no silica content; and
- Use local exhaust ventilation to prevent dust from being released into the air.

#### 41.3.4 Administrative Controls:

- Administrative controls will be used supplemental to engineering controls;
- Where engineering controls cannot be utilized, or are not effective to sufficiently reduce exposure to respirable silica, administrative controls will be used to reduce the time of exposure for employees;
- Administrative controls, include but are not limited to:
  - Worker Rotation;
  - No eating, drinking, smoking and/or applying cosmetics shall be allowed ; and
  - Where exposure limits are at or above the action level, personal protective equipment shall be given to each employee. Where personal protective equipment is provided, trash bins will be available at the exit to each area to allow for employees to discard such items to prevent contamination to other parts of the jobsite, and to the employees personal belongings; and
- Signs and barricades will be placed allowing for only authorized employees entering an area where operations are taking place that may create exposure to crystalline silica. The sign shall read:

**WARNING**

**HAZARD**

**SILICA WORK AREA**

**AUTHORIZED EMPLOYEES ONLY BEYOND THIS POINT**

**NO SMOKING, EATING OR DRINKING ALLOWED BEYOND THIS POINT**

#### 41.3.5 Respiratory Protection:

- Respiratory protection shall be used as the last line of defense in the protection against exposure to silica;
- Respiratory protection shall never be used as the sole means of limiting employee exposure;
- Respiratory protection shall be required at the beginning of each identified activity until air sampling results demonstrate that the exposure is below the Action Level; and
- Respirators will be selected based on the criteria identified in the Respiratory Protection section of this manual and according to the Worksite Specific Respiratory Plan for Silica.

#### 41.3.6 Hygiene Controls

- Food and drink are not permitted to be present or consumed in the work area;
- Tobacco products are not permitted to be present or consumed in the work area; and
- A wash station will be available for employees to use so that they can wash up following work in designated Silica Work Area(s).

#### 41.3.7 Training

Employees will be trained in the following:

- Hazards of silica exposure;
- The requirements of this program;
- Engineering and administrative/work practice controls, if any, that have been instituted to control silica exposures;
- Personal protective equipment specific to their work assignments; and
- The employees right of access to exposure monitoring and medical records.

#### 41.3.8 Frequency of training:

- Shall take place via construction plans prior to each activity commencing. No employees are permitted to go to work without this training;
- Shall take place thereafter, as any change in any element of the original construction plan takes place;
- Refresher training will take place at such times that the jobsite requires; and
- General training will be given to all employees, whether involved in Silica Work Area(s) or not, by means of Toolbox Talk or equivalent.

#### 41.3.9 Recordkeeping

- Air Monitoring

- For each air monitoring episode, the following documents, at a minimum, will be kept:

41.3.9...1 *Air Monitoring Worksheet;*

41.3.9...2 *Chain of Custody;*

41.3.9...3 *Laboratory Analysis; and*

41.3.9...4 *Detailed calculation results.*

41.3.9...5 *Training records shall be kept either with each individual construction plan, or in the project safety files, whichever is relevant.*

41.3.9...6 *All of the above kinds of records must be kept as per 29 CFR 1910.1020*

## 42 SPILLS/LEAKS

### 42.1 Written Program

Skanska Kiewit shall review and evaluate this Spill Response Plan:

- On an annual basis;
- When operational changes occur that require a revision of this document; or
- When changes occur to regulations that govern this program that prompt revision of this document.

Effective implementation of this program requires support from all levels of management within Skanska Kiewit. This written program shall be communicated to all personnel that are affected by it. It encompasses the total workplace, regardless of number of workers employed or the number of work shifts. It is designed to establish clear goals and objectives.

### 42.2 Responsibilities

#### 42.2.1 The Safety Manager/Engineer shall:

- Have the primary responsibility for responding to spills, and, with the Superintendent, will ensure that control action for any type of spill is immediately initiated. This includes taking appropriate measures to ensure the safety of site personnel and the public, such as evacuation from the site;
- Ensure that the appropriate authorities have been notified, and follow-up reports have been completed;
- The Superintendent must ensure that corrective measures have been implemented in order to prevent a recurrence of the same type of spill situation;
- Act as the Spill Response Coordinator;

#### 42.2.2 Carolyn Whelan shall:

- Be responsible for ensuring that appropriate employee health and OSHA records are maintained.

#### 42.2.3 The Safety Department shall:

- Be responsible for making this written program available to employees and OSHA representatives.

#### 42.2.4 Spill Response Team Contact List

- See Chart at end of this section

### 42.3 General Information

#### Pre-Spill Planning and Coordination

This Spill Response Plan requires having drills for each type of potential emergency to allow both: the system to be tested for efficiency; and employees to become familiar with what is expected of them.

- Skanska Kiewit will have at least one drill per year to test the system;
- Drills will be conducted if there are any changes to this plan; and
- A written report will be prepared following each drill detailing the adequacy of the Spill Response Plan.

#### 42.4 Organization and Personnel Responsibilities

- It is the responsibility of Skanska Kiewit to ensure that a Spill Response Plan is developed, that it is reviewed on an annual basis, and whenever else required, and to ensure that all employees are fully versed in the procedures contained within the Spill Response Plan.
- Personnel Responsibilities
- The Spill Response Team is required to comply with the requirements set forth in this Spill Response Plan. Employees are required to diligently take part in all training and drills that take place.

#### 42.5 Communication

**Two-way radio** The radio procedures used are very important for managing the spill effectively.

- Identify WHO you are;
- Describe WHAT type of spill has occurred;
- Describe WHERE you are located;
- Indicate WHAT kind of assistance, materials, etc. are needed; and
- Confirm that all parties involved have received your radio transmission. You may have to repeat your transmission in order to ensure that it has been completely communicated.

#### 42.6 Emergency Alert Procedures

The following are announcements that are required over the radio / Nextel in case of a spill:

- Small/Medium Spills:  
 "Attention. There is a <SMALL (or MEDIUM) CHEMICAL SPILL> emergency. Stand-by for further instructions if evacuation becomes necessary"
- Large Spills requiring immediate evacuation:  
 "Attention. There is a <LARGE HAZARDOUS CHEMICAL SPILL> emergency."

#### 42.7 Fire / Chemical Release

**First Responding Employee:**

- Call the Safety Manager/Incident Commander to alert that a spill emergency is taking place. Answer all the questions before hanging up the phone. The announcement by the Safety Manager will alert the Spill Response Team.
- All spills, no matter how minor they may seem, **MUST BE REPORTED** so that management can be made aware of a possible exposure in the workplace and take corrective action **BEFORE** the exposure becomes a major release.
- Spilled chemicals should be effectively and quickly contained and cleaned up. Employees should clean up spills themselves **only if properly trained and protected**. Employees who are not trained in spill cleanup procedures should report the spill to the Responsible Person(s) listed above, warn other employees, and leave the area.
- Spill control equipment should be located wherever significant quantities of hazardous materials are received or stored. SDSs, absorbents, over-pack containers, container patch kits, spill dams, shovels, floor dry, acid/base neutralizers, and “caution-keep out” signs are common spill response items.

## 42.8 Training

### General

- Prior to implementation of this Spill Response Plan, all employees who have been designated a role in this Plan will be trained as to what their role entails.
- Employees with designated roles and all other employees will be trained in this Spill Response Plan:
- Initially when the plan is developed;
- Whenever the employee’s responsibilities or designated actions under the plan change; and
- Whenever the plan is changed.
- All employees will participate in emergency action drills as a means to evaluate the continued effectiveness of the plan.

## 42.9 Spill Response and Clean Up

Chemical spills are divided into three categories: Small, Medium and Large. Response and cleanup procedures vary depending on the size of the spill.

### 42.9.1 Small Spills:

- Any spill where the major dimension is less than 18 inches in diameter. Small spills are generally handled by internal personnel and usually do not require an emergency response by police or fire department HAZMAT teams. Spills are managed as follows:

- Quickly control the spill by stopping or securing the spill source. This could be as simple as up righting a container and using floor-dry or absorbent pads to soak up spilled material. Wear gloves and protective clothing, if necessary;
- Put spill material and absorbents in secure containers if any are available;
- Consult with the Facility Responsible Person and the SDS for spill and waste disposal procedures;
- In some instances, the area of the spill should not be washed with water. Use Dry Cleanup Methods and **never** wash spills down the drain, onto a storm drain or onto the driveway or parking lot; and
- Both the spilled material and the absorbent may be considered hazardous waste and must be disposed of in compliance with state and federal environmental regulations.

#### 42.9.2 Medium Spills:

- Any spill where the major dimension exceeds 18 inches, but is less than 6 feet. Outside emergency response personnel (Police and Fire Department HAZMAT teams) should usually be called for medium spills. Common sense, however, will dictate when it is necessary to call them.
- Immediately try to help contain the spill at its source by simple measures only. This means quickly up righting a container, or putting a lid on a container, if possible. Do not use absorbents unless they are immediately available. Once you have made a quick attempt to contain the spill, or once you have quickly determined you cannot take any brief containment measures, leave the area and alert Emergency Responders at 911. Closing doors behind you while leaving helps contain fumes from spills. Give police accurate information as to the location, chemical, and estimated amount of the spill.
- Evaluate the area outside the spill. Engines and electrical equipment near the spill area must be turned off. This eliminates various sources of ignition in the area. Advise Emergency Responders on how to turn off engines or electrical sources. Do not go back into the spill area once you have left. Help emergency responders by trying to determine how to shut off heating, air conditioning equipment, or air circulating equipment, if necessary.
- If emergency responders evacuate the spill area, follow their instructions in leaving the area.
- After emergency responders have contained the spill, be prepared to assist them with any other information that may be necessary, such as SDSs and questions about the facility. Emergency responders or trained personnel with proper personal protective equipment will then clean up the spill residue. Do not re-enter the area until the responder in charge gives the all clear. Be prepared to assist these persons from outside the spill area with SDSs, absorbents, and containers.
- Reports must be filed with proper authorities. It is the responsibility of the spiller to inform both his/her supervisor and the emergency responders as to what caused the spill. The response for large spills is similar to the procedures for medium spills, except that the exposure danger is greater.

#### 42.9.3 Large Spills

- Any spill involving flammable liquid where the major dimension exceeds 6 feet, and any “running” spill, where the source of the spill has not been contained or flow has not been stopped.
- Leave the area and notify Emergency Responders (9-1-1). Give the operator the spill location, chemical spilled and approximate amount;

- From a safe area, attempt to get SDS information for the spilled chemical for the emergency responders to use. Also, be prepared to advise responders as to any ignition sources, engines, electrical power, or air conditioning/ventilation systems that may need to be shut off. Advise responders of any absorbents, containers, or spill control equipment that may be available. This may need to be done from a remote area, because an evacuation that would place the spiller far from the scene may be needed. Use radio or phone to assist from a distance, if necessary;
  - Only emergency response personnel, in accordance with their own established procedures, should handle spills greater than 6 feet in any dimension or that are continuous. Remember, once the emergency responders or HAZMAT team is on the job cleaning up spills or putting out fires, the area is under their control and no one may re-enter the area until the responder in charge gives the all clear;
  - Provide information for reports to supervisors and responders, just as in Medium Spills.
  - The fluids that will be stored, dispensed and used on site will range from motor oils and hydraulic fluids to diesel fuel and gasoline. These fluids must be stored and handled according to the Safety, Health and Environmental Management System;
  - Containers shall be inspected and their integrity assured prior to being moved. On-site operations will be organized so as to minimize the amount of container movement. Where spills, leaks, or ruptures may occur, adequate quantities of spill containment equipment (absorbent pillows, etc.) will be stationed in the immediate area; and
  - Spill Kits (a.k.a., "Attack Packs") are maintained in the Connex boxes. Each kit includes rubber gloves, safety goggles, absorbent pads, booms and plastic bags. Chemical protective suits are available from the Labor Steward and Safety Department.
- The hazards faced in a spill can be significant and cause harm to people and the environment. Persons should always protect themselves by using proper PPE, including safety glasses and gloves, hard hats, and chemical protective suits if necessary. Extinguish all cigarettes before attempting to clean up the spill. Helpful reminders of what should be done are:

Do "THE SPILL DRILL - REACT"!

**R**EMOVE THE SOURCE

**E**NVELOP THE SPILL

**A**BSORB/ACCUMULATE

**C**ONTAINERIZE THE SORBENT

**T**RANSMIT A REPORT

**After persons have been protected from exposure:**

**REMOVE THE SOURCE**

- If it is dripping: stop the drip with a plug or putty.
- If it is from a leaky connection: tighten the connection or replace the broken parts.

**ENVELOP THE SPILL**

- If it is flowing, put an absorbent sock or pad down to catch the flow.
- Use a shovel to build a small dam or berm.

**ABSORB/ACCUMULATE**

- On a hard surface put down dry sweep.
- On dirt, gravel, or mud surface, lay an absorbent pad on the spill.

**CONTAINERIZE IT**

- Place used absorbent material in a plastic bag or container.
- Use a shovel to dig up the contaminated soil and place it in a container or plastic bag. Be sure to bring the container or bag to a location where it can be disposed of properly.

**TRANSMIT A REPORT**

- Tell the nearest supervisor what was spilled and what was done about it.

**By R.E.A.C.T.ing quickly, the hazards that could cause injury can be reduced. The spill is also given less of a chance to seep into the ground, which makes cleanup easier and helps protect the environment.**

In the event of a reportable spill or hazardous discharge, the Safety Manager will notify the Owner or Construction Manager. The phone number will be located on the Spill Response Team Contact List.

**SPILL RESPONSE TEAM CONTACT LIST (SAMPLE)**

**Skanska Kiewit**

<b>Name</b>	<b>Title</b>	<b>Telephone Number</b>
Site Safety Manager	Incident Commander	Cell:732.809.3666
Site Safety Alternate	Incident Commander – Alternate	Cell
XXX	Spill Team Leader	Cell:
XXX	Spill Response Team	Radio:
<b>Atlantic Response</b>	Emergency Spill Response	732.969.8555

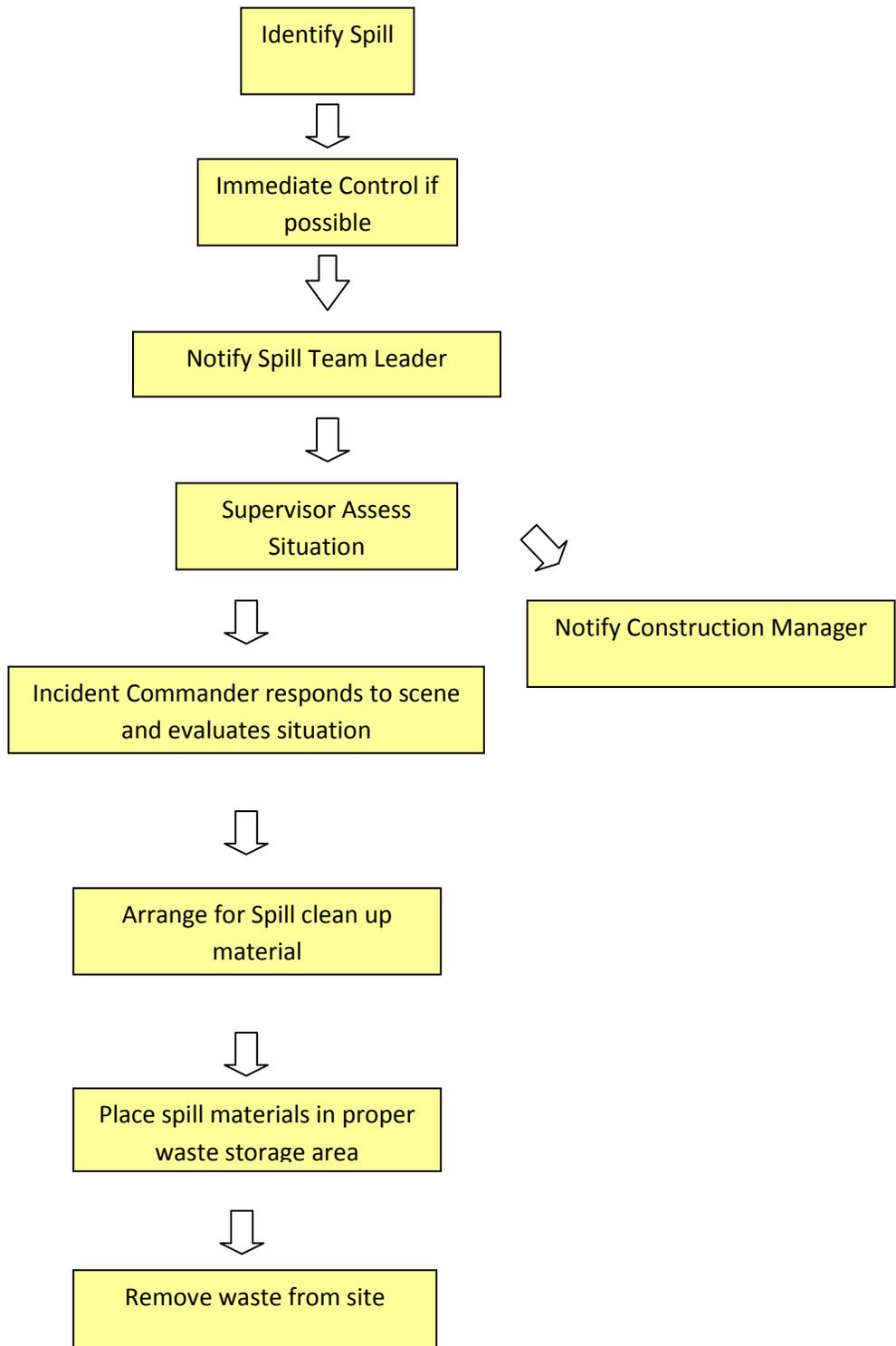
**OWNER/CONSTRUCTION MANAGER**

<b>Name</b>	<b>Title</b>	<b>Telephone Number</b>
Construction Manager	CM	Cell:

**Emergency Phone Numbers**

<b>Name</b>	<b>Telephone Number</b>
Fire	9-1-1
Ambulance	9-1-1
Police	9-1-1

**SPILL RESPONSE FLOW CHART**



**42.9.4 Training for SPILL RESPONSE plan**

EMPLOYEE	TRAINING	CONTACT NUMBER
Site Safety Manager (name)	48 Hour HAZWOPER Incident Commander	
Site Safety Alternate (name)	48 Hour HAZWOPER Incident Commander - Alternate	
XXX (name)	40 Hour HAZWOPER Spill Team Leader	
XXX (name)	24 Hour HAZWOPER Emergency Response Technician	
Atlantic Response		<b>732.969.8544</b>

**42.9.5 Initial Notification of Spill**

Project Name:

Date:

Project Address:

Contract #:

**INITIAL NOTIFICATION OF SPILL**

PERSONNEL INVOLVED (NAME/TITLE):

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DESCRIPTION OF SPILL/MATERIAL SPILLED/QUANTITY OF SPILL:

DATE/TIME/LOCATION OF SPILL: \_\_\_\_\_

CONTRIBUTING FACTORS:

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CORRECTIVE MEASURES TAKEN/TO BE TAKEN:

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SITE ENGINEER - SWPPP

## 43 SUBCONTRACTOR SAFETY MANAGEMENT

### 43.1 Purpose

The purpose of this program is to set standards for subcontractor safety performance on our projects. As a General Contractor, we must provide a safe working environment for all. If we knowingly allow subcontracted employees to work unsafely or allow them to create an unsafe condition, we could be held responsible by law.

Skanska Kiewit, as the General Contractor, should always lead by example and never compromise safety for the sake of schedule, cost or any other reason.

#### 43.1.1 Responsibilities

#### 43.1.2 Project Management /Safety Manager/Engineer:

- Inform subcontractors of the additional safety programs required by the project, as these programs typically will add additional costs to their price;
- Solicit, review and amend the subcontractor's written project safety program;
- Comply with all Subcontract Requirements;
- Conduct a pre-construction safety meeting with subcontractors and their second tier subcontractors to inform them of the site-specific program. Owners, Business Agents and OSHA may also be invited, pending approval of site management and the Safety Director;
- Conduct subcontractor safety meetings as deemed necessary; and
- Conduct inspections of subcontractor operations to ensure compliance with applicable regulations and policies.

#### 43.1.3 Subcontractors shall:

- Attend the pre-construction safety meeting held by Skanska Kiewit project Management;
- Provide a copy of their site-specific safety program for review by Skanska Kiewit project Management;
- Designate, in writing, all competent person(s) for each applicable discipline;
- Attend contractor's Site Safety Committee Meeting on monthly basis;
- Provide detailed work plans prior to commencing work for any operations with numerous employees or high risk. These work plans shall include hazard analysis / risk assessment; and
- Conduct a minimum of one toolbox safety meeting a week.
- Subcontractor's Competent Person or Site Safety Manager shall:
- Conduct training and provide any records necessary to prove compliance including, but not restricted to, air monitoring reports, employee blood levels and proof of respirator fit tests (this also includes second tier subcontractors); and

- Attend any site-specific subcontractor safety meeting which may be held weekly, monthly or periodically, pending the job manager's discretion.

#### **43.1.4 Subcontractor Employee(s)**

- All subcontractor employee(s), and second or third tier subcontractors and their employee(s), will attend Skanska Kiewit jobsite orientation program at the commencement of employment.

#### **43.1.5 Enforcement of Safety Rules**

- All subcontractor and second, third tier subcontractor employees will be expected to follow our safety rules that have been detailed in the subcontract agreement. Failure to comply may be cause for dismissal;
- Project Managers will administer the program and exercise discretion as needed. Subcontractor will identify the individual designated as the competent person for the project. This person must be familiar with federal regulations and have authority to terminate unsafe operations;
- All subcontractor employee(s), including their second and third tier subcontractors, are bound by the Safety Disciplinary Program (see Zero Tolerance, Accountability and Disciplinary Program set forth in this Health and Safety Plan;
- Subcontractors are required to utilize Skanska Kiewit Employee Reprimand Notice Forms for each employee violation; and
- Subcontractors are required to submit copies of each Employee Reprimand Notice to the Contractor on a monthly basis.

#### **43.2 Subcontractor Man Hours**

- Subcontractors are required to submit certified payroll & monthly safety performance report by the 5<sup>th</sup> of every month. Failure to submit certified payroll by this date will result in delay of contract payment.

#### **43.3 Incident Reporting**

- Each Subcontractor must comply with section Incident Reporting Procedure of this Health and Safety Plan.

## 44 TOOLS – HAND AND POWER

### 44.1 Purpose

The purpose of this program is to establish safe work practices for the use of hand and power tools. Because we are reliant so heavily on this type of equipment and use it frequently, hand and power tools are the source of many injuries on our projects.

We must ensure our tools are used correctly, properly maintained and removed from service when no longer suitable for use. Above all, only qualified and trained personnel will be permitted to use these tools.

### 44.2 Applicable Regulations

[OSHA 29 CFR 1910.242](#)

[OSHA 29 CFR 1910.243](#)

[OSHA 29 CFR 1926.300](#)

### 44.3 Responsibilities

#### 44.3.1 Project Management shall:

- Purchase all hand and power tools according to company program specific to brand and model;
- The best way to prevent accidents is to put a barrier between the worker and the moving part by way of a guard
- Ensure that all tools requiring guards are equipped as such before they are put into service on the job including secondary handles and a constant pressure switch that will shut off the power when the pressure is released ; and
- Develop a procedure for the distribution of abrasive wheels for cutoff and chop saws.

#### 44.3.2 Employees shall:

- Not remove any guard on a hand or power tool;
- Inspect hand and power tools prior to use to ensure safe operating condition; and
- Report any damaged or defective tools to their Foremen/Superintendent.

### 44.4 Procedural Overview

#### 44.4.1 General Requirements:

- Maintain all hand and power tools and similar equipment in a safe condition;
- Don't drop or throw tools to another worker. Carry edged or pointed tools with the edge/point away from the body;

- When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use. Should the guard obstruct the work it shall not be removed;
- Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains or other reciprocating, rotating or moving parts of equipment shall be guarded if such parts are exposed to contact by employees or otherwise create a hazard;
- Impact tools, such as drift pins, wedges and chisels, shall be kept free of mushroomed head; and
- The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

#### 44.5 Power-operated Hand Tools:

- Electric power operated tools shall either be the approved double-insulated type or grounded;
- Electric power operated tools shall have free-spinning clutches designed to protect against wrist injuries
- Do not use a power tool with broken or defective insulation on the cord, broken or defective plugs, or loose or broken switches;
- The use of electric cords for hoisting or lowering tools is not permitted;
- Many drills are supplied with handles designed to protect against wrist injuries, as well as support the tool. They shall not be removed, regardless if they interfere with the operation. A substitute tool should be considered;
- Tool speed can be increase once wheels, blades or bits have penetrated the material.
- Before changing out wheels/blades or bit disconnect the power cords or remove the battery power pack.

#### 44.6 Powder Actuated Tools

- Loading:
  - Tools shall not be loaded until just prior to the intended firing time; and
  - The tool shall be tested each day before loading to see that the safety devices are in proper working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.
- Use:
  - Use the lowest velocity on the tool until penetration is found;
  - Any tool found not in proper working order, or that develops a defect during use, will be immediately removed from service, tagged out and not used until properly repaired or replaced;
  - Neither loaded nor empty tools are to be pointed at any employees;
  - Keep hands clear of the open barrel end;
  - Do not leave loaded tools unattended;
  - Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile;
  - Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side;

- No fastener shall be driven into a spalled area caused by an unsatisfactory fastening;
- The operator shall never fasten closer than three inches from the edge of masonry work;
- Ensure that the masonry work be at least three times as thick as the fastener penetration;
- The operator shall conduct a center punch test to determine if the material is suitable to be fastened to;
- When fastening into steel remember that the point of the fastener shall fully penetrate the opposite side; also remember that knurled shanks fasteners hold better in steel compared to smooth shank fasteners;
- Tools shall not be used in an explosive or flammable atmosphere; and
- All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer.

#### Charge Storage:

- Live loads/cartridges must be stored in an approved, locked storage cabinet to meet applicable OSHA regulations and in the New York City vicinity (5 Boroughs) follow requirements of the Fire Department of New York City. Do not throw explosive charges into trash containers or leave them lying around; and
- Unfired loads shall be put into a pail of water for 24 hours

#### 44.7 PPE:

- Personal protective equipment, including eye, ear, head, and foot and hand protection is to be worn by all tool operators.
- Double eye protection is mandatory; and
- Safety steel-, composite- or alloy-toed boots must be worn.

#### 44.8 Training:

- Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool. Users should possess a qualified operator's card that is issued by the manufacturer's representative; and
- Employees operating a powered- actuated tool in the five (5) boroughs of New York City shall have a Certificate of Fitness [Type E-21] from the Fire Department of New York in addition to the qualified operator's card that is issued by the manufacturer's representative.

#### 44.9 Air Powered Tools

##### 44.9.1 Air hose couplings

This form of energy can be one of the most dangerous because it is used in so many applications and, when mishandled, can have more serious results than fluids. Air, as a gas, is compressible (fluids press only against hose or vessel walls and lose little volume under pressure). When pressurized air suddenly release, it does so with explosive force and causes rapid hose whip which can do serious physical harm to personnel or damage to nearby objects. Proper selection of hose and couplings for air lines is critical, along with proper installation and maintenance. Never take for granted that coupling(s) are installed properly or a clamp is fully tightened on an air hose. Check connections regularly and use safety devices.

- Air hoses shall be inspected prior to each use; looking for bends, kinks, or swelled areas. Worn out Hoses that are not in good condition shall be removed from service. DUCT TAPE IS NOT TO BE USED FOR REPAIRS;
  - Hoses used under compressed air conditions must be a reinforced wire braided type. Hoses used for water service may be standard airline hose;
  - Under no circumstance should any coupling be disconnected while under pressure unless the coupling is specifically designed to do so. Disconnecting coupling under pressure could result in serious injury or death, and destruction to property and equipment.
  - Hoses that are not in service [de-energized] shall be disconnected at the tool and the compressor and tagged not in service or rolled up and put in storage.
  - Hoses will not be placed in access ways or across ladder passage. Where this is unavoidable, lines should be blocked over, or at least flagged; hoses placed across vehicle roadways shall be protected by means of modular hose protectors, manmade jobsite ramps, protection boards such as wood blocking [ 2x4, 4x4 ] capable of enduring the period needed to withstand a minimum of 10 tons per wheel;
  - Whip checks shall be used on all airlines and tools to prevent against the hazards when uncoupling occurs. Whip checks shall be positioned on the hose rather than the fitting and fully extended position – if the hose should break; the fitting may stay connected while the hose will whip around.
- Hoses up to 1½ inches in diameter require a 3/16 whip check.
  - Hoses up to 3 inches in diameter require a 1/4 inch diameter whip check.
  - Hoses 4 inches in diameter require a 3/8 whip check.
  - Keep in mind that the whip check diameter is based on the maximum working pressure not exceeding 200 PSI.
- Should the hose diameter be larger than 4 inches or the pressure is greater than 200 psi, consult your manufacture and jobsite engineering department for direction. One engineering solution could be to double up on the whip checks and increase the size of the hose couplings.
  - All air hose clamps must be crimped into place. Do not use worn gear clamps to attach couplings and fittings to air hoses. Double band clamps can be used; follow the manufacture recommendations
  - Ensure safety clips or other wire –type retainers are used at the fittings. Ensure the mating flanges are lined up properly[ holes in flanges] if not than the coupling are not fully locked in place.

#### 44.9.2 Use:

- Air powered tools should be oiled via in-line air oil;
- Air powered tools and compressed air create certain health hazards where fine particles of dust, or chemicals are blown into the air. This air contamination should be eliminated by wetting agents, or exhaust ventilation;

- Loose clothing, which can get caught in the moving parts of equipment, should not be worn while working with rotary tools;
- Compressed air should not be used to clean off clothing. Air pressure against the skin can penetrate causing internal hemorrhaging and intense pain. Air that enters body openings can burst internal organs and lead to death;
- When air powered tools create hazards to others, warning signs or placards shall be posted detailing the type of hazard(s) and direction for protection; and
- Airlines must be bled before disconnecting an air tool.

#### **44.9.3 PPE:**

- When silica or lead exposures are present when using air powered tools, use appropriate respiratory protection;
- Demolition operations shall require steel-toed or composite toe boots and metatarsal protection.
- When performing any operation with an air powered tool that produces high vibration levels, carpal tunnel gloves should be used.

### **44.10 Abrasive Tools**

#### **44.10.1 Bench Grinders:**

- Grinders shall be labeled with maximum operation R.P.M.;
- Adjustable work rests shall be provided and kept at a distance not to exceed 1/8-inch from the surface of the wheel;
- Objects that may kick back must be braced using a clamp or any device that securely holds objects prior to cutting; and
- Face shields and safety glasses shall be worn while using a bench grinder .

#### **44.10.2 Hand-held Grinders:**

- Guards shall remain in place at all times;
- All switches shall have a constant pressure switch that will shut off the power when the pressure is released;
- Many grinders are supplied with handles designed to protect against wrist injuries, as well as support the tool. They shall not be removed, regardless if they interfere with the operation. A substitute tool should be considered;
- Arbor on wheel must be the exact same size as the arbor shaft on the grinder;
- Grinders shall be labeled with maximum R.P.M.;
- Only abrasive wheels, which are compatible with the rated RPM, will be used;
- A face shield must be used when using grinder plus safety glasses; and

- When grinders with blades 7' or bigger are used, leg chaps shall be required.

#### 44.10.3 Abrasive Blades/Wheels:

- Only approved blades authorized through our purchasing department will be used;
- Abrasive blades shall be used only on designated materials;
- Only a qualified person shall mount blades per manufacturer's instructions;
- Blades should be stored in a climate-controlled area (avoid freezing, extreme heat, or wet conditions);
- Use blades only on designated tool (i.e., do not use chop saw blades on a cut-off saw);
- Discard all abrasive blades with illegible labels;
- Inspect all blades prior to use;
- Perform a ring test to ensure the blade is free of cracks and other defects;
- Before mounting the wheel inspect it, and tap the wheel gently with a light, non-metallic instrument;
- An undamaged wheel rings with a clear metallic tone. If it sounds dead, don't use it;
- For the ring test to be accurate, wheels shall be dry; and free of moisture and sawdust;
- The arbor hole should match the arbor of the tool, use only manufactured arbor adapters;
- The RPM of the wheel shall equal or exceed the RPM of the tool;
- Don't run a blade or wheel faster than its maximum rated capacity;
- Blades will be removed from the tool whenever, the tool is transported by vehicle, the tool is being stored, and the condition of the blade is suspect;
- Allow newly mounted wheels to run at full operating speed RPM for at least 1-minute prior to use;
- If the wheel is damaged or under excessive stress, it will usually fracture with in the first minute of operation; and
- Using the side of the "cutting" blade as a grinder is strictly prohibited.

#### 44.10.4 Chainsaws:

- Equipment:
  - When purchasing chain saws, always buy units with anti-kickback chains. Regular chains should be disposed of and replaced with anti-kickback chains. Anti-kickback chains are designed to skim the surface of the work in the event that the upper part of the chain comes into contact with the work. Older chains have a flat link between each of the raised cutters while newer chains have either a triple thick raker in front of each cutter or an extra raised section between cutters;
  - All chainsaws shall be equipped with a momentary finger contact or constant pressure "on/off" control switch that will shut off power when the pressure is released;
  - All saws must have spark-arresting mufflers; and
  - Electric chain saws shall be approved, double insulated, or grounded.
- Inspection and Service:

- Equipment will be inspected for defects and broken or worn chains. Any chain saw that is broken or defective must be taken out of service and repaired immediately or removed from the job;
  - Chains shall be kept sharp, well lubricated and properly tensioned at all times. The chain needs sharpening when it must be pushed through to cut or when it throws sawdust rather than wood chips;
  - Chain saws shall be inspected before each day's use and during each refueling. Saws that are not in safe operating condition will not be used; and
  - If electric chainsaws are used, disconnect the power source from the chain saw before making any adjustments or repairs.
- Use:
    - Do not walk with a running chainsaw;
    - Work "down" with the saw whenever possible;
    - If electric chainsaws are used, never use the cord to hoist or lower the tool;
    - Before refueling, saws must be cool to the point that spilled gas will not ignite;
    - Keep the air filter clean and use the correct mixture of fuel and oil;
    - Fully charged 20lb. ABC fire extinguishers shall be kept at all refueling areas;
    - Saws must be kept clean of excess oil to prevent slipping or fire hazards. Any spills that occur must be cleaned up immediately;
    - Chain saws will be carried or moved with the engine in the off position;
    - When starting a chain saw, place it on the ground, hold the handle with one leg and pull the starter with the other hand. Never start a saw in the air or on your leg;
    - Running saws must be gripped with both hands; and
    - Maintain a clear work area free of tripping hazards and obtain firm footing before commencing any work. Keep your weight balanced on both feet and do not over reach.
  - Personal Protective Equipment. Employees using chain saws are exposed to flying debris, dust and noise.
    - Kevlar fire resistant leg chaps, steel-, composite- or alloy- toe boots or toe caps and metatarsal protection is/are required;
    - Hard hats, safety glasses and wire mesh/chainsaw-specific face shields;
    - Hearing protection;
    - Cut-resistant gloves are required when working with chain saws; and
    - Avoid loose or ragged clothing that might become entangled in the teeth.
  - Training:
    - Always read and become familiar with the manufacturer's instructions before use; and
    - Operators shall be trained in the safe operation and maintenance of chain saws, proper timber cutting procedures and the use of Personal Protective Equipment.

#### 44.10.5 Cut-Off Saws

- Inspection:
  - Ensure guard is installed and functioning as intended by the manufacturer;
  - Handles are installed and functioning as intended by the manufacturer;

- Trigger releases freely when released;
  - Muffler is installed;
  - Ensure no bolts are missing and all bolts are tight and functioning as intended by the manufacturer;
  - The pull cord handle is not broken or cracked;
  - The RPM of the tool is clearly marked on the tool;
  - The wheel flanges are clean and straight so the blade will spin true. The wheel flanges are recessed and are of the same diameter;
  - The wheel flanges are at least one-fourth the size of the blade;
  - The wheel arbor is the correct size for the blade. Never alter a wheel arbor to force a blade to fit the cut-off saw; and
  - If there is a blade in the tool, remove the blade and follow blade inspection guidelines.
- PPE:
    - Employees using cut-off saws will wear a hard hat mounted full-face shield in addition to safety glasses;
    - Proper hearing protection;
    - Proper protection from silica (see Silica Exposure Program);
    - Kevlar fire-resistant leg chaps with metatarsal protection;
    - Cut-resistant gloves are mandatory; and
    - Steel-toed, alloy or composite toe boots or toe caps.
- Abrasive Blade Storage:
    - Store blades on a level and firm surface;
    - Do not subject the blades to heat, moisture, high humidity, rain or snow, freezing, or condensation;
    - It is recommended that blades be stored in a controlled atmosphere such as the jobsite tool/equipment shop and that a blade distribution and inventory program be put in place;
    - Never transport the cut-off saw with the blade mounted; and
    - Remove blades after each use and return them to a proper storage area. Do not store the cut-off saw with the blade installed.
- *Abrasive Blade Inspection:*
    - Do not use broken, cracked, warped, wet or otherwise damaged blades. Do not use blades if the label blotter is unreadable;
    - Remove the blade from the cut-off saw for inspection. You cannot properly inspect a blade while it is mounted;
    - Perform a ring test to ensure the blade is free of cracks and other defects;
    - Before mounting the wheel inspect it, and tap the wheel gently with a light, non-metallic instrument;
    - An undamaged wheel rings with a clear metallic tone. If it sounds dead, don't use it;
    - For the ring test to be accurate, wheels shall be dry; and free of moisture and sawdust; and
    - Check the maximum operating speed for the blade as indicated on the label blotter. The blade's maximum rated RPM must be equal to or greater than the maximum RPM of the cut-off saw.

#### 44.10.6 Diamond Cutting Wheels:

- The manufacturer's instructions for use of diamond cutting wheels must be reviewed prior to installing the blade;

- Following the minimum guidelines established for abrasive blades above to supplement the manufacturer's recommendations;
- Diamond cutting wheels are intended for use when cutting concrete, masonry, architectural stones and granite, clay pipe and other materials recommended by the manufacturer;
- Do not use diamond cutting wheels to cut metal or any other materials not recommended by the manufacturer;
- Utilize water when cutter to reduce/remove silica exposure to the environment; and
- Check the maximum operating speed for the blade as indicated on the label blotter. The blade's maximum rated RPM must be equal to or greater than the maximum RPM of the cut-off saw.
- Fueling:
  - Fuel the saw in a well-ventilated area, outdoors only;
  - Always shut the engine off and allow it to cool before refueling. Relieve tank pressure by loosening the fuel cap slowly;
  - Always use a funnel and avoid over filling the tank;
  - Select bare ground for fueling and move at least 10 feet from the fueling spot before starting the engine; and
  - Use the manufacturer's recommended fuel mix of oil and gasoline.
- Starting Instruction:
  - Do not drop start. Place the cut-off saw on level ground and have a firm grip on the handle to pull start the engine;
  - Never attempt to start a saw that is positioned in a cut as it may kick back;
  - Position your body so that it is clear of the cutting attachment before pull starting. Adjust loose clothing to eliminate entanglement in the cutting attachment; and
  - Never start the tool with a person in line with the wheel - this includes the operator!
- Cutting Operations:
  - Review and understand the hazard analysis prior to using the cut-off saw;
  - Check that the wheel arbor matches the blade arbor;
  - Check that the blade's maximum RPM is equal to or greater than the maximum saw RPM. Select a blade specifically designed for use for the type of material you are going to cut;
  - Tighten the wheel flanges to secure the blade;
  - Allow the blade to spin freely at operating speed for at least one minute prior to use;
  - If you feel unusual vibration, stop the saw, determine the reason for the unusual condition, and correct the problem before using the saw again;
  - Maintain balance and solid footing while cutting. Do not overreach or position yourself in any way that could cause you to fall or lose control of the saw, particularly if the saw was to "kick back";
  - Adjust the guard to throw sparks away from your body. Remove any flammable items prior to beginning the cut;
  - Fill out a Hot Work Permit before cutting metal material;
  - Ensure a currently-inspected fire extinguisher is in the work area;
  - Adjust the guard to give the operator the best body protection;
  - Do not attempt to cut anything above your shoulder height;

- Maintain both hands on the saw when cutting material. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations;
- Let the tool do the work. Do not force the blade into the cut;
- Make sure the blade has stopped spinning before letting go of the handles;
- Do not transport the cut-off saw with the blade attached;
- Do not grind with the side of the cutting wheel.
- Inspect the tool and the blade before each use; and
- When you are done with the cut-off saw, remove the blade and return the saw, blade and PPE to its designated storage area.

#### 44.10.7 Chop Saws

- General:
  - Use only wheels designed for the saw (RPM rating on blade must meet or exceed that of the saw) and compatible with the material being cut;
  - Be sure to follow Lockout/Tagout procedures when changing wheels or performing any repairs; and
  - Do not remove the wheel guard.
- Cutting Operations:
  - Make sure the tool is on a solid base and access to the tool is free of debris;
  - Use a vice to clamp the work when necessary. All material shall be secured, fastener before cutting
  - Fill out a Hot Work Permit before cutting metal material;
  - Never start the tool with a person in line with the wheel - this includes the operator!
  - Do not cut masonry or wood with a chop saw, and only use the proper blade for the material being cut;
  - Do not force the tool through the work;
  - The saw should return to an open position after a cut. If it does not, the spring assembly may need repair; and
  - Ensure a currently-inspected fire extinguisher is in the work area.

#### 44.10.8 Radial Arm Saw

- Maintenance:
  - When connecting saw to power source, be sure to follow guidelines outlined in instruction manual;
  - Keep the manual in a location where operators can easily obtain it;
  - During installation, the front-end unit will be slightly higher so that the blade will return gently to the starting position when released by the operator. A return reel is an optional accessory to be sure this occurs;
  - Operators shall perform a safety walk around the radial arm saw area prior to commencing work;
  - Dull, badly set, improperly filed, warped saw blades, and saw blades with damaged teeth, shall be immediately removed from service before they result in causing the material to stick, jam or kick back when it is fed to the saw at normal speed;
  - Cleanliness around the wood working machinery is to be maintained to ensure proper functioning of guards, bearings, motors, and electrical equipment, and to prevent generation of fire hazards;
  - Adequate lighting in the work area shall be provided; (e.g. 10 foot candles in a Carpenter Shop)
  - Do not use blades that is a larger diameter than what is recommended by the manufacturer;
  - Do not operate the saw unless it is properly grounded;

- A positive means of Lockout / Tagout shall be provided for rendering such controls or devices inoperative while repairs or adjustments are being made to the machine;
  - All belts, pulleys, gears, shafts, or other moving parts shall be guarded;
  - Lower blade guards will be in place during ALL cutting operations;
  - Each circular hand-fed saw shall be provided with a hood-type guard that will cover the blade at all times;
  - Each saw shall be provided with an anti-kickback device so as to oppose the thrust or tendency of the blade to pick up the material and throw it back toward the operator; and
  - An adjustable stop shall be provided to prevent the forward travel of the blade beyond the position necessary to complete the cut in repetitive operations. A limit chain or other equally effective device shall be provided to prevent the saw blade from sliding beyond the edge of the table or the table shall be extended to eliminate over-run.
- Operation:
    - Cut-resistant gloves are mandatory;
    - Long hair shall be confined;
    - Loose flowing garments, sleeves, etc. shall not be worn by operators of machines;
    - Safety glasses or goggles are mandatory;
    - When employees are subjected to noise levels exceeding acceptable limits, hearing protection is required;
    - Keep the working area clean from trip hazards and fire possibilities;
    - Keep hands well away from saw blades and other cutting tools;
    - The practice of stopping blade rotation by placing a piece of wood against the rotating blade is prohibited;
    - Never leave the machine with the power on;
    - Respiratory protection shall be used if harmful dusts, fumes, or vapors are present.
    - Before a worker is permitted to operate any woodworking machine, he shall receive instructions in the hazards of the machine and the safe method of its operation;
    - Superintendents/ Foremen shall designate only authorized personnel to use the saw;
    - Always return the carriage to full rear after each operation;
    - Do not rip from wrong direction – observe caution tag on guard;
    - Do not force cutting system;
    - Do not place hands closer than 6 inches from the saw blade during a cut;
    - One operator only, the person who pulls the saw should position the work.
    - All material shall be secured and fastened before cutting; and
    - A secondary power switch shall be used to ensure both operator hands are clear of the blade

#### 44.10.9 Circular Saws

- Maintenance/Inspection:
  - Ensure the saw is lubricated by checking the oil level. Place the saw's foot on a horizontal surface, remove the oil plug and check to see that the oil level is never below the bottom threads in the housing;
  - All moving parts [lower guard and foot] shall be checked, cleaned and lubricated. Ensure parts are not binding or misaligned. Lower guard shall have a rapid return to position after being pulled up for inspection;

- A positive means of lockout shall be provided for rendering such controls or devices inoperative while repairs or adjustments are being made to the machine;
  - Inspect the body of the saw; handles, trigger switch, adjustment levers and the power cord. Inspect blade - ensure blade is straight and not bent, dull, badly set, improperly filed, or warped, and saw blades with damaged teeth shall be immediately removed from service before they result in causing the material to stick, jam or kick back when it is fed to the saw at normal speed; and
  - Never use the cord to carry the tool and inspect and remove from service any cords that have cuts and breaks that expose the wires.
- Changing the blade:
    - Disconnect the power source;
    - Press the lock-bottom turn wrench until the lock bottom engages;
    - Turn the blade clockwise and remove blade. The new blade shall be installed with the saw teeth and arrow pointed in the same direction as the arrow on the lower guard; and
    - Finger-tighten the blade nut and finish tightening the blade nut with a wrench about a 1/8 of a turn.
- Operation:
    - Before a worker is permitted to operate any woodworking machine, he/she shall receive instructions in the hazards of the machine and the safe method of its operation;
    - Superintendents/Foremen shall designate only authorized personnel to use the saw;
    - Cut-resistant gloves are mandatory;
    - Long hair shall be confined;
    - Loose flowing garments, sleeves, etc. shall not be worn by operators of machines;
    - Ensure lower guard moves freely when cutting;
    - Safety glasses or goggles are mandatory;
    - When saw operator is subjected to noise levels exceeding acceptable limits, hearing protection shall be required;
    - Work bench shall be a table capable of supporting the material and worker using the saw without movement;
    - All material shall be secured or fastened before cutting. Use clamps, nail # material down or utilize other practical ways to secure and support the work piece to a stable platform;
    - The area around the work bench shall be clear of material and debris at all times. Cluttered benches and dark areas invite accidents!;
    - Adequate lighting in the work area (at least 10 foot candles) shall be provided;
    - Do not operate the saw unless it is properly grounded;
    - Do not expose power tools to rainy or wet conditions;
    - When operating a saw in damp locations, ensure a ground fault circuit interrupter (GFCI) is used;
    - When operating outdoors, ensure electrical cords are rated for outdoor use;
    - Keep hands away from the cutting area and blade. Keep your second hand on the auxiliary handle - If both hands are holding the saw, they cannot be cut by the blade.
    - Never place your hand behind the saw; the blade could kick back right over your hand;
    - Keep your body positioned to either side of the saw blade, never in line with the saw blade - Kick back could cause the blade to jump backwards;
    - Always keep a firm grip on the handles with both hands. Allow your body and arms to resist the kickback forces;

- When blade binding occurs, release the trigger and hold the saw motionless in the material. Remove the saw once the blade comes to a complete stop. Investigate and take corrective action to eliminate the cause of blade binding;
- Wet lumber, green lumber or pressure-treated lumber require special attention to prevent kickback when cutting;
- Avoid cutting nails inspect and remove nails from lumber before cutting; and
- Never hold, cut or rip material in your hands or between your legs. Holding the work in your hand or against your body is unstable and may lead to loss of control.

## 45 TRAINING / NEW HIRE ORIENTATION

### 45.1 Purpose

The purpose of this program is to familiarize all personnel with the local and federal laws, B.U. / Regional safety policies and rules, and site-specific procedures to increase their safety knowledge.

On initial employment, Skanska Kiewit will orient all employees (including Subcontractor). They will be fully indoctrinated using the New Hire Orientation booklet; Site Orientation Power Point Presentation, Personal Fall Protection and site-specific procedures, complete our required paperwork (including, but not limited to, Code of Conduct Training) and receive required training before they are permitted to take part in operations.

At least annually, each employee must also take part in all of the general awareness modules generated by the B.U. / Regional Safety and Environmental Department. Employees will further receive specific safety training by means of construction planning. If their work so entails, employees will also be required to complete competent person training to further their knowledge.

### 45.2 Responsibilities

#### 45.2.1 Project Management shall:

- Provide necessary time, resources and support for all and any training needs.

#### 45.2.2 Office Manager/Timekeeper shall:

- Complete all appropriate sign-up paperwork prior to Orientation.

#### 45.2.3 Job Superintendent, Safety Manager or Safety Engineer shall:

- At the end of each day, the Superintendent will advise the Safety Department of the number of new employees expected for the next day's orientation class. This shall include the number of subcontractor personnel;
- Conduct the body of the orientation using the New Hire Orientation booklet, Personal Fall Protection Training and Site Orientation Power Point Presentation;
- Issue and have employees sign off on ISO 14001 / OHSAS 18001 Policies;
- Issue new hires a hard hat, safety glasses, task-specific gloves and a high visibility vest;
- Ensure the new worker has safety toe boots; and
- Have the new employee complete the New Hire Orientation Acknowledgement form.

#### 45.2.4 Craft Superintendent and Crew Foreman shall:

- Ensure that a task-specific Construction Plan must be addressed and signed off before employee is released to the site; and
- Sign-off must be returned to the Safety Department.

## 45.3 Procedure

### 45.3.1 Pre-Orientation

- Superintendents shall inform the Safety Department of the number of new hires at the end of each business day to allow for orientation scheduling; and
- Orientation packages will be prepared prior to orientation.

### 45.3.2 Orientation

- The Job Superintendent, Safety Manager or an Engineer will conduct the indoctrination using the New Hire Orientation Manual and Site-specific Orientation Power Point Presentation.
- The supervisor will instruct new hires according to the New Hire Orientation Training Module;
- Once the orientation module is complete, the Craft Superintendent and Crew Foreman will review the relevant construction plan(s) with the employee. No employee will go to work without relevant construction plan(s) training; and
- New hire will complete all applicable paperwork.

### 45.3.3 General Awareness

- All employees shall take part in the general awareness training modules at pre-determined time as per project schedule. The Safety Engineer will utilize the training modules as noted below;
- The B.U. / Regional Safety Department shall forward Unmatched/Expired training rosters to the site with an expectation to be provided with proof of training upon completion; and
- Each employee will be offered training from the listed below of thirteen modules as required if the job activity so requires. The thirteen modules include but not limited to:
  - Confined Space
  - Electrical Safety;
  - Excavations;
  - Fall Protection;
  - Hazard Communication;
  - Hearing Protection;
  - Lockout / Tagout;
  - Rigging;
  - Scaffolds;
  - Silica;
  - Lead Awareness;
  - Spills and Leaks; and
  - Stairways and Ladders.

- Each employee shall may be required to complete Supplementary Training as is relevant to specific job activities:
  - Aerial Platforms;
  - Fire Safety;
  - Forklift;
  - HAZWOPER;
  - Pneumatics;
  - Respiratory Protection;
  - Track Safety; and
  - Welding.

#### **45.3.4 Competency Training**

Employees identified in the Construction Plan(s) as Competent Person(s), shall take part in Competency Training at least once every three years, or more frequently as required.

#### **45.3.5 Post-Orientation Follow-Up**

Supervisors must continually monitor the habits of those employees under their direct supervision. Any incorrect habits or work methods used by employees shall be corrected immediately.

## 46 TRENCHING AND EXCAVATION

### 46.1 Purpose

The purpose of this program is to establish guidelines for jobs requiring the trenching and excavation operations. Trenching and excavation is not only potentially hazardous but is almost always a component of a project. The precautions necessary for a safe excavation must be considered in the planning process and continually monitored during the actual operation. We will take these precautions, and any other deemed necessary to keep our employees, the environment and the public safe during trenching and excavation operations.

### 46.2 Applicable Regulations

[OSHA 29 CFR 1926.650](#)

[OSHA 29 CFR 1926.651](#)

[OSHA 29 CFR 1926.652](#)

OSHA Technical Manual (OTM) Section V: Chapter 2

### 46.3 Definitions

**Accepted engineering practices** means those requirements which are compatible with standards of practice required by a registered professional engineer.

**Aluminum Hydraulic Shoring** means a pre-engineered shoring system comprised of aluminum hydraulic cylinders (cross-braces) used in conjunction with vertical rails (uprights) or horizontal rails (wales). Such system is designed specifically to support the sidewalls of an excavation and prevent cave-ins.

**Bell-bottom pier hole** means a type of shaft or footing excavation, the bottom of which is made larger than the cross section above to form a belled shape.

**Benching (Benching system)** means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

**Cave-in** means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

**Competent person** means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**Cross braces** mean the horizontal members of a shoring system installed perpendicular to the sides of the excavation, the ends of which bear against either uprights or wales.

**Excavation** means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

**Faces** or **sides** means the vertical or inclined earth surfaces formed as a result of excavation work.

**Failure** means the breakage, displacement, or permanent deformation of a structural member or connection so as to reduce its structural integrity and its supportive capabilities.

**Hazardous atmosphere** means an atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

**Kickout** means the accidental release or failure of a cross brace.

**Protective system** means a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

**Ramp** means an inclined walking or working surface that is used to gain access to one point from another, and is constructed from earth or from structural materials such as steel or wood.

**Registered Professional Engineer** means a person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.

**Sheeting** means the members of a shoring system that retain the earth in position and in turn are supported by other members of the shoring system.

**Shield (Shield system)** means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either pre-manufactured or job-built in accordance with 1926.652(c) (3) or (c) (4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields."

**Shoring (Shoring system)** means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

**Sides.** See "Faces."

**Sloping (Sloping system)** means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

**Stable rock** means natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed. Unstable rock is considered to be stable when the rock material on the side or sides of the excavation is secured against caving-in or movement by rock bolts or by another protective system that has been designed by a registered professional engineer.

**Structural ramp** means a ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rock are not considered structural ramps.

**Support system** means a structure such as underpinning, bracing, or shoring, which provides support to an adjacent structure, underground installation, or the sides of an excavation.

**Tabulated data** means tables and charts approved by a registered professional engineer and used to design and construct a protective system.

**Trench (Trench excavation)** means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m). If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.

**Trench box** See "Shield."

**Trench shield** See "Shield."

**Uprights** means the vertical members of a trench shoring system placed in contact with the earth and usually positioned so that individual members do not contact each other. Uprights placed so that individual members are closely spaced, in contact with or interconnected to each other, are often called "sheeting."

**Wales** means horizontal members of a shoring system placed parallel to the excavation face whose sides bear against the vertical members of the shoring system or earth.

## 46.4 Responsibilities

### 46.4.1 Project Management shall:

- Identify a qualified person as the Competent Person for Trenching and Excavation; the individual's knowledge of Trenching and Excavation shall be consistent with the specifications listed in this program;
- Ensure that there is a Competent Person supervising all Trenching and Excavation operations;
- Ensure that subcontractors have identified a qualified person whose knowledge of trenching and excavation is consistent with the requirements listed in this program; and
- Enforce the requirements of this program.

### 46.4.2 Subcontractors shall:

- Identify their Competent Person prior to starting any trenching or excavation operation; and
- Train their employees in the requirements identified in this section.

## 46.5 General Requirements

### 46.5.1 Competent Person:

- A Competent Person must supervise all trenching and excavations; and

- A Competent Person is one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

#### **46.5.2 Surface Encumbrances:**

- All surface encumbrances such as signs, poles, and foundations that create a hazard shall be removed or supported to safeguard employees.

#### **46.5.3 Underground Utility Precautions:**

- Reviewing drawings and contacting Dig Safe System, Inc. or other entity shall determine all utilities expected to be encountered during excavation work;
- Utility companies and owners shall be given adequate time based on local practice to respond. If they do not respond, work can proceed provided detection equipment is used;
- If any damage occurs to any line, work shall be terminated and the utility owner contacted;
- Work may only proceed after the utility company gives authorization;
- When approaching the estimated location of the underground installation, hand digging or alternative safe method will be used; and
- While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.

#### **46.5.4 Access and Egress:**

- A stairway ladder or ramp shall be provided in all trench excavations 4 feet or more in depth. Employees must not have to travel more than 25 feet to obtain access;
- If a ramp is selected, the employee must be able to exit the excavation in an upright posture without having to scale the slope;
- If structural ramps are used by employees, the Competent Person must design the ramp, or, if for vehicle use, the Competent Person must be qualified in structural design; and
- All structural members of ramps and runways shall be of uniform thickness.

#### **46.5.5 Exposure to Vehicular Traffic:**

- Employees exposed to vehicular traffic shall wear high visibility vests.

#### **46.5.6 Exposure to Falling Loads:**

- Employees shall not be under any loads handled by equipment; and
- Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.

#### **46.5.7 Warning System for Mobile Equipment:**

- If the operator has an obstructed view or is adjacent to the excavation, a barricade or signaling system shall be utilized.

#### **46.5.8 Hazardous Atmospheres:**

- Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before employees enter excavations greater than 4 feet in depth;
- A ventilation system will be utilized and monitored by the Competent Person should hazardous atmospheres be encountered; and
- Emergency rescue equipment such as a harness, Stokes basket (or equivalent), or Self-Contained Breathing Apparatus (SCBA) will be available where hazardous atmospheric conditions exist or may reasonably be expected to develop.

#### **46.5.9 Water Accumulation**

- Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating;
- Employees may re-enter the excavation only after adequate precautions have been taken to protect employees against the hazards;
- Controls may include support or shield systems, pumps, or safety harness and lifeline; and
- A Competent Person will monitor these controls.

#### **46.5.10 Stability of Adjacent Structures**

- All adjacent structures such as buildings, sidewalks, pavement, etc. shall be shored, braced, or underpinned; and
- Excavations below footings or foundations are not permitted unless they are supported, in stable rock or designed by a registered professional engineer.

#### **46.5.11 Protection of Employees from Loose Rock or Soil:**

- All excavations shall be scaled to remove loose material that could pose a hazard by falling or rolling into the excavation; and
- All spoil piles shall be kept in a minimum of 2 feet from the edge of the excavation, or by the use of a sufficient retaining device, or by both.

#### **46.5.12 Inspections:**

- The Competent Person shall inspect all excavations daily and when conditions of the excavation have changed; and
- No employee shall be allowed to work in any excavation that the Competent Person deems unsafe.

#### **46.5.13 Fall Protection:**

- Walkways over excavations shall have proper guardrails; and
- Adequate barriers shall be provided around the perimeter of remote excavations.

### **46.6 Soil**

#### **46.6.1 General:**

- All soil shall be considered Type C until otherwise determined by a Competent Person; and
- The classification of the deposits shall be made on the results of at least one visual and one manual analysis.

#### **46.6.2 Visual Tests:**

- A visual test must be performed and include observing the soil during excavation specifically looking for cohesiveness, cracks, layered systems, surface water, vibration, other existing underground structures, etc. which can affect the stability of the excavation.

#### **46.6.3 Manual Analysis:**

- One of the following tests shall be performed along with the visual test:
- Plasticity – mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two-inch length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive;
- Dry Strength – if the soil is dry and crumbles on its own or with moderate pressure into individual grains of fine powder, it is granular. If the soil is dry and falls into clumps that break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into smaller clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured;

- Thumb penetration – the thumb penetration test can be used to estimate the unconfined compressive strength of 1.5 tons per square foot (tsf) can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of soil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences;
- Pocket penetrometer – this device will provide the compressive strengths of soils and can be obtained by contacting the Safety Director.
- After performing a visual and manual test you can then determine the soil classification including:
- **Stable rock** – natural solid mineral matter that can be excavated with vertical sides remaining intact while exposed;
- **Type A** – cohesive soil with an unconfined compressive strength of 1.5 tons per square foot (tsf) or greater. This soil is highly cohesive and generally contains a significant clay content or is a cemented soil;
- **Type B** – cohesive soil with an unconfined compressive strength greater than 0.5 tsf, but less than 1.5 tsf. This soil is less cohesive than Type A and can include certain angular gravel as well as previously disturbed soils that are well compacted; and
- **Type C** – cohesive soil with an unconfined compressive strength of 0.5 tsf or less. This soil is the least stable, having little or no cohesive properties and includes most granular soil.

## 46.7 Protective Systems

### 46.7.1 General:

- All employees shall be protected while working in an excavation by the use of a protective system unless the excavation is to be measured as its greatest vertical dimension;
- Trenches less than five (5) feet in depth must be sloped or shored if they are in unstable soil;
- Although a three (3) foot trench is less than the height of a worker, it still can pose a threat to workers in a stooped or kneeling position;
- No sidewalk or structure shall be undermined unless shored; and
- A registered professional engineer must design any protective system.

### 46.7.2 Slopes:

- Sloped trenches and excavations shall be consistent with the following table:

Maximum Allowable Slopes		
Stable Rock	Vertical	90 Degrees
Type A	$\frac{3}{4}$ h : 1 v	53 Degrees
Type B	1 h : 1 v	45 Degrees
Type C	1 $\frac{1}{2}$ h : 1 v	34 Degrees

- A short term maximum allowable slope of  $\frac{1}{2}$ h:1v (63°) is allowed in excavations in Type A soil that are 12 feet or less in depth;
- Short term maximum allowable slopes for excavations greater than 12 feet in depth shall be  $\frac{3}{4}$ h:1v (53°); and
- Refer to sloping diagrams.

#### 46.7.3 Timber Shoring and Aluminum Shoring

- When selecting either timber or aluminum shoring systems the Competent Person shall use Tables C and D;
- When using manufacturer's data it will be built in accordance to specifications and recommendations. Any deviation will only be allowed with the manufacturer's approval;
- All data must be kept on the jobsite during construction and use of the system; and
- Refer to all diagrams.

#### 46.7.4 Designs by a Registered Professional Engineer:

- Designs shall be in written form and include sizes, types and configurations of the materials to be used; and
- The design must be properly stamped and at least one copy kept at the jobsite during construction and use of the system.

#### 46.7.5 Materials and Equipment:

- Material used for the systems must be free from damage that may impair their function;
- Manufactured material shall be used per their recommendations;
- The Competent Person shall examine material that has been damaged and evaluate if it can be used. If not sure, a Professional Engineer must be utilized;
- Installation and removal of support – members of support systems shall be securely connected;
- Support systems shall be installed and removed in a manner that protects employees;

- Individual members of support systems shall not be subjected to loads exceeding those which those members were designed to withstand;
- Before temporary removal of individual members begins, additional precautions shall be taken to ensure the safety of employees, such as installing other structural members to carry the loads imposed on the support system;
- Removal shall begin at, and progress from, the bottom of the excavation;
- Backfilling shall progress together with the removal of support systems from excavations; and
- Do not excavate more than 2 feet below the bottom member of a support system unless it is so designed.

#### **46.7.6 Shield System / Trench Box**

- Shield systems shall not be subjected to loads exceeding those that the system was designed to withstand;
- Shields shall be installed in a manner to restrict lateral or other hazardous movement of the shield in the event of the application of sudden lateral loads;
- Employees shall be protected from the hazard of cave-ins when entering or exiting the areas protected by shields;
- Employees shall not be allowed in shields when shields are being installed, removed, or moved vertically;
- Do not excavate more than 2 feet below the bottom of a shield unless it is so designed; and
- The manufacturer's data sheet for all rented trench boxes will be kept on site during their use. The data sheets for all Skanska Kiewit-owned trench boxes will be kept on site and a copy forwarded to the B.U. / Regional Safety Department.

## 47 UNIVERSAL WASTE

### 47.1 Purpose

This will define how we manage universal and electronic waste generated and/or managed by Skanska Kiewit. This waste shall be managed in accordance with applicable federal, state and local regulations.

The regulations governing the collection and management of electronic and universal waste streamline hazardous waste management standards, thus facilitating environmentally sound collection and proper recycling or treatment of designated "universal wastes." That wastes covered by this policy include:

- Batteries;
- Pesticides;
- Mercury-containing equipment; and
- Bulbs (Lamps).

### 47.2 Applicable Regulations

40 CFR Part 273: Standards for Universal Waste Management

6 NYCRR Subpart 374-3: Standards for Universal Waste

Mercury Added Consumer Products Law (Chapter 145 Laws of New York 2004 and Chapter 676 Laws of New York 2005).

49 CFR Part 172: Hazardous Materials Regulations

40 CFR Parts 260 - 272

6 NYCRR Part 370: Hazardous Waste Management System – General

6 NYCRR Part 371: Identification and Listing of Hazardous Waste

6 NYCRR Part 372: Standards Applicable to Generators of Hazardous Waste

Environmental Conservation Law Article 27 Title 26 – Electronic Equipment Recycling and Reuse

### 47.3 Definitions

**Battery** – a device consisting of one or more electrically connected electrochemical cells that is designed to receive, store, and deliver electric energy. **Universal waste** batteries include lead acid batteries not recycled in accordance with 6 NYCRR 374-1.7. Other batteries must be managed as universal waste if they would be classified as hazardous waste or if they are “mercury added.”

Under The [NYC Rechargeable Battery Law](#) - Local Law 97 of 2005 and [NY State's Rechargeable Battery Law](#), it is illegal to discard of rechargeable batteries including Nickel Cadmium, Nickel Metal Hydride, Lithium Ion, and Lead Acid batteries in the trash. Automobile batteries may be recycled in accordance with 6 NYCRR 374-1.7.

**Covered Electronic Equipment** – a computer; computer peripheral; small electronic equipment; small-scale server; cathode ray tube; or television, as defined in Environmental Conservation Law Article 27 Title 26 – Electronic Equipment Recycling and Reuse

**Cathode Ray Tube (CRT)** – a vacuum tube composed primarily of glass, which is the visual or video display component of an electronic device.

**Electronic Waste**– covered electronic equipment that has been discarded or is no longer wanted by its owner, or for any other reason enters the waste collection, recovery, treatment, processing, or recycling system. **(DCAS document definition)**- includes without limitation, computer monitors, computer central processing units (CPUs), laptops, handheld computers, servers, computer accessories (such as external drives, keyboards, mice and speakers), printers, electric typewriters, printing plotters, photocopiers, scanners, fax machines, global

positioning systems(GPS) devices, uninterruptible power supply (UPS) systems, televisions, audiovisual devices, *cell phones (Cell Phones are excluded in EC Title 26 definitions)*, and the products of sanitization of electronic data storage hardware. Electronic waste does not include the case, shell, or other enclosure of electronic equipment from which incorporated assemblies, sub-assemblies, components, materials, wiring, circuitry and commodities have been removed.

**Lamp** – the bulb or tube portion of an electric lighting device. Examples of common **universal waste** electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. All **broken** mercury-containing lamps shall be handled as hazardous waste

**Large Quantity Handlers of Universal Waste (LQHUW)** – a universal waste handler who accumulates 5,000 kilograms or more total of universal waste (batteries, pesticides, thermostats, or lamps, calculated collectively) at any time. The designation as a LQHUW shall be retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

**Mercury-Containing Equipment (MCE)** - a device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function. Examples of common **Universal Waste MCE** include thermometers, thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches. If mercury is removed from MCE, it is no longer considered Universal Waste; therefore, it must be managed as hazardous waste or a determination made that it is not hazardous (40 CFR 273.4(b)(3)).

**Pesticide** – any substance intended for preventing, destroying, repelling, or mitigating any pest (e.g., insects, algae, rodents, fungi, etc.), or intended for use as a plant regulator, defoliant, or desiccant. **Universal waste pesticides** are those that are part of a manufacture recall or are stocks of other unused pesticides products that are collected and managed as part of a waste pesticide collection program approved by DEC.

**Recycle** – means separate, dismantle or process the materials, components or commodities contained in electronic waste for the purpose of preparing the materials, components or commodities for use or reuse in new products or components.

**Small Quantity Handlers of Universal Waste (SQHUW)** – a universal waste handler who does not accumulate 5,000 kilograms or more total of universal waste (batteries, pesticides, thermostats, or lamps calculated collectively) at any time.

**Television**– means a display system containing a cathode ray tube or any other type of display primarily intended to receive video programming via broadcast, cable or satellite transmission, having a viewable area greater than four inches when measured diagonally.

#### 47.4 Universal Waste Procedure

Generators of universal wastes must comply with universal waste standards for collecting, storing, and transporting wastes, as well as with applicable hazardous waste requirements for final recycling, treatment, or disposal.

#### 47.5 Universal Waste Identification

Upon generation of a waste material or substance, the **Responsible Individual** must determine whether the waste stream is hazardous pursuant to federal, state and local regulations. Any material which has been identified as hazardous waste and meets the definitions of battery, lamps, MCE and Pesticide as outlined in this policy must be managed in accordance with this policy.

#### 47.6 Universal Waste Storage Areas and Management

All universal waste storage areas and management practices must meet the following:

- Do not accumulate 5,000 kg (11,000 lbs.) or more of total universal waste at any time.

- Do not accumulate universal waste for more than one year from the date the universal waste is generated (i.e. the date the first item is placed in the storage area).
- Establish a designated universal waste storage area within the facility which is clearly distinguishable from other waste storage areas.
- Universal waste storage areas must be located inside a building or other structure and must not be exposed to precipitation.
- Universal waste must be stored in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with contents.
- Universal waste must be stored in a manner that prevents release of any universal waste or component of a universal waste to the environment.
- All drums, tanks, or other containers must be structurally sound, compatible with the universal waste, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. Containment must be kept closed unless waste is being added to or removed from the container. State regulations require containerization of universal waste lamps, pesticides, thermostats and batteries which show signs of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
- Label the individual universal waste item or storage container with the words “Universal Waste,” the name of the specific waste stream and the date the item(s) became a waste.
- Notify the Responsible Individual of all universal waste releases and contact Responsible Individual for guidance on cleanup, storage and disposal.
- We are prohibited from disposing of, diluting, or treating universal waste.

#### 47.7 Batteries

Any universal waste battery that shows evidence of leakage, spillage, or damage must be stored in a container that is closed.

- Label each battery or container as “Universal Waste Battery(ies),” “Waste Battery(ies),” or “Used Battery(ies).”
- A facility may perform the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed:
  - Sort batteries by type;
  - Mix battery types in one container;
  - Discharge batteries so as to remove the electric charge;
  - Regenerate used batteries;
  - Disassemble batteries or battery packs into individual batteries or cells;
  - Remove batteries from consumer products; and
  - Remove electrolyte from batteries

#### 47.8 Pesticides

Universal waste pesticides must be stored as follows:

- In a container, tank, or vessel that remains closed and lacks evidence of leakage, spillage, or damage; a container that does not meet these requirements must be over-packed in a container that does meet the requirements;
- A tank used to store universal waste pesticides must meet the requirements of 6 NYCRR 373-3.10, except for subdivisions 373-3.10(h)(3), (k), and (l);
- Label each container, tank, etc., that is used to store universal waste pesticides as “Universal Waste – Pesticides(s)” or “Waste – Pesticides.” ;
- Label each container, tank, etc., that is used to store universal waste pesticides with the label that accompanied the product as sold or distributed. If using such a label is not feasible, label the container in accordance with 49 CFR 172.

#### 47.9 Lamps

- Storage containers for universal waste lamps must be stored in a stable position, must remain closed unless bulbs are being added or removed and must lack evidence of leakage, spillage, or damage. If the facility uses the package in which the bulbs were originally received, the facility cannot store unused and used bulbs in the same container. Materials should not be stacked on top of the package;
- Lamps must not be intentionally broken. Notify the Responsible Individual of broken lamps and for guidance on cleanup, storage and disposal; and
- Label the container or packaging that is used to store universal waste lamps as “Universal Waste-Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).”

#### 47.10 Mercury Containing-Equipment

- Containers of Mercury-Containing Equipment (MCE) with mercury in contained ampules (e.g., thermostats, switches) must remain closed and must lack evidence of leakage, spillage, or damage. We prohibit the removal of mercury ampoules from thermostats or switches;
- Any non-contained elemental mercury (e.g., unsealed manometer) or packaging that shows evidence of leakage, spillage, or damage must be stored in a structurally sound closed container to prevent the escape of mercury. Contact the Responsible Individual for guidance on handling and disposal of leaking, spilled or damaged MCE.
- Label the container or packaging that is used to store universal waste MCE as “Universal Waste – Mercury-Containing Equipment,” “Waste Mercury-Containing Equipment,” or “Used Mercury-Containing Equipment.” If the container or packaging only contains thermostats, it may be labeled “Universal Waste – Mercury Thermostat(s),” or “Waste Mercury Thermostat(s),” or “Used Mercury Thermostat(s).”

#### 47.11 Material Removal

The contractor offers the labor, equipment, material, and the support necessary for the proper removal, transportation, recycling and/or disposal of universal waste, including:

- **Mailback Service** Mailback service is available for agencies collecting small amounts of waste. Mailback service includes a variety of mailback containers for each category of waste covered under the contract, and containers are delivered directly to a designated agency site. Upon request, agencies will receive shipping labels to send each mailback container to the contractor via courier service for processing;
- **Removal Service** Projects with the ability to consolidate large quantities of waste have an option to purchase removal service. Under removal service, projects may order large-quantity removal containers which are delivered to the site and upon request are removed directly from the jobsite. Removal service can be scheduled on a standard or express removal basis, during peak or off-peak hours; and
- **Battery recycling** can be conducted free of charge through the Call2Recycle program at [www.call2recycle.org](http://www.call2recycle.org)
  - Auto batteries have scrap value and are not covered by the Call2Recycle program.
  - Alkaline batteries (standard non-rechargeable batteries) are no longer hazardous and can be disposed of safely in the regular trash.

#### 47.12 Training

State and Federal regulations require Skanska Kiewit to inform its employees who handle or have responsibility for managing universal waste and electronic waste of the proper handling of such materials and the emergency procedures appropriate to the type(s) of universal wastes handled at the facility. Therefore, all employees who handle or have responsibility for managing universal waste must be informed of the appropriate universal and electronic waste handling and emergency procedures.

Training must be completed within six months of the date of the employee's assignment to the position at the facility. Documentation of training or other means of informing employees (e.g., signed memorandum on universal waste procedures) must be maintained in a manner that can be accessed by the Responsible Individual in the event of an inspection.

Refresher or additional training may be required whenever there is reason to believe that there are deviations from the accepted procedure or inadequacies in the employee's knowledge; or whenever there is a significant change in policy.

# 4 R Guide

Skanska's Environmental Policy and 2008-2010 Strategy includes a focus on Zero Waste Generation. This long term objective can be achieved by reducing upfront demand, reusing materials wherever possible and recycling (or down-cycling). Where these options are not practical, other environmentally sound treatment of waste should be used; eg energy recovery or best practice disposal treatment.

*Skanska has set a target for Materials Resource Efficiency, to be achieved by the end of 2010.*

To ensure that waste measurement is clear and comparable, the KPI is split into two parts:

- a. construction waste going to landfill and
- b. demolition waste going to landfill.

## Extract from three year strategy

### Materials - KPI 2. Resource efficiency

Overall target <10% of waste at projects going to landfill

New Construction waste	Demolition waste
< 10% of waste going to landfill	% reduction target set by BU

Hazardous Materials to be included in target

Soil not included in target

Skanska encourages waste handling according to this 4 R Guide, even with projects where the company can't directly control the amount of waste being generated; eg demolition projects

## Definition of 4 Rs

(from a best to worst option view)

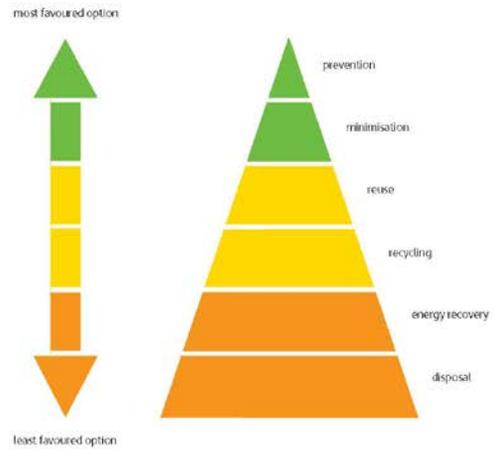
- Reduce** – Prevent waste in the first place; by eliminating waste at source through better planning and design
- Reuse** – Increase creativity on site – Reuse materials waste whenever possible; this is both cost effective and reduces waste to landfill
  - Secondary material use – Down cycle if it cannot be reused.
- Recycle** – Ensure a good separation of waste into “one-material fractions” that can be more easily recycled
  - Enable segregation of at least 6 fractions: Wood, Concrete, Gypsum/Plasterboard, Metal, Plastic -soft and hard, Paper/Cardboard
- Recover** – Energy Recovery can be an alternative, if recycling is not applicable
- Landfill** – Waste sent to be disposed at landfills without any 4 R activities taking place.

- Reward waste avoidance at project level
- Encourage the use of waste with a recycled content
- Make the cost of waste – recycling, recovery and disposal to landfill – visible in project accounts; and consolidate at BU level
- Effective use of materials provides huge potential for savings; not only for the environment but also economically
- Waste is everyone’s responsibility! Designers, procurement managers, engineers, foremen; ...everyone

## Steps to success

Planning is the key to success:

- which materials to order and in what quantities
  - on time delivery
  - planning for proper storage; to avoid damage of materials before use
- Prepare local “Project Waste Management Plans”, identifying the local home market recommendations.



## How to treat waste

*Examples of different types of waste and how it can best be treated at end of life, using the 4 R Best Practice*

### KPI 2a – Construction Waste

	Examples of Waste	4 R Best Practice
<b>Construction Waste (including Sub Contractor waste)</b>	Concrete	Reuse
	Plasterboard/Gypsum	Recycle
	Paper	Recycle
	Metal	Recycle
<b>Office Waste</b>	Paper	Recycle
	Cardboard	Recycle
	Plastic (hard/soft)	Recycle or Recover
	Toners	Recycle
<b>Waste from Manufacturing plants</b>	Asphalt	Reuse
	Concrete	Reuse or Recycle

### KPI 2b – Demolition Waste

	Examples of Waste	4 R Best Practice
<b>Demolition waste</b>	Concrete	Reuse
	Steel	Recycle
	Cabling	Recycle or Recover
	Glass	Recycle
	Timber	Reuse or Recycle
	Other materials	Reuse or Recycle
<b>Soil (not included in target)</b>	Unpolluted soil	Reuse
	Polluted soil	Hazardous Waste/Special treatment
	Excavated material	Reuse

### Definition of Metrics

Metric	Guidance
<b>Weight in Kg/Tonnes</b>	For applicable fractions, KPI preferably measured in tonnes for comparison
<b>Volume</b>	For applicable fractions in: m <sup>3</sup> , cubic yards, skips, containers, dumpsters

## 4 R – Glossary

*A brief definition of words relating to 4 R; looking from both an external and internal point of view.*

A	
<b>Aggregated masses</b>	Stone/crushed rock, gravel and sand = ballast
B	
<b>Ballast</b>	Gravel and sand
<b>BAT</b>	Best Available Technique
<b>Bio-degradable waste</b>	Waste that is capable of being broken down by living organisms, principally bacteria and fungi
<b>By-products</b>	1. Something produced in the making of something else 2. A secondary result; a side effect
C	
<b>Combustion</b>	The controlled burning of municipal solid waste. Energy recovery could be performed in technically advanced combustion chambers.
<b>Composting</b>	Method to decompose organic material by bacteria under controlled conditions. Makes a nutrient-rich natural fertilizer for use in gardening or farming
<b>Construction waste</b>	Waste that arises from the construction of new buildings/structures
<b>Container</b>	Containers are designed for receiving, transporting, and dumping waste materials
<b>Contamination</b>	A clean waste fraction that has been polluted by an unwanted substance e.g. Asbestos
D	
<b>Demolition waste</b>	Waste that arises during demolition work on old buildings/structures
<b>Depletion of finite resources</b>	Non-renewable resources i.e. oil, gas, minerals
<b>Disposal</b>	Waste sent to final treatment without being segregated for recycling or recovery
<b>Down-cycle</b>	Using "waste materials" for an alternative use i.e. blast furnace slag in asphalt or concrete or as aggregate in e.g. roads
<b>Dumpster</b>	A trademark used for containers designed for receiving, transporting, and dumping waste materials

E	
<b>Earthworks</b>	Excavated materials used for landscaping or noise bunds
<b>Emissions</b>	Commonly refers to flue or exhaust gas resulting from combustion.
<b>Environmentally sound</b>	Best treatment available of materials/waste with the least risk of harm to humans, animals or environment
<b>Equipment</b>	Generic term for; yellow equipment i.e. road transporters, lifts and also machines or electrical equipment
<b>Excavated</b>	Materials that have been dug up during preparation of a construction site
F	
<b>Fly tipped materials</b>	Product waste that is placed in the environment either intentionally or by mistake
<b>Fraction</b>	A waste can be sorted into a fraction; thereby keeping wastes of the same type together. This is required to enable efficient recycling.
G	
<b>Granulated</b>	A material is crushed or grained into smaller parts, normally this is performed with minerals, stone and used asphalt (to reuse it)
H	
<b>Hazardous waste</b>	Waste that is dangerous to humans, animals and environment. Must always be treated in a well controlled manner using special treatment.
<b>Heavy Metals</b>	Heavy Metals refer to any metallic chemical element that has a relatively high density and is toxic or poisonous at low concentrations. Most commonly known are Mercury (Hg), Cadmium (Cd), Arsenic (As), Lead (Pb)
I	
<b>Incineration</b>	Waste treatment technology used to burn waste at high temperature
<b>Inorganic waste</b>	Generally speaking, waste made up from mineral materials e.g. concrete
<b>Intelligent Selection of Materials</b>	Selecting commercially viable materials which are more benign to human health and environment than more hazardous materials

K	
<b>KPI</b>	Key Performance Indicator; with an either short or long term set targets
L	
<b>Landfill</b>	The disposal of solid waste at engineered facilities in a series of compacted layers on land and the frequent daily covering of the waste with soil. Fill areas are carefully prepared to prevent nuisances or public health hazards, and clay and/or synthetic liners are used to prevent releases to ground water.
<b>Life-cycle analysis (LCA)</b>	Looking at all stages of a product's development, from extraction of fuel for power to production, marketing, use, and disposal.
<b>Life-cycle cost (LCC)</b>	Looking at the cost of a product's development, from extraction of raw materials, to production, use and disposal.
M	
<b>Manufacturing Plants</b>	In Skanska this can be e.g. an Asphalt plant or a Pre-fabrication facility
<b>Materials</b>	Any material (fluid or solid) that is used in construction e.g. steel, iron, aluminium
O	
<b>Optimal treatment option</b>	Best treatment option of a waste fraction; using the least energy and resources
<b>Organic waste</b>	Generally speaking, waste made of biological materials i.e. wood, paper
P	
<b>Packaging</b>	This covers all packaging parts used to contain a product until final use. It can be paper, plastic, Styrofoam, metal etc
<b>Paper, corrugated &amp; plain</b>	In the recycling business, it refers to products and materials, including newspapers, magazines, office papers, corrugated containers (wave shaped brown paper), bags and some paperboard packaging that can be recycled into new paper products.

Plastic marking	
European standard	
Plastic marking	
US standard	
Polluted soil	Soil that has been polluted and cannot be reused unless "cleaned".
Polluter Pays Principle	This principle relates to the Producer/Importer/Seller having to ensure the correct collection of waste at end-of-life. Normally this is performed by paying fees per material type and amount of product placed on the market (EU)
Pre-fabricated	Anything that has been produced for a certain purpose i.e. bathroom wall with all connections for water etc already placed in the wall. This method reduce the amount of waste because items are ready-made for use
Prevent	To stop or hinder something from happening i.e. to prevent production of waste from materials used (eg: a secondary beneficial use is one alternative).
<b>R</b>	
Raw material	Material that is used for the first time. Eg Aluminium
Ready-made	Something that is made for use instantly
Recover	e.g. Energy recovery refers to waste being converted into a usable form of energy e.g. heating of houses, usually via a combustion process.
Recycle	Minimizing waste generation by recovering and reprocessing usable products that might otherwise become waste (e.g. recycling of aluminum cans, paper, and bottles, etc.).
Recycled content	The portion of a product's or package's weight that is composed of materials that have been recovered from waste; this may include pre-consumer or post-consumer materials.
Reduce	Reduction at source, recycling, or composting to prevent or reduce waste generation
Resource efficient	Materials that are used in the most efficient way
Reuse	The use of a product more than once; either in the same form for the same purpose or for different purposes, such as reusing a soft-drink bottle when it is returned to the bottling company for refilling.

<b>S</b>	
Secondary raw material	Materials that have been manufactured and used at least once and are to be used again either as original material or in combination with other materials
Segregate	To separate waste materials into single material fractions
Skip	An open container for transporting building materials or rubbish
Spedal waste	Items such as hazardous waste, chemicals, bulky wastes (refrigerators etc.) tires, and used oil.
Styrofoam	Expanded Polystyrene, plastic packaging used to protect fragile products eg PCs For example a "wet room system"
Systems (in Skanska's Environment Strategy)	

<b>T</b>	
Toxins	A poisonous substance, especially a protein, that is produced by living cells or organisms.

<b>VW</b>	
Virgin materials	Resources extracted from nature in their raw form, such as timber or metal ore. Also called Raw materials
Waste hierarchy	A way to classify waste management strategies according to their desirability, in order of importance from most favoured option to least favoured option. (See pyramid diagram).

**SKANSKA**

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**SKANSKA**

# 4 R Guide

Reduce  
Reuse  
Recycle  
Recover



## 48 WELDING AND CUTTING

### 48.1 Purpose

The purpose of this program is to establish guidelines to protect employees from the hazards of welding and cutting and the compressed gases used in these operations. Due to the amount of work we do on projects with metals, it is necessary to have safeguards such as welding screens and Personal Protective Equipment (PPE) to protect employees as well as welding screens to shield the public from the welding arcs.

These procedures will be strictly adhered to on all projects.

### 48.2 Applicable Regulations

[OSHA 29 CFR 1910.251](#)

[OSHA 29 CFR 1926.252](#)

[OSHA 29 CFR 1926.134](#)

[OSHA 29 CFR 1926.350 Subpart J](#)

### 48.3 Responsibilities

#### 48.3.1 Project Staff shall:

- Purchase all welding and cutting equipment according to B.U. / Regional program specific to brand and model;
- Provide, at no charge, all necessary personal protective equipment for safe welding operation;
- Enforce the details of this procedure;
- Ensure workers use compressed gas cylinders and welding and cutting equipment according to the procedure as set out in this program;
- Allow only qualified employees to use welding and cutting equipment; and
- Provide ventilation equipment when welding operations create hazardous atmospheres.

#### 48.3.2 Employees shall:

- Only use welding and cutting equipment if they have been designated to do so by their supervisor; and
- Use all personal protective equipment and welding screens when designed by their supervisors.

## 48.4 Procedure

- Compressed Gas Cylinders Handling, Storage and Use
  - Keep valve protection cap in place at all times when a cylinder is not in use;
  - Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck, or permitted to strike each other violently;
  - Valve protection caps shall not be used for lifting cylinders from one vertical position to another. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling, water shall be used to thaw cylinders loose;
  - Secure cylinders in an upright position, use carriers or carts and isolate them from welding and cutting operations;
  - Cylinders, when transported by vehicle, shall be transported in an upright position;
  - When hoisting cylinders, they shall be secured on a cradle, sling board, or pallet. They shall not be hoisted or transported by means of magnets or choker slings;
  - Do not hoist individual cylinders with a chain or a choker sling;
  - Compressed gas cylinders must be stored at a minimum of 20 feet from fuel gases or separated by a noncombustible barrier wall at least five feet high with a ½ hour, noncombustible rating (1/4" steel plate minimum). Storage must be in a well-ventilated area with a minimum distance of five feet from other materials;
  - Inside of buildings, cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20 feet (6.1 m) from highly combustible materials such as oil. Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways. Assigned storage places shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards;
  - Storage of propane inside a building is prohibited;
  - Gas hose shall not be stored in an unventilated Connex or Knack ® box;
  - Carts shall have half-hour fire-resistant wall between cylinders;
  - Fuel gas and oxygen manifolds must be located in well-ventilated areas;
  - Do not use a bar to pry cylinders from frozen ground, use warm water to thaw the cylinders;
  - Do not take oxygen, acetylene or other gas cylinders into a Confined Space;
  - Gas Welding and Cutting Safe Practices and Procedures;
  - Reverse flow check valves will be installed at the torch end;
  - Flashback arrestors will be installed at both the torch end and the regulator (most are manufactured this way);
  - Inspect hoses and fittings daily and replace damaged hoses to prevent leaking gases; If, when the valve on a fuel gas cylinder is opened, there is found to be a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this action does not stop the leak, the use of the cylinder shall be discontinued, and it shall be properly tagged and removed from the work area. In the event that fuel gas should leak from the cylinder valve, rather than from the valve stem, and the gas cannot be shut off, the cylinder shall be properly tagged and removed from the work area. If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder need not be removed from the work area;
  - Keep hoses, cables and other equipment clear of passageways, ladders, and stairs;
  - Place cylinders away from the work, so that sparks, hot slag, or flame cannot reach them;
  - Use only approved regulators, gauges, and torches;
  - Use only friction lighters – strikers – to ignite torches;

- "CRACK" (open and close quickly) all cylinder valves to remove any dirt or dust, prior to connecting a regulator;
  - Keep all hose, regulators, cylinders, valve protection caps, couplings, apparatus and torch connections free of grease and oil;
  - Do not weld or cut on any containers that have contained toxic or flammable materials;
  - Do not place anything on or near a manifold or cylinder top that may interfere with prompt shutoff in case of an emergency;
  - When shutting down a system make sure to shut off regulators and bleed lines; and
  - Do not use oxygen for personal cooling, cleaning off surfaces, ventilation or blowing dust from clothing. Oxygen clings to porous cloth and greatly enhances the risk of igniting the cloth that will subsequently burn in the oxygen rich environment that has been created.
- Arc Welding and Cutting Safe Practices and Procedures:
    - Wear boots that extend above the ankle (minimum 6" total height) and pants extending below the tops of the boots;
    - Be sure that your welding hood is properly attached to your hard hat and in place before striking and arc and during welding;
    - Wear safety glasses under the hood or shield;
    - When leaving electrode holders unattended, remove the electrode and place the holder in a place so that the electrical contact will not occur;
    - The welding machine should be shut off when not in use for a substantial period of time or it is being moved;
    - Use noncombustible or flameproof screens to protect employees and passerby's from arc flash whenever practical;
    - Put rod stubs in a container - if they are left around loosely, they present a slipping hazard;
    - Do not use cables with repairs or splices within 10 feet of the holder unless the insulation is valued equivalent to the original;
    - Do not weld on any drum or container that has contained gasoline, oils or other flammable liquids; and
    - Use appropriate earmuffs or earplugs when performing plasma arc welding or cutting.

#### 48.4.2 Ventilation:

- Ventilation must be sufficient to supply respirable air to the welder and to passersby;
- Mechanical ventilation must be provided when welding or cutting on metals is done, in a space less than 10,000 cubic feet per welder, in a room having a ceiling height less than 16 feet or in a confined space;
- Such ventilation shall be at the minimum of 2,000 cubic feet per minute per welder, except where local exhaust hoods, booths, or air line respirators are provided; and
- Natural ventilation is considered sufficient when the above restrictions are not present.

#### 48.4.3 Protective Clothing:

- All parts of the body should be protected from radiant energy, sparks, and molten metal particles. Clothing made from wool and wool blends is generally better than cotton from a safety standpoint. Some welding processes such as inert gas, metal arc welding will cause exposed cotton clothing to deteriorate rapidly;
- Leather capes, jackets, leggings, and aprons will provide additional protection; and
- The use of dark clothing will reduce the amount of reflected light.

#### 48.4.4 Respiratory Protection:

- Arc welding and gas cutting and welding generate carbon monoxide, carbon dioxide, and nitrous gases. When these potentially hazardous materials are present in a job in amounts that exceed OSHA's personal exposure limits, respirators will be provided that are suitable for the particular hazard;
- Respiratory Protection procedures will be according to that corresponding section in this Health and Safety Plan; and
- The Material Safety Data Sheet must be consulted on the material being welded, the welding rods being used, or the flux required determining what toxic materials the process may emit.

#### 48.4.5 Eye Protection

- Welders and their helpers should wear filter lens to protect their eyes against infrared and ultraviolet light. The guide below shows shade numbers of filter lenses and their recommended use.

Welding Operation	Shade Number
Shielded metal-arc welding 1/16, 3/32, 1/8, 5/32 inch diameter electrodes	10
Gas-shielded arc welding (non-ferrous) 1/16, 3/32, 1/8, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16, 3/32, 1/8, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16, 7/32, 1/4 inch diameter electrodes	12
5/16, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon arc welding	14
Soldering	14
Torch brazing	3 or 4
Light cutting, up to one inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6

Gas welding (light), up to 1/8 inch	4 or 5
Gas welding (medium), 1/8 inch to ½ inch	5 or 6
Gas welding (heavy), over ½ inch	6 or 8

- Unless a welding arc is behind a screen or barrier, not only the welder but also employees within 30 feet will need eye protection.
- For more details on PPE, see Welding, Cutting and Hot Work Program.

#### 48.4.6 Fire Protection:

- Prior to commencing any welding operation thoroughly inspect the work area to make sure that there are no combustible materials nearby. Clear and maintain a 35 foot radius;
- Keep a fire extinguisher within 30 feet of your work area;
- A thorough visual inspection of the work area should be made after each shift (approximately ½ hour) to make sure that combustible material is not smoldering and that all equipment has been shut down and properly secured;
- Institute a “Hot Work Permit”; and
- **A fire watch will be assigned as per Welding and Cutting and Hot Work Programs.**

## 49 APPENDIX OF FORMS AND TEMPLATES

Click on the link below to download forms.

<http://mySkanska>

[Kiewitusc/usa/civil/ehs/NE/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fusa%2Fcivil%2Fehs%2FNE%2FShared%20Documents%2FTemplate%20Forms&FolderCTID=0x012000E20DAF671F988E45886939E7357916E0&View=%7bBC33E9E0-DF00-48B8-9129-D18A75CDE726%7d](http://mySkanska.com/Kiewitusc/usa/civil/ehs/NE/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fusa%2Fcivil%2Fehs%2FNE%2FShared%20Documents%2FTemplate%20Forms&FolderCTID=0x012000E20DAF671F988E45886939E7357916E0&View=%7bBC33E9E0-DF00-48B8-9129-D18A75CDE726%7d)

- ISO 14001 Certification
- OHSAS 18001 Certification
- Aerial Lift Pre-Shift Inspection
- Air Sampling Chain of Custody
- Air Sampling Worksheet
- Confined Space Entry Permit
- Connex Box - Shanty Focused Inspection
- Crane Focused Inspection
- Crane Inspection Status Report
- Crew Review
- Daily Job Briefing
- Employee Reprimand Notice (Intelex)
- Fall Protection Focused Inspection
- Forklift Checklist
- Gas Set Up Focused Inspection
- Harness Focused Inspection
- Hot Work Permit
- Lattice Boom Crane Daily Inspection Checklist
- Lattice Boom Crane Frequent Inspection Checklist
- Lattice Boom Crane Periodic Inspection Checklist
- LOTO Identification Form
- LOTO Release from Lockout / Return to Service Form
- LOTO Shut Down Equipment Form
- Monthly Safety Communication
- Monthly Safety Performance
- Motor Vehicle Accident Report
- Orientation Acknowledgement Sheet
- Post-Incident Review Meeting
- Respirator Inspection Record
- Rigging Inspection
- CAR Incident Investigation
- SRL Inspection Form
- SRL Inspection Log
- Subcontractor Pre-Start Meeting
- Training Sign-In Sheet



**Emergency Action Plan**  
Bayonne Bridge  
Relacement of Main Spans  
Contract # AKB-264.039

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## **WRITTEN PROGRAM**

Skanska Kiewit shall review and evaluate this Emergency Action Plan: on an annual basis; when operational changes occur that require a revision of this document; or when changes occur to regulations that govern this program that prompt revision of this document.

Effective implementation of this program requires support from all levels of management within Skanska Kiewit. This written program shall be communicated to all personnel that are affected by it. It encompasses the total workplace, regardless of number of workers employed or the number of work shifts. It is designed to establish clear goals and objectives.

## **RESPONSIBILITIES / PROGRAM ADMINISTRATION**

The Site Safety Manager has the primary responsibility for responding to emergency situations, and, with the Site Superintendent, will ensure that control action for any emergency is immediately initiated. This includes taking appropriate measures to ensure the safety of site personnel and the public, such as evacuation from the site.

The Site Safety Manager must also ensure that the appropriate authorities have been notified, and follow-up reports have been completed. The Site Safety Manager or Supervisor will also respond to any medical emergency and initiate first aid.

The Site Superintendent must ensure that corrective measures have been implemented in order to prevent a recurrence of the same type of emergency.

The Safety Manager & Project Manager are the Muster Point Coordinators.

John Pouso is responsible for ensuring that appropriate employee health and OSHA records are maintained.

The Safety Department is responsible for making this written program available to employees and OSHA representatives.

## **EMERGENCY CONTACT LIST**

See Section 7

## **GENERAL INFORMATION**

### **1.1. Pre-emergency Planning and Coordination**

- 1.1.1. This Emergency Action Plan requires having drills for each type of potential emergency to allow both: the system to be tested for efficiency; and employees to become familiar with what is expected of them.
- 1.1.2. Skanska Kiewit will have at least one drill per year to test the system;
- 1.1.3. Drills will be conducted if there is any change to this plan;
- 1.1.4. A written report will be prepared following each drill detailing the adequacy of the Emergency Action Plan.

## **1.2. Organization and Personnel Responsibilities**

### **1.2.1. Organization Responsibilities**

It is the responsibility of Skanska Kiewit to ensure that an Emergency Action Plan (EAP) is developed, that it is reviewed on an annual basis, and whenever else required, and to ensure that all employees are fully versed in the procedures contained within the EAP.

### **1.2.2. Personnel Responsibilities**

All employees, visitors and vendors are required to comply with the requirements set forth in this Emergency Action Plan. Employees are required to diligently take part in all training and drills that take place. Other than First Aid Responders, employees are not expected to, nor permitted to render any first aid care.

## **1.3. Communication**

<Enter means of site communication when known>.

The radio procedures used are very important for managing the emergency effectively.

1. Stay Calm ---- Speak slowly and clearly
2. Identify WHO you are
3. Describe WHAT has happened
4. Describe WHERE you are located
5. Indicate WHAT kind of assistance is needed

Confirm that all parties involved have received your radio transmission. You may have to repeat your transmission in order to ensure that it has been completely communicated. If you are not directly involved in the emergency, do not transmit unless absolutely necessary. The channel must be kept clear for emergency communications.

## **1.4. Immediate Response to Emergency**

The most important thing in handling emergencies is protecting personnel from initial or further harm. The immediate control and correction of unsafe conditions or the rescue of injured personnel must take place only if these activities do not seriously endanger the rescuer. The rescuer may become part of the problem instead of part of the solution if they become injured. Exposure to falls, crossing active highways, or entry into suspect confined spaces are examples of well-meaning rescue activities that frequently turn rescuers into victims themselves.

If the scene of the incident is reasonably safe, immediate action should be taken to prevent further harm from taking place. It is important however, that persons only perform operations for which they have received specific training. Extinguishing fires, performing first aid, stopping traffic, entering confined spaces are examples of activities that require specific training to perform. A list of persons who have received training required under this EAP can be found in Appendix to this document.

## **1.5. Emergency Alert Procedures**

The following are announcements that are required over the radio / Nextel in an emergency:

### **1.5.1. Medical Emergency:**

"Attention. There is a medical emergency. First Aid Responders please report to **Site Safety Manager**"

### **1.5.2. Emergency not requiring immediate evacuation:**

"Attention. There is a <FIRE/CHEMICAL/DISASTER> emergency. Stand-by for further instructions if evacuation becomes necessary"

1.5.3. Emergency that requires immediate evacuation:

“Attention. There is a <FIRE/CHEMICAL/DISASTER> emergency. Evacuation of the site is required. Evacuate and proceed to the <nearest> Muster Station.”

**1.6. Evacuation and Headcount Procedure**

The need may arise to call for an evacuation of the work area surrounding an incident, and perhaps the entire site. This will serve the dual purpose of removing site personnel in an orderly fashion from dangerous conditions and to enable us to count all personnel to determine if anyone is missing (and possibly injured and unable to self-rescue).

The need to evacuate shall be determined by the Site Safety Manager(s) (or alternates as appropriate) or by the General Superintendent.

See figure 3 for an emergency response flowchart.

1.6.1. Evacuation Alarm and Signal

- The Evacuation Alarm is located <Enter where Evacuation Alarm will be located>. The signal to evacuate the work area is three 30-second continuous blasts of the Evacuation Alarm with 10-second lulls between. If a Megaphone is available <Enter where megaphone will be located> it will be used to issue further instructions if radio systems are down.

1.6.2. Site Evacuation Instructions

- Any specific instructions will be delivered by jobsite radio to all affected foremen and work crews.
- Upon hearing the evacuation signal:
  - a. Walk swiftly (do not run) to the closest Muster Point. *See appendix E*
  - b. Routes of travel from work areas to the muster point must be chosen based on:
    - Designated mustering point locations (Primary, Secondary and Auxiliary);
    - Location of the specific emergency;
    - Prevailing wind direction. Stay crosswind and upwind if possible;
    - The need to decontaminate PPE and to go through the decon station;
    - The shortest travel distance to minimize walking distance; and
    - The safest walking route. Keep to well-traveled roads or paths if possible.
  - c. Before leaving the work area:
    - No equipment will be allowed to operate after the evacuation signal has sounded. Turn off all equipment;
    - All generators, welding units, and oxyacetylene cutting rigs and compressed gas cylinders must be shut down/turned off;
    - Office personnel shall leave their office equipment as is, and only if time allows shut down computers; and
    - Office personnel shall use a “last person out” approach to check individual offices for personnel unaware that the signal for an emergency evacuation has sounded.

### 1.6.3. Evacuation Muster Areas:

There are <enter number of muster points> designated for this site:

1. <Enter Primary Muster Point>.
2. <Enter Secondary Muster Point>.
3. <Enter Auxiliary Muster Point>.

**The Auxiliary muster point <Enter Auxiliary Muster Point Location>** (to be used only in an extreme emergency when a total evacuation of the site is required.

If there is a need to completely evacuate the site, the Auxiliary muster point will be announced via radio. The communication to announce the decision to release personnel to either return to their work areas after the "All Clear Signal" has sounded or to allow personnel to go home for the day shall be coordinated and authorized between Skanska Kiewit and the Port Authority of NY & NJ.

A personnel count will be conducted as follows:

The Skanska Kiewit Site Safety Manager will be responsible for validating the personnel head count and establishing a list of Skanska Kiewit personnel, if any. When arriving at the muster point, all personnel are to be sure that they check in with their foreman or direct supervisor so that everyone can be accounted for.

Skanska Kiewit Emergency Action Team members shall be designated duties as follows:

- 1 The Site Safety Manager(s) will be the Team Leader(s) for coordination of the Evacuation Action Plan.
- 2 Project Superintendents will be the Head Count Administrators.
- 3 All security, contractor, subcontractors and office coordinators shall provide head counts and unaccounted for personnel to the Head Count Administrators.
- 4 Personnel verification shall be made available to the Head Count Administrator based upon:
  - (a) Foreman / Supervisor Accounts; and
  - (b) Daily log for visitors (visitor sponsor responsible for guest verification against log).
- 5 Site management and office personnel shall be included in the above rosters.
- 6 All subcontractors or site safety persons shall verify personnel head counts and report results to the Head Count Administrator.

### 1.7. Unaccounted for Personnel

Personnel that cannot be verified as having left the site shall be contacted by the Site Safety Manager designee as soon as possible through their company business office.

The Site Safety Manager(s) shall request EMS personnel to re-enter the emergency area to search for and locate any person(s) believed to be in need of assistance when there is a life threatening emergency event.

Skanska Kiewit supervision may re-enter the emergency area if there is not a life threatening emergency event to search for and locate any unaccounted personnel.

### 1.8. All Clear – Return to work directions

Once the emergency has passed, one 30 second blast of the Evacuation Alarm will deliver the "all clear" signal.

The all clear signal will be issued through mutual agreement between the Port Authority of NY & NJ and the Site Safety Manager after a thorough analysis of the situation and consultation with police and fire authorities.

No personnel will be allowed to leave the muster point to return to their work area until the all clear signal has been given.

### **1.9. Site Control**

- 1.9.1. During an emergency, access to and from the site will be suspended. Only emergency vehicles will be permitted for entry and exit.
- 1.9.2. Flagmen will be located at <enter location details TBD > to flag the emergency vehicles into the site.
- 1.9.3. The Site Safety Manager will greet the emergency vehicles on arrival to give them information regarding the emergency. i.e. precise location(s) of victim(s); where the fire is, etc.

### **1.10. Personal Protective Equipment and Emergency Equipment**

- 1.10.1. Personal Protective Equipment is available in the First Aid Station for First Aid Responders to use while administering treatment. PPE should be used, and disposed of, according to the First Aid and Bloodborne Pathogens Program (see Attachment 4).
- 1.10.2. Fire Extinguishers are available for use. They shall be used only by those trained to do so.

## **EMERGENCY PROCEDURES**

### **1.11. Medical Emergency Incident**

A medical emergency incident has been defined as one that requires the assistance of the police, fire department, or an ambulance. The Site Safety Manager and/or a First Aid Responder shall decide as to the severity of the injury and the level of emergency assistance, if required, by outside EMS agencies.

Only those employees whose names appear on the Skanska Kiewit. list of certified First Aid/CPR and Bloodborne Pathogens shall render first aid care. No other employee is expected to, nor permitted to render first aid care.

#### **1.11.1. The First Sign of a Medical Emergency:**

- First Responding Employee:
  - a. Call the Safety Manager to alert that a medical emergency is taking place. Answer all the Safety Manager's questions before hanging up the phone. The Safety Manager will alert the First Aid Responder.
- Safety Manager:
  - a. Safety Manager or the Superintendent shall call 911. Where possible the 911 call will be made from a landline to expedite quick response.
  - b. The Safety Manager is to make an announcement, that the site has a medical emergency situation. The announcement shall state the following:  
"Attention. There is a medical emergency. First Aid Responders please report".
  - c. He/she will then instruct First Aid Responders on location of employee;
  - d. Safety Manager or the Superintendent ensures that the rest of field supervision is made aware of the emergency so that control of the situation can be initiated and maintained.

- e. The Site Safety Manager and Superintendent will make arrangements to have clear access for emergency vehicles as required.
- First Aid Responder:
  - a. On hearing the announcement by the Safety Manager, the First Aid Responder shall report to the Safety Manager for location of the employee;
  - b. Immediate care will be given to the injured person; and
  - c. Will not cease giving care until EMS arrives.

#### **1.12. Fire / Chemical Release**

##### 1.12.1. First Responding Employee:

- Call the Safety Manager to alert that a fire/chemical emergency is taking place. Answer all the questions before hanging up the phone. The announcement by the Safety Manager will alert a trained Fire Responder, and the Safety Manager will call 911 for emergency assistance.

##### 1.12.2. Safety Manager:

- The Safety Manager is to make an announcement that the site has a fire/chemical emergency situation. The announcement shall state the following:  
"Attention. There is a fire/chemical emergency. Standby for further instruction".

#### **1.13. Bodily Injury not requiring emergency treatment**

1.13.1. In the event of bodily injury, care for the victim should only be provided under the supervision of someone who has been trained and is currently certified in First Aid/CPR, as indicated on Appendix 11.

1.13.2. All injuries MUST be reported to supervisors immediately, no matter how minor they may seem. The supervisor will then notify the Safety Manager.

1.13.3. All injured persons should be brought to the local hospital.

1.13.4. After receiving first aid care, a decision will then be made between the injured person and the Safety Manager to manage the injury in one of the following ways, from least to most severe:

- First aid and report only, no further attention.
- Transport to TBD for injury treatment in a company vehicle.
- Transport to TBD in an ambulance.

See Section 8 and 9 for maps and directions to the Clinic and Hospital.

1.13.5. Personnel who accompany individuals transported to the Clinic or Hospital should take with them an MSDS of any chemical involved in the incident if appropriate. The MSDS' are located at the field office trailer at the "Right to Know" Information Center hanging on the wall. In some cases, a copy of individual MSDS' may be found as well as in specific activity plans.

1.13.6. All injuries, no matter how minor they may seem, MUST BE REPORTED so that management can be made aware of a possible exposure in the workplace and take corrective action BEFORE the exposure becomes a major accident.

## **TRAINING**

### **1.14. General**

- 1.14.1. Prior to implementation of this Emergency Action Plan, all employees who have been designated a role in this Plan will be trained as to what their role entails.
- 1.14.2. Employees with designated roles and all other employees will be trained in this Emergency Action Plan:
  - Initially when the plan is developed;
  - Whenever the employee's responsibilities or designated actions under the plan change; and
  - Whenever the plan is changed.
- 1.14.3. All employees will participate in emergency action drills as a means to evaluate the continued effectiveness of the plan.

**1.15. Fire**

- 1.15.1. The decision to attempt to control a hostile fire is based on the training and experience of the individual, the availability of an appropriate extinguisher, and the level of danger involved. Only persons trained in the proper use of fire extinguishers should attempt to use them, and only when there is no danger to this person.

**FOR FIRE EXTINGUISHER OPERATION, REMEMBER:**

**P      PULL THE PIN**  
**A      AIM AT THE BASE OF THE FIRE**  
**S      SQUEEZE THE HANDLE**  
**S      SWEEP THE FIRE**

- 1.15.2. If the fire is beyond the beginning stage and cannot be safely put out with a portable extinguisher, help must be summoned at once:
  - First responding employee shall notify the nearest foreman, Superintendent or Safety Manager carrying a radio. The shop steward can also be notified at this time.
  - The foreman or Superintendent shall notify the Safety Manager for immediate assistance at the specific field location of the emergency.
  - If a person requires first aid treatment, safety should be notified to meet the person and foreman at the field first aid trailer.
  - The Safety Manager shall decide as to the severity of the injury and the level of emergency assistance, if any, is required by outside EMS agencies.
- 1.15.3. If the fire has been put out, the supervisor must still be notified so that a report can be written and the cause can be identified and corrected to prevent recurrence.
- 1.15.4. If an evacuation is called for, leave the work area and proceed to the primary muster point. Muster points have been identified. No one shall leave the site or return to work unless authorized by their direct supervisor.
- 1.15.5. All work areas authorized for open flame, welding or burning operations shall be done by welder who holds a New York City Certificate of Fitness / New York City Certified Fire Watch. A fire extinguisher is to be provided in the case of fire, as required by the NYC Building Code. Each NYC Certified Fire Watch is to remain at the open flame, welding or burning location for a minimum of one half hour after these operations have been completed. All jobsite trailers, flammable and combustible material storage areas, heavy equipment, trucks, and cranes are to also have a minimum of a 5lb ABC extinguisher. These are to be inspected on a monthly basis. Water supplies/fire hydrants will be identified and kept clear for use by the fire department.

## **1.16. BOMB THREAT**

1.16.1. The threat can arrive over the telephone, in the mail, or a written message. ***All threats must be taken seriously.***

1.16.2. The following procedure will be followed:

- Any person or security guard in receipt of a threat shall notify the nearest foreman, superintendent or Site Safety Supervisor.
- Be specific of the site location of the threat.
- If there is a suspicious package or object, **DO NOT ATTEMPT TO MOVE, OPEN OR OTHERWISE DISTURB THE ITEM.**
- The Site Safety Manager(s) shall initiate the Crisis Management Plan.

Specific procedures of how to handle bomb threats and other threats are detailed in Section Four of the SKANSKA KIEWIT Crisis Management Program. Evacuation of the threat area will take place in the same way as with any other causes of an emergency outlined in this Plan. Persons will be told which mustering points to report to base on the area of threat.

## **1.17. CONFINED SPACE RESCUE AND EMERGENCY SERVICES PROCEDURES**

1.17.1. In the event of an emergency involving work in or near a Confined Space the following procedure is to be followed.

- The Fire Department of New York (FDNY) will provide emergency rescue services during permit or non-permit confined space entry by SKANSKA KIEWIT employees or it's sub-contractors.
- Project security and supervisory staff plays a critical role in rescue response. Site security should be awaiting FDNY arrival and should be prepared to direct them to the specific location.

## **1.18. EVACUATION AND RESCUE PROCEDURE**

1.18.1. Attendant will notify all Entrants to evacuate and immediately notify the foreman and superintendent.

1.18.2. Attendant will notify the Safety Dept. of any emergency.

1.18.3. Attendant will execute any "non-entry" rescue procedures appropriate to the situation.

1.18.4. SKANSKA KIEWIT employees **will not** perform rescues requiring confined space entry.

1.18.5. The Entry Supervisor will immediately cancel the Entry Permit.

## **1.19. NOTIFICATION TO EMERGENCY PERSONNEL PROCEDURE**

1.19.1. Attendant will notify the supervisor with specific information about the emergency.

1.19.2. The following specific information is required:

- The specific nature of the problem. (Fire, worker-down, medical emergency);
- Hazards associated with the space. (Elevated platform, atmospheric conditions, LOTO, types of chemicals, etc...); and
- Number of affected employees (approximately).

## **1.20. SUPERVISOR AND ATTENDANT RESPONSIBILITIES**

- 1.20.1. Provide Rescue Services group with any additional specific information on the work being carried out, the nature of the emergency and the hazards anticipated inside the space. (Site maps, access routes, special onsite equipment and skilled personnel, etc).
- 1.20.2. Provide the Entry Permit to Rescue Services personnel.
- 1.20.3. Provide Rescue Services with any observations or information about the emergency.
- 1.20.4. Keep unauthorized personnel out of the area.
- 1.20.5. Forward relevant chemical MSDS information to the medical facility treating exposed victims.

## **1.21. SPILLS AND LEAKS**

- 1.21.1. The fluids that will be stored, dispensed and used on site will range from motor oils and hydraulic fluids to diesel fuel and gasoline. These fluids must be stored and handled according to the Safety, Health and Environmental Management System.
- 1.21.2. Containers shall be inspected and their integrity assured prior to being moved. On-site operations will be organized so as to minimize the amount of container movement. Where spills, leaks, or ruptures may occur, adequate quantities of spill containment equipment (absorbent pillows, etc.) will be stationed in the immediate area.
- 1.21.3. Spill Kits (a.k.a., "Attack Packs") are maintained in the conex boxes. Each kit includes rubber gloves, safety goggles, absorbent pads, booms and plastic bags. Chemical protective suits are available from the Labor Steward and Safety Department.
- 1.21.4. The hazards faced in a spill can be significant and cause harm to people and the environment. Persons should always protect themselves by using proper PPE, including safety glasses and gloves, hard hats, and chemical protective suits if necessary. Extinguish all cigarettes before attempting to clean up the spill. Helpful reminders of what should be done are:

Do "THE SPILL DRILL - **REACT**"!

**R**EMOVE THE SOURCE

**E**NVELOP THE SPILL

**A**BSORB/ACCUMULATE

**C**ONTAINERIZE THE SORBENT

**T**RANSMIT A REPORT

After persons have been protected from exposure:

#### REMOVE THE SOURCE

- If it is dripping: stop the drip with a plug or putty.
- If it is from a leaky connection: tighten the connection or replace the broken parts.

#### ENVELOP THE SPILL

- If it is flowing, put an absorbent sock or pad down to catch the flow.
- Use a shovel to build a small dam or berm.

#### ABSORB/ACCUMULATE

- On a hard surface put down dry sweep.
- On a dirt, gravel, or mud surface, lay an absorbent pad on the spill.

#### CONTAINERIZE IT

- Place used absorbent material in a plastic bag or container.
- Use a shovel to dig up the contaminated soil and place it in a container or plastic bag. Be sure to bring the container or bag to a location where it can be disposed of properly.

#### TRANSMIT A REPORT

- Tell the nearest supervisor what was spilled and what was done about it.

By **Reacting** quickly, the hazards that could cause injury can be reduced. The spill is also given less of a chance to seep into the ground, which makes cleanup easier and helps protect the environment.

In the event of a reportable spill or hazardous discharge, the Safety Manager will notify The Port Authority of New York & New Jersey Police. The phone number is located in Appendix E.

**1.22 EMERGENCY CONTACT LIST**

**Police:** Port Authority Communications Desk 718-390-2502  
Bayonne Bridge

**Port Authority Police Department (PAPD)** 201 239-3500

**General PAPD** Inquiries:

**To Report Suspicious Activity Only:** 800 828-7273

Fire: Emergency – 911  
General Information – 311

Ambulance: Emergency – 911

Hospital: (Maps & Directions Next Page) **Richmond University Medical Center**  
Staten Island, New York  
**Bayonne Medical Center**  
Bayonne, New Jersey

Clinic – Non Emergency

Poison Control Center 1-800 POISONS (764-7667)

Hazardous Materials Emergency: Atlantic Response  
12D Connerty Court  
East Brunswick, NJ 08816  
732.969.8555

**Site Contact List**

**Skanska Kiewit**

<b>Name</b>	<b>Title</b>	<b>Telephone Number</b>
	<b>Project Director</b>	
	Bill Matre	Cell:732.319.5701
	<b>Assistant Director</b>	
	Dave Murawski	Cell:732.809.2412
	<b>Project Manager</b>	
	Peter Potvin	Cell:201.832.0912
	<b>General Superintendent</b>	
	Dan King	Cell:201.638.8468
	<b>Safety Manager</b>	
	John Pouso	Cell:732.809.3666

**1.22.1 Additional Contact Information**

**Port Authority of New York & New Jersey**

<b>Name</b>	<b>Title</b>	<b>Telephone Number</b>
		Cell:

**Sub Contractor's**

**Ahern Painting**

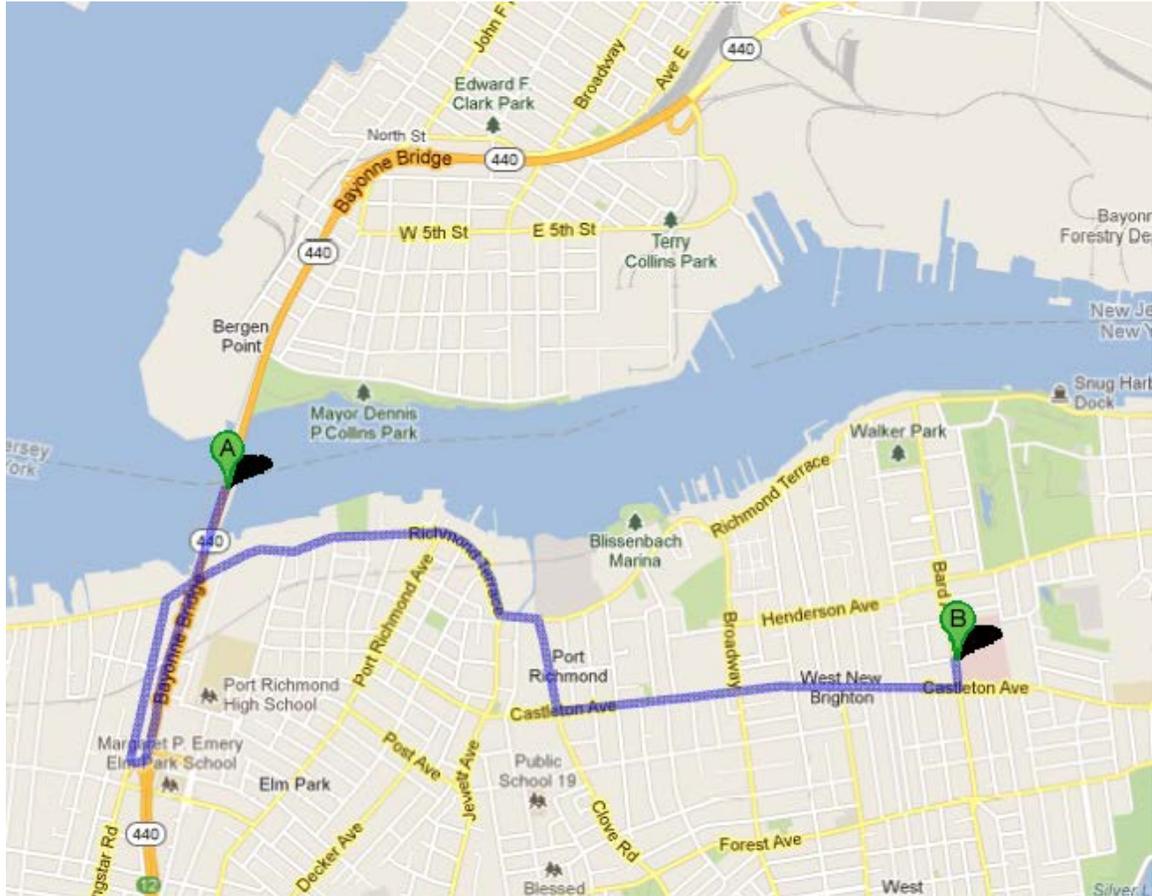
<b>Name</b>	<b>Title</b>	<b>Telephone Number</b>
		Cell:

## DRIVING DIRECTIONS TO: RICHMOND UNIVERSITY MEDICAL CENTER

355 Bard Ave

Staten Island, New York 100304

Telephone: 718-818-9000



### Directions:

**Bayonne Bridge** – Head **south** on **Bayonne Bridge**, Take exit **13** to merge onto **Morningstar Rd** toward **Richmond Terrace**, Turn right onto **Richmond Terrace** Turn left to stay on **Richmond Terrace**

Take the 2nd right onto **Clove Rd**. Take the 2nd left onto **Castleton Ave**.

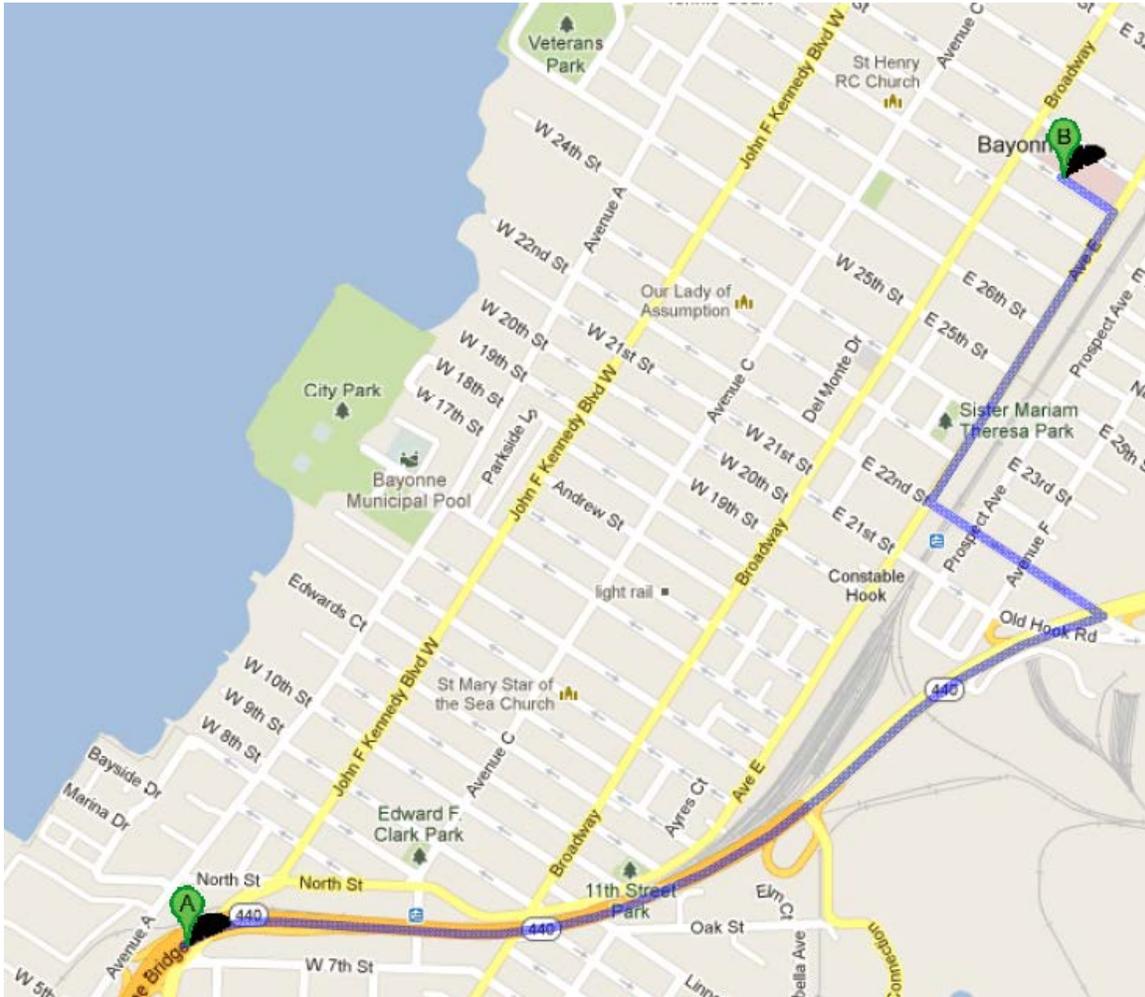
Turn left onto **Bard Ave**

**DRIVING DIRECTIONS TO: BAYONNE MEDICAL CENTER**

**29 E 29th St, Bayonne, NJ**

**07002**

**201-858-5257**



**Directions:**

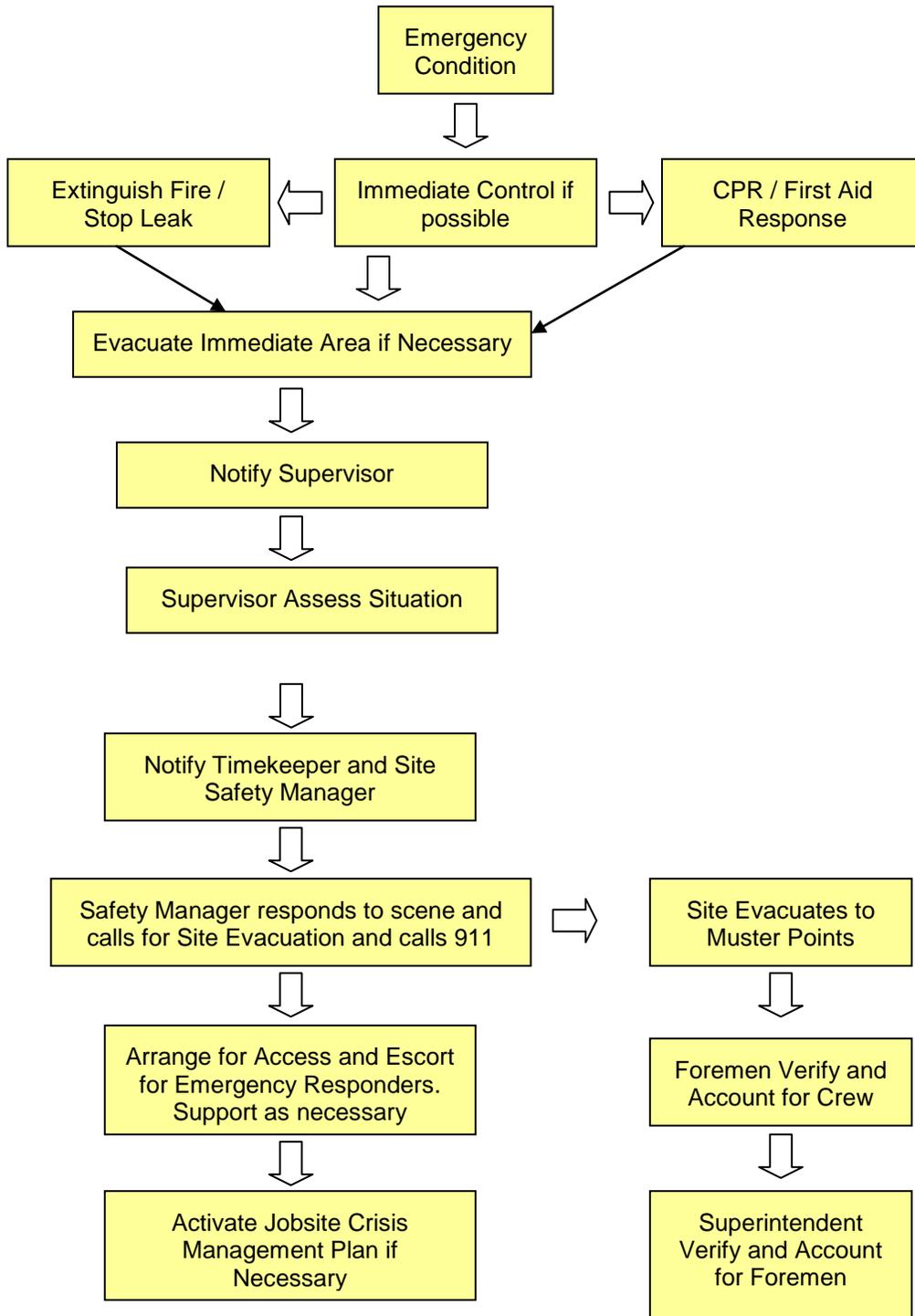
**Bayonne Bridge**

Head **northeast** on **NJ-440 N/Bayonne Bridge**

Continue to follow NJ-440 N Turn left onto **E 22nd St**

Take the 3rd right onto **Ave E** Turn left onto **E 29th St**

**EMERGENCY ACTION FLOW CHART**



## **BAYONNE BRIDGE**

Replacement of Main Span Roadway and Approach Structures

**Contract No. AKB-264.039**

# **DUST CONTROL PLAN**

(Supplement to Skanska-Kiewit Safety Manual)

**Proposed:** site-wide dust control measures including soil excavation/disturbance

**Prepared by:**  
**Skanska Kiewit Safety**

### **Introduction**

The purpose of this plan is to comply with all applicable Federal, City and Local laws that apply to construction-generated dust and protect the community from the effects of dust emissions generated during construction.

### **Dust Control Plan Measures**

#### **Dust Control:**

- Identifying those construction activities that are likely to generate dust, especially the construction activities of short duration occurring above surface.
- Adopting procedures and construction practices to minimize fugitive dust thereby adhering to contractual requirements
- Establishing a procedure for responding to concerns from the public.

#### **Performance Standards:**

Activities will be conducted in a manner that will not result in excessive particulate matter emission, nuisance dust conditions. The control measures identified within will be implemented during all phases of construction.

#### **Sources of Construction Dust:**

The construction activities for the Bayonne Bridge site which would apply to any operation creating dust including soil excavation/disturbance. The dust generating activities have been identified together with the dust control measures for the same.

- Excavation and backfilling of soil and earthen materials with conventional excavation equipment or by hand.
- Loading, dumping and stockpiling of excavation spoils and controlled fill materials into trucks or other transportation vehicles.
- Movement of vehicles and machinery throughout the site
- Demolition of concrete, steel, or other manmade structures by various methods such as cutting, chopping, crushing, grinding and burning
- Drilling into rocks, concrete or other hard materials

- Concrete truck washout residue.

**Construction Dust Control Measures:**

Skanska Kiewit will implement the following measures to protect human health and property from the impacts of dust generated by construction.

- Providing controlled water spray for dry areas on the roadway and at excavation sites and maintaining continuous water spray on demolition operations which create dust. Care will be taken not to over-apply water and create mud. Salty water will not be used. Water will be non-toxic, non-reactive, non-volatile, and non-foaming. Wetting agents will not be used on plant-able soils. No petroleum products will be used for dust suppression.
- Material stock piles will be limited due to space restrictions. When stockpiles have accumulated, water without wetting agents will be applied during stockpile load-in load-out and maintenance activities; Skanska Kiewit will try to the extent possible to limit the size and number of stockpiles
- For concrete washout residue, Skanska Kiewit will use a small container lined with plastic for wash out of concrete chutes only. Container will be disposed of in dumpster after use.
- Protection of storm drains systems in the immediate area with geotextile material. Inspection and maintenance of geotextile material regularly for excessive wear and sediment build-up.
- Any stockpile that stays at the job site will be covered with plastic tarps as necessary and secured with sandbags. The tarps will be maintained during use.
- Ensuring that trucks hauling materials are covered and that their wheels and body are free of dirt, mud and debris.
- Minimizing movement of construction equipment that might create or exacerbate dusty conditions. Vehicle speed within the site will not exceed 5 mph to minimize dust emission.
- Diverting rainwater away from earthwork operations.

- During earthwork with front-end loader or a backhoe the free drop height will be reduced as practical to minimize generation of dust. Debris will not be dropped or thrown.
- Removal of debris will be on a regular basis. During transportation of debris, the truck cargo will be securely covered.

### **Monitoring and Verification**

To ensure minimal dust emission Skanska Kiewit will implement the following actions:

- Perform daily inspection of the various control measures in place including but not limited to the following
  - Proper covering of stock piles when necessary
  - Proper maintenance of the roadways and thoroughfares
  - Proper measures to keep vehicles clean and thus prevent the tracking of material from the site.
- Implement and document corrective actions when necessary or as directed.
- Provide a copy of the implementation plan to field superintendents and foremen
- Monitor subcontractors for compliance with dust control measures

### **Responsibility**

The Project Superintendent is responsible for overseeing and directing dust control process elements to ensure that they are implemented, maintained, and documented accordingly.

The Superintendent may assign assistant superintendents, foremen and field engineers to implement the program during multiple shifts.

The Project Manager will also be responsible for overseeing and monitoring day-to-day operations that relate to the project.

Project : \_\_\_\_\_ Site Location : \_\_\_\_\_  
 Construction stage / status during inspection : \_\_\_\_\_  
 Inspection Date : \_\_\_\_\_ Inspection Time : \_\_\_\_\_  
 Inspected by : \_\_\_\_\_ Weather : \_\_\_\_\_

Inspection Items	Implemented?			Remarks <small>(i.e. specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)</small>
	Yes	No*	N/A	
<b>1. Dust Control</b>				
1.1. Has dust Control measures on the site minimized the amount dust generated?				
1.2. Are there any visible dust emissions observed directly from related activities?				
1.3. Are all public roadways and sidewalks under the control of properly maintained on a daily basis?				
1.4. Are stockpiles of excavated materials adequately covered/watered?				
1.5. Are street level perimeter wind screens and or tight boarded fencing (if required) installed and maintained properly?				
1.6. Are the amounts of stockpiles adequate for the size of the laydown area?				
1.7. Are all vehicles carrying dusty loads covered/watered over prior to leaving the site?				
1.8. Have the proper tracking pads/ wheel wash been installed to ensure no fugitive dust or dirt is migrating from the site?				
1.9. Have the movement of construction equipment been minimized to prevent the exacerbation of dusty conditions?				
1.10. Are proper concrete washout containers being used?				
1.11. Has the required storm water protection measures been installed and maintained effectively?				
1.12. Has storm water been adequately been diverted from excavations?				

1.13. Is the dust controlled during demolition, excavations, drilling or rock breaking?				
1.14. If applicable, are sub-contractors in compliance with the sites dust control plan?				
1.15. Have all deficiencies from previous report closed out?				
1.16. Others (please specify)				

# **Construction Air Monitoring Program**

## **Bayonne Bridge Navigational Clearance Program**

### **Fugitive Dust, Lead, and Visible Emissions**

#### **1. Introduction**

The Port Authority of NY and NJ (PANYNJ) will implement the Air Monitoring Program described below to assure the protection of the community in the area of the Bayonne Bridge (BB) as part of the Bayonne Bridge Navigation Clearance Program (BBNCP) from potential adverse impacts of construction on air quality. Air monitoring will be undertaken at four stationary locations during the project to provide real-time concentrations of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) near the project site at potential sensitive receptor locations within the surrounding community with tapered element oscillating microbalance (TEOM) instruments. The potential impacts of lead, from lead based paint (LBP) used on the BB, will also be monitored during paint removal activities requiring high pressure abrasive blasting techniques within a Class 1A containment. This monitoring will be conducted with High-Volume total suspended particle (TSP) samplers (HiVols) and the samples collected will be analyzed for lead. In addition, during construction activities when soil is to be disturbed, transported or removed in areas with nearby sensitive receptors, such as schools or parks or dense residential areas, location-specific fugitive dust monitoring will be conducted in the area during these intrusive activities with a portable real-time light-scattering laser photometer instrument used to measure PM<sub>10</sub>.

The objective of the stationary monitoring with the TEOM units in the surrounding community is to document particulate matter concentrations. This data will be used to compare to the National Ambient Air Quality Standards (NAAQS) to ensure that health-based standards are not exceeded in the area of the project, and, if NAAQS levels exceeding standards are recorded, these readings will be compared with regional particulate matter concentrations to determine if the BB construction activities are having an impact on the surrounding community.

The objective of the TSP-Lead sampling with the HiVols in the vicinity of the abrasive blasting paint removal activities is to evaluate the effectiveness of the containments and the contractor's support equipment used to capture the paint and debris during paint removal operations. The data collected with the HiVols will be compared to the project contract requirements as well as background samples collected in the project area during non-construction intervals. This data will be used to compare to the NAAQS to ensure that health-based standards are not exceeded in the area of the project, and, if NAAQS levels exceeding standards are recorded, these readings will be compared with regional airborne lead concentrations to determine if the BB construction activities are having an impact on the surrounding community.

The objective of the location-specific fugitive dust monitoring with real-time particulate matter monitors will be to provide real-time concentrations during soil disturbance activities in the area of sensitive receptors. Data from upwind and downwind locations will be evaluated and visual observations will be made to determine if soil disturbance activities are causing dust to migrate from the site. The data collected during the fugitive monitoring will also be used to evaluate the effectiveness of dust suppression controls used during the soil disturbance activities.

## **2. Stationary Air Quality Monitoring Stations for Particulate Matter**

Four (4) TEOM units will be located in the community surrounding the construction area. Two stations will be located on the Staten Island side of the bridge and two stations will be located on the Bayonne side of the bridge. The TEOM stations will be provided, maintained, and operated by the PANYNJ to continuously record particulate matter concentrations from 0-10 microns in size (PM<sub>10</sub>) and 0-2.5 microns in size (PM<sub>2.5</sub>). Select locations will include a meteorological station to monitor and record wind speed & direction, temperature, relative humidity, barometric pressure, and precipitation.

TEOM station locations for the project will be located in potentially sensitive receptor areas within the surrounding community. The selected locations of the TEOM stations will be subject to the approval of property owners. In addition, the location of the stations will be dependent on availability of AC power and cellular signal required to power the instruments and transmit the data.

The monitoring station locations (subject to the above limitations) will be selected based on the 40 CFR 58 Ambient Air Quality Surveillance Appendix E – Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring as well as the following factors:

- Sensitive Receptors: Potential locations for placement of the air quality monitoring stations will be assessed based on proximity to sensitive receptors. The monitoring locations should be placed in areas near sensitive receptors that may be impacted by construction activities to provide the best information of particulate matter concentrations at sensitive receptor locations.
- Construction Activities: The proximity of the potential station locations to construction activities will be evaluated to minimize placing the monitoring stations at locations that would impede construction activities and result in relocating the station.
- Location Conditions: Potential locations for placement of the air quality monitoring stations will be assessed based on the conditions at the potential location. Stations will be placed as per direction of 40 CFR Part 58 Subpart G Appendix E – Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring, taking into consideration distance from obstructions, trees, and minor sources of other air pollutants.
- Station Location Access: Access to the monitoring station locations will be required for routine checks, maintenance, and troubleshooting. Therefore, the accessibility and availability of the potential location will be a significant factor considered in the placement of the monitoring stations.

### **a) Stationary Air Quality Monitoring Station Instrumentation**

TEOM instruments (e.g., Rupprecht & Patashnick Co., or equivalent) will be utilized to measure PM<sub>2.5</sub> and PM<sub>10</sub> concentrations. These units provide a direct mass measurement of airborne particulate matter. At each station there will be two co-located TEOM units (one to measure PM<sub>10</sub> and one to measure PM<sub>2.5</sub>). The TEOM units will be maintained and calibrated in accordance with the manufacturer's specifications and EPA guidance.

### **b) Stationary Air Quality Monitoring Station Monitoring Data Collection and Reporting**

Use of the TEOM instruments to monitor particulate matter will provide near real-time data; these units will be programmed to provide data at 1-hour and running 24-hour averages for the PM<sub>10</sub> and PM<sub>2.5</sub> concentrations. Three of the four TEOM monitor stations will also be accompanied by a meteorological station to measure and record wind speed & direction, temperature, humidity, barometric pressure, and precipitation. These monitoring stations will transmit data to a secure central data managing system to be maintained by PANYNJ. Data will be collected continuously, 24-hours a day/7 days a week, for the duration of the construction activities through the project completion date. The stations will provide particulate matter data and meteorological data during intervals of construction activities and during intervals when there are no construction activities.

Particulate matter data from the stations will be compared to the NAAQS and to data from NYSDEC or NJDEP maintained stations in the metropolitan area that provide regional ambient particulate matter data.

### **c) Stationary Air Quality Monitoring Station Data Evaluation and Action Plan**

The EPA NAAQS for PM<sub>10</sub> is 150 microgram per cubic meter (mcg/m<sup>3</sup>) over a 24-hr averaging period (not to be exceeded more than once per year on average over 3 years). The EPA NAAQS for PM<sub>2.5</sub> is 12 mcg/m<sup>3</sup> over an annual averaging period (averaged over a 3-year period), and 35 mcg/m<sup>3</sup> over a 24-hr averaging period (98th percentile averaged over a 3-three year period not to exceed that level).

If a 24-hour average concentration exceeds the NAAQS levels (150 mcg/m<sup>3</sup> for PM<sub>10</sub>, and 35 mcg/m<sup>3</sup> PM<sub>2.5</sub>) the data will be reviewed to determine if the BBNCP concentrations reflect regional air quality problems. If not, construction activity and meteorological data will be evaluated as necessary to determine if construction activity may be causing exceedances, and emissions controls will be evaluated to ensure full compliance with the project's environmental performance commitments regarding engine emissions and dust control.

If it is determined that PM<sub>10</sub> concentrations exceeding 150 mcg/m<sup>3</sup> may have been caused by construction activities then dust suppression efforts will be reviewed and improvements will be made and/or additional dust suppression techniques will be employed to reduce fugitive emissions.

If it is determined the PM<sub>2.5</sub> concentrating exceeding 35 mcg/m<sup>3</sup> may have been caused by construction activities then the engine emissions controls will be evaluated to ensure that all controls are functioning

as required and, if necessary, additional options to reduce concentrations in the area will be reviewed for practicable enhancements, including hours of operation, placement of engines, and other practicable measures.

**d) Stationary Air Quality Monitoring Station Equipment Maintenance/Calibration Procedures.**

TEOM samplers will be maintained in accordance with the manufacturer's recommendations. On a monthly basis the TEOM filters will be replaced and the sample inlet and impactor will be cleaned. The air inlet system will be cleaned on an annual basis and the sample pump should be rebuilt approximately every 18 months depending on the particulate matter concentrations the unit is sampling. In addition, the ambient temperature and pressure sensors, and flow rate will be checked and calibrated if needed on a monthly basis. Leak checks will also be performed on at least a monthly basis. The analog output channels will be calibrated once a year or as necessary (i.e. any time the voltage range is changed) and the mass transducer will be calibrated on an annual basis.

**3. TSP-Lead Monitoring During LBP Removal**

Lead abatement work during the project will be performed on the upper bridge structure at the location of the new portals and during demolition of the existing approach structures (steel girders). The contractor will be required to remove LBP by high-pressure abrasive blasting in some areas within a Class 1A containment system. TSP-Lead monitoring will be conducted during all paint removal activities requiring high-pressure abrasive blasting. The Class 1A containment structures are engineered to prevent release of particulate matter during activities to remove and/or disturb the LBP on the BB.

Monitoring will be conducted with TSP samplers and the samples collected on filters and analyzed for lead. The EPA reference method for TSP monitoring is codified at 40 CFR 50, Appendix B. This method uses a HiVol to collect particles with aerodynamic diameters of approximately 100 microns or less. The HiVol samples 40-60 ft<sup>3</sup>/min (1.1-1.7 m<sup>3</sup>/min) of air with the sampling rate held constant over the sampling period. The HiVol design causes the TSP to be deposited uniformly across the surface of a filter located downstream of the sampler inlet. The HiVol will be used to determine the average ambient TSP-Lead concentration over the sampling period; the filter used to collect the particulate matter, will be analyzed to determine the quantity of lead present in the air during paint removal operations.

**a) TSP-Lead Monitoring Station Locations**

The SSPC TU-7 (Technology Update - 7) will be utilized to determine the locations for the TSP sample collection. Since the highest point of the BB's lower truss is more than 100 feet above ground level, the SSPC TSP-siting recommendations for structures greater than 100 feet will be followed. This recommendation recommends that two monitors should be used, with one positioned at a distance equal to 1.5 times the average working height of the bridge and a second monitor positioned at a distance of three (3) times the average working height of the bridge. These stations will be positioned in the general downwind direction from the paint removal operations occurring on the bridge when

possible. In addition the following factors will be assessed to determine the appropriate placement of the TSP samplers:

- Sensitive Receptors: Where possible the HiVols will be placed in areas near sensitive receptors that may be impacted by construction activities to assist in assessing the potential impact of the construction activities at these sensitive receptor locations.
- Location Conditions: Potential locations for placement of the HiVols will be assessed based on the conditions at the potential location. Where possible, the HiVols will be placed in suitable locations, taking into consideration distance from obstructions, trees, and minor sources of other air pollutants.
- Station Location Access and Power Availability: The accessibility and availability of the HiVol locations will be a significant factor considered in the placement of the monitoring stations as well as the availability of AC power required to operate the HiVols. The sampling locations will be subject to the approval of property owners.

Depending on the location of the paint removal activities and nearby sensitive receptors up to four (4) HiVols may be deployed at the same time for monitoring activities during paint removal operations. Figure 1 shows a typical HiVol sampler location configuration for the Site during abrasive blasting paint removal activities. Siting of the sampler locations will likely vary as the paint removal operations move to different locations depending on the location of the abrasive blasting activities and access for the sampling locations. In addition, ambient background samples will be collected as needed in the project area when no paint removal/disturbance activities are occurring to provide background data for the Site for comparison with data collected during paint removal activities.

#### **b) TSP-Lead Monitoring Air Sample Collection Methods**

HiVols will be used to collect particulate matter onto glass fiber filters. The TSPs are designed to pull air through the filter at a fairly constant flow rate (1.1-1.4 m<sup>3</sup>/min). After sample collection the filters will be analyzed for TSP-Lead by a laboratory certified to perform this analysis; the results will be reported as mcg/m<sup>3</sup> of lead based on the amount of air pulled through the filter during the sampling event. It should be noted that the data from the filters is often not available for at least 24 hours after the sample has been collected.

PANYNJ collected TSP-Lead samples with HiVols to establish background TSP-Lead results for the Site prior to the start of high-pressure blasting paint removal activities at the BB. TSP-Lead monitoring will continue during all blasting operations with the TSPs being relocated as needed as the containment locations shift. Background samples will continue to be taken during intervals when abrasive blasting is not occurring.



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**Typical TSP Sampler Location Configuration**

**Figure 1**

### **c) TSP-Lead Monitoring Data Evaluation and Action Plan**

The primary and secondary NAAQS for lead are 0.15 mcg/m<sup>3</sup> on a 3 month rolling average basis. The project contract documents indicate the TSP-Lead concentrations cannot exceed 0.45 mcg/m<sup>3</sup> averaged over an 8-hour interval during paint removal activities, thus ensuring that 24-hour concentrations would be lower than 0.15 mcg/m<sup>3</sup> (since there would be only one 8-hour shift for this type of work, and since meteorology and other factors would result in lower long-term concentrations) and compliance with the 3-month average NAAQS would be maintained. If the TSP-Lead concentration exceeds 0.45 mcg/m<sup>3</sup> over an 8-hour interval, the Class 1A containment and the support equipment deployed by the painting contractor will need to be examined to determine the source of the emissions.

In addition, the TSP-Lead data collected from the samplers will be compared with background and/or ambient TSP-Lead concentrations collected from upwind locations or sample intervals when there were no paint removal activities. Observations from the day the samples were collected will need to be reviewed to determine if there were visual emissions from the containment and/or the contractor's support equipment that could have been the source of the elevated TSP-Lead concentrations. As noted, the TSP-Lead data will not be available from the analytical laboratory for 1 to 2 business days after the samples are collected.

If it is determined that the containment and/or the support equipment is the source of the emissions then the contractor will need to take corrective measures to reduce the emissions from the containment and/or the support equipment. Corrective measures for the abrasive blasting include, but are not limited to, increasing the negative pressure inside the containment, re-sealing the tarp seams, using spray foam to seal areas where dust is escaping, or replacing worn tarps or adding a second tarp layer in some locations. Corrective measures for the abrasive blasting support equipment would include filter changes and/or routine maintenance, or possibly equipment replacement.

### **d) TSP-Lead Monitoring Sampler Maintenance/Calibration Procedures.**

Prior to the collection of samples, the TSP will be calibrated in accordance with the manufacturer's recommendations and the SSPC TU-7 document. The TSP samplers will be recalibrated on a monthly basis or more frequently if necessary. Routine inspections of each filter used to collect samples will be conducted prior to placement in the sampler to ensure they are not damaged. All hoses and gaskets will be inspected prior to each sampling event to ensure that the air flow through the filter is sufficient and the air cannot short-circuit around the filter. As required upon visual inspection, the filter pan will be cleaned if particles are accumulating.

#### **e) Visible Emissions Monitoring During Paint Removal Operations**

On a daily basis, the work area/containment will be monitored by PANYNJ representative(s) conducting the HiVol sampling as well as PANYNJ construction inspection staff for visible emissions during paint removal operations. The painting contractor is also required to have a qualified person observe the containment and the support equipment to document that there are no visible emissions. The HiVol technician will visually observe the containment and note if and when there are visible emissions and for how long. The technician will immediately notify the supervisor of the painting contractor creating the emissions. The contractor will take corrective measures immediately to halt the emissions escaping from the work area as quickly as possible.

#### **4. Location-Specific Fugitive Dust (PM<sub>10</sub>) Monitoring**

Construction activities for BBNCP will require disturbance and/or movement of soils. It is anticipated some of these activities will be conducted near potentially sensitive receptors such as schools, parks, residential areas, etc. At these potentially sensitive receptor locations, dust monitoring will be conducted in accordance with NYSDEC Technical Guidance for Site Investigation and Remediation, Final (DER-10), Appendix 1B "Fugitive Dust and Particulate Monitoring". Figure 2 provides the potentially sensitive receptor areas along the BB. When there are soil disturbance activities adjacent to these potentially sensitive areas Fugitive Dust monitoring will be conducted.

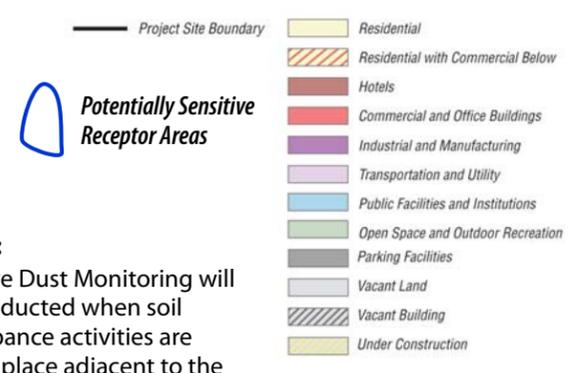
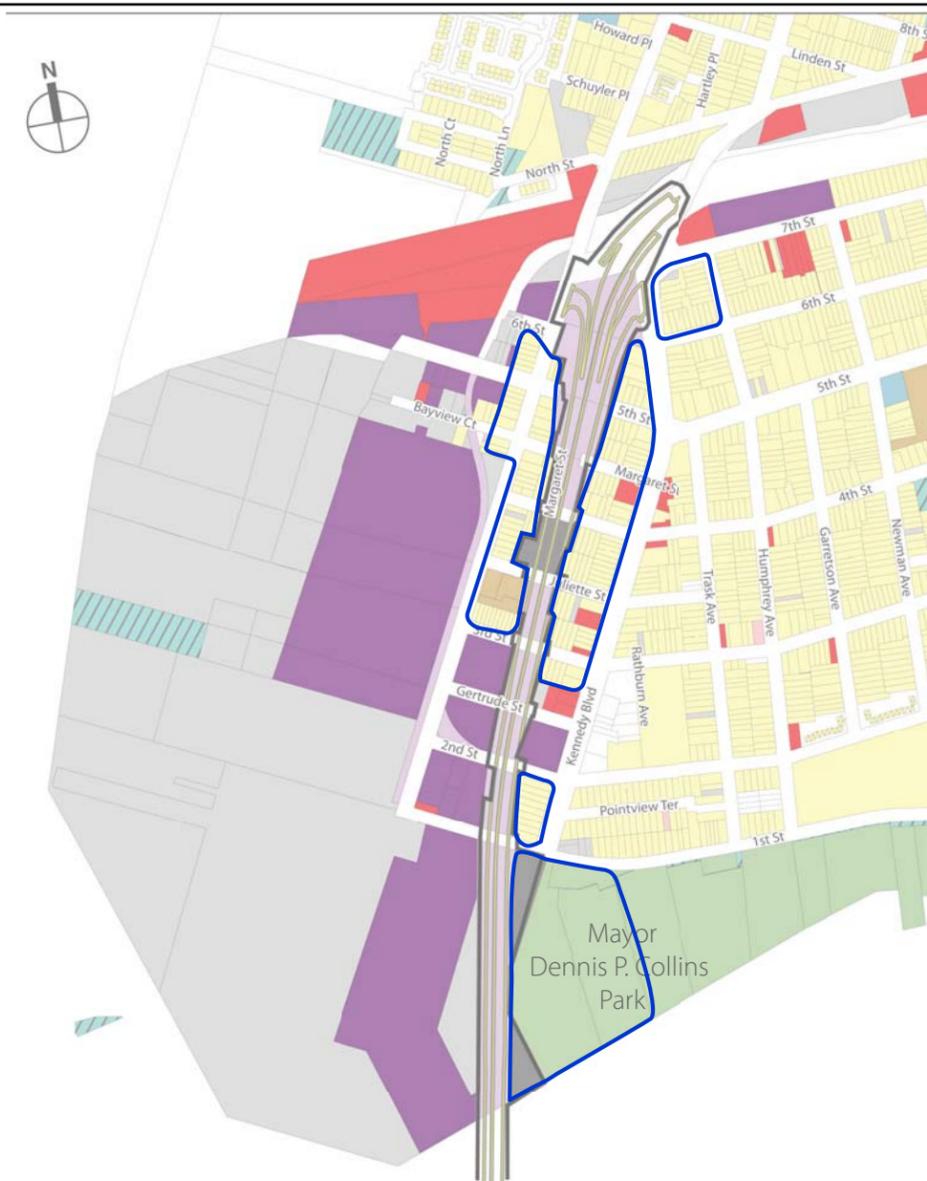
##### **a) Location-Specific Fugitive Dust (PM<sub>10</sub>) Monitoring Equipment**

Particulate matter monitoring will be performed using portable real-time monitors that measure PM<sub>10</sub> (such as the TSI DustTrak II or equivalent). Portable real-time monitors are light-scattering laser photometers (also referred to as nephelometers). These devices detect particulate matter by measuring the total amount of light the particles/aerosols scatter and provide real-time mass readings in milligrams/cubic meter (mg/m<sup>3</sup>) or mcg/m<sup>3</sup>.

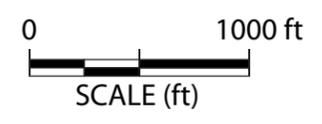
The monitors will be able to measure aerosol/particle concentrations ranging from 0.001 to 150 mg/m<sup>3</sup>. The monitoring device will have an internal battery, so it will be portable and can be moved around if required during a monitoring event. The monitors will log the data as 15-minute averages.

Photometers are commonly used to measure particulate matter concentrations during construction activities because they provide real-time data that can be assessed quickly allowing for subsequent corrective measures, if needed, to be implemented quickly as well. These meters are portable, rugged, and field proven and are designed to withstand the rigors of outdoor elements and construction sites.

Weather forecasts for each day will be checked to determine the expected wind direction and speed prior to each monitoring event to predict the upwind and downwind locations for each monitoring event. In addition, wind speed and direction will be monitored with hand-held equipment (or an on-Site meteorological station) to document the actual local wind conditions at the monitoring site. If there is a



**NOTE:**  
Fugitive Dust Monitoring will be conducted when soil disturbance activities are taking place adjacent to the potentially sensitive receptor areas.



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**Location-Specific Fugitive Dust Monitoring  
During Soil Disturbance Activities**

**Figure  
2**

significant wind direction change during the monitoring events the monitoring device locations will be adjusted to maintain an upwind and downwind alignment.

**b) Location-Specific Fugitive Dust (PM<sub>10</sub>) Monitoring Locations**

As recommended in the NYSDEC DER-10 guidance document there will be two monitoring stations deployed during the fugitive emissions monitoring conducted at the Site. One station will be located immediately downwind of the construction activities and the second monitor will be located at an upwind location. The station locations will be selected based on wind direction and other factors including the location of the contractor's support equipment and other potential sources of dust and/or aerosols. An effort will be made to locate the stations away from large obstructions that could alter or block the wind patterns in the area of the monitoring station.

The monitoring equipment will be removed from the site after each monitoring event to be downloaded and charged so it will be available for the following monitoring event.

**c) Location-Specific Fugitive Dust (PM<sub>10</sub>) Monitoring Procedures**

The location specific particulate matter monitoring devices will be configured such that they collect data in 15-minute intervals. This short-term sample interval will provide a real-time assessment of on-site air quality to assure any fugitive emission issues are being addressed quickly and the health and safety of the site workers and the public in the area of the construction activities is maintained.

An action level of a 150 mcg/m<sup>3</sup> average over 15 minutes will be used to trigger an investigation and potential additional dust suppression measures as outlined below:

- If the downwind station measures PM<sub>10</sub> concentrations greater than 150 mcg/m<sup>3</sup> the technician will then immediately check the upwind background station background PM<sub>10</sub> concentration.
- If the working site PM<sub>10</sub> measurement (downwind) is greater than the upwind background level by 100 mcg/m<sup>3</sup> or more, additional dust suppression techniques must be implemented by the contractor.
- The air monitoring technician on site will inform the contractor of the action level exceedance.
- The contractor should then take the appropriate corrective measures (additional dust suppression) to reduce the generation of fugitive dust to protect site personnel and reduce the potential for contaminant migration off the site.
- Should the action level of 150 mcg/m<sup>3</sup> continue to be exceeded, dust-generating work must stop and the PANYNJ resident engineer will be notified immediately.
- The contractor will then implement additional dust control measures to prevent further exceedances.

- Dust-generating construction activities at the site will not resume until the additional measures to be taken by the contractor to reduce fugitive emissions have been approved by the PANYNJ resident engineer.

In addition to conducting air quality monitoring at the upwind and downwind locations, the on-site technician will make visual observations and document the construction activities. There may be situations when dust is being generated and leaving the site but the PM<sub>10</sub> level is below the action level. Nonetheless, if dust is observed leaving the working site, the contractor will be notified immediately and the activities causing the release of fugitive dust will be halted until additional dust suppression techniques are employed. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- Applying water on haul roads;
- Wetting equipment and excavation faces;
- Spraying water on buckets during excavation and dumping;
- Hauling materials in properly tarped or watertight containers;
- Restricting vehicle speeds around the Site to 10 mph;
- Covering excavated areas and material after excavation activity ceases; and
- Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150 mcg/m<sup>3</sup> action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

#### **d) Location-Specific Fugitive Dust (PM<sub>10</sub>) Monitoring Data Reporting**

As mentioned previously, if a 15-minute action limit is exceeded, the contractor will be notified immediately so that additional dust suppression actions can be implemented to eliminate or at a minimum reduce the dust released during the construction activities near sensitive receptors. Photographs will be taken to document the monitoring station locations and also to document dust that is leaving the work area. A daily log will be prepared and submitted to PANYNJ providing a summary of the data collected and visual observations conducted after each monitoring event. If there were any action level exceedances the log will detail the corrective measures implemented by the contractor. Data collected with the monitors will be downloaded and provided as documentation of the measurements collected during each monitoring event.

# Materials Management Plan For In-Situ Soil Sampling

Contract AKB-264.039

Specification Section 02897  
Contaminated Materials Management

Submitted by  
Skanska – Koch – Kiewit JV

Aug 23, 2013

SUBMITTAL REVIEW	
BAYONNE BRIDGE	
<input checked="" type="checkbox"/> AKB-264.039	AKB-264.054
Submission No. 148-02897-0	
<input type="checkbox"/> APPROVED - APP	
<input type="checkbox"/> APPROVED AS NOTED - AAN	
<input type="checkbox"/> > RESUBMITTAL REQUIRED	
<input type="checkbox"/> > CONSTRUCTION MAY PROCEED WITH AAN	
<input type="checkbox"/> REVISE & RESUBMIT - RR	
<input type="checkbox"/> FOR RECORD ONLY - FRO	
<input type="checkbox"/> NOT APPROVED - NA	
<input checked="" type="checkbox"/> REVIEWED WITH COMMENTS - RWC	
<input checked="" type="checkbox"/> > CONSTRUCTION MAY NOT PROCEED	
<input type="checkbox"/> REVIEWED WITH NO COMMENTS - RWNC	
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. SOLE RESPONSIBILITY FOR CORRECTNESS OF DIMENSIONS, DETAIL QUANTITIES AND SAFETY DURING FABRICATION AND ERECTION SHALL REMAIN WITH THE CONTRACTOR. SHOP DRAWING APPROVAL DOES NOT RELIEVE CONTRACTOR FROM FULFILLING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.	
HDR/PB, a JOINT VENTURE	
FIRM: Environmental Compliance, Inc	
BY: Bharat Patel, ECI	DATE: 09-12-13

See NEXT PAGE for  
SCOPE OF REVIEW under  
this Package 148-02897-0

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4. In-situ Sampling Plan
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6. Haul and Dispose Excavated Material
7. Proposed Waste Transporter and Disposal Facilities
8. Pollution Prevention and Spill Contingency Plan

9. Documentation

**NOTE:** SKK Submittal under this Package No. 148-02897-0 entitled Material Management Plan for In-Situ Soil Sampling comprises of Attachment C: In-Situ Sampling Plan and Analytical Criteria (prepared by MatrixWorld on behalf of SKK). Accordingly, The JV submittal review under this Package No. 148-02897-0 was limited to the In-Situ Sampling Plan ONLY.

The three (3) PA Submittal #s (listed above) were **not** reviewed as part of this Package No. 148-02897-0; ECI review comments regarding these three (3) items were previously provided as part of Package No. 62-02897-0 Material Handling Plan, and remain to be addressed by SKK JV.

Attachment A: Action and Notification Procedures

Attachment B: Pre-Construction Soil and Water Test Results

Attachment C: In-Situ Sampling Plan and Analytical Criteria

Attachment D: Proposed Waste Transporter and Disposal Facilities

Attachment E: Ferreira Material Handling Plan

Attachment F: Health and Safety Plan (HASP) reference

## **1. Introduction**

This Material Handling Plan (MHP) has been prepared in accordance with Appendix A of Specification Section 02897 Contaminated Materials Management. This document will be used in conjunction with the Pollution Prevention and Spill Contingency Plan (PPSCP) included herein and the Health and Safety Plan (HASP) to ensure pollutants are managed in such a way to protect workers, the environment and the surrounding public as well as obey regulations as they relate to regulated contaminated or hazardous material.

A separate Arsenic Removal Material Handling Plan will be prepared in accordance with Specification Sections 02110 and 02112 and submitted to the Engineer for approval prior to any remedial action of the arsenic material at 235 West 1<sup>st</sup> Street. SKK is in the process of soliciting proposals to carry out this work and the selected subcontractor will work with SKK to develop and submit the required submittals with regard to material handling and disposal of soil and groundwater from 235 West 1<sup>st</sup> Street. The MHP herein described the procedures and protocols for sampling, testing, stockpiling, hauling and disposing of contaminated, non-hazardous materials encountered throughout the site with the exception of the previously identified “hot spot” arsenic remediation areas. SKK does not anticipate encountering hazardous soil other than at the three hot spot areas identified for remediation in the Contract Documents located at 235 West 1<sup>st</sup> Street.

## **2. Training and Experience of Personnel**

All SKK personnel and subcontractors involved with the handling of material will be properly trained to safely execute the hauling and disposal of excavated material. Training will include operational and safety topics. Operational topics are the means and methods used to execute related activities; and safety topics include the measures used to protect the personnel and the public from potential hazards. Training will be provided by the Superintendent, Environmental

Officer, or designee and will be done on-site prior to the execution of a given activity. The training program will be reflected in the Construction Plan for that activity. The MHP and any other applicable supplemental documents will be available to all personnel undergoing operational training. All personnel will undergo an assessment of the proposed activity and discuss the potential hazards by clearly defining the objective, evaluating the means and methods of construction (personnel responsibilities, equipment, materials to be used and personal protective equipment), and reviewing the regulatory compliance considerations as well as emergency response procedures.

In addition to operational and safety training, all SKK personnel and subcontractors involved with the excavation of soil will be trained in identifying potential contamination through safety orientation and construction plan hazard analysis. The olfactory sense is the most sensitive instrument for identifying petroleum contamination in the field. As a result, a petroleum odor may be noted although there is no visible sign of oil or staining. In some instances, decaying organic matter can produce an odor similar to petroleum, but this is rare. Crews will be trained via the Construction Plans on how to initially determine and recognize petroleum contaminated soil. The training instructs crews that petroleum-contaminated soil can be identified by the presence of free oil, oil staining, a petroleum odor, or any combination of these. Free oil is liquid oil in its natural state, which could potentially be drained or otherwise extracted from the soil. The appearance of oil staining is not always consistent, but varies depending on the nature of the oil, the soil type, and the age of the release. Staining associated with old petroleum contamination often has a greenish hue, but may also be brown or black. In addition, personnel overseeing the excavation of material will use a Photoionization Detector (PID) to scan the material and measure the presence of vapors. All of these identification methods will be a part of the crew training. If there is any doubt as to whether soil is petroleum-contaminated, the Safety Officer or Environmental Compliance Officer will be contacted to determine the appropriate action. Attachment A includes the actions and notifications when potentially petroleum contaminated soil is encountered.

If the presence of contamination is confirmed, SKK personnel will upgrade their level of Personal Protective Equipment from Level “D” protection to a modified Level “C” protection which will consist of protective disposable clothing (Tyvek coveralls), rubber boots, and task specific gloves. If a higher level Personal Protective Equipment is mandated as a result of subsequent investigations, a separate risk assessment shall be performed to identify all necessary requirements (i.e. engineering/remediation requirements, training, PPE, et.al.) to be performed to remediate the contamination.

One of the most efficient methods of protecting personnel from exposure to potentially contaminated material during excavation is to carry out in-situ sampling. By pre-characterizing the subgrade material, the personnel excavating the soil have a better understanding of the likelihood of encountering potentially harmful levels of contamination. In-situ sampling allows SKK to plan accordingly and take proper steps to implement PPE levels and decontamination procedures so that contamination pathways are impeded.

### **3. Pre-construction Soil and Water Sampling to Date**

SKK has collected pre-job soil samples on the New York and New Jersey side of the Bayonne Bridge. A total of eight samples were collected, and then forwarded to Schneider Laboratories, Inc., and were analyzed for total concentrations of lead, arsenic and polychlorinated biphenyls (PCBs). All soil samples were collected in the field using ASTM E1727 sample collection method. The results of these tests are included in Attachment B. These composite samples indicated slightly elevated levels of lead in surface soil contamination in the eight locations tested. The results also show only minor amounts of surface soil PCB and arsenic contamination – the detectable levels found were all below clean-up criteria established for these materials by the NJDEP and NYSDEP.

In addition, SKK collected one grab sample in approximately 110 feet northeast of the toll

plaza (along the curb line of the parking area) in Staten Island, New York and sent the sample to EMSL Analytical, Inc. for testing. The analytical test results for this grab sample are also included in Attachment B. The results indicate a detectable level of arsenic, lead and diesel range organics.

Lastly, SKK collected pre-job ground water samples from four excavation wells located within the Port Authority Right-of-Way. Water samples were collected from two wells located on the Staten Island, NY side and from two wells located on the Bayonne, NJ side of the bridge. Three water samples were collected at each well for a total of twelve water samples. The samples were sent to Schneider Laboratories, Inc. and for each well one sample was analyzed for total concentrations of semi-volatile organic (SVOCs), one for volatile organic compounds (VOCs) and one for the eight RCRA metals. These results are included in Attachment B as well. Overall the samples showed detectable levels of barium and lead in the groundwater. A Dewatering Plan will be submitted separately that addresses the handling, sampling, testing and disposal of dewatering effluent.

#### **4. In-Situ Sampling**

SKK proposes that the soil characterization for disposal be performed by the Engineer through a combination of stockpile and in-situ sampling and testing. In either situation, sampling and testing by the Engineer for waste disposal will be performed to meet the permit requirements of an off-site disposal facility. A separate Material Handling Plan for Stockpiled Soils was submitted separately.

The purpose of in-situ sampling and testing is to pre-characterize the sediment so that as the soil is excavated it can be placed directly into dump trucks and disposed of offsite. This will substantially reduce the risk of overwhelming the designated stockpiles on-site. However, if the material is unsuitable for live loading than the material will be stockpiled. Whether or not

material is suitable for live loading depends on the water content of the material and if the soil exhibits qualities different from what was sampled during in-situ testing.

SKK has retained Matrix New World and developed an In-Situ Sampling Plan for the Project. Attachment C contains the sampling plan and analytical criteria to be carried out during in-situ sampling. Analytical data on the in-situ soil will be reviewed and forwarded to disposal facilities so that a transporter and solid waste facility agreement can be finalized. If during excavation of the soils post in-situ sampling there are any disparities amongst the analytical data and the soil being excavated, due to odor, staining, or PID scan, than the excavated soil will be stockpiled and sampled separately.

## **5. Sampling and Testing Coordination Procedures**

SKK will notify the Engineer 48 hours before a sample is required to be taken from the borings. Upon receiving the notification from SKK, the Engineer or representative from Hampton Clarke Veritech will be present on-site and retrieve the samples from the borings for the full duration of the in-situ sampling program. The Engineer will provide any equipment required to sample the material. The Engineer will send the sample to a certified testing laboratory and notify SKK when the sample results will be available. Upon receipt of the analytical results for each sample, the Engineer will forward this information to SKK and direct SKK to haul the tested material to an approved disposal facility chosen by the Engineer.

## **6. Haul and Dispose Excavated Material**

Excavated material will leave the site either from the point of excavation (i.e. live loading) or from a stockpile. In both scenarios the material will be sampled and tested to meet the disposal facilities criteria prior to leaving the site.

It is anticipated that live loading operations will consist of an excavator removing soil from the footing locations and placing it directly into dump trucks. At the proposed localized stockpiles at each pier location, and the designated site stockpiles called out on the Contract Drawings, a loader will lift and load dump trucks, either 10 wheel or dump trailers. Trucks are not allowed to be overloaded. All dump trucks will be covered so that material is not accidentally discharged while in transit to the disposal facility. Transporters will have proper permits and certifications to haul the excavated material. At truck exit locations, a tracking pad will be used to remove dirt from the vehicle's wheels. In addition, any material on or around the dump gate or sides of the truck will be cleaned prior to leaving the site.

## **7. Proposed Waste Transporter and Disposal Facilities**

SKK has contacted multiple transporter and disposal facilities. A list of potential transporter and disposal facilities has been provided in Attachment E. In order to finalize agreements with a transporter or disposal facility, analytical data must be received and forward on to each facility for review. Analytical data will not be available for several weeks as of the date of this submittal. In the interim, soil will be stockpiled and the Engineer will be notified when it is appropriate to sample and test the material. Once samples have been taken and testing results are provided to SKK from the Engineer, transporter and disposal facility agreements can be finalized. In addition, when a transporter and disposal facility agreement has been finalized, the required certificate, licenses, permits, etc. will be secured from the facilities by SKK and provided to the Engineer for approval before sending excavated material off-site.

## **8. Pollution Prevention and Spill Contingency Plan (PPSCP)**

Spill and discharge control will be achieved through the implementation of this PPSCP.

During the excavation of subsurface material, precipitation or surface run-off has the potential to come in contact with contaminated material, a chemical or other similar material, becoming contaminated. To reduce the risk of storm water becoming impacted, storm water diversion control measures consistent with the project soil erosion and sediment control plans (Contract Drawings C0801 through C0813), will be implemented as necessary or applicable. These measures include silt fencing; hay bale check dams with temporary stone outlets; temporary stone check dams; temporary slope drains; or inlet filters, silt bags, hay bale barrier as shown in the Contract Drawings.

SKK has secured Ferreira Construction Company, Inc. as a subcontractor for the Project (see Attachment F for Ferreira's Material Handling Plan). The Ferreira Construction Company, Inc. scope of work associated with this MHP includes excavation; the on-site hauling of soil, rock, fill, tree stumps, asphalt, or concrete (material); and the management of the project's on-site stockpile areas. In addition, Ferreira Construction Company will furnish, install, maintain and remove the erosion and sediment control devices shown in the Contract Drawings to limit the amount of pollutants that can enter the environment through storm water runoff.

Excavation of contaminated material will be performed in a manner to minimize dust generation and the spreading of contamination, or cross-contamination. Excavation activities will occur only when applicable engineering or procedural controls are in place to prevent to the extent reasonably possible, the spreading of contamination, or cross-contamination off-site. Selection of engineering or procedural controls will be determined in the field based upon conditions by the Superintendent and will be consistent with the project specifications. Stockpiled contaminated material will be covered during all periods of inactivity. Consistent with the project soil erosion and sediment control in the Contract Documents, storm-water diversion control measures will be implemented as necessary or applicable.

The loading of contaminated material from site excavation activities is not anticipated to cause the discharge of contaminated substances resulting in an impact to the environment. All trucks loaded with material will be inspected by Ferreira Construction Company, Inc. to ensure they are covered and cleaned as required prior to leaving the site.

All equipment and vehicles arriving on-site will be functioning properly. Any equipment or vehicles exhibiting leakage will not be allowed on-site. To the extent possible, equipment will be serviced in area(s) on-site with an impervious surface (asphalt or concrete). The servicing area will be located away from environmentally sensitive areas, such as waterways, storm water inlets, or drainage swales. SKK's subcontractor Ferreira Construction Company, Inc. will maintain one spill kit on the New Jersey area of the site and one spill kit on the New York area of the site to contain and prevent to the extent possible, the migration of petroleum type discharges that may occur during the equipment servicing. If a discharge of hazardous materials occurs, Ferreira Construction Company, Inc. will immediately notify SKK Environmental Compliance Officer (ECO) and Safety Officer. In the event that equipment cannot be serviced on impervious surfaces, temporary measures such as plastic sheeting, earthen berms, etc., will be employed.

In the event of a spill or leak, site personnel will:

- Inform their supervisor immediately;
- Locate the source of the spillage and stop the flow if it can be done safely; and
- Begin containment and recovery of the spilled materials if it can be done safely.

If the spill or release is expected to pose significant hazards or is beyond the capabilities of the immediate personnel, then the ECO will be contacted immediately. When contacted, the ECO will obtain and assess the following information:

- the material spilled or released;
- location of the release or spill;
- an estimate of the quantity released and the rate at which it is being released;
- any injuries involved;
- fire and/or explosion or possibility of these events occurring; and
- the area and materials involved in the location of the fire or explosion.

The supervisor will then notify the Project Engineer and Safety Department with the following information:

- Detailed account of incident
- Documentation that spill was properly cleaned up

In the event of a chemical spill that is not contained within a dike or bermed area, an area of isolation will be established around the spill. The size of the area will generally be dependent on the size of the spill and the material(s) involved. When any spill occurs, only those persons involved in the oversight or performance of the emergency clean-up operations will be allowed within the designated hazard area. If possible, this area will be roped or otherwise blocked off. SKK has retained Atlantic Response Inc. of New Brunswick, New Jersey for spill cleanup and maintenance services on an as needed basis in case a spill occurs that requires additional resources beyond SKK JV capacity.

If an incident may threaten the health or safety of the surrounding community, the public will be informed and possibly evacuated from the area. The ECO will inform the proper agencies in the event that this is necessary. The telephone numbers of emergency response organizations are listed in Section 1.22 page 15 of the Emergency Action Plan (See Attachment G Health and Safety Plan reference).

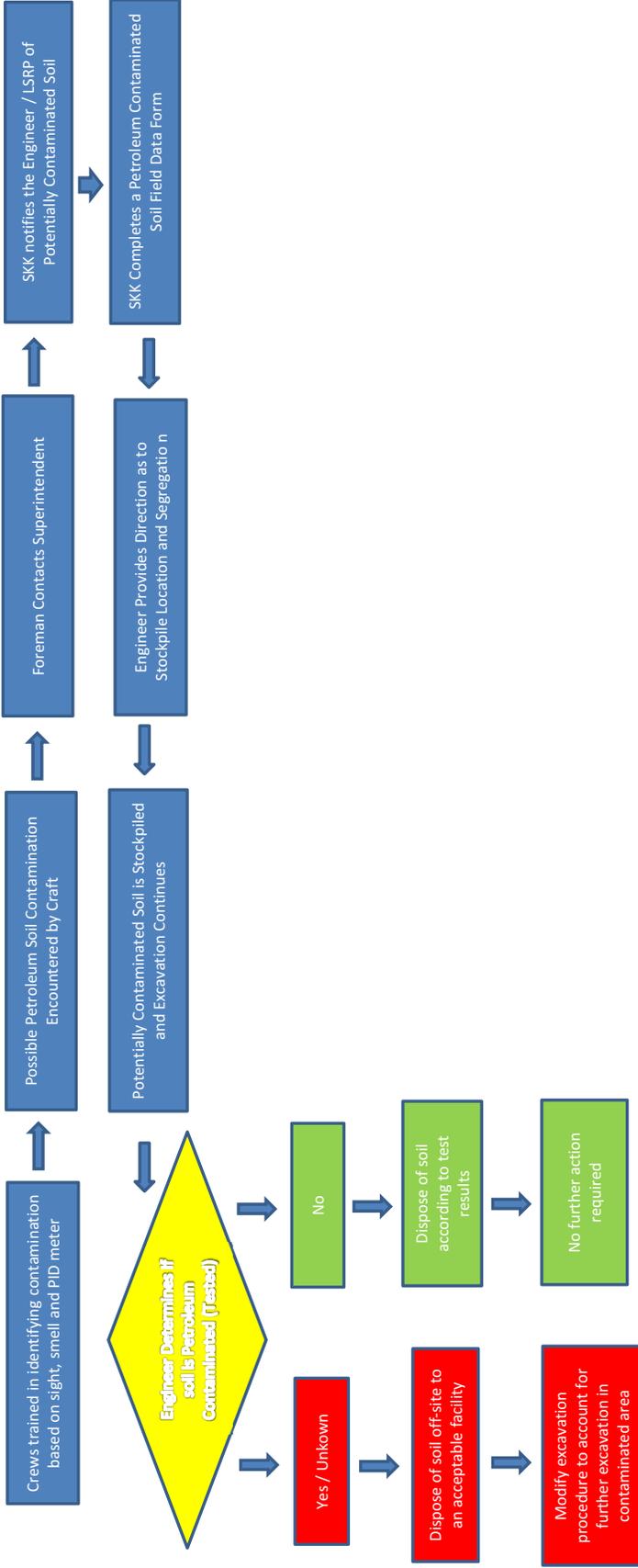
## 9. Documentation

Transportation of contaminated material will be performed using a Non Hazardous Waste Manifest form. Manifests will be used to track transportation and disposal of material. Each manifest will be signed by the Engineer prior transporting the excavated material offsite. This manifest will have information of generator, trucker, the receiving facility and weight of material transported.

Attachment A

Action and Notification Procedures

## ACTION AND NOTIFICATION PROCEDURES



Attachment B

Pre-Construction Soil and Water Test Results

July 2, 2013



Ms. John Pouso  
Skanska Kiewit  
400 Roosevelt Avenue  
Carteret, NJ 07008

RE: Contract # AKB-264.039

email: [john.pouso@skanska.com](mailto:john.pouso@skanska.com)

Dear John:

As requested, on June 21, 2013 we collected pre-job surface soil samples on the New York and New Jersey side of the Bayonne Bridge. A total of eight samples were collected, then forwarded to Schneider Laboratories, Inc. and were analyzed for total concentrations of lead, arsenic and polychlorinated biphenyls (PCBs). All soil samples were collected in the field using the ASTM E1727 sample collection method. Results of the testing are summarized on the following pages in parts per million (ppm) along with the attached laboratory analytical reports.

#### Lead Results

EPA guidelines for lead in soil recommend abatement of soil containing 5,000 ppm lead or greater and establishment of interim controls (i.e. barriers to public access) at concentrations of 400 ppm or greater. For areas inaccessible to the public, interim controls are recommended at soil lead levels of 2,000 ppm or greater.

Soil samples identified as number three, four and five collected on the Staten Island, NY side indicated lead in soil concentrations above the EPA guideline of 400 ppm for areas accessible to the public. The three samples identified as samples eight, nine and ten collected on the Bayonne also indicated lead concentrations above this guideline.

#### Arsenic Results

The EPA has not established an action level for clean-up of arsenic contaminated soil at this time. The NYS DEC has established clean-up objectives for arsenic contaminated soils in residential areas at concentrations of 16 ppm or higher. The NJ DEP has similar recommendations for residential areas when arsenic in soil levels are 20 ppm or higher. The four samples collected on the Staten Island side of the bridge indicated non-detectable concentration of arsenic or less than 5 ppm and were below the NYS DEC criteria of 16 ppm.

#### CORPORATE HEADQUARTERS

☐ 70-20 Austin Street, Suite 115, Forest Hills, New York 11375 ☐ Tel: 718-268-6314 ☐ Fax: 718-268-6317 ☐  
[LeightonAssociates.com](http://LeightonAssociates.com)

The three samples collected on the Bayonne side of the bridge indicated arsenic in soil concentrations of 17 ppm or less. The results were below the NJ DEP threshold level of 20 ppm for residential areas.

#### PCB Results

The NYS DEC clean-up objective for PCB contaminated soils in residential areas is 1 ppm or higher. The NJ DEP has established a clean-up criteria for PCB contaminated soils in residential areas at concentrations of 2 ppm and higher. The samples identified as numbers one, two and three collected on the Staten Island side of the bridge indicated non-detectable amounts of PCBs or less than 0.021 ppm. Sample numbers four and five collected on the NY side indicated PCB in surface soil concentrations at 0.139 ppm or less. The results were below the NYS DEC threshold value of 1 ppm. The three samples collected on the NJ side of the bridge indicated PCB in soil concentrations of 0.225 ppm or less. These results were below the NJ DEP threshold level for residential areas of 2 ppm.

#### Conclusion

These results indicate only slightly elevated levels of lead in surface soil contamination in the eight locations tested on the Bayonne, NJ and Staten Island, NY side of the bridge. The results also show only minor amounts of surface soil PCB and arsenic contamination. The detectable levels found were all below the clean-up criteria established for these materials by the NJ DEP and NYS DEP respectively. However since detectable levels of arsenic were found in the soil samples collected on the Bayonne NJ side, you may want to consider collecting additional soil samples for arsenic analysis as a precautionary measure. Based these soil sample results lead appears to the material of consequence in the areas tested. Consideration of these pre-project levels should be taken into account when and if any post job soil sampling is performed. Please let me know if you have any questions at this time.

Sincerely,



Adam McGreevy  
Sr. Industrial Hygienist

Skanska Kiewit  
 PANYNJ Contract # AKB-264.039  
 Bayonne Bridge  
 Pre-Job Soil Samples

06/21/13

Sample #	Location Description	Lead (ppm)	Arsenic (ppm)	PCB* (ppm)
1	NY side – 1.5 feet south of southwest corner of pier 59 E	397	<5	<.02
2	NY side – 1 foot east of northeast corner of pier 5&W	394	<4	<.02
3	NY side – 6 feet north of pier 10S (west)	632	<4	<.021
4	NY side – 11 feet south of pier 7S (west)	671	<4	.139
5	NY side – 11 feet southeast of southeast corner of pier 3S (east)	823	<4	.76
8	NJ side – 25 feet southeast of pier 12N	628	17	<.02
9	NJ side – 20 feet southwest of pier 12N	1,289	10	.225
10	NJ side – inside park @ fence: between piers 3N and 4N	680	5	.187

\*Detected in the form of Aroclor 1254

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## LABORATORY ANALYSIS REPORT

ACCOUNT #: 213-13-30592  
CLIENT: LEIGHTON ASSOCIATES  
ADDRESS: 70-20 AUSTIN ST STE 115  
FOREST HILLS, NY 11375

DATE COLLECTED: 6/21/2013  
DATE RECEIVED: 6/24/2013  
DATE ANALYZED: 6/25/2013  
DATE REPORTED: 6/25/2013

PROJECT NAME: SKANSKA  
JOB LOCATION: Bayonne Bridge  
PROJECT NO.:  
PO NO.:

Sample Type: SOIL

SLI ID:	Client ID:	Description:					MRL**
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	(µg)	
31929535	1	NY-1.5ft S Of SW Corner					
Date	6/21/2013						
Collected:	4:00 PM						
Arsenic (As)	527	2.5	< 0.001	5	EPA 6010C	2.0	
Lead (Pb)	527	209.4	0.040	397	EPA 6010C	2.0	
31929536	2	NY-1ft Of NE Corner					
Date	6/21/2013						
Collected:	4:00 PM						
Arsenic (As)	512	< 2.0	< 0.001	< 4	EPA 6010C	2.0	
Lead (Pb)	512	201.7	0.039	394	EPA 6010C	2.0	
31929537	3	NY-6ft N Of Pier					
Date	6/21/2013						
Collected:	4:00 PM						
Arsenic (As)	534	< 2.0	< 0.001	< 4	EPA 6010C	2.0	
Lead (Pb)	534	337.4	0.063	632	EPA 6010C	2.0	

Total Number of Pages in Report: 2

Results relate only to samples as received by the laboratory.

Soil samples are tested as received unless noted as "Dried before analysis." Equivalent units: PPM = mg/kg. \*\*MRL=Minimum Reporting Limit. Quality Control data available upon request. Unusual sample conditions, if any, are described. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.

SLI ID: 31929538		Client ID: 4		Description: NY-11ft S Of Pier		
Date 6/21/2013		Collected: 4:00 PM				
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	517	< 2.0	< 0.001	< 4	EPA 6010C	2.0
Lead (Pb)	517	347.1	0.067	671	EPA 6010C	2.0
SLI ID: 31929539		Client ID: 5		Description: NY-11ft SE Of SE Corner		
Date 6/21/2013		Collected: 4:00 PM				
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	512	< 2.0	< 0.001	< 4	EPA 6010C	2.0
Lead (Pb)	512	421.2	0.082	823	EPA 6010C	2.0

Analyst: ABISOLA O. KASALI

Total Number of Pages in Report: 2

Results relate only to samples as received by the laboratory.

  
 Reviewed By Derek L. Jackson, Analyst  
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V: \ 961 \ 961558

Submitting Co. <b>WIGHTON ASSOCIATES</b>	Lab Use- WO #	Phone #	<b>1-800-269-2284</b>
20-20 AUSTIN ST STE 115	Acct #	Fax # & E-mail	
<b>FOREST HILLS, NY 11375</b>	<b>213</b>		<b>1-718-268-8317</b>

Project Name: <b>SKANSKA</b>	Special Instructions include request for special reporting or data packages:
Project Location: <b>Bayonne Bridge</b>	<b>Analyze for total lead, arsenic, + PCBs</b>
Project Number:	State Of Collection: <b>NY/NJ</b>
PO Number:	

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input checked="" type="checkbox"/> 1 business day* <input type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>* not available for all tests</small> <small>Schedule rush organics, multi-metals &amp; weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (PM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Sludge <input type="checkbox"/> Paint <input type="checkbox"/> Sludge <input checked="" type="checkbox"/> Soil <input type="checkbox"/>	<b>Asbestos Air / Fiber Counts</b> <input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II) <input type="checkbox"/> <b>Miscellaneous Tests</b> <input type="checkbox"/> Total Dust (NIOSH 0100) <input type="checkbox"/> Resp. Dust (NIOSH 0610) <input type="checkbox"/> Sludge - FTIR (NIOSH 7002) <input type="checkbox"/> Sludge - XRD (NIOSH 7100) <input type="checkbox"/>	<b>Asbestos Bulk / Asb ID</b> <input type="checkbox"/> PLM (EPA 600, 1982) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 156.11.41.6 <input type="checkbox"/> CAELAP (EPA Method) <input type="checkbox"/> TEM (Optional) <b>FOR ASBESTOS AIR:</b> TYPE OF RESPIRATOR USED:	<b>Metals - Total Conc.</b> <input checked="" type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input checked="" type="checkbox"/> Arsenic <input checked="" type="checkbox"/> PCBs <b>Metals - Extract</b> <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / Full (w/ organics) Others

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SS#, Bldg, Material)	Wiped Area (ft <sup>2</sup> )	Type <sup>1</sup> A,B,P,E	Time <sup>2</sup>		Flow Rate <sup>3</sup>		Total <sup>4</sup> Air Vol
						Start	Stop	Start	Stop	
1	6.21		NY - 1.5 ft S of SW corner of Pier 5 NE							
2	6.21		NY - 1 ft E of NE corner of Pier 5 SW							
3	6.21		NY - 6 ft N of Pier 10 S (west)							
4	6.21		NY - 11 ft S of Pier 7 S (west)							
5	6.21		NY - 11 ft SE of SE corner of Pier 3 S (east)							
cont'd →										

<sup>1</sup>Type: A=area B=blank P=personal E=excursion    <sup>2</sup>Beginning/End of Sample Period    <sup>3</sup>Pump Calibration in Liters/Minute    <sup>4</sup>Volume in Liters (time in min \* flow in L/min)

Sampled by NAME <b>Thomas Storck</b>	Retrieved to lab by NAME _____	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HD <input type="checkbox"/> DB 
SIGNATURE	SIGNATURE _____	
DATE/TIME <b>6.19.13 1600</b>	DATE/TIME _____	
<input type="checkbox"/> Sample return requested <input type="checkbox"/> Ambient temp <input type="checkbox"/> Ice <input type="checkbox"/> °C <input type="checkbox"/> pH <input type="checkbox"/> Cl <sup>-</sup> <input type="checkbox"/> TRIS		

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## LABORATORY ANALYSIS REPORT

ACCOUNT #: 213-13-30590  
CLIENT: LEIGHTON ASSOCIATES  
ADDRESS: 70-20 AUSTIN ST STE 115  
FOREST HILLS NY 11375

DATE COLLECTED: 6/21/2013  
DATE RECEIVED: 6/24/2013  
DATE ANALYZED: 6/25/2013  
DATE REPORTED: 6/25/2013

PROJECT NAME: SKANSKA  
JOB LOCATION: Bayonne Bridge  
PROJECT NO.:  
PO NO.:

Sample Type: SOIL

SLI ID:	Client ID:	Description:					MRL**
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	(µg)	
SLI ID: 31929515 Client ID: 8 Description: NJ-25ft SE Of Pier 12N							
Date 6/21/2013							
Collected: 4:00 PM							
Arsenic (As)	524	8.7	0.002	17	EPA 6010C	2.0	
Lead (Pb)	524	329.3	0.063	628	EPA 6010C	2.0	
SLI ID: 31929516 Client ID: 9 Description: NJ-20ft SW Of Pier 12N							
Date 6/21/2013							
Collected: 4:00 PM							
Arsenic (As)	530	5.2	< 0.001	10	EPA 6010C	2.0	
Lead (Pb)	530	683.2	0.129	1,289	EPA 6010C	2.0	
SLI ID: 31929517 Client ID: 10 Description: NJ-Inside Park At Fence							
Date 6/21/2013							
Collected: 4:00 PM							
Arsenic (As)	511	2.7	< 0.001	5	EPA 6010C	2.0	
Lead (Pb)	511	347.7	0.068	680	EPA 6010C	2.0	

Analyst: ABISOLA O. KASALI

Total Number of Pages in Report: 1

Results relate only to samples as received by the laboratory.

  
Reviewed By: Derek L. Jackson, Analyst  
Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

Soil samples are tested as received unless noted as "Dried before analysis". Equivalent units: PPM = mg/kg. \*\*MRL=Minimum Reporting Limit. Quality Control data available upon request. Unusual sample conditions, if any, are described. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.



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 Acct#  
 213

Phone # 1-800-269-2284  
 Fax & E-mail 1-718-268-6317

Project Name: **SKANSKA**  
 Project Location: **Bayonne Bridge**  
 Project Number:  
 PO Number:

Special Instructions *include requests for special reporting or data packages!*  
**Analyze for total lead, arsenic, + PCBs**  
 State Of Collection **NY/NJ**

**Turn Around Time**

2 hours\*  
 Same day\*  
 1 business day\*  
 2 business days\*  
 3 business days\*  
 5 business days\*  
 Full TCLP (10d)  
 Weekend\*  
 \* not available for all tests  
 Schedule rush organics, metals & weekend tests in advance.

**Matrix / Sample Type (Select ONE)**

All samples on form should be of SAME matrix type. Use additional forms as needed.

Air  Solid  
 Aqueous  Waste  
 Bulk  Wastewater  
 Hi-Vol Filter (F3410)  Water, Drinking  
 Hi-Vol Filter (F3P)  Compliance  
 Oil  wipe  
 Paint  Wipe, Composites  
 Sludge  \_\_\_\_\_  
 Soil  \_\_\_\_\_

**Tests / Analytes (Select ALL that Apply)**

**Asbestos Air / Fiber Counts**

PCM (NIOSH 7400)  
 TEM (AHERA)  
 TEM (EPA Level II)  
 \_\_\_\_\_

**Asbestos Bulk / Asb ID**

PLM (EPA 600, 1962)  
 PLM (EPA Point Count)  
 PLM (Qualitative only)  
 NYELAP 19A, 11A/B  
 CAELAP (EPA Interim)  
 TEM (Chimp)  
 FOP ASBESTOS AIR:  
 TYPE OF RESPIRATOR \_\_\_\_\_  
 USED: \_\_\_\_\_

**Metals-Total Conc.**

Lead  
 RCRA Metals  
 Arsenic  
 PCBs

**Metals-Extract**

TCLP / Lead  
 TCLP / RCRA Metals  
 TCLP / Full (w/organics)  
 Others \_\_\_\_\_

**Miscellaneous Tests**

Total Dust (NIOSH 0600)  
 Resp. Dust (NIOSH 600)  
 Silica - FTIR (NIOSH 7402)  
 Silica - XRD (NIOSH 7500)

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg. Material)	Wiped Area (ft²)	Type¹ (A,B,P,E)	Time²		Flow Rate³		Total⁴ Air Vol
						Start	Stop	Start	Stop	
8	6.21		NJ - 25ft SE of Pier 12N							
9	6.21		NJ - 20ft SW of Pier 12N							
10	6.21		NJ - Inside park at fence, between Piers 3N + 4N, 29ft South of fence corner, near NW corner of volleyball court							

¹Type: A=area B=blank P=personal E=excursion ²Beginning/End of Sample Period ³Flow Rate Calibration in Liters/Minute ⁴Volume in Liters (Time in min \* flow in L/min)

Sampled by NAME **Thomas Storck** Signature *[Signature]* DATE/TIME **6.19.13 1600**

Refrurnished to lab by NAME \_\_\_\_\_ Signature \_\_\_\_\_ DATE/TIME \_\_\_\_\_

- FX
- UPS
- USM
- HD
- DB

WB: **0215**

Sample return requested  Ambient temp  Ice  pH  Cl  NO  SO  CO  O<sub>3</sub>  O<sub>2</sub>  H<sub>2</sub>S  H<sub>2</sub>  NH<sub>3</sub>  HCN  H<sub>2</sub>O  H<sub>2</sub>SO<sub>4</sub>  H<sub>2</sub>CO<sub>3</sub>  H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<sub>3</sub>  H<sub>2</sub>PO<sub>2</sub>  H<sub>2</sub>PO  H<sub>2</sub>P  H<sub>2</sub>  H<sub>2</sub>O  H<sub>2</sub>SO<sub>4</sub>  H<sub>2</sub>CO<sub>3</sub>  H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<sub>3</sub>  H<sub>2</sub>PO<sub>2</sub>  H<sub>2</sub>PO  H<sub>2</sub>P  H<sub>2</sub>  H<sub>2</sub>O  H<sub>2</sub>SO<sub>4</sub>  H<sub>2</sub>CO<sub>3</sub>  H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<sub>3</sub>  H<sub>2</sub>PO<sub>2</sub>  H<sub>2</sub>PO  H<sub>2</sub>P  H<sub>2</sub>  H<sub>2</sub>O  H<sub>2</sub>SO<sub>4</sub>  H<sub>2</sub>CO<sub>3</sub>  H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<sub>3</sub>  H<sub>2</sub>PO<sub>2</sub>  H<sub>2</sub>PO  H<sub>2</sub>P  H<sub>2</sub>  H<sub>2</sub>O  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H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<sub>3</sub>  H<sub>2</sub>PO<sub>2</sub>  H<sub>2</sub>PO  H<sub>2</sub>P  H<sub>2</sub>  H<sub>2</sub>O  H<sub>2</sub>SO<sub>4</sub>  H<sub>2</sub>CO<sub>3</sub>  H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<sub>3</sub>  H<sub>2</sub>PO<sub>2</sub>  H<sub>2</sub>PO  H<sub>2</sub>P  H<sub>2</sub>  H<sub>2</sub>O  H<sub>2</sub>SO<sub>4</sub>  H<sub>2</sub>CO<sub>3</sub>  H<sub>2</sub>PO<sub>4</sub>  H<sub>2</sub>PO<

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AIHA/ELLAP 100527, ISO/IEC 17025, NVLAP 101150-0, NYELAP 11413, VELAP/NELAC 460135

## LABORATORY ANALYSIS REPORT

Account: 213-13-30593      Date/Time Collected: 06/21/2013      4:00 PM  
Client: LEIGHTON ASSOCIATES      Date/Time Received: 06/24/2013      9:10 AM  
Address: 70-20 AUSTIN ST STE 115      Date Reported: 06/25/2013  
FOREST HILLS, NY 11375      Receipt Temp., °C:  
Project Name: SKANSKA      Sample Matrix: SOIL  
Project No.:  
Job Location: Bayonne Bridge  
P.O.#:  
Sample      SLI Sample No.: 31929545  
Description: NY-1.5ft S Of SW Corner      Client Sample No.: 1

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	20	µg/kg	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 - Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	90%					
TCMX	46%					

213-13-30593

Page 1 of 4

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabin.com](http://www.slabin.com) for current certifications.

Sample  
Description: NY-1ft Of NE Corner

SLI Sample No.: 31929546  
Client Sample No.: 2

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<u>Polychlorinated Biphenyls based on SW846 8082</u>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	20	µg/kg	1	06/25/2013	APS
<u>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</u>						
Surrogate	Recovery					
DCB	90%					
TCMX	48%					

Sample  
Description: NY-6ft N Of Pier

SLI Sample No.: 31929547  
Client Sample No.: 3

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<u>Polychlorinated Biphenyls based on SW846 8082</u>						
Aroclor - 1016	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	21	µg/kg	1	06/25/2013	APS
<u>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</u>						
Surrogate	Recovery					
DCB	63%					
TCMX	43%					

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

Sample  
Description: NY-11ft S Of Pier

SLI Sample No.: 31929548  
Client Sample No.: 4

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1254	139	24	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1282	BQL	24	µg/kg	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 – Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	70%					
TCMX	48%					

Sample  
Description: NY-11ft SE Of SE Corner

SLI Sample No.: 31929549  
Client Sample No.: 5

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	76	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1282	BQL	20	µg/kg	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 – Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	54%					
TCMX	54%					

*Bernard H. Howard*

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Reviewed By: Bernard H. Howard, Supervisor

All samples for organics testing should be shipped in cool conditions, 1 to 8°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabin.com](http://www.slabin.com) for current certifications.



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## LABORATORY ANALYSIS REPORT

Account: 213-13-30591	Date/Time Collected: 06/21/2013	4:00 PM
Client: LEIGHTON ASSOCIATES	Date/Time Received: 06/24/2013	9:10 AM
Address: 70-20 AUSTIN ST STE 115	Date Reported: 06/25/2013	
FOREST HILLS, NY 11375	Receipt Temp.: °C	
Project Name: SHANJICA	Sample Matrix: SOIL	
Project No.:		
Job Location: Bayonne Bridge		
P.O.#:		
Sample Description: NJ-25ft SE Of Pier 12N	SLI Sample No.: 31929522	
	Client Sample No.: 8	

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1282	BQL	20	µg/kg	1	06/25/2013	APS

**Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries:**

Surrogate	Recovery
DCB	34%
TCMX	42%

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

Sample  
Description: NJ-20ft SW Of Pier 12N

SLI Sample No.: 31929523  
Client Sample No.: 9

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	22	µg/g	1	06/25/2013	APS
Aroclor - 1221	BQL	22	µg/g	1	06/25/2013	APS
Aroclor - 1232	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	22	µg/g	1	06/25/2013	APS
Aroclor - 1248	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1254	225	22	µg/g	1	06/25/2013	APS
Aroclor - 1260	BQL	22	µg/g	1	06/25/2013	APS
Aroclor - 1266	BQL	22	µg/g	1	06/25/2013	APS
Aroclor - 1262	BQL	22	µg/g	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	116%					
TCMX	48%					

Sample  
Description: NJ-Inside Park At Fence

SLI Sample No.: 31929524  
Client Sample No.: 10

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	21	µg/g	1	06/25/2013	APS
Aroclor - 1221	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1254	187	21	µg/g	1	06/25/2013	APS
Aroclor - 1260	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1266	BQL	21	µg/g	1	06/25/2013	APS
Aroclor - 1262	BQL	21	µg/g	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	102%					
TCMX	46%					

*Bernard H. Howard*

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Reviewed By: Bernard H. Howard, Supervisor

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All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.



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e-mail: info@stabinc.com

WorkOrderKey



V: 19611961561

Submitting Co. <b>LEIGHTON ASSOCIATES</b>	Lab Use-WO #	Phone #	<b>1-800-269-2284</b>
70-20 AUSTIN ST STE 115	Acct #	Fax # & E-mail	
FOREST HILLS, NY 11375	213		<b>1-718-268-6317</b>

Project Name: <b>SKANSKA</b>	Special Instructions <i>(Include requests for special reporting or data packages)</i>
Project Location: <b>Bayonne Bridge</b>	<b>*analyze for total lead, arsenic, + PCBs</b>
Project Number:	State Of Collection: <b>NY, NJ</b>

Turn Around Time	Matrix / Sample Type (Select ONE)	Asbestos Air / Fiber Counts	Asbestos Bulk / Asb ID	Metals-Total Conc.
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input checked="" type="checkbox"/> 1 business day* <input type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>* not available for all tests</small> <small>Schedule run organics, multi-metals &amp; weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed.</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (F7A1C) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input type="checkbox"/> _____ <input checked="" type="checkbox"/> Soil	<input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level 1) <input type="checkbox"/> _____ <b>Miscellaneous Tests</b> <input type="checkbox"/> Total Dust (NIOSH 0500) <input type="checkbox"/> Resp. Dust (NIOSH 1000) <input type="checkbox"/> Sludge - FTIR (NIOSH 7800) <input type="checkbox"/> Sludge - XRD (NIOSH 7500)	<input type="checkbox"/> PLM (EPA 600, 1997) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 198, 17, 4/6 <input type="checkbox"/> CAELAP (EPA Interim) <input type="checkbox"/> TEM (Chaffin) <b>FOR ASBESTOS AIR:</b> TYPE OF RESPIRATOR <input type="checkbox"/> USED	<input checked="" type="checkbox"/> Lead <input type="checkbox"/> RCAA Metals <input checked="" type="checkbox"/> ARSENIC <input checked="" type="checkbox"/> PCBs <b>Metals-Extract</b> <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCAA Metals <input type="checkbox"/> TCLP / PAHs / Organics Others

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft <sup>2</sup> )	Type <sup>1</sup> A, B, P, E	Time <sup>2</sup>		Flow Rate <sup>3</sup>		Total <sup>4</sup> Air Vol
						Start	Stop	Start	Stop	
8	6.21		NJ - 25ft SE of Pier 12N							
9	6.21		NJ - 20ft SW of Pier 12N							
10	6.21		NJ - Inside park at fence, between Pier 3N + 4N, 20ft South of fence corner, near NW corner of volleyball court							

<sup>1</sup>Type: A=area B=blank P=personal E=excursion <sup>2</sup>Beginning/End of Sample Period <sup>3</sup>Pump flow rate in liters/minute <sup>4</sup>Volume of air sampled (m<sup>3</sup>)

Sampled by NAME <b>Thomas Storck</b>	Reinforced to lab by NAME _____	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HC <input type="checkbox"/> DB WB: <b>0245</b>
SIGNATURE _____	SIGNATURE _____	
DATE/TIME <b>6.19.13 1600</b>	DATE/TIME _____	

Sample return requested  Ambient temp  Ice  °C pH Cl  NIOSH  \_\_\_\_\_

July 16, 2013

Mr. John Pouso  
Skanska Kiewit  
400 Roosevelt Avenue  
Carteret, NJ 07008

RE: Contract # AKB-264.039

Mr. John Pouso:

As requested, on July 1, 2013 we collected pre-job ground water samples from four excavation wells located at the Bayonne Bridge Replacement of Main Span project. Water samples were collected from two wells located on the Staten Island, NY side of the bridge and from two wells located on the NJ side of the bridge. Three water samples were collected at each well for a total of twelve water samples. The samples were sent to Schneider Laboratories, Inc. and for each well one sample was analyzed for total concentrations of semi-volatile organic compounds (SVOCs), one for volatile organic compounds (VOCs) and one for the eight RCRA metals.

Attached with this report are the laboratory analytical data sheets. The SVOC and VOC results are reported in micrograms per liter ( $\mu\text{g/l}$ ) which is equivalent to parts per billion (ppb). The results for the RCRA metals are reported in milligrams per liter (mg/l) which is equivalent to parts per million (ppm).

Well # 1

This well was identified as being located on the NY side of the bridge between pillars 8S and 7S. The groundwater level from the surface was measured at seven feet four inches deep. As you can see from the attached laboratory reports, the sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated a total concentration of barium of 0.07 ppm. The results were non-detectable or below the laboratory detection limit for the other seven metals.

CORPORATE HEADQUARTERS

Well # 2

This well was identified as being located on the NY side of the bridge between pillars 6S and 7S. The groundwater level from the surface was measured at four feet eight inches deep. The sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated detectable concentrations of barium and lead at 0.22 ppm and 0.11 ppm, respectively. The results were non-detectable or below the laboratory detection limit for the other six RCRA metals.

Well # 3

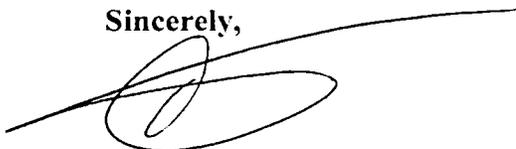
This well was identified as being located on the NJ side of the bridge between pillars 4N and 3N. The groundwater level from the surface was measured at four feet five inches deep. The sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated detectable concentrations of barium and lead at 0.26 ppm and 0.46 ppm, respectively. The results were non-detectable or below the laboratory detection limit for the other six RCRA metals.

Well # 4

This well was identified as being located on the NJ side of the bridge between pillars 2N and 3N. The groundwater level from the surface was measured at six feet zero inches deep. The sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated detectable concentrations of barium and lead at 0.12 ppm and 0.59 ppm, respectively. The results were non-detectable or below the laboratory detection limit for the other six RCRA metals.

Please let me know if you any questions at this time.

Sincerely,



Adam McGreevy  
Sr. Industrial Hygienist



**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: [jsmith@emsl.com](mailto:jsmith@emsl.com)

---

Attn:

**John Pouso  
Skanska Koch  
400 Roosevelt Avenue  
Carteret, NJ 07008**

7/11/2013

Phone: (732) 969-1700  
Fax: (732) 969-0197

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 7/9/2013. The results are tabulated on the attached data pages for the following client designated project:

**Bayonne Bridge**

The reference number for these samples is EMSL Order #011303099. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Reviewed and Approved By:

---

Julie Smith - Laboratory Director



The test results contained within this report meet the requirements of NELAC and/or the specific certification program that is applicable, unless otherwise noted.  
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

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<http://www.emsl.com>[jsmith@emsl.com](mailto:jsmith@emsl.com)

EMSL Order: 011303099

CustomerID: SKNJ25

CustomerPO: 012100-JP

ProjectID:

Attn: **John Pouso**  
**Skanska Koch**  
**400 Roosevelt Avenue**  
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Phone: (732) 969-1700  
 Fax: (732) 969-0197  
 Received: 07/09/13 9:00 AM  
 Collected: 7/8/2013

Project: **Bayonne Bridge****Analytical Results****Client Sample Description** 012100-07082013**Collected:** 7/8/2013 **Lab ID:** 0001

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
SM 2540G	Total Solids	91	N/A	%	7/10/2013	AA	7/11/2013	MM
3550B/8082A	Aroclor-1016	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1221	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1232	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1242	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1248	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1254	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1260	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1262	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1268	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
6010C	Arsenic	2.7	2.0	mg/Kg	7/9/2013	JS	7/10/2013	BE
6010C	Lead	8.8	2.0	mg/Kg	7/9/2013	JS	7/10/2013	BE
8015B	Diesel Range Organics	1300	370	mg/Kg	7/10/2013	AB	7/11/2013	EA
8015B	Gasoline Range Organics	ND	1.1	mg/Kg	7/10/2013	EA	7/10/2013	EA

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit

Attachment C

In-Situ Sampling Plan and Analytical Criteria

**SAMPLING AND ANALYSIS PLAN  
IN-SITU SOIL SAMPLING  
BAYONNE BRIDGE  
REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES  
CONTRACT AKB-264.039**

**MATRIX** **NEW** **WORLD**

Enabling Progress

**Submitted to:**

Skanska-Koch Kiewit  
The Port Authority of NY and NJ  
Bayonne Bridge Project  
111 Linnet Street  
Bayonne, NJ 07002

**Submitted by:**

Matrix New World Engineering, Inc.  
26 Columbia Turnpike  
Florham Park, New Jersey 07932

Matrix No. 13-428E

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**FIGURES**

<u>Figure No.</u>	<u>Title</u>
1-14	In-Situ Soil Sampling Plan

**TABLES**

<u>Tables</u>	<u>Title</u>
1	New Jersey Disposal Facility Analytical Requirements
2	Pennsylvania Disposal Facility Analytical Requirements
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## **1.0 INTRODUCTION**

Matrix New World Engineering, Inc. (Matrix) has prepared this Sampling and Analysis Plan (SAP) for Skanska-Koch Kiewit Joint Venture (SKK) for work associated with the Bayonne Bridge Project. As part of the engineering design services for the Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures Contract AKB-264.039 (Project), soils generated during the construction of the approach structures need to be managed and disposed of offsite. Due to limited stockpile areas associated with this project, SKK has proposed to collect in-situ soil samples to properly characterize the soils for transportation and disposal (T&D) to off-site disposal facilities. This document presents a technical approach for the collection of soil samples from proposed excavation areas associated with the project. The location of excavation areas along with proposed boring locations is included on Figures 1 through 4.

### **1.1 Site Description**

The Bayonne Bridge spans the Kill Van Kull, and connects Bayonne, New Jersey with Staten Island, New York carrying highways NY 440 and NJ 440. The Port Authority of New York and New Jersey (PA) Board of Commissioners awarded a contract to the joint venture of SKK to raise the road deck of the existing bridge. The work, expected to begin in 2013, will raise the road deck by 64 feet, create 12-foot wide lanes, including a bicycle and pedestrian lane, and install a median divider and shoulders.

Previous investigations have identified lead in soils at concentrations exceeding the New Jersey Department of Environmental Protection's (NJDEP) Residential Direct Contact Soil Remediation Standard (RDCSR), the New York State Department of Environmental Conservation's (NYSDECs) Residential Soil Cleanup Objectives under Part 375 Soil Cleanup Objective (SCO), and the United States Environmental Protection Agency's (USEPAs) guideline of 400 parts per million (ppm) of lead for areas accessible to the public. Groundwater is present at an average of 5.5 feet below ground surface (ft. bgs.).

## 2.0 SAMPLING AND ANALYSIS PLAN

### 2.1 Scope of Work

The objective of this investigation is to perform in-situ soil characterization for T&D. In-situ soil samples will be collected from areas that are proposed to be excavated as detailed in SKK's Materials Management Plan (MMP) for the project. Soil samples will be collected from both the New Jersey and New York sides of the Bayonne Bridge to meet the permit requirements of a chosen off-site disposal facility. The advancement of the soil borings within each proposed excavation area can be achieved by multiple techniques, depending on the depth and geology. Typically, soil borings are completed by utilizing either conventional drilling method (hollow stem auger), direct push method (Geoprobe®) or by utilizing a stainless steel hand auger. The advancement of soil borings utilizing a Geoprobe® is recommended due to the large number of borings that will be needed to obtain the required number of soil samples. Stainless steel hand augers can be used, but are limited to sample depths less than four feet and areas where impervious surfaces do not exist.

Soil samples collected on the Bayonne, New Jersey side of the bridge will be collected in general accordance with the New Jersey Department of Environmental Protection's (NJDEP) *Field Sampling Procedures Manual (FSPM)*. All analyses would be conducted by a laboratory that is accredited pursuant to the National Environmental Laboratory Accreditation Program (NELAP) and the NJDEP for the category of parameters analyzed. The analytical data package for all samples will be a NJDEP Reduced Deliverables Package.

Soil samples collected from the Staten Island side of the bridge will be conducted in general accordance with the New York State Department of Environmental Conservation's (NYSDEC) DER-10 "*Technical Guidance for Site Investigation and Remediation*". All analyses would be conducted by a laboratory that is accredited pursuant to New York State Department of Health (NYDOH) Environmental Laboratory Accreditation Program (ELAP) for the category of parameters analyzed. The analytical data package for all samples will be a NYSDEC ASP Category B Deliverable Package.

### 2.2 Sample Collection

SKK will need to select a drilling firm that is licensed by both the NJDEP and the NYSDEC to perform drilling activities within the respective state. If SKK elects to collect soil samples utilizing a Hollow Stem Auger rig, samples will be collected with stainless steel split spoon samples that will need to be properly decontaminated between samples. Utilizing a Geoprobe® will minimize the amount of decontamination that is needed since the samples will be collected within dedicated acetate liners. If hand auger is utilized for sample collection, the auger must be also be

decontaminated between samples. Decontamination procedures must be conducted in accordance with NJDEP's FSPM and NYSDEC DER-10.

All samples will be collected by Hampton Clarke – Veritech Laboratories (HCV) field technicians that are familiar with the collection and handling of soil samples. Once the in-situ soil samples have been collected they will be placed in laboratory cleaned bottleware and included on a chain of custody and transported to HCV for analysis. The soils samples will be analyzed by HCV Laboratories under their PANYNJ on-call contract. HCV is a NJDEP certified laboratory (#07071) and NYSDEC certified laboratory (ELAP 11408).

SKK has identified approximately 100 areas where excavation activities will be performed to support the project. In their MMP, SKK has calculated the approximate volume of soil that needs to be excavated from each area. Table 4 summarizes the location and number of samples that will be required to be collected in order to satisfy the sampling and analysis requirements for any of the listed disposal facilities that may be utilized by SKK.

Additionally, during construction of the deeper foundation for the roadway support, groundwater will be encountered. SKK has indicated that recovered groundwater will be placed into temporary holding tanks and shipped for offsite disposal. Matrix has included procedures for the collection and analysis of recovered groundwater for offsite disposal.

### **2.2.1 Soil Sampling Procedure**

In-situ sampling is being conducted due to the limited space available for stockpiling of soils. The collection of in-situ soil samples will allow SKK to pre-classify the soils for disposal and allow the soils to be loaded directly into trucks for off-site disposal. Matrix evaluated SKK's MMP and compared the calculated approximate volumes of the excavation areas to the disposal facility requirements. Based on this comparison, Matrix has determined the amount of samples needed from each excavation area to satisfy the sampling and analysis requirements for the disposal facilities and the minimum number of borings needed per excavation area to collect the required number of soil samples.

Figures 1-4 illustrate approximate boring locations within each excavation area, which are the minimum number of borings needed to collect the required number of soil samples for analysis. Table 4 indicates the number of soil samples required for laboratory analysis per excavation area. There are two types of soil samples to be collected: composite and grab:

- Grab samples are collected from a specific horizontal location and discrete 6-inch vertical interval. Grab samples may be collected directly into the sample container where applicable or material may be transferred to the sampling container with dedicated disposable sampling equipment or decontaminated stainless steel sampling equipment.
- Composite samples consist of several subsamples that are thoroughly mixed together to create one sample for analysis. After the grab sample has been collected and placed in laboratory clean bottleware, the remaining soils are placed into a stainless-steel bowl and composited using a stainless-steel trowel or spoon. The composited sample will then be placed in laboratory supplied bottleware from the stainless-steel bowl using a trowel or spoon. In the case of either sample type (grab and composite), sample volume is dependent on the analysis to be performed. Appropriate bottleware for each analytical parameter will be provided by the laboratory.

Sample collection procedures are dependent on the volume of the soils that will be excavated from each area designated on the plan. If it is practical to collect soil samples by hand (i.e., the excavation is less than 4-ft. deep), a stainless-steel hand auger can be used. The hand auger sampler will be decontaminated before each use. Hand augers will be advanced to the selected depths within the proposed excavation area and the retrieved soil core will be screened for evidence of contamination (i.e. staining, elevated PID readings, notable odors, etc.), and logged for material content. If it is unreasonable to collect soil samples by hand (i.e., the excavation area is more than 4-ft. deep), the use of a Geoprobe<sup>®</sup> is recommended for sample collection. The Geoprobe<sup>®</sup> will advance a macro core soil sampler with dedicated acetate liner to the selected depths within the proposed excavation. Retrieved soils will be screened for evidence of contamination (i.e. staining, elevated PID readings, notable odors, etc.), and logged for material content.

Samples to be analyzed for volatile organic compounds (VOCs) will be collected from a discrete depth interval with the highest PID reading and/or at the location with the greatest evidence of contamination (i.e. staining, odors, etc.). If there is no evidence of staining, the sample to be analyzed for VOCs will be collected at a random, discrete 6-inch interval. No matter the circumstance, the soil conditions of the borehole (i.e. soil texture, moisture, PID readings, evidence of contamination, etc.) will be documented and the sample interval recorded.

### **2.2.2 Soil Sampling Frequency**

Matrix evaluated 13 disposal facilities that SKK provided that may potentially be utilized for the disposal of soils associated with this project. The sampling frequency varies between the facilities, but if the following parameters are analyzed at the prescribed frequencies, soils from the Bayonne Bridge Project would meet the sampling and analysis requirements for any of the disposal facilities listed on Tables 1 and 2.

- One grab for the first and second 60 cubic yards (CY) and then 120 CY thereafter for extractable petroleum

hydrocarbons, Category 2 (EPH Cat 2), and Total Organic Halides (TOX)

- One composite sample per every 100 CY analyzed for EPH Cat 2
- One grab sample per every 500 CY analyzed for target compound list (TCL) VOCs plus a forward library search (+10), and
- One five-point composite sample per every 500 CY analyzed for each of the following:
  - Target analyte list (TAL) metals,
  - Polychlorinated Byphenols (PCBs)
  - TCL semi-volatile organic compounds (SVOCs+20) plus a forward library search
  - Resource Conservation Recovery Act (RCRA) metals including beryllium, copper, nickel, zinc and vanadium
  - Hexavalent chromium
  - Cyanide
  - RCRA characteristics, including ignitability, corrosivity (pH), and reactivity (sulfide and cyanide).
  - Toxic Characteristic Leachate Procedure (TCLP) VOCs, SVOCs, metals, herbicides, and pesticides
- One five-point composite sample per every 800 CY analyzed for each of the following:
  - Polynuclear Aromatic Hydrocarbons (PAHs)
- One five-point composite sample per every 1,000 CY analyzed for each of the following:
  - TCL Pesticides & Herbicides
  - Paint Filter
  - TCLP metals,

Combined sample requirements for all disposal facilities are summarized on Table 3. Specific sampling and analysis requirements for each disposal facility are summarized on Tables 1 and 2.

### 2.2.2 Groundwater Sampling Procedure

Following the recovery of groundwater from the deeper excavations, the recovered groundwater will be containerized in temporary portable storage tanks until it can be analyzed and transported or discharged. Once a sufficient amount of water has been containerized SKK will notify HC-V to collect a sample from the portable tank to characterize the water that has been recovered from that excavation area. The sample can either be collected directly into the sample jars from a sample port on the tank or via a disposable sample bailer that can be placed into the tank to collect a representative sample of the recovered groundwater. Since a sampling protocol will be pH, HC-V will need to immediately field analyze for this parameter. The names of potential disposal facilities for groundwater were not provided, so based on our experience Matrix evaluated the requirements of Passaic Valley Sewage Commission (PVSC), a facility in New

Jersey that would accept recovered groundwater. Matrix also evaluated the analytical requirements of a NJDEP discharge to surface water (DSW) permit for a similar type of project. A discharge to surface water permit must be obtained from the NJDEP prior to discharging to the Kill Van Kull. All testing would need to be conducted by a laboratory certified by the NJDEP.

### 2.2.2 Groundwater Sampling Frequency

Matrix evaluated the requirements of the PVSC and the surface water discharge permit to determine the required parameters and frequency for the disposal/discharge of recovered groundwater. If SKK elects to utilize the PVSC facility, a groundwater sample would need to be collected from each groundwater recovery area. Since the excavation areas are not continuous, if SKK were to apply and receive a DSW permit from the NJDEP then a sample would be collected on monthly basis from the discharge point. In addition, if a DSW permit is acquired pretreatment of the groundwater prior to discharge would be needed to most likely meet the conditions of the DSW permit. The following is a list parameter that would be required based on the type of disposal that was selected:

- Immediately field analyzed pH
- Total Suspended Solids
- Oil and Grease
- Total Organic Carbon
- Cyanide
- Copper
- Cadmium
- Chromium
- Iron
- Lead
- Nickel
- Silver
- Mercury
- Zinc
- Chemical Oxygen Demand
- Polychlorinated Byphenols (PCBs)
- TCL volatile organic compounds (SVOCs+20) plus a forward library search
- Silica Gel Treated –Hexane Extractable Materials (SGT-HEM)

### **2.3 Reporting**

Upon the completion of all sampling activities and receipt of all analytical data, the laboratory analytical data package, field notes, chain-of-custody documentation, and sample location plans will be provided to SKK.

### **3.0 QUALITY ASSURANCE PLAN**

Sampling and analysis activities conducted by others as part of investigation activities associated with this project should follow these requirements, at a minimum.

#### **3.1 Sampling Guidelines**

The purpose of sampling is to obtain environmental data that is representative of the materials to be disposed of. Specific sampling procedures are described in the following sections. These procedures describe the recommended methods of acquiring samples that best represent the environmental matrix. The trace level of contamination of samples from external sources will be minimized and controlled through proper selection of sampling equipment as well as proper sampling techniques.

The following section provides a description of sampling procedures.

##### **3.1.1 Sampling Procedures**

Collection, preservation, and handling of these samples will be in accordance with the procedures outlined in this SAP.

##### **3.1.2 QA/QC Samples**

The collection and analysis of QA/QC samples is not proposed as part of this SAP.

##### **3.1.3 Sample Identification and Shipment**

All sample containers shall be marked and identified with legible sample labels and sample possession will be recorded in a field log. The method of identifying a sample depends on the type of measurement or analysis performed. Field measurements are recorded directly into field log book and should include identifying information such as site code, locations, date, time and sampling or measuring device with identification number.

#### **3.2 Sample and Document Custody Procedures**

##### **3.2.1 Sample Tracking**

Possession of samples collected in the field will be traceable from the time of collection until they are analyzed by an analytical laboratory or disposed.

To maintain and document sample possession, chain-of-custody procedures will be followed. A chain-of-custody record will be utilized by field personnel and completed at the time of sample collection. This record will include, but is no limited to, the following information:

- Project name and number;
- Names (s) of sampler (not initials);
- Sample identification number of location;
- Date and time of collection;
- Number and type of containers;
- Required analyses;
- Preservatives;
- Courier;
- Signatures (not initials) documenting change-of-sample custody; and,
- Preservatives.

Chain-of-custody forms will accompany samples at all times. Chain-of-custody will be initiated when the laboratory releases the sample containers to the sampling personnel. When transferring possession of the samples, the individuals relinquishing and receiving the samples will sign, date and record the time of transfer on the form. Additionally, the samples will remain in the physical possession of the person assigned to the samples until they are shipped to the laboratory or will be placed in a locked storage facility prior to shipping. The original chain-of-custody record will accompany the sample to the analytical laboratory. A copy of each record will be placed in the project file and the original will be kept with the sample.

The laboratory is responsible for the storage and internal distribution of the samples. The samples will be tracked in the analytical laboratory.

Samples will be collected in clean glass containers supplied by the analytical laboratory. A sample numbering system will provide a tracking mechanism to allow retrieval of a sample and identification of the sampling locations. The unique sample number will be noted in the field logbook and on the chain-of-custody forms, cross-referencing the sample number of the associated sample.

It is imperative that each sample collected be clearly identified. This will typically be accomplished by labeling each sample container with a pre-prepared blank label with the following information:

- Project name and number
- Sample number

- Date and time of collection
- Analyses required

Sample identification numbers will be issued prior to field collection by the Quality Control Officer.

### **3.2.2 Packing and Shipping Procedures**

This section describes packing and shipping procedures used for environmental samples collected from the in-situ soil sample locations.

- All samples will be classified as environmental and must be packaged using the following procedures to minimize breakage or leakage of sample container contents.
- Check all labels for legibility and accuracy -- replace labels if necessary.
- Ensure that all labels are covered with wide, clear cellophane or similar tape to protect information on the labels from becoming illegible during shipping.
- Visually check the outside surface of the containers for proper decontamination. If any containers appear to be soiled, decontaminate again.
- Check all container lids and tighten if necessary.
- Wrap sample containers with appropriate packaging material to prevent breakage during shipping.
- Place sufficient packaging material in bottom and around the sides of the shipping cooler.
- Place wrapped samples in the cooler. Complete and check chain-of-custody forms during packaging.
- Add ice to the cooler. Ice should be placed in Ziploc type plastic bags.
- Fill excess space in cooler with packaging material as appropriate to prevent movement of the sample containers.

- Contact the field team leader or his designee to review the chain-of-custody paperwork and the sample packaging before proceeding. Check to determine that information on field sheets and documents for laboratory are identical.
- The paperwork which accompanies the samples to the laboratory is placed inside a plastic bag, sealed and taped to the inside of the cooler lid, when appropriate.
- The following markings are placed on the top of the cooler when it is to be shipped to the laboratory:
  - “This End Up” labels or arrows
  - “Environmental Samples” label
  - Total quantity of coolers in shipment (i.e., 2 of 4)
  - Shippers name and address
- The cooler is closed and sealed with filament tape in a manner to prevent inadvertent opening during shipping.
- A custody seal will be placed on the cooler in an area that would indicate if tampering had occurred.
- A completed label for shipping by express carrier is attached to the top of the cooler.
- Arrange cooler pick up with laboratory.

### 3.2.3 Chain-Of-Custody Protocol

This section describes procedures for sample documentation including chain-of-custody. The purpose of these procedures is to document the authorized and interrupted possession of samples during collection, transportation and storage of analysis. The Engineer/Geologist is responsible for monitoring compliance with these procedures. The following records are to be kept for the permanent project file:

- Chain-of-custody forms
- Sample collection field sheets
- Field notebooks
- Airbills, and
- Photographs

The chain-of-custody form provides a written record which can be used to trace possession and holding of samples from the time of collection through data analysis and reporting.

The Engineer/Geologist is responsible for the care and custody of the samples collected by them until the samples are transferred to another party, dispatched to the laboratory, or disposed. The Engineer/Geologist is also responsible for enforcing chain-of-custody procedures during field work.

The chain-of-custody procedures are summarized below:

1. At the time of sample collection, the chain-of-custody form is completed for the particular sample. The sample identification number, sampling location, sample date, sample time, and analysis requested are recorded on the form in ink.
2. When all samples have been collected that will fit in a cooler, the Engineer/Geologist checks the form for possible errors and signs the chain-of-custody form. If necessary, corrections are made to the form with a single strike mark and initialed and dated. Each cooler will have a separate chain-of-custody form.

When transferring custody of the samples, the individuals relinquishing and receiving them should sign, date and note the time on the form. This process documents sample custody transfer from the sampler to the sample custodian in the laboratory. Samples are packaged for shipment and dispatched to the analytical laboratory with a separate chain-of-custody form accompanying each shipment. A copy of each chain-of-custody form is retained by the sampling team for the project file and the original is kept with samples.

**FIGURES**



1  
SCALE: 1"=50'

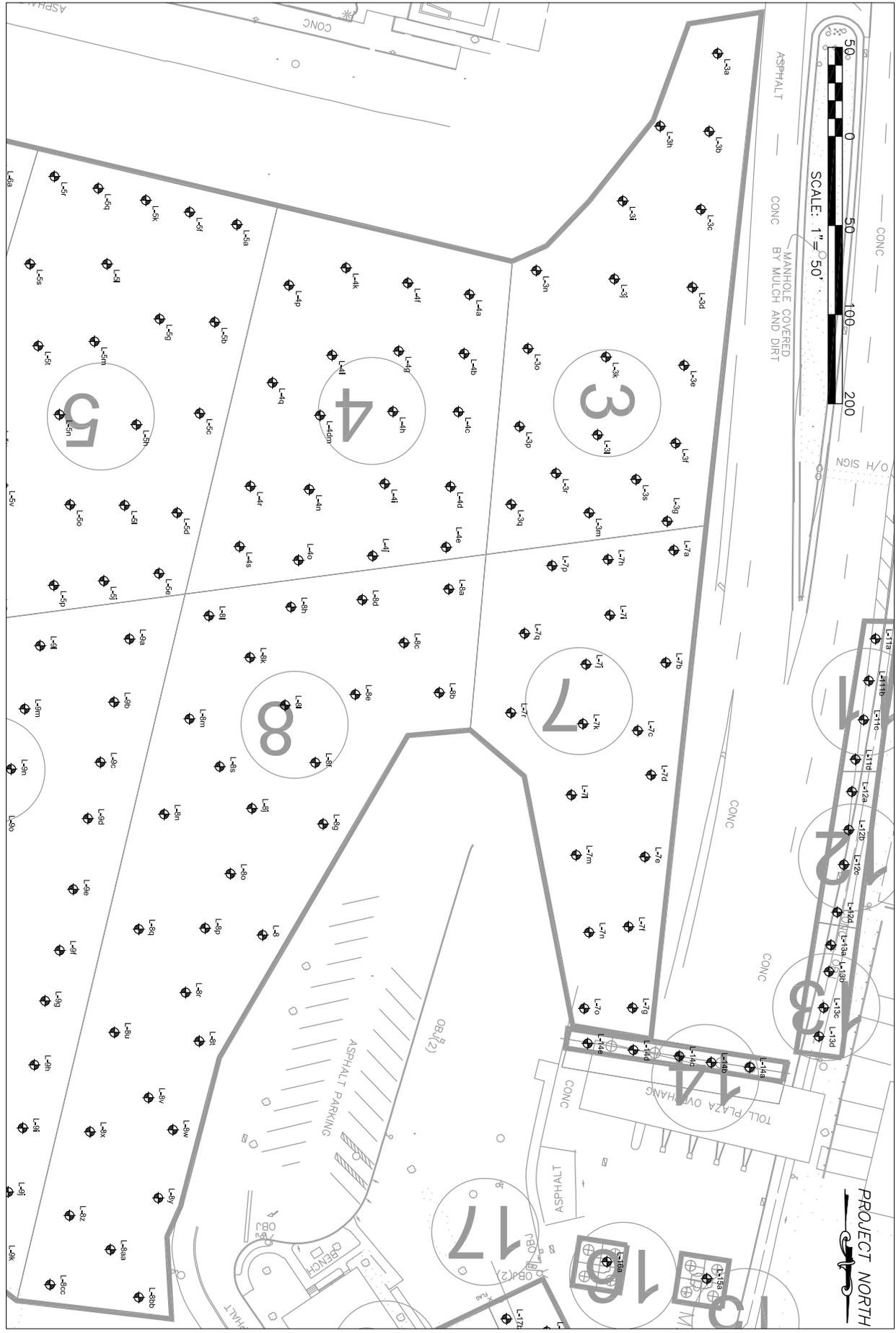
PROJECT NUMBER: 13428E  
**IN-SITU SOIL SAMPLING PLAN**  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039  
**REPLACEMENT OF MAIN SPAN ROADWAY AND**  
**APPROACH STRUCTURES**

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DRAWN BY:	JY
DATE:	5-23-2013
DESIGNED BY:	JY
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APPROVED BY:	JY
DATE:	3-06-2012

NO.	DESCRIPTION	DATE	BY	APPR.



IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

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DATE:	8-23-2013						
DESIGNED BY:	JK						
DATE:	8-30-2012						
APPROVED BY:	JK						
DATE:	8-30-2012						

PROJECT NUMBER:  
 13-428E

SCALE: 1"=50'



3

PROJECT NUMBER: 13-428E  
SCALE: 1"=50'

**IN-SITU SOIL SAMPLING PLAN**  
BAYONNE BRIDGE  
CONTRACT AKB-264.039

**REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES**

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DRAWN BY:	JV
DATE:	8-23-2013
DESIGNED BY:	SK
DATE:	3-30-2012
APPROVED BY:	XX
DATE:	3-30-2012

NO.	DESCRIPTION	DATE:	BY:	APR:
REVISIONS				



PROJECT NORTH

IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

PROJECT NUMBER:  
 SCALE: 1"=50'

4

**MATRIXNEWORLD**  
 Enabling Progress

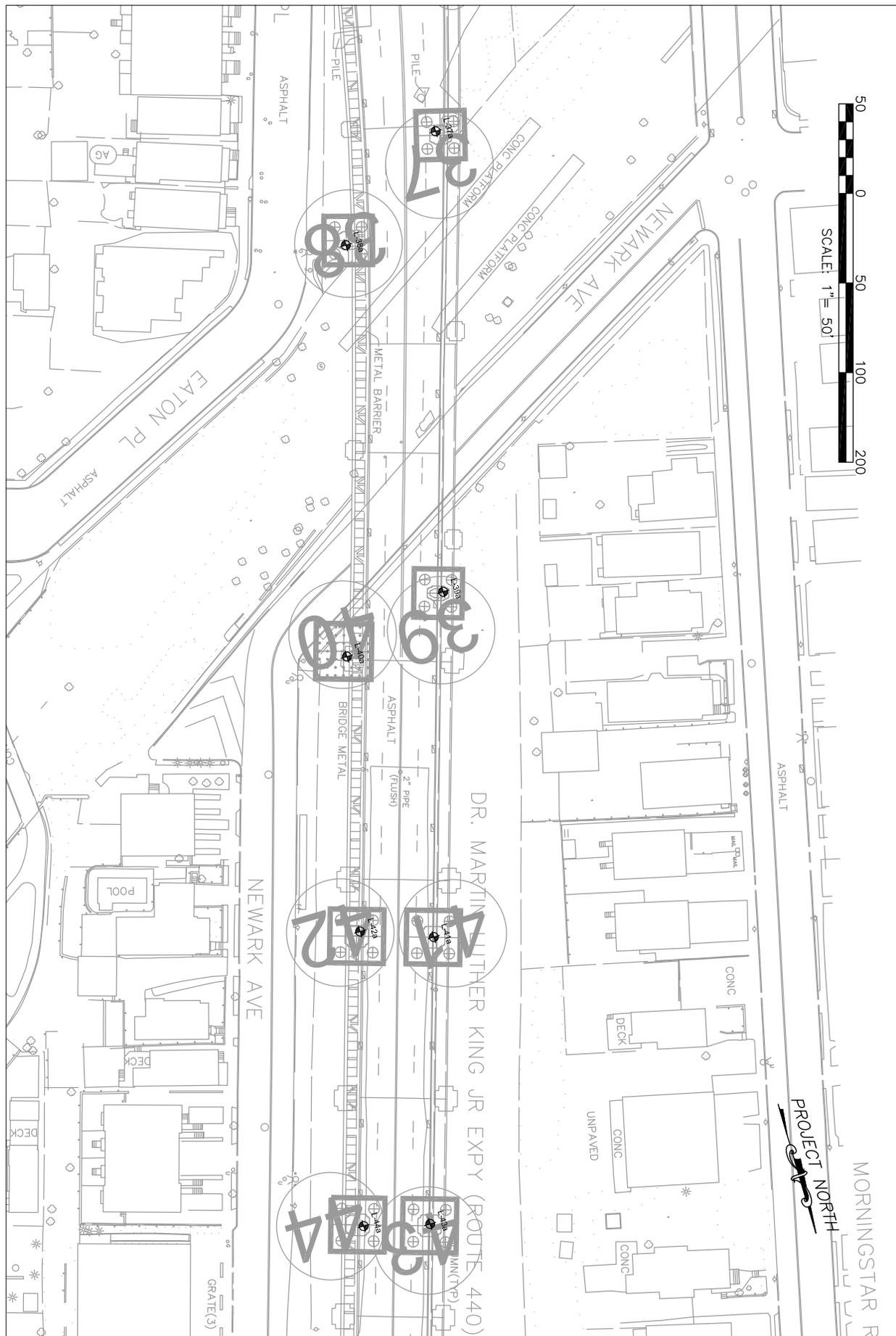
Matrix New World Engineering, Inc.  
 26 Columbia Turnpike  
 Florham Park, New Jersey 07932  
 VBE / DBE / SBE  
 www.matrixnewworld.com

Tel: 973-240-1800  
 Fax: 973-240-1818  
 www.matrixnewworld.com

NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

DATE

DRAWN BY:	JV				
DATE:	8-25-2013				
DESIGNED BY:	SK				
DATE:	3-30-2013				
APPROVED BY:	XX				
DATE:	3-30-2012				
NO.		DESCRIPTION	DATE:	BY:	APR:
REVISIONS					



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PROJECT NORTH

**IN-SITU SOIL SAMPLING PLAN**  
**BAYONNE BRIDGE**  
**CONTRACT AKB-264.039**

PROJECT NUMBER:  
 SCALE: 1"=50'

**5**

**REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES**

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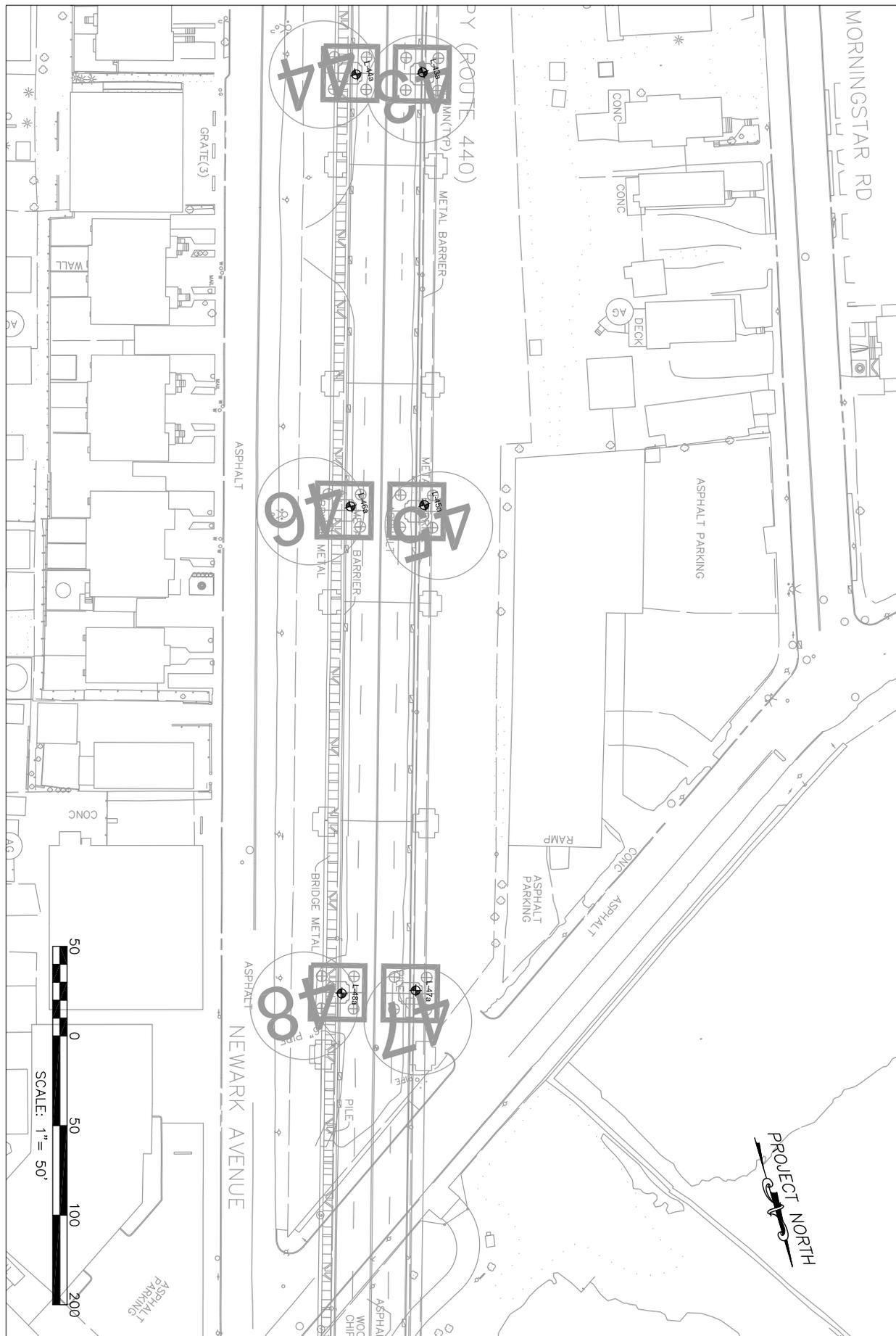
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DATE

DRAWN BY:	JV	NO.	DESCRIPTION	DATE:	BY:	APR:
DATE:	8-23-2013					
DESIGNED BY:	JK					
DATE:	3-30-2012					
APPROVED BY:	JK					
DATE:	3-30-2012					
REVISIONS						



IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

PROJECT NUMBER:  
 SCALE: 1"=50'

**6**

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

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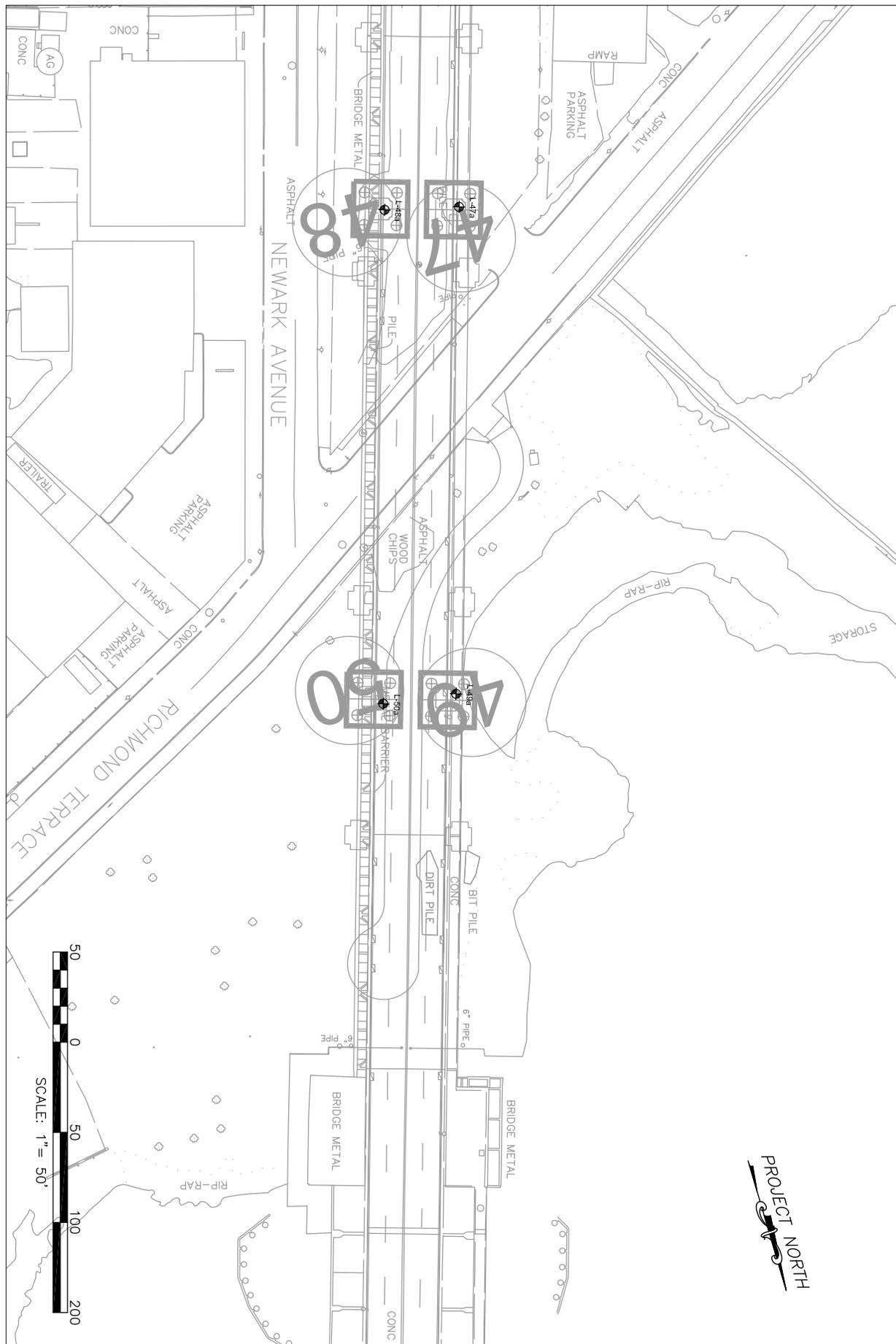
Tel: 973-240-1800  
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NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

DATE

NO.	DESCRIPTION	DATE	BY	APP.

DRAWN BY:	JV
DATE:	8-25-2013
DESIGNED BY:	JK
DATE:	3-20-2012
APPROVED BY:	XX
DATE:	3-30-2012



IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

PROJECT NUMBER:  
 SCALE: 1"=50'

**7**

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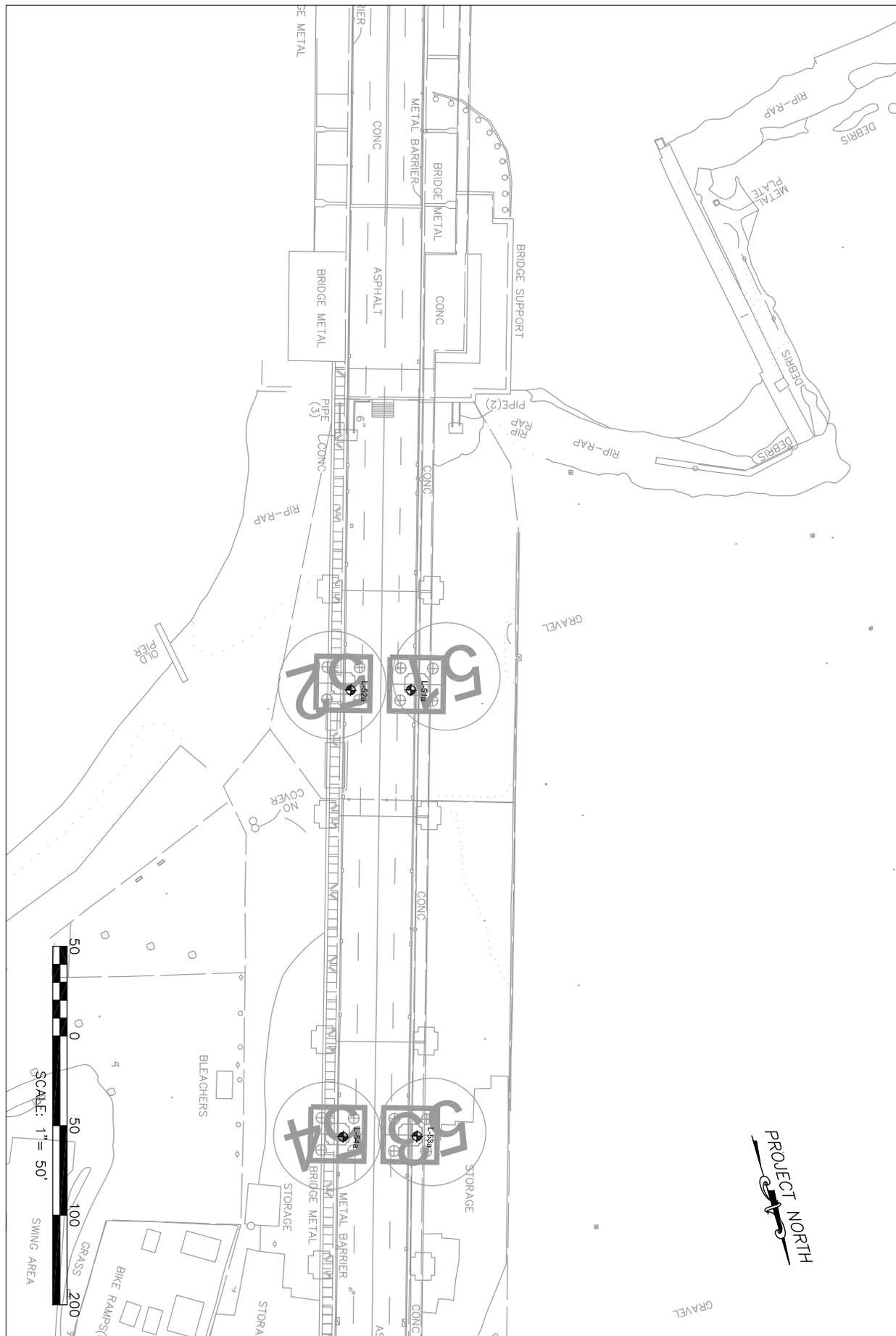
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DATE \_\_\_\_\_

DRAWN BY:	JV				
DATE:	8-23-2013				
DESIGNED BY:	JK				
DATE:	3-20-2012				
APPROVED BY:	JK				
DATE:	3-20-2012				
NO.		DESCRIPTION	DATE:	BY:	APR:
REVISIONS					



**8**

PROJECT NUMBER: 13-428E

SCALE: 1"=50'

**IN-SITU SOIL SAMPLING PLAN**  
**BAYONNE BRIDGE**  
**CONTRACT AKB-264.039**

**REPLACEMENT OF MAIN SPAN ROADWAY AND**  
**APPROACH STRUCTURES**

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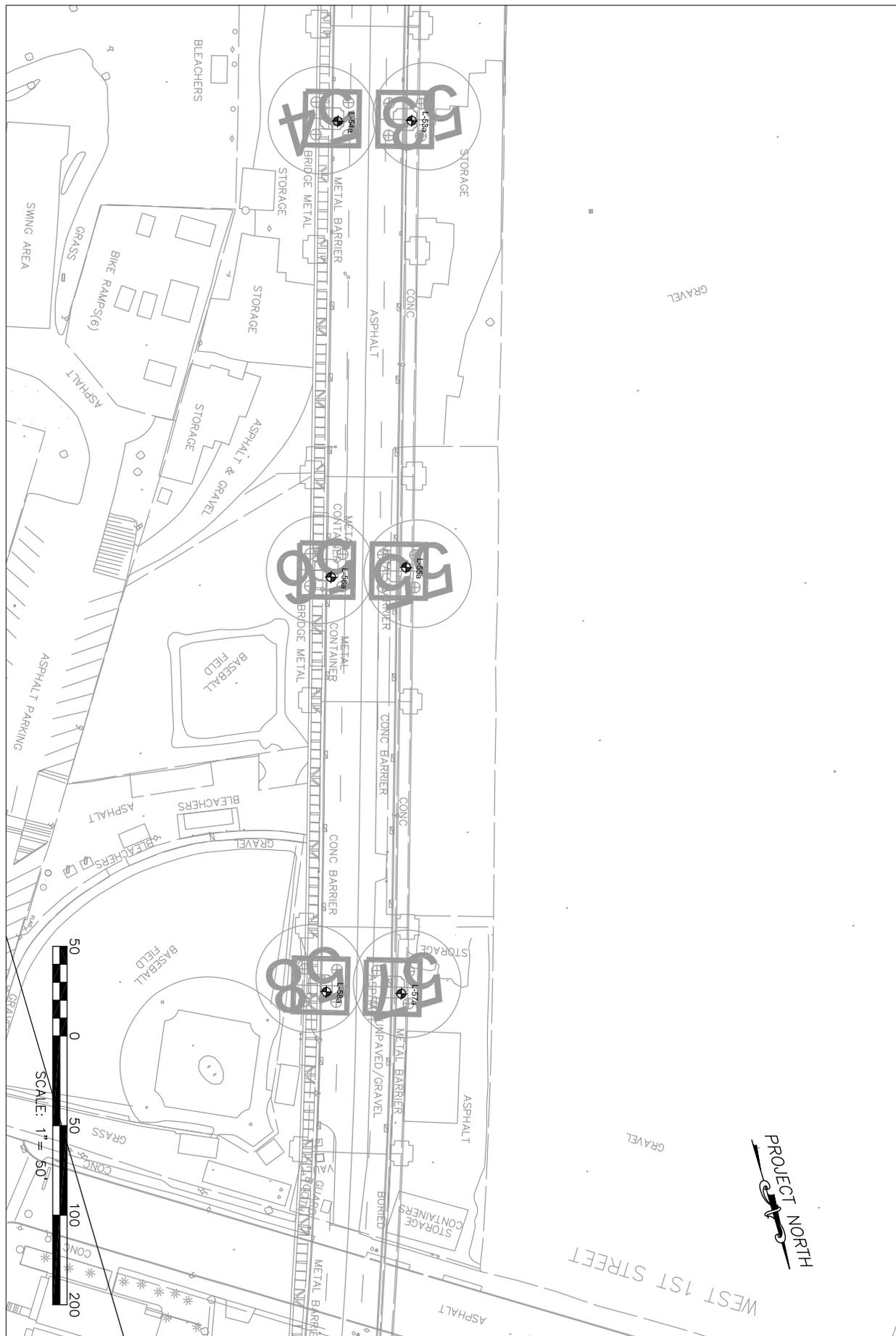
Tel: 973-240-1800  
 Fax: 973-240-1818

NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

DATE \_\_\_\_\_

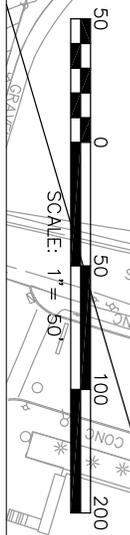
NO.	DESCRIPTION	DATE	BY	APP

DRAWN BY: JV	
DATE: 8-25-2013	
DESIGNED BY: SK	
DATE: 3-02-2012	
APPROVED BY: XX	
DATE: 3-02-2012	



**PROJECT NORTH**

WEST 1ST STREET



**9**

PROJECT NUMBER: 1309

SCALE: 1"=50'

**IN-SITU SOIL SAMPLING PLAN**  
**BAYONNE BRIDGE**  
**CONTRACT AKB-264.039**

**REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES**

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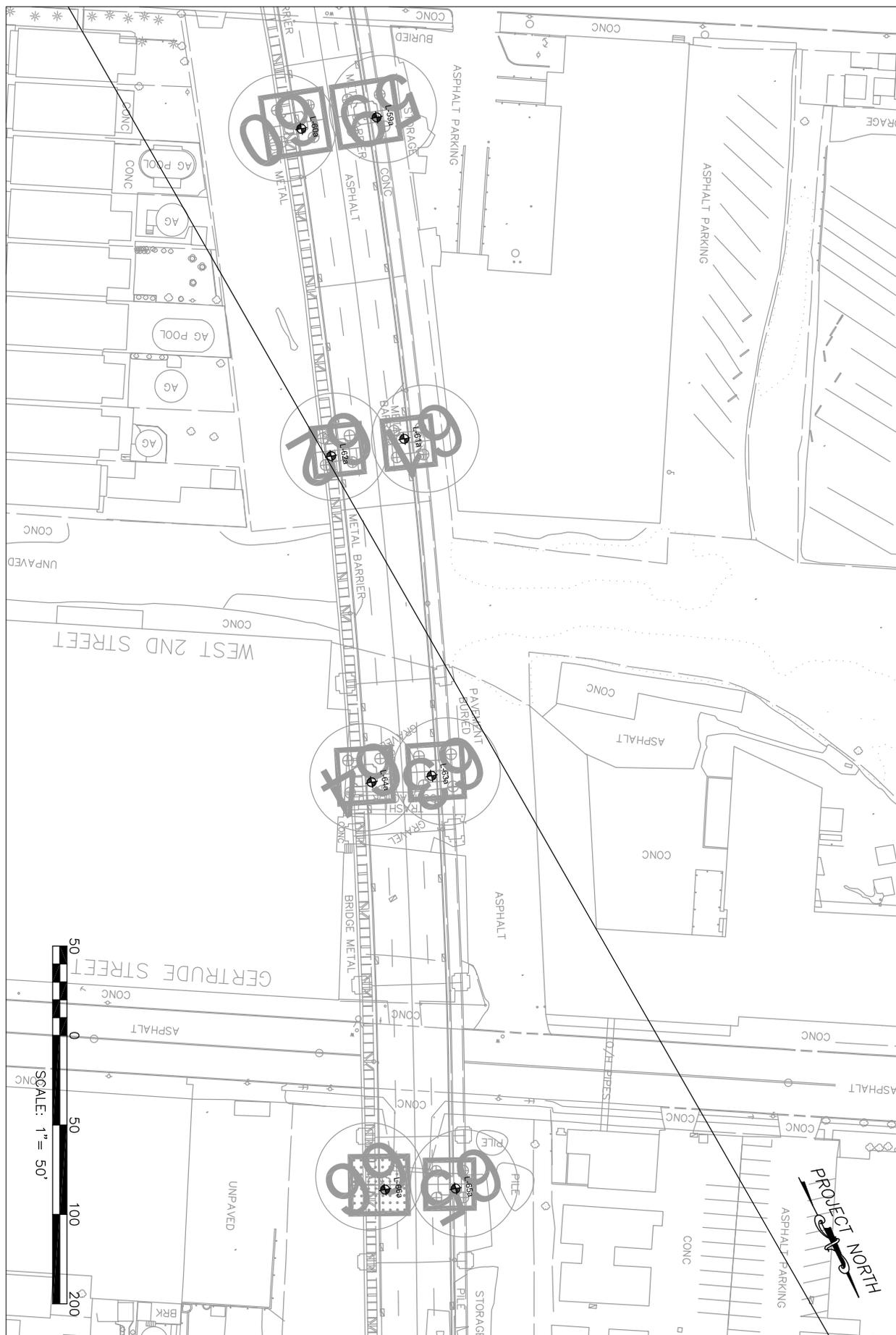
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 VBE / DBE / SBE  
 www.matrixnewworld.com

Tel: 973-240-1800  
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NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

DATE

DRAWN BY:	JV				
DATE:	8-25-2013				
DESIGNED BY:	JK				
DATE:	3-20-2013				
APPROVED BY:	JK				
DATE:	3-20-2013				
NO.		DESCRIPTION	DATE:	BY:	APR:
REVISIONS					



IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

PROJECT NUMBER:  
 SCALE: 1"=50'

**10**

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DATE

NO.	DESCRIPTION	DATE	BY	APP.
REVISIONS				

DRAWN BY:	JY
DATE:	8-25-2013
DESIGNED BY:	JK
DATE:	3-30-2010
APPROVED BY:	JK
DATE:	3-30-2012





Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, SVOCs, PCBs, PAHs, and RCRA 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
3	Grading	712	1	20	40	8	2	8	1	2	L-3a	0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.0-0.5	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)
												0.5-1.0	EPI(g) TCL PCBs(g) TCL SVOCs(g) TAL-Metals - Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCBs(g) RCRA Char(g)









Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOC 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, SVOC, PCB, PAH, TCE, PCE, DCE, and VCBA Characteristic 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters											
5	Grading	917	1	25	50	10	2	10	1	2	L-5m	0.0-0.5	EPI[6] EPI[6] TCL PCB[6] PF[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6] EPI[6]											
											L-5n	0.0-0.5	TON[6] EPI[6] EPI[6]											
											L-5o	0.5-1.0	EPI[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]											
											L-5p	0.0-0.5	EPI[6] TON[6] EPI[6]											
											L-5q	0.0-0.5	EPI[6] EPI[6] EPI[6]											
											L-5r	0.5-1.0	EPI[6] TCL Pest/Herb[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]											
											L-5s	0.0-0.5	EPI[6] TON[6] EPI[6]											
											L-5t	0.5-1.0	EPI[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]											
											L-5u	0.0-0.5	EPI[6] TON[6] EPI[6]											
											L-5v	0.5-1.0	EPI[6] TCL Pest/Herb[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]											
											L-5w	0.5-1.0	EPI[6] TCL Pest/Herb[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]											
											L-5x	0.0-0.5	EPI[6] TON[6] EPI[6]											
											L-5x	0.5-1.0	EPI[6] TCL Pest/Herb[6] TAL-Metals + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]											
											Collectors of TCL, VOC, PAH, and SVOCs are likely to be present if contamination exists													





Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs IO Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, SVOCs, PCBs, PAHs, HCB, and RCRA TCL, P, & C 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
7	Grading	623	1	18	35	7	2	7	1	2	L-7a	0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.0-0.5	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) EPI(h) TCL PCB(g) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)

Collective (2) borings are expected to have elevated likelihood of contamination exists



Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOC-20, TCL VOC-20, Full TCL, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
8	Grading	1178	1	30	60	11	3	12	2	3		L-8a	0.0-0.5	EPI(g) TCL Post-/Hex(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8b	0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) EPI(g)
												L-8c	0.0-0.5	TCL Post-/Hex(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8d	0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g)
												L-8e	0.0-0.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8f	0.0-0.5	EPI(g) TON(g) EPI(g) EPI(g)
												L-8g	0.5-1.0	TCL Post-/Hex(g) TCL PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8h	0.0-0.5	EPI(g) TON(g) EPI(g) EPI(g)
												L-8i	0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g)
												L-8j	0.0-0.5	TCL Post-/Hex(g) TCL PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8k	0.0-0.5	EPI(g) TON(g) EPI(g) EPI(g)
												L-8l	0.5-1.0	TCL Post-/Hex(g) TCL PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8m	0.0-0.5	EPI(g) TON(g) EPI(g) EPI(g)
												L-8n	0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g)
												L-8o	0.0-0.5	TCL Post-/Hex(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												L-8p	0.5-1.0	EPI(g)

11/2015 11:48 AM Database Updated: Review All Data for Accuracy of Input Data, 11/20/15, 20



Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC/10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, PCB, & RCRA Characteristic 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
9	Grading	1364	1	35	70	13	3	14	2	3	L-9a	0.0-0.5	EPI(g) TCL PCB(g) TCL Post/Heb(g) PF(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)
												0.0-0.5	EPI(g) TON(g) EPI(g)
												0.5-1.0	EPI(g) TON(g) EPI(g) EPI(g) TAL-Metals + Cu, TCL SVOC/20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF(g) RCRA Char(g)





Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs IO Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, SVOC, PCB, PAH, TCLP, & RCRA Characteristic 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters		
10	Grading	685	1	18	35	7	2	7	1	2	L-10a	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)		
													L-10b	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10c	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10d	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10e	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10f	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10g	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10h	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10i	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10j	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10k	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10l	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10m	0.0-0.5	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)
													L-10n	0.5-1.0	EPI(g) EPI(hg) TCL P(hg) PF(f) TAL-Metals + Cu, TCL SVOCs, 20, TCL PCBs(g) Hex Cr and Cyanide(g) RCRA Char(g)

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Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOCs 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs 20, TCL SVOCs 20, TCL PCBs & RCRA TCLs & Characteristic 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
11	Retaining Wall	734	12	4	40	8	2	8	1	2	L-11a	1.0-1.5	EPI(g) TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Full TCLPs(g) Hex Cr and Cyanide(g) RCRA Char(g)
												2.0-2.5	EPI(g) TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Full TCLPs(g) Hex Cr and Cyanide(g) RCRA Char(g)
												3.0-3.5	EPI(g) TON(g) EPI(g)
												4.0-4.5	EPI(g)
												5.0-5.5	EPI(g)
												6.0-6.5	EPI(g)
												7.0-7.5	TCL Pest./Hex(g) TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Full TCLPs(g) Hex Cr and Cyanide(g) RCRA Char(g)
												8.0-8.5	EPI(g) TON(g) EPI(g)
												9.0-9.5	EPI(g)
												10.0-10.5	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Full TCLPs(g) Hex Cr and Cyanide(g) RCRA Char(g)
												1.5-2.0	EPI(g)
												2.5-3.0	EPI(g)
												3.5-4.0	EPI(g) TON(g) EPI(g)
												4.5-5.0	EPI(g)
5.5-6.0	TCL Pest./Hex(g) TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Full TCLPs(g) Hex Cr and Cyanide(g) RCRA Char(g)												
6.5-7.0	EPI(g)												
7.5-8.0	EPI(g)												
8.5-9.0	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Full TCLPs(g) Hex Cr and Cyanide(g) RCRA Char(g)												
9.5-10.0	EPI(g)												
10.5-11.0	EPI(g)												

Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Post-Heb & 5-Point Composite Samples	Number of TAL Metal + Cu, TCL SVOC-20, Hex Cr and Cyanide, Foul TCL, & RCRA Characteristics, 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters	
														Method	Notes
11	Retaining Wall	734	12	4	40	8	2	8	1	2		L-11c	10-1.5	EPI[6]	
													20-2.5	EPI[6]	
													30-3.5	TCL Post-Heb[6] PF[6] TAL-Meab + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] Foul TCL[6] RCRA Char[6]	
													40-4.5	EPI[6] TON[6] EPI[6]	
													50-5.5	EPI[6] TON[6] EPI[6]	
													60-6.5	TAL-Meab + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] Foul TCL[6] RCRA Char[6]	
													70-7.5	EPI[6]	
													80-8.5	EPI[6]	
													90-9.5	EPI[6]	
													100-10.5	EPI[6] TON[6] EPI[6]	
													15-2.0	TCL Post-Heb[6] PF[6] TAL-Meab + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] Foul TCL[6] RCRA Char[6]	Collect two (2) TCL VOC-10 [6] where present (Method of determination only)
													3-3.0	EPI[6]	
													3-4.0	EPI[6]	
													4-5.0	TAL-Meab + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]	
5-6.0	EPI[6] TON[6] EPI[6]														
6-7.0	EPI[6]														
7-8.0	EPI[6]														
8-9.0	EPI[6]														
9-10.0	TCL Post-Heb[6] PF[6] TAL-Meab + Cu, TCL SVOC-20, TCL PCB[6] Hex Cr and Cyanide[6] RCRA Char[6]														
10-11.0	EPI[6] TON[6] EPI[6]														





**Table 4  
Sample Collection Summary  
Station Island Samples**

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC's 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOC's 20, TCL SVOC's 20, TCL PCB's, Hex Cr and Cyanide, Full TCL's & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
13	Retaining Wall	734	12	4	40	8	2	8	1	2	L-13b	1.0-1.5	EPI(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Full TCL's(g) RCRA Char(g)
												2.0-2.5	EPI(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Full TCL's(g) Hex Cr and Cyanide(g) RCRA Char(g)
												3.0-3.5	EPI(g) TON(g) EPI(g)
												4.0-4.5	EPI(g)
												5.0-5.5	EPI(g)
												6.0-6.5	EPI(g)
												7.0-7.5	TCL Pest./Hex(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Full TCL's(g) Hex Cr and Cyanide(g) RCRA Char(g)
												8.0-8.5	EPI(g) TON(g) EPI(g)
												9.0-9.5	EPI(g)
												10.0-10.5	TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Full TCL's(g) Hex Cr and Cyanide(g) RCRA Char(g)
												1.5-2.0	EPI(g)
												2.5-3.0	EPI(g)
												3.5-4.0	EPI(g) TON(g) EPI(g)
												4.5-5.0	EPI(g)
												5.5-6.0	TCL Pest./Hex(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Full TCL's(g) Hex Cr and Cyanide(g) RCRA Char(g)
6.5-7.0	EPI(g)												
7.5-8.0	EPI(g)												
8.5-9.0	TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Full TCL's(g) Hex Cr and Cyanide(g) RCRA Char(g)												
9.5-10.0	EPI(g)												
10.5-11.0	EPI(g)												





Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs, TCL PCBs, TCL PAHs, TCL TCLP, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
14	Drilled Shaft / Piling	700	15	5	35	7	2	7	1	2	L-14d	2.0-2.5	EPI(g) TON(g) EPI(g)
												4.0-4.5	EPI(g) TON(g) EPI(g)
												6.0-6.5	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOCs*20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												8.0-8.5	RCRA Char(g)
												10.0-10.5	EPI(g) TON(g) EPI(g)
												12.0-12.5	TAL Metals + Cu, TCL SVOCs*20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												14.0-14.5	RCRA Char(g)
												1.0-1.5	EPI(g)
												3.0-3.5	EPI(g)
												5.0-5.5	TAL Metals + Cu, TCL SVOCs*20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												7.0-7.5	RCRA Char(g)
												9.0-9.5	EPI(g) TON(g) EPI(g)
												11.0-11.5	TCL Pest/Herb(g) PF(g) TAL Metals + Cu, TCL SVOCs*20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												13.0-13.5	RCRA Char(g) EPI(g)

Collect two (2)  
TCL VOCs 10 (g) where greatest  
likelihood of contamination exists











Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOCs 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL VOCs 10 Point Filter 5-Point Composite Samples	Number of TAL Metal + Cu, TCL SVOCs 20, Full TCL, & RCRA Characteristics, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
20	Mass Excavation	436	10	2	25	6	1	5	1	1	L-20a	0.0-0.5	EPI[6] TAL Metals + Cu, TCL SVOCs 20, TCL PCBs [6] Hex, Cr and Cyanide [6] RCRA Char[6]
												0.5-1.0	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs [6] Hex, Cr and Cyanide [6] RCRA Char[6]
												1.0-1.5	EPI[6]
												2.0-2.5	TON[6]
												3.0-3.5	EPI[6]
												4.0-4.5	EPI[6]
												5.0-5.5	EPI[6]
												5.5-6.0	EPI[6] TON[6] EPI[6]
												6.0-6.5	TCL Pest./Herb[6] TAL Metals + Cu, TCL SVOCs 20, TCL PCBs [6] Hex, Cr and Cyanide [6] Full TCL, PCP [6] RCRA Char[6]
												7.0-7.5	EPI[6]
												8.0-8.5	EPI[6]
												9.0-9.5	EPI[6] TON[6] EPI[6]
												9.5-10.0	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs [6] Hex, Cr and Cyanide [6] Full TCL, PCP [6] RCRA Char[6]
												0.0-0.5	EPI[6] TCL Pest./Herb[6]
												0.5-1.0	TON[6] EPI[6]
												1.0-1.5	EPI[6]
												2.0-2.5	TCL Pest./Herb[6] TAL Metals + Cu, TCL SVOCs 20, TCL PCBs [6] Hex, Cr and Cyanide [6] Full TCL, PCP [6] RCRA Char[6]
												3.0-3.5	EPI[6]
												4.0-4.5	TON[6]
												5.0-5.5	EPI[6]
6.0-6.5	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs [6] Hex, Cr and Cyanide [6] Full TCL, PCP [6] RCRA Char[6]												
7.0-7.5	EPI[6]												
8.0-8.5	EPI[6]												
9.0-9.5	EPI[6]												
9.5-10.0	EPI[6]												

Collect one (1)  
TCL VOCs 10 [6] where greatest likelihood of contamination exists









Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs, TCL PCBs, and Full TCL, A & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
													Collect five (5) TCL VOCs (g) where greatest likelihood of contamination exists
22	Mass Excavation	2125	10	11	110	20	5	22	3	5	L-22a	0.0-0.5	EPI(g) TON(g) EPI(g)
												1.0-1.5	EPI(g) TON(g) EPI(g)
												2.0-2.5	EPI(g) TON(g) EPI(g)
												3.0-3.5	EPI(g) TON(g) EPI(g)
												4.0-4.5	EPI(g) TON(g) EPI(g)
												5.0-5.5	EPI(g) TON(g) EPI(g)
												6.0-6.5	EPI(g) TON(g) EPI(g)
												7.0-7.5	EPI(g) TON(g) EPI(g)
												8.0-8.5	TCL Post-Heep(g) TCL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												9.0-9.5	EPI(g) TON(g) EPI(g)
												10.0-10.5	EPI(g) TON(g) EPI(g)
												11.0-11.5	EPI(g) TON(g) EPI(g)
												12.0-12.5	EPI(g) TON(g) EPI(g)
												13.0-13.5	EPI(g) TON(g) EPI(g)
												14.0-14.5	EPI(g) TON(g) EPI(g)
22	Mass Excavation	2125	10	11	110	20	5	22	3	5	L-22b	0.0-0.5	EPI(g) TON(g) EPI(g)
												1.0-1.5	EPI(g) TON(g) EPI(g)
												2.0-2.5	EPI(g) TON(g) EPI(g)
												3.0-3.5	EPI(g) TON(g) EPI(g)
												4.0-4.5	EPI(g) TON(g) EPI(g)
												5.0-5.5	EPI(g) TON(g) EPI(g)
												6.0-6.5	EPI(g) TON(g) EPI(g)
												7.0-7.5	EPI(g) TON(g) EPI(g)
												8.0-8.5	TCL Post-Heep(g) TCL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PC(g) RCRA Char(g)
												9.0-9.5	EPI(g) TON(g) EPI(g)
												10.0-10.5	EPI(g) TON(g) EPI(g)
												11.0-11.5	EPI(g) TON(g) EPI(g)
												12.0-12.5	EPI(g) TON(g) EPI(g)
												13.0-13.5	EPI(g) TON(g) EPI(g)
												14.0-14.5	EPI(g) TON(g) EPI(g)





Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC's 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL VOC's 5-Point Composite Samples	Number of TCL VOC's & PCB's 5-Point Composite Samples	Number of TAL Metal + Cu, TCL SVOC's 20, TCL PCB's, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
22	Mass Excavation	2125	10	11	110	20	5	22	3	5		L-22J	0.0-0.5	EPI(g) TCL Pb, Hept(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Hex, Cr and Cyanide(g) Full TCL PCP(g) RCRA Char(g)
													1.0-1.5	EPI(g)
													2.0-2.5	EPI(g)
													3.0-3.5	EPI(g)
													4.0-4.5	EPI(g)
													5.0-5.5	TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Hex, Cr and Cyanide(g) Full TCL PCP(g) RCRA Char(g)
													6.0-6.5	EPI(g)
													7.0-7.5	TCL Pest/Hept(g) PF5(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Hex, Cr and Cyanide(g) Full TCL PCP(g) RCRA Char(g)
													8.0-8.5	EPI(g)
													9.0-9.5	EPI(g)
													1.5-2.0	EPI(g)
													2.5-3.0	EPI(g)
													3.5-4.0	EPI(g)
													4.5-5.0	TCL Pest/Hept(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Hex, Cr and Cyanide(g) Full TCL PCP(g) RCRA Char(g)
													5.5-6.0	TON(g) EPI(g)
6.5-7.0	TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) Hex, Cr and Cyanide(g) Full TCL PCP(g) RCRA Char(g)													
7.5-8.0	EPI(g)													
8.5-9.0	EPI(g)													
9.5-10.0	EPI(g)													

Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC/10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, SVOC, PCB, PAH, TCL, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters	
23	Mass Excavation	1440	10	5	75	3	15	2	3		L-23a	0.0-0.5	EPI(g) TOX(g) EPI(g)	
												1.0-1.5	EPI(g) TOX(g) EPI(g)	
												1.5-2.0	EPI(g)	
												2.5-3.0	TCL PCB(a)(g) PF(g) TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)	
												3.5-4.0	EPI(g) TOX(g) EPI(g)	
												4.0-4.5	EPI(g) TOX(g) EPI(g)	
												4.5-5.0	TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)	
												5.0-5.5	EPI(g) TOX(g) EPI(g)	
												6.0-6.5	EPI(g) TOX(g) EPI(g)	
												6.5-7.0	EPI(g) TOX(g) EPI(g)	
												7.0-7.5	TCL PCB(a)(g) PF(g) TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)	
												7.5-8.0	EPI(g) TOX(g) EPI(g)	
												8.0-8.5	EPI(g) TOX(g) EPI(g)	
												8.5-9.0	EPI(g) TOX(g) EPI(g)	
												9.0-9.5	EPI(g) TOX(g) EPI(g)	
												9.5-10.0	EPI(g) TOX(g) EPI(g)	
												0.0-0.5	EPI(g) TOX(g) EPI(g)	Cyanide (b)(6) (g) TCL SVOC-20 (g) (where greater likelihood of contamination exists)
												1.0-1.5	EPI(g) TOX(g) EPI(g)	
												1.5-2.0	EPI(g)	
												2.5-3.0	TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)	
												3.5-4.0	EPI(g) TOX(g) EPI(g)	
												4.0-4.5	EPI(g) TOX(g) EPI(g)	
												4.5-5.0	TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)	
5.0-5.5	EPI(g) TOX(g) EPI(g)													
6.0-6.5	EPI(g) TOX(g) EPI(g)													
6.5-7.0	EPI(g) TOX(g) EPI(g)													
7.0-7.5	TCL PCB(a)(g) PF(g) TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g)													
7.5-8.0	EPI(g) TOX(g) EPI(g)													
8.0-8.5	EPI(g) TOX(g) EPI(g)													
8.5-9.0	EPI(g) TOX(g) EPI(g)													
9.0-9.5	EPI(g) TOX(g) EPI(g)													
9.5-10.0	EPI(g) TOX(g) EPI(g)													











Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOC 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL, SVOC, PCB, PAH, TCLP, & RCRA Characteristic 5-Point Composite Samples	Boring Designation	Sample Depth (ft)	Sample Parameters
25	Drilled Shaft / Piling	1766	41	5	90	16	4	18	2	4	L-25a	0-51.0	EPI(g) TCL PCB(g) TCL Post/Hept(g) TCL SVOC-20, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g) EPI(g)
												2.5-3.0	TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) RCRA Char(g) EPI(g)
												4-5.5	TON(g) EPI(g)
												7.0-7.5	EPI(g)
												9.0-9.5	TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Fall(TCLP(g)) RCRA Char(g) EPI(g)
												11.5-12.0	EPI(g)
												14.5-15.0	TON(g)
												16.5-17.0	TON(g)
												19.0-19.5	EPI(g)
												21.0-21.5	EPI(g)
												23.0-23.5	TCL Post/Hept(g) PF(g) TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Fall(TCLP(g)) RCRA Char(g) EPI(g)
												25.5-26.0	EPI(g)
												27.0-27.5	TON(g)
												29.0-29.5	EPI(g)
												31.0-31.5	TAL-Meats + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Fall(TCLP(g)) RCRA Char(g) EPI(g)
												33.5-34.0	EPI(g)
												36.0-36.5	EPI(g)
												39.0-39.5	EPI(g)
												41.0-41.5	EPI(g)
												43.5-44.0	EPI(g)
46.0-46.5	EPI(g)												
48.5-49.0	EPI(g)												
51.0-51.5	EPI(g)												
53.5-54.0	EPI(g)												
56.0-56.5	EPI(g)												
58.5-59.0	EPI(g)												
61.0-61.5	EPI(g)												
63.5-64.0	EPI(g)												
66.0-66.5	EPI(g)												
68.5-69.0	EPI(g)												
71.0-71.5	EPI(g)												
73.5-74.0	EPI(g)												
76.0-76.5	EPI(g)												
78.5-79.0	EPI(g)												
81.0-81.5	EPI(g)												
83.5-84.0	EPI(g)												
86.0-86.5	EPI(g)												
88.5-89.0	EPI(g)												
91.0-91.5	EPI(g)												
93.5-94.0	EPI(g)												
96.0-96.5	EPI(g)												
98.5-99.0	EPI(g)												
101.0-101.5	EPI(g)												
103.5-104.0	EPI(g)												
106.0-106.5	EPI(g)												
108.5-109.0	EPI(g)												
111.0-111.5	EPI(g)												
113.5-114.0	EPI(g)												
116.0-116.5	EPI(g)												
118.5-119.0	EPI(g)												
121.0-121.5	EPI(g)												
123.5-124.0	EPI(g)												
126.0-126.5	EPI(g)												
128.5-129.0	EPI(g)												
131.0-131.5	EPI(g)												
133.5-134.0	EPI(g)												
136.0-136.5	EPI(g)												
138.5-139.0	EPI(g)												
141.0-141.5	EPI(g)												
143.5-144.0	EPI(g)												
146.0-146.5	EPI(g)												
148.5-149.0	EPI(g)												
151.0-151.5	EPI(g)												
153.5-154.0	EPI(g)												
156.0-156.5	EPI(g)												
158.5-159.0	EPI(g)												
161.0-161.5	EPI(g)												
163.5-164.0	EPI(g)												
166.0-166.5	EPI(g)												
168.5-169.0	EPI(g)												
171.0-171.5	EPI(g)												
173.5-174.0	EPI(g)												
176.0-176.5	EPI(g)												
178.5-179.0	EPI(g)												
181.0-181.5	EPI(g)												
183.5-184.0	EPI(g)												
186.0-186.5	EPI(g)												
188.5-189.0	EPI(g)												
191.0-191.5	EPI(g)												
193.5-194.0	EPI(g)												
196.0-196.5	EPI(g)												
198.5-199.0	EPI(g)												
201.0-201.5	EPI(g)												
203.5-204.0	EPI(g)												
206.0-206.5	EPI(g)												
208.5-209.0	EPI(g)												
211.0-211.5	EPI(g)												
213.5-214.0	EPI(g)												
216.0-216.5	EPI(g)												
218.5-219.0	EPI(g)												
221.0-221.5	EPI(g)												
223.5-224.0	EPI(g)												
226.0-226.5	EPI(g)												
228.5-229.0	EPI(g)												
231.0-231.5	EPI(g)												
233.5-234.0	EPI(g)												
236.0-236.5	EPI(g)												
238.5-239.0	EPI(g)												
241.0-241.5	EPI(g)												
243.5-244.0	EPI(g)												
246.0-246.5	EPI(g)												
248.5-249.0	EPI(g)												
251.0-251.5	EPI(g)												
253.5-254.0	EPI(g)												
256.0-256.5	EPI(g)												
258.5-259.0	EPI(g)												
261.0-261.5	EPI(g)												
263.5-264.0	EPI(g)												
266.0-266.5	EPI(g)												
268.5-269.0	EPI(g)												
271.0-271.5	EPI(g)												
273.5-274.0	EPI(g)												
276.0-276.5	EPI(g)												
278.5-279.0	EPI(g)												
281.0-281.5	EPI(g)												
283.5-284.0	EPI(g)												
286.0-286.5	EPI(g)												
288.5-289.0	EPI(g)												
291.0-291.5	EPI(g)												
293.5-294.0	EPI(g)												
296.0-296.5	EPI(g)												
298.5-299.0	EPI(g)												
301.0-301.5	EPI(g)												
303.5-304.0	EPI(g)												
306.0-306.5	EPI(g)												
308.5-309.0	EPI(g)												
311.0-311.5	EPI(g)												
313.5-314.0	EPI(g)												
316.0-316.5	EPI(g)												
318.5-319.0	EPI(g)												
321.0-321.5	EPI(g)												
323.5-324.0	EPI(g)												
326.0-326.5	EPI(g)												
328.5-329.0	EPI(g)												
331.0-331.5	EPI(g)												
333.5-334.0	EPI(g)												
336.0-336.5	EPI(g)												
338.5-339.0	EPI(g)												
341.0-341.5	EPI(g)												
343.5-344.0	EPI(g)												
346.0-346.5	EPI(g)												
348.5-349.0	EPI(g)												
351.0-351.5	EPI(g)												
353.5-354.0	EPI(g)												
356.0-356.5	EPI(g)												
358.5-359.0	EPI(g)												
361.0-361.5	EPI(g)												
363.5-364.0	EPI(g)												
366.0-366.5	EPI(g)												
368.5-369.0	EPI(g)												
371.0-371.5	EPI(g)												
373.5-374.0	EPI(g)												
376.0-376.5	EPI(g)												
378.5-379.0	EPI(g)												
381.0-381.5	EPI(g)												
383.5-384.0	EPI(g)												
386.0-386.5	EPI(g)												
388.5-389.0	EPI(g)												
391.0-391.5	EPI(g)												
393.5-394.0	EPI(g)												
396.0-396.5	EPI(g)												
398.5-399.0	EPI(g)												
401.0-401.5	EPI(g)												
403.5-404.0	EPI(g)												
406.0-406.5	EPI(g)												
408.5-409.0	EPI(g)												
411.0-411.5	EPI(g)												
413.5-414.0	EPI(g)												
416.0-416.5	EPI(g)												
418.5-419.0	EPI(g)												
421.0-421.5	EPI(g)												
423.5-424.0	EPI(g)												
426.0-426.5	EPI(g)												
428.5-429.0	EPI(g)												
431.0-431.5	EPI(g)												
433.5-434.0	EPI(g)												
436.0-436.5	EPI(g)												
438.5-439.0	EPI(g)												
441.0-441.5	EPI(g)												
443.5-444.0	EPI(g)												
446.0-446.5	EPI(g)												
448.5-449.0	EPI(g)												
451.0-451.5	EPI(g)												
453.5-454.0	EPI(g)												
456.0-456.5	EPI(g)												
458.5-459.0	EPI(g)												
461.0-461.5	EPI(g)												
463.5-464.0	EPI(g)												
466.0-466.5	EPI(g)												
468.5-469.0	EPI(g)												
471.0-471.5	EPI(g)												
473.5-474.0	EPI(g)												
476.0-476.5	EPI(g)												
478.5-479.0	EPI(g)												
481.0-481.5	EPI(g)												
483.5-484.0	EPI(g)												
486.0-486.5	EPI(g)												
488.5-489.0	EPI(g)												
491.0-491.5	EPI(g)												
493.5-494.0	EPI(g)												
496.0-496.5	EPI(g)												
498.5-499.0	EPI(g)												
501.0-501.5	EPI(g)												
503.5-504.0	EPI(g)												
506.0-506.5	EPI(g)												
508.5-509.0	EPI(g)												
511.0-511.5	EPI(g)												
513.5-514.0	EPI(g)												
516.0-516.5	EPI(g)												
518.5-519.0	EPI(g)												
521.0-521.5	EPI(g)												
523.5-524.0	EPI(g)												
526.0-526.5	EPI(g)												
528.5-529.0	EPI(g)												
531.0-531.5	EPI(g)												
533.5-534.0	EPI(g)												
536.0-536.5	EPI(g)												
538.5-539.0	EPI(g)												
541.0-541.5	EPI(g)												
543.5-544.0	EPI(g)												
546.0-546.5	EPI(g)												
548.5-549.0	EPI(g)												
551.0-551.5	EPI(g)												
553.5-554.0	EPI(g)												
556.0-556.5	EPI(g)												
558.5-559.0	EPI(g)												
561.0-561.5	EPI(g)												
563.5-564.0	EPI(g)												
566.0-566.5	EPI(g)												
568.5-569.0	EPI(g)												
571.0-571.5	EPI(g)												
573.5-574.0	EPI(g)												
576.0-576.5	EPI(g)												
578.5-579.0	EPI(g)												
581.0-581.5	EPI(g)												
583.5-584.0	EPI(g)												
586.0-586.5	EPI(g)												
588.5-589.0	EPI(g)												
591.0-591.5	EPI(g)												
593.5-594.0	EPI(g)												
596.0-596.5	EPI(g)												
598.5-599.0	EPI(g)												
601.0-601.5	EPI(g)												
603.5-604.0	EPI(g)												
606.0-606.5	EPI(g)												
608.5-609.0	EPI(g)												
611.0-611.5	EPI(g)												
613.5-614.0	EPI(g)												
616.0-616.5	EPI(g)												
618.5-619.0	EPI(g)												
621.0-621.5	EPI(g)												
623.5-624.0	EPI(g)												
626.0-626.5	EPI(g)												
628.5-629.0	EPI(g)												
631.0-631.5	EPI(g)												
633.5-634.0	EPI(g)												
636.0-636.5	EPI(g)												
638.5-639.0	EPI(g)												
641.0-641.5	EPI(g)												
643.5-644.0	EPI(g)												
646.0-646.5	EPI(g)												
648.5-649.0	EPI(g)												
651.0-651.5	EPI(g)												
653.5-654.0	EPI(g)												
656.0-656.5	EPI(g)												
658.5-659.0	EPI(g)												
661.0-661.5	EPI(g)												
663.5-664.0	EPI(g)												
666.0-666.5	EPI(g)												
668.5-669.0	EPI(g)												
671.0-671.5	EPI(g)												
673.5-674.0	EPI(g)												
676.0-676.5	EPI(g)												
678.5-679.0	EPI(g)												
681.0-681.5	EPI(g)												
683.5-684.0	EPI(g)												
686.0-686.5	EPI(g)												
688.5-689.0	EPI(g)												
691.0-691.5	EPI(g)												
693.5-694.0	EPI(g)												
696.0-696.5	EPI(g)												
698.5-699.0	EPI(g)												
701.0-701.5	EPI(g)												
703.5-704.0	EPI(g)												
706.0-706.5	EPI(g)												
708.5-709.0	EPI(g)												
711.0-711.5	EPI(g)												
713.5-714.0	EPI(g)												
716.0-716.5	EPI(g)												
718.5-719.0	EPI(g)												
721.0-721.5	EPI(g)												
723.5-724.0	EPI(g)												
726.0-726.5	EPI(g)												
728.5-729.0	EPI(g)												
731.0-731.5	EPI(g)												
733.5-734.0	EPI(g)												
736.0-736.5	EPI(g)												
738.5-739.0	EPI(g)												
741.0-741.5	EPI(g)												
743.5-744.0	EPI(g)												
746.0-746.5	EPI(g)												
748.5-749.0	EPI(g)												
751.0-751.5	EPI(g)												
753.5-754.0	EPI(g)												
756.0-756.5	EPI(g)												
758.5-759.0	EPI(g)												
761.0-761.5	EPI(g)												
763.5-764.0	EPI(g)												
766.0-766.5	EPI(g)												
768.5-769.0	EPI(g)												
771.0-771.5	EPI(g)												
773.5-774.0	EPI(g)												
776.0-776.5	EPI(g)												
778.5-779.0	EPI(g)												
781.0-781.5	EPI(g)												
783.5-784.0	EPI(g)												
786.0-786.5	EPI(g)												
788.5-789.0	EPI(g)												
791.0-791.5	EPI(g)												
793.5-794.0	EPI(g)												
796.0-796.5	EPI(g)												
798.5-799.0	EPI(g)												
801.0-801.5	EPI(g)												
803.5-804.0	EPI(g)												
806.0-806.5	EPI(g)												
808.5-809.0	EPI(g)												
811.0-811.5	EPI(g)												
813.5-814.0	EPI(g)												
816.0-816.5	EPI(g)												
818.5-819.0	EPI(g)												
821.0-821.5	EPI(g)												
823.5-824.0	EPI(g)												
826.0-826.5	EPI(g)												
828.5-829.0	EPI(g)												
831.0-831.5	EPI(g)												
833.5-834.0	EPI(g)												
836.0-836.5	EPI(g)												
838.5-839.0	EPI(g)												
841.0-841.5	EPI(g)												
843.5-844.0	EPI(g)												
846.0-846.5	EPI(g)												
848.5-849.0	EPI(g)												
851.0-851.5	EPI(g)												
853.5-854.0	EPI(g)												
856.0-856.5	EPI(g)												
858.5-859.0	EPI(g)												
861.0-861.5	EPI(g)												
863.5-864.0	EPI(g)												
866.0-866.5	EPI(g)												
868.5-869.0	EPI(g)												
871.0-871.5	EPI(g)												
873.5-874.0	EPI(g)												
876.0-876.5	EPI(g)												
878.5-879.0	EPI(g)												
881.0-881.5	EPI(g)												
883.5-884.0	EPI(g)												
886.0-886.5	EPI(g)												
888.5-889.0	EPI(g)												
891.0-891.5	EPI(g)												
893.5-894.0	EPI(g)												
896.0-896.5	EPI(g)												
898.5-899.0	EPI(g)												
901.0-901.5	EPI(g)												
903.5-904.0	EPI(g)												
906.0-906.5	EPI(g)												
908.5-909.0	EPI(g)												
911.0-911.5	EPI(g)												









Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOC's 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOC's 20, TCL PCB's & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
26	Mass Excavation	1123	10	5	60	11	3	12	2	3		L-26e	0.0-0.5	EPI(g) TOX(g) EPI(g)
													1.0-1.5	EPI(g) TOX(g) EPI(g)
													2.0-2.5	EPI(g) TOX(g) EPI(g)
													3.5-4.0	EPI(g) TOX(g) EPI(g)
													4.5-5.0	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) (Hex Cr and Cyanide(g)) Full TCL PC's(g) RCRA Char(g)
													5.0-5.5	EPI(g) TOX(g) EPI(g)
													5.5-6.0	EPI(g) TOX(g) EPI(g)
													6.0-6.5	EPI(g) TOX(g) EPI(g)
													7.0-7.5	TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) (Hex Cr and Cyanide(g)) Full TCL PC's(g) RCRA Char(g)
													7.5-8.0	EPI(g) TOX(g) EPI(g)
													8.5-9.0	EPI(g) TOX(g) EPI(g)
													9.5-10.0	TAL Metals + Cu, TCL SVOC's 20, TCL PCB's(g) (Hex Cr and Cyanide(g)) Full TCL PC's(g) RCRA Char(g)

Collect three (3)  
TCL VOC's 10 (g) where greater  
likelihood of contamination exists

**Table 4  
 Sample Collection Summary  
 Station Island Samples**

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOC 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL and IOX 5-Point Composite Samples	Number of TAL Metal + Cu, TCL SVOC-20, TCL SVOC-200, TCL PCB, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
27	Mass Excavation	1225	10	5	65	1	3	13	2	3		L-27a	0.0-0.5	EPI(g) TON(g) EPI(g)
													1.0-1.5	EPI(g) TON(g) EPI(g)
													2.0-2.5	TCL Pest/Heb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF (c) RCRA Char(g)
													3.3-4.0	EPI(g) RCRA Char(g)
													4.5-5.0	EPI(g)
													5.0-5.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF (c) RCRA Char(g)
													5.5-6.0	EPI(g) TON(g) EPI(g)
													6.0-6.5	EPI(g)
													7.0-7.5	EPI(g) TCL Pest/Heb(g)
													7.5-8.0	PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCLPF (c) RCRA Char(g)
													8.5-9.0	EPI(g)
													9.0-9.5	EPI(g)
													9.5-10.0	EPI(g) RCRA Char(g)
													10.0-10.5	EPI(g)
													10.5-11.0	EPI(g)
													11.0-11.5	EPI(g)
													11.5-12.0	EPI(g)
													12.0-12.5	EPI(g)
													12.5-13.0	EPI(g)
													13.0-13.5	EPI(g)
13.5-14.0	EPI(g)													
14.0-14.5	EPI(g)													
14.5-15.0	EPI(g)													
15.0-15.5	EPI(g)													
15.5-16.0	EPI(g)													
16.0-16.5	EPI(g) TON(g) EPI(g)													
16.5-17.0	EPI(g)													
17.0-17.5	EPI(g)													
17.5-18.0	EPI(g)													
18.0-18.5	EPI(g)													
18.5-19.0	EPI(g)													
19.0-19.5	EPI(g)													
19.5-20.0	EPI(g)													
20.0-20.5	EPI(g)													
20.5-21.0	EPI(g)													
21.0-21.5	EPI(g)													
21.5-22.0	EPI(g)													
22.0-22.5	EPI(g)													
22.5-23.0	EPI(g)													
23.0-23.5	EPI(g)													
23.5-24.0	EPI(g)													
24.0-24.5	EPI(g)													
24.5-25.0	EPI(g)													
25.0-25.5	EPI(g)													
25.5-26.0	EPI(g)													
26.0-26.5	EPI(g)													
26.5-27.0	EPI(g)													
27.0-27.5	EPI(g)													
27.5-28.0	EPI(g)													
28.0-28.5	EPI(g)													
28.5-29.0	EPI(g)													
29.0-29.5	EPI(g)													
29.5-30.0	EPI(g)													
30.0-30.5	EPI(g)													
30.5-31.0	EPI(g)													
31.0-31.5	EPI(g)													
31.5-32.0	EPI(g)													
32.0-32.5	EPI(g)													
32.5-33.0	EPI(g)													
33.0-33.5	EPI(g)													
33.5-34.0	EPI(g)													
34.0-34.5	EPI(g)													
34.5-35.0	EPI(g)													
35.0-35.5	EPI(g)													
35.5-36.0	EPI(g)													
36.0-36.5	EPI(g)													
36.5-37.0	EPI(g)													
37.0-37.5	EPI(g)													
37.5-38.0	EPI(g)													
38.0-38.5	EPI(g)													
38.5-39.0	EPI(g)													
39.0-39.5	EPI(g)													
39.5-40.0	EPI(g)													
40.0-40.5	EPI(g)													
40.5-41.0	EPI(g)													
41.0-41.5	EPI(g)													
41.5-42.0	EPI(g)													
42.0-42.5	EPI(g)													
42.5-43.0	EPI(g)													
43.0-43.5	EPI(g)													
43.5-44.0	EPI(g)													
44.0-44.5	EPI(g)													
44.5-45.0	EPI(g)													
45.0-45.5	EPI(g)													
45.5-46.0	EPI(g)													
46.0-46.5	EPI(g)													
46.5-47.0	EPI(g)													
47.0-47.5	EPI(g)													
47.5-48.0	EPI(g)													
48.0-48.5	EPI(g)													
48.5-49.0	EPI(g)													
49.0-49.5	EPI(g)													
49.5-50.0	EPI(g)													
50.0-50.5	EPI(g)													
50.5-51.0	EPI(g)													
51.0-51.5	EPI(g)													
51.5-52.0	EPI(g)													
52.0-52.5	EPI(g)													
52.5-53.0	EPI(g)													
53.0-53.5	EPI(g)													
53.5-54.0	EPI(g)													
54.0-54.5	EPI(g)													
54.5-55.0	EPI(g)													
55.0-55.5	EPI(g)													
55.5-56.0	EPI(g)													
56.0-56.5	EPI(g)													
56.5-57.0	EPI(g)													
57.0-57.5	EPI(g)													
57.5-58.0	EPI(g)													
58.0-58.5	EPI(g)													
58.5-59.0	EPI(g)													
59.0-59.5	EPI(g)													
59.5-60.0	EPI(g)													
60.0-60.5	EPI(g)													
60.5-61.0	EPI(g)													
61.0-61.5	EPI(g)													
61.5-62.0	EPI(g)													
62.0-62.5	EPI(g)													
62.5-63.0	EPI(g)													
63.0-63.5	EPI(g)													
63.5-64.0	EPI(g)													
64.0-64.5	EPI(g)													
64.5-65.0	EPI(g)													
65.0-65.5	EPI(g)													
65.5-66.0	EPI(g)													
66.0-66.5	EPI(g)													
66.5-67.0	EPI(g)													
67.0-67.5	EPI(g)													
67.5-68.0	EPI(g)													
68.0-68.5	EPI(g)													
68.5-69.0	EPI(g)													
69.0-69.5	EPI(g)													
69.5-70.0	EPI(g)													
70.0-70.5	EPI(g)													
70.5-71.0	EPI(g)													
71.0-71.5	EPI(g)													
71.5-72.0	EPI(g)													
72.0-72.5	EPI(g)													
72.5-73.0	EPI(g)													
73.0-73.5	EPI(g)													
73.5-74.0	EPI(g)													
74.0-74.5	EPI(g)													
74.5-75.0	EPI(g)													
75.0-75.5	EPI(g)													
75.5-76.0	EPI(g)													
76.0-76.5	EPI(g)													
76.5-77.0	EPI(g)													
77.0-77.5	EPI(g)													
77.5-78.0	EPI(g)													
78.0-78.5	EPI(g)													
78.5-79.0	EPI(g)													
79.0-79.5	EPI(g)													
79.5-80.0	EPI(g)													
80.0-80.5	EPI(g)													
80.5-81.0	EPI(g)													
81.0-81.5	EPI(g)													
81.5-82.0	EPI(g)													
82.0-82.5	EPI(g)													
82.5-83.0	EPI(g)													
83.0-83.5	EPI(g)													
83.5-84.0	EPI(g)													
84.0-84.5	EPI(g)													
84.5-85.0	EPI(g)													
85.0-85.5	EPI(g)													
85.5-86.0	EPI(g)													
86.0-86.5	EPI(g)													
86.5-87.0	EPI(g)													
87.0-87.5	EPI(g)													
87.5-88.0	EPI(g)													
88.0-88.5	EPI(g)													
88.5-89.0	EPI(g)													
89.0-89.5	EPI(g)													
89.5-90.0	EPI(g)													
90.0-90.5	EPI(g)													
90.5-91.0	EPI(g)													
91.0-91.5	EPI(g)													
91.5-92.0	EPI(g)													
92.0-92.5	EPI(g)													
92.5-93.0	EPI(g)													
93.0-93.5	EPI(g)													
93.5-94.0	EPI(g)													
94.0-94.5	EPI(g)													
94.5-95.0	EPI(g)													
95.0-95.5	EPI(g)													
95.5-96.0	EPI(g)													
96.0-96.5	EPI(g)													
96.5-97.0	EPI(g)													
97.0-97.5	EPI(g)													
97.5-98.0	EPI(g)													
98.0-98.5	EPI(g)													
98.5-99.0	EPI(g)													
99.0-99.5	EPI(g)													
99.5-100.0	EPI(g)													
100.0-100.5	EPI(g)													
100.5-101.0	EPI(g)													
101.0-101.5	EPI(g)													
101.5-102.0	EPI(g)													
102.0-102.5	EPI(g)													
102.5-103.0	EPI(g)													
103.0-103.5	EPI(g)													
103.5-104.0	EPI(g)													
104.0-104.5	EPI(g)													
104.5-105.0	EPI(g)													
105.0-105.5	EPI(g)													
105.5-106.0	EPI(g)													
106.0-106.5	EPI(g)													
106.5-107.0	EPI(g)													
107.0-107.5	EPI(g)													
107.5-108.0	EPI(g)													
108.0-108.5	EPI(g)													
108.5-109.0	EPI(g)													
109.0-109.5	EPI(g)													
109.5-110.0	EPI(g)													
110.0-110.5	EPI(g)													
110.5-111.0	EPI(g)													
111.0-111.5	EPI(g)													
111.5-112.0	EPI(g)													
112.0-112.5	EPI(g)													
112.5-113.0	EPI(g)													
113.0-113.5	EPI(g)													
113.5-114.0	EPI(g)													
114.0-114.5	EPI(g)													
114.5-115.0	EPI(g)													
115.0-115.5	EPI(g)													
115.5-116.0	EPI(g)													
116.0-116.5	EPI(g)													
116.5-117.0	EPI(g)													
117.0-117.5	EPI(g)													
117.5-118.0	EPI(g)													
118.0-118.5	EPI(g)													
118.5-119.0	EPI(g)													
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119.5-120.0	EPI(g)													
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123.0-123.5	EPI(g)													
123.5-124.0	EPI(g)													
124.0-124.5	EPI(g)													
124.5-125.0	EPI(g)													
125.0-125.5	EPI(g)													
125.5-126.0	EPI(g)													
126.0-126.5	EPI(g)													
126.5-127.0	EPI(g)													
127.0-127.5	EPI(g)													
127.5-128.0	EPI(g)													
128.0-128.5	EPI(g)													
128.5-129.0	EPI(g)													
129.0-129.5	EPI(g)													
129.5-130.0	EPI(g)													
130.0-130.5	EPI(g)													
130.5-131.0	EPI(g)													
131.0-131.5	EPI(g)													
131.5-132.0	EPI(g)													
132.0-132.5	EPI(g)													
132.5-133.0	EPI(g)													
133.0-133.5	EPI(g)													
133.5-134.0	EPI(g)													
134.0-134.5	EPI(g)													
134.5-135.0	EPI(g)													
135.0-135.5	EPI(g)													
135.5-136.0	EPI(g)													
136.0-136.5	EPI(g)													
136.5-137.0	EPI(g)													
137.0-137.5	EPI(g)													
137.5-138.0	EPI(g)													
138.0-138.5	EPI(g)													
138.5-139.0	EPI(g)													
139.0-139.5	EPI(g)													
139.5-140.0	EPI(g)													
140.0-140.5	EPI(g)													
140.5-141.0	EPI(g)													
141.0-141.5	EPI(g)													
141.5-142.0	EPI(g)													
142.0-142.5	EPI(g)													
142.5-143.0	EPI(g)													
143.0-143.5	EPI(g)													
143.5-144.0	EPI(g)													
144.0-144.5	EPI(g)													
144.5-145.0	EPI(g)													
145.0-145.5	EPI(g)													
145.5-146.0	EPI(g)													
146.0-146.5	EPI(g)													
146.5-147.0	EPI(g)													
147.0-147.5	EPI(g)													
147.5-148.0	EPI(g)													
148.0-148.5	EPI(g)													
148.5-149.0	EPI(g)													
149.0-149.5	EPI(g)													
149.5-150.0	EPI(g)													
150.0-150.5	EPI(g)													
150.5-151.0	EPI(g)													
151.0-151.5	EPI(g)													
151.5-152.0	EPI(g)													
152.0-152.5	EPI(g)													
152.5-153.0	EPI(g)													
153.0-153.5	EPI(g)													
153.5-154.0	EPI(g)													
154.0-154.5	EPI(g)													
154.5-155.0	EPI(g)													
155.0-155.5	EPI(g)													
155.5-156.0	EPI(g)													
156.0-156.5	EPI(g)													
156.5-157.0	EPI(g)													
157.0-157.5	EPI(g)													
157.5-158.0	EPI(g)													
158.0-158.5	EPI(g)													
158.5-159.0	EPI(g)													
159.0-159.5	EPI(g)													
159.5-160.0	EPI(g)													
160.0-160.5	EPI(g)													
160.5-161.0	EPI(g)													
161.0-161.5	EPI(g)													
161.5-162.0	EPI(g)													
162.0-162.5	EPI(g)													
162.5-163.0	EPI(g)													
163.0-163.5	EPI(g)													
163.5-164.0	EPI(g)													
164.0-164.5	EPI(g)													
164.5-165.0	EPI(g)													
165.0-165.5	EPI(g)													
165.5-166.0	EPI(g)													
166.0-166.5	EPI(g)													
166.5-167.0	EPI(g)													
167.0-167.5	EPI(g)													
167.5-168.0	EPI(g)													
168.0-168.5	EPI(g)													
168.5-169.0	EPI(g)													
169.0-169.5	EPI(g)													
169.5-170.0	EPI(g)													
170.0-170.5	EPI(g)													
170.5-171.0	EPI(g)													
171.0-171.5	EPI(g)													
171.5-172.0	EPI(g)													
172.0-172.5	EPI(g)													
172.5-173.0	EPI(g)													
173.0-173.5	EPI(g)													
173.5-174.0	EPI(g)													
174.0-174.5	EPI(g)													
174.5-175.0	EPI(g)													
175.0-175.5	EPI(g)													
175.5-176.0	EPI(g)													
176.0-176.5	EPI(g)													
176.5-177.0	EPI(g)													
177.0-177.5	EPI(g)													
177.5-178.0	EPI(g)													
178.0-178.5	EPI(g)													
178.5-179.0	EPI(g)													
179.0-179.5	EPI(g)													
179.5-180.0	EPI(g)													
180.0-180.5	EPI(g)													
180.5-181.0	EPI(g)													
181.0-181.5	EPI(g)													
181.5-182.0	EPI(g)													
182.0-182.5	EPI(g)													
182.5-183.0	EPI(g)													
183.0-183.5	EPI(g)													
183.5-184.0	EPI(g)													
184.0-184.5	EPI(g)													
184.5-185.0	EPI(g)													
185.0-185.5	EPI(g)													
185.5-186.0	EPI(g)													
186.0-186.5	EPI(g)													
186.5-187.0	EPI(g)													
187.0-187.5	EPI(g)													
187.5-188.0	EPI(g)													
188.0-188.5	EPI(g)													
188.5-189.0	EPI(g)													
189.0-189.5	EPI(g)													
189.5-190.0	EPI(g)													
190.0-190.5	EPI(g)													
190.5-191.0	EPI(g)													
191.0-191.5	EPI(g)													
191.5-192.0	EPI(g)													





Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs 20, TCL PCBs, Full TCLs, & RCRA Characteristics, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
28	Mass Excavation	820	10	5	45	9	2	9	1	2	L-28a	1.0-1.5	EPI(g) TON(g) EPI(g)
												2.0-2.5	EPI(g)
												3.0-3.5	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLs, PC(g) RCRA Char(g)
												4.0-4.5	EPI(g)
												5.0-5.5	EPI(g)
												6.0-6.5	EPI(g)
												7.0-7.5	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLs, PC(g) RCRA Char(g)
												8.0-8.5	EPI(g)
												9.0-9.5	TON(g) EPI(g)
												1.0-1.5	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLs, PC(g) RCRA Char(g)
												2.0-2.5	TON(g)
												3.0-3.5	EPI(g)
												4.0-4.5	EPI(g)
												5.0-5.5	EPI(g)
												6.0-6.5	EPI(g)
												7.0-7.5	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLs, PC(g) RCRA Char(g)
												8.0-8.5	EPI(g)
												9.0-9.5	TON(g) EPI(g)
												1.0-1.5	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLs, PC(g) RCRA Char(g)
												2.0-2.5	EPI(g)
3.0-3.5	EPI(g)												
4.0-4.5	EPI(g)												
5.0-5.5	EPI(g)												
6.0-6.5	EPI(g)												
7.0-7.5	TAL Metals + Cu, TCL SVOCs 20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLs, PC(g) RCRA Char(g)												
8.0-8.5	EPI(g)												
9.0-9.5	TON(g) EPI(g)												

Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL VOCs 5-Point Composite Samples	Number of TCL TCLs & RCRA 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
28	Mass Excavation	820	10	5	45	9	2	9	1	2	L-28A	10-1.5	EPI[6]
												10-1.5	EPI[6]
												3-25.5	EPI[6]
												4-0-4.5	TAL-Meats + Cu, TCL SVOCs, TCL PCBs, Hex Cr and Cyanide[6] RCRA Char[6]
												5-0-5.5	EPI[6] TON[6] TCL Post-Heb[6]
												6-0-6.5	TAL-Meats + Cu, TCL SVOCs, TCL PCBs, Hex Cr and Cyanide[6] Full TCL PF[6] RCRA Char[6]
												7-0-7.5	EPI[6] TON[6] TCL Post-Heb[6]
												8-0-8.5	EPI[6]
												9-0-9.5	EPI[6]
												10-1-7	EPI[6]
												2-0-2.5	TAL-Meats + Cu, TCL SVOCs, TCL PCBs, Hex Cr and Cyanide[6] RCRA Char[6]
												3-0-3.5	EPI[6]
												4-0-4.5	EPI[6]
												5-0-5.5	EPI[6] TON[6]
												6-0-6.5	EPI[6] TON[6]
7-0-7.5	EPI[6] TON[6]												
8-0-8.5	EPI[6]												
9-0-9.5	TAL-Meats + Cu, TCL SVOCs, TCL PCBs, Hex Cr and Cyanide[6] Full TCL PF[6] RCRA Char[6]												



Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC's 10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOC's 20, TCL PCB's 20, Full TCL's & RCRA Characteristics, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
29	Drilled Shaft Footing	680	24	2	35	7	2	7	1	2		L-206	0.0-0.5	EPI[6] EPI[5] EPI[4] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													2.5-3.0	EPI[6] EPI[5] EPI[4] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													3.5-4.0	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													5.0-5.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													6.0-6.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													8.0-8.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													9.5-10.0	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													10.0-10.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													11.5-11.0	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													13.0-13.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													14.5-15.0	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													16.0-16.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													17.5-18.0	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
													19.5-20.0	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]
21.5-22	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]													
23.0-23.5	EPI[6] EPI[5] EPI[4] TCL Pest/Heb[6] PF [6] TAL Metals + Cu, TCL SVOC's 20, TCL PCB's [6] Hex Cr and Cyanide [6] Full TCL [6] [6] RCRA Char [6]													









Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs, TCL PCBs, TCL PAHs, TCL TCLA, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
33	Drilled Shaft / Piling	500	26	1	25	6	1	5	1	1	L-33a	0-51.0	EPI(g) TON(g) EPI(g)
												1.5-2.0	EPI(g)
												2.5-3.0	TCL Pesticide(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL(Pe)(g)
												3.5-4.0	EPI(g) RCRA Char(g)
												5.5-6.0	EPI(g) TON(g)
												6.5-7.0	EPI(g)
												7.5-8.0	EPI(g)
												8.5-9.0	TCL Pesticide(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL(Pe)(g)
												9.5-10.0	EPI(g) TON(g)
												10.5-11.0	EPI(g)
												11.5-12.0	EPI(g)
												12.5-13.0	EPI(g) TON(g)
												13.5-14.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL(Pe)(g)
												14.5-15.0	EPI(g) RCRA Char(g)
												15.5-16.0	EPI(g)
16.5-17.0	EPI(g)												
17.5-18.0	EPI(g)												
18.5-19.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL(Pe)(g)												
19.5-20.0	EPI(g)												
20.5-21.0	EPI(g)												
21.5-22.0	TON(g)												
22.5-23.0	EPI(g)												
23.5-24.0	EPI(g)												
24.5-25.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL(Pe)(g)												
25.5-26.0	EPI(g) RCRA Char(g)												

Collect one (1)  
TCL VOCs (l) where grease  
likelihood of contamination exists

Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOC-20, TCL PCB, TCL TCLA, & TCL TCE & RCRA Characteristics, 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters
34	Drilled Shaft / Piling	500	26	1	25	1	5	1	1	L-33a	0-51.0	EPI(g) TON(g) EPI(g)
											1.5-2.0	EPI(g) TON(g) EPI(g)
											2.5-3.0	TCL PentaB(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL P(g)
											3.5-4.0	EPI(g) TON(g) EPI(g)
											5.5-6.0	TON(g) EPI(g) EPI(g)
											6.5-7.0	EPI(g) EPI(g)
											7.5-8.0	EPI(g)
											8.5-9.0	TCL PentaB(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL P(g)
											9.5-10.0	EPI(g) TON(g) EPI(g)
											10.5-11.0	EPI(g) EPI(g)
											11.5-12.0	EPI(g) TON(g) EPI(g)
											12.5-13.0	EPI(g) TON(g) EPI(g)
											13.5-14.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL P(g)
											14.5-15.0	EPI(g) TON(g) EPI(g)
											15.5-16.0	EPI(g) TON(g) EPI(g)
											16.5-17.0	EPI(g) TON(g) EPI(g)
											17.5-18.0	EPI(g)
											18.5-19.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL P(g)
											19.5-20.0	EPI(g) TON(g) EPI(g)
											20.5-21.0	EPI(g) TON(g) EPI(g)
21.5-22.0	TON(g)											
22.5-23.0	EPI(g) EPI(g)											
23.5-24.0	EPI(g)											
24.5-25.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB(g) Hex Cr and Cyanide(g) Full TCL P(g)											
25.5-26.0	EPI(g) RCRA Char(g)											

Collect one (1)  
TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TAL Metal + Cu, TCL SVOC-20, TCL PCBs, and Full TCLs & RCRA Characteristic 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
35	Drilled Shaft / Footing	500	37	1	25	6	1	5	1	1	L-35a	0-51.0	EPI(g) TON(g) EPI(g)
												1.5-2.0	EPI(g) TON(g) EPI(g)
												2.5-3.0	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCP(g) RCRA Char(g)
												3.5-4.0	EPI(g) TON(g) EPI(g)
												5.5-6.0	TON(g)
												6.5-7.0	EPI(g)
												7.5-8.0	EPI(g)
												8.5-9.0	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCP(g) RCRA Char(g)
												9.5-10.0	TON(g)
												10.5-11.0	EPI(g)
												11.5-12.0	EPI(g)
												12.5-13.0	TON(g)
												13.5-14.0	TAL Metals + Cu, TCL SVOC-20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCP(g) RCRA Char(g)
												14.5-15.0	EPI(g)
												15.5-16.0	EPI(g)
												17.0-17.5	EPI(g)
												19.0-19.5	EPI(g)
												21.0-21.5	TAL Metals + Cu, TCL SVOC-20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCP(g) RCRA Char(g)
												23.0-23.5	EPI(g)
												25.0-25.5	EPI(g)
27.0-27.5	TON(g)												
29.0-29.5	EPI(g)												
31.0-31.5	EPI(g)												
33.5-34.0	TAL Metals + Cu, TCL SVOC-20, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCL, PCP(g) RCRA Char(g)												
36.5-37.0	EPI(g)												

Collect one (1)  
TCL VOC-10 (g) where grease  
likelihood of contamination exists









Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs, TCL PAHs, Full TCLs & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
													EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g) EPI(g) TON(g) EPI(g) TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g)
40	Drilled Shaft / Footing	500	34	1	25	6	1	5	1	1	L-40a	0-51.0	EPI(g) TON(g) EPI(g)
												1.5-2.0	EPI(g)
												2.5-3.0	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g)
												3.5-4.0	EPI(g)
												5.5-6.0	TON(g)
												6.5-7.0	EPI(g)
												7.5-8.0	EPI(g)
												8.5-9.0	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g)
												9.5-10.0	TON(g)
												10.5-11.0	EPI(g)
												11.5-12.0	EPI(g)
												12.5-13.0	TON(g)
												13.5-14.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g)
												14.5-15.0	EPI(g)
												15.5-16.0	EPI(g)
												16.5-17.0	TON(g)
												17.5-18.0	EPI(g)
												19.5-20.0	EPI(g)
												21.0-21.5	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g)
21.0-21.5	EPI(g)												
25.0-25.5	EPI(g)												
27.0-27.5	TON(g)												
29.0-29.5	EPI(g)												
31.0-31.5	EPI(g)												
33.5-34.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLPs(g) RCRA Char(g)												

Collect one (1) TCL VOCs (g) where greatest likelihood of contamination exists













Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and IOX Grab Samples	Number of TCL VOCs Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOCs, TCL PCBs, TCL PAHs, TCL TCLA, & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
47	Drilled Shaft / Piling	500	23	1	25	6	1	5	1	1	L-47a	0-51.0	EPI(g) TON(g) EPI(g)
												1.5-2.0	EPI(g) TON(g) EPI(g)
												2.5-3.0	TCL PentaB(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												3.5-4.0	EPI(g) TON(g) EPI(g)
												5.5-6.0	TON(g)
												6.5-7.0	EPI(g)
												7.5-8.0	EPI(g)
												8.5-9.0	TCL PentaB(g) TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												9.5-10.0	EPI(g) TON(g)
												10.5-11.0	EPI(g)
												11.5-12.0	EPI(g)
												12.5-13.0	TON(g)
												13.5-14.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												14.5-15.0	EPI(g) TON(g)
												15.5-16.0	EPI(g)
												16.5-17.0	EPI(g)
												17.5-18.0	EPI(g)
												18.5-19.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)
												19.5-20.0	EPI(g)
												20.5-21.0	EPI(g)
21.5-22.0	TON(g)												
22.5-23.0	EPI(g)												
23.5-24.0	EPI(g)												
24.5-25.0	TAL Metals + Cu, TCL SVOCs, TCL PCBs(g) Hex Cr and Cyanide(g) Full TCLP(g)												
25.5-26.0	EPI(g)												

Collect one (1)  
TCL VOCs (g) where greater  
likelihood of contamination exists

Table 4  
Sample Collection Summary  
Station Island Samples

Location #	Excavation Purpose	Total Excavated CY	Expected Depth of Soil Excavation (ft)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC's Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL 5-Point Composite Samples	Number of TCL Metal + Cu, TCL SVOC's, TCL PCB's, TCL PAH's, TCL TCLA & RCRA Characteristic, 5-Point Composite Samples	Boring Designation	Sample Parameters	
												Sample Depth(s) (ft.)	Sample Parameters
48	Drilled Shaft / Footing	500	23	1	25	6	1	5	1	1 Between L-47 & L-48	L-48a	0-51.0	EPI(g) TON(g) EPI(g)
												1.0-1.5	EPI(g) TON(g) EPI(g)
												2.0-2.5	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOC's, TCL PCB's(g) Hex Cr and Cyanide(g) Full TCL P's(g) RCRA Char(g)
												3.0-3.5	EPI(g) TON(g)
												4.0-4.5	TON(g)
												5.0-5.5	EPI(g)
												6.0-6.5	EPI(g)
												6.5-7.0	TCL PentaHeb(g) TAL Metals + Cu, TCL SVOC's, TCL PCB's(g) Hex Cr and Cyanide(g) Full TCL P's(g) RCRA Char(g)
												7.5-8.0	TON(g)
												8.5-9.0	EPI(g)
												9.5-10.0	EPI(g)
												10.5-11.0	EPI(g) TON(g) EPI(g)
												11.5-12.0	TAL Metals + Cu, TCL SVOC's, TCL PCB's(g) Hex Cr and Cyanide(g) Full TCL P's(g) RCRA Char(g)
												12.0-12.5	EPI(g)
												13.0-13.5	EPI(g)
												14.0-14.5	EPI(g) TON(g) EPI(g)
												15.0-15.5	EPI(g)
16.0-16.5	TAL Metals + Cu, TCL SVOC's, TCL PCB's(g) Hex Cr and Cyanide(g) Full TCL P's(g) RCRA Char(g)												
17.0-17.5	EPI(g)												
18.0-18.5	EPI(g) TON(g)												
19.0-19.5	TON(g)												
20.0-20.5	EPI(g)												
21.0-21.5	EPI(g)												
21.5-22.0	TAL Metals + Cu, TCL SVOC's, TCL PCB's(g) Hex Cr and Cyanide(g) Full TCL P's(g) RCRA Char(g)												
22.5-23.0	EPI(g)												

Collect one (1)  
TCL VOC's 10 gal where greatest likelihood of contamination exists





Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCKA Characteristic, TAU, TC, SVOC-C-20, TCL PCB, PAH, RCKA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
51	Drilled Shaft / Piling	400	17	1	20	5	1	4	1 Between L-51 & L-52	1	L-51a	0.5-1.0	EPI(g) EPI(g) TCL Pest./Herb(g) PF(g)
												1.0-1.5	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G. and Comid(g) Full TCL P(g) RCKA Char(g)
												1.5-2.0	EPI(g) TOX(g) EPI(g)
												2.0-2.5	EPI(g)
												3.0-3.5	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G. and Comid(g) Full TCL P(g) RCKA Char(g)
												4.0-4.5	EPI(g) TOX(g)
												5.0-5.5	EPI(g)
												5.5-6.0	TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G. and Comid(g) Full TCL P(g) RCKA Char(g)
												6.0-6.5	EPI(g) TOX(g)
												7.0-7.7	EPI(g) TOX(g)
												8.0-8.5	EPI(g)
												9.0-9.5	EPI(g) TOX(g) TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G. and Comid(g) Full TCL P(g) RCKA Char(g)
												10.0-10.5	EPI(g)
												11.0-11.5	TOX(g)
												12.0-12.5	EPI(g)
												13.0-13.5	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G. and Comid(g) Full TCL P(g) RCKA Char(g)
												14.0-14.5	EPI(g) TOX(g)
15.0-15.5	TOX(g)												
16.0-16.5	EPI(g)												
16.5-17.0	EPI(g)												

Collect one (1)  
TCL VOC-10 (g) where  
greatest likelihood of  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAU, TCL, SVOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
52	Drilled Shaft / Footing	400	17	1	20	5	1	4	1 Between L-51 & L-52	1	L-52a	0.51-1.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [e] PEH [e] Hex G and Cyanide [e] Full TCL P, [e] RCRA Char [e]
												1.0-1.5	PEH [e]
												1.5-2.0	PEH [e]
												2.0-2.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [e] Hex G and Cyanide [e] Full TCL P, [e] RCRA Char [e]
												3.0-3.5	PEH [e]
												4.0-4.5	TOX [e]
												5.0-5.5	PEH [e]
												5.5-6.0	PEH [e]
												6.0-6.5	TOX [e]
												6.5-7.0	PEH [e]
												7.0-7.7	TCL Pest/Herb [e] PEH [e] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [e] Hex G and Cyanide [e] Full TCL P, [e] RCRA Char [e]
												8.0-8.5	PEH [e]
												9.0-9.5	TOX [e]
												10.0-10.5	PEH [e]
												11.0-11.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [e] Hex G and Cyanide [e] Full TCL P, [e] RCRA Char [e]
												12.0-12.5	PEH [e]
												13.0-13.5	TOX [e]
14.0-14.5	PEH [e]												
15.0-15.5	TOX [e]												
16.0-16.5	TCL Pest/Herb [e] PEH [e] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [e] Hex G and Cyanide [e] Full TCL P, [e] RCRA Char [e]												
16.5-17.0	PEH [e]												

Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of Paint Filter 5-point Composite Samples	Number of TCL Pest/Herb & Fungus 5-point Composite Samples	Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
53	Drilled Shaft / Piling	400	13	1	20	5	1	4	1	1	Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	L-53a	0.5-1.0 1.0-1.5 1.5-2.0 2.0-2.5 2.5-3.0 3.0-3.5 3.5-4.0 4.0-4.5 4.5-5.0 5.0-5.5 5.5-6.0 6.0-6.5 6.5-7.0 7.0-7.5 7.5-8.0 8.5-8.0 9.5-9.0 10.5-11.0 11.5-12.0 12.5-13.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)

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Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TCE, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
54	Drilled Shaft / Piling	400	13	1	20	5	1	4	1 Between L-53 & L-54	1	L-54a	0.5-1.0 1.0-1.5 1.5-2.0 2.0-2.5 2.5-3.0 3.0-3.5 3.5-4.0 4.0-4.5 4.5-5.0 5.0-5.5 5.5-6.0 6.0-6.5 6.5-7.0 7.0-7.5 7.5-8.0 8.5-8.0 9.5-9.0 10.5-11.0 11.5-12.0 12.5-13.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)

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Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TCL, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
55	Drilled Shaft / Footing	400	20	1	20	5	1	4	1 Between L-55 & L-56	1	L-55a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g)
												1.5-2.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												2.5-3.0	EPH(g) TOX(g) RCEA Char(c)
												3.5-4.0	EPH(g)
												4.5-5.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												5.5-6.0	EPH(g) TOX(g)
												6.5-7.0	EPH(g)
												7.5-8.0	TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												8.5-9.0	EPH(g) TOX(g)
												9.5-9.0	TOX(g)
												10.5-11.0	EPH(g)
												11.5-12.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												12.5-13.0	EPH(g) TOX(g)
												13.5-14.0	TOX(g)
												14.5-15.0	EPH(g)
												15.5-16.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												16.5-17.0	EPH(g) TOX(g)
17.5-18.0	TOX(g)												
18.5-19.0	EPH(g)												
19.5-20.0	EPH(g)												

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Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
56	Drilled Shaft / Footing	400	20	1	20	5	1	4	1 Between L-55 & L-56	1	L-56a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g)
												1.5-2.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC
												2.5-3.0	EPH(g) TOX(g) RCEA Char(c)
												3.5-4.0	EPH(g)
												4.5-5.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												5.5-6.0	EPH(g) TOX(g)
												6.5-7.0	EPH(g)
												7.5-8.0	TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC
												8.5-9.0	EPH(g) TOX(g)
												9.5-9.0	TOX(g)
												10.5-11.0	EPH(g)
												11.5-12.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC
												12.5-13.0	EPH(g) TOX(g)
												13.5-14.0	TOX(g)
												14.5-15.0	EPH(g)
												15.5-16.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC
16.5-17.0	EPH(g) TOX(g)												
17.5-18.0	TOX(g)												
18.5-19.0	EPH(g)												
19.5-20.0	EPH(g)												

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Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
57	Drilled Shaft / Piling	400	19	1	20	5	1	4	1 Between L-57 & L-58	Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	L-55a	0.5-1.0 1.5-2.0 2.5-3.0 3.5-4.0 4.5-5.0 5.5-6.0 6.5-7.0 7.5-8.0 8.5-9.0 9.5-9.0 10.5-11.0 11.5-12.0 12.5-13.0 13.5-14.0 14.5-15.0 15.5-16.0 16.5-17.0 18.5-19.0 19.5-20.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)

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Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
58	Drilled Shaft / Piling	400	19	1	20	5	1	4	1 Between L-57 & L-58	Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	L-56a	0.5-1.0 1.5-2.0 2.5-3.0 3.5-4.0 4.5-5.0 5.5-6.0 6.5-7.0 7.5-8.0 8.5-9.0 9.5-9.0 10.5-11.0 11.5-12.0 12.5-13.0 13.5-14.0 14.5-15.0 15.5-16.0 16.5-17.0 18.5-19.0 19.5-20.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPE(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPE(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL, P(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)
Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists													

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59	Drilled Shaft / Feeding	400	25	1	20	5	1	4	1 Between L-59 & L-60	1	L-59a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g)
												1.5-2.0	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												2.5-3.0	EPH(g) TOX(g) EPH(g)
												4.0-4.3	EPH(g)
												5.0-5.5	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												6.0-6.5	EPH(g) TOX(g) EPH(g)
												7.5-8.0	EPH(g)
												8.5-9.0	TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												9.5-10.0	EPH(g) TOX(g) EPH(g)
												11.0-11.5	TOX(g) EPH(g)
												12.0-12.5	EPH(g)
												13.0-13.5	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												14.5-15.0	EPH(g) TOX(g) EPH(g)
												15.5-16.0	TOX(g)
16.5-17.0	EPH(g)												
17.5-18.0	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)												
20.0-20.5	EPH(g)												
21.5-22.0	TOX(g)												
23.0-23.5	EPH(g)												
24.0-24.0	EPH(g)												

Collect one (1) TCL VOC-10 (g) where greater likelihood of contamination exists

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60	Drilled Shaft / Feeding	400	25	1	20	5	1	4	1 Between L-59 & L-60	1	L-60a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g)
												1.5-2.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												2.5-3.0	EPH(g) TOX(g) EPH(g)
												4.0-4.3	EPH(g)
												5.0-5.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												6.0-6.5	EPH(g) TOX(g) EPH(g)
												7.5-8.0	EPH(g)
												8.5-9.0	TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												9.5-10.0	EPH(g)
												11.0-11.5	TOX(g) EPH(g)
												12.0-12.5	EPH(g)
												13.0-13.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)
												14.5-15.0	EPH(g) TOX(g) EPH(g)
												15.5-16.0	TOX(g)
												16.5-17.0	EPH(g)
17.5-18.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL P(g) RCEA Char(g)												
20.0-20.5	EPH(g)												
21.5-22.0	TOX(g)												
23.0-23.5	EPH(g)												
24.0-24.0	EPH(g)												

Collect one (1) TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
61	Drilled Shaft / Footing	400	16	1	20	5	1	4	1 Between L-61 & L-62	1	L-61a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g)
												1.5-2.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												2.0-2.5	EPH(g) TOX(g) RCEA Char(c)
												2.5-3.0	EPH(g)
												3.5-4.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												4.5-5.0	EPH(g) TOX(g)
												5.0-5.5	EPH(g)
												6.0-6.5	TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												6.5-7.0	EPH(g) TOX(g)
												7.0-7.5	TOX(g)
												8.0-8.5	EPH(g)
												9.0-9.5	EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												10.0-10.5	EPH(g) TOX(g)
												10.5-11.0	TOX(g)
												11.5-12.0	EPH(g)
12.5-13.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC												
13.0-13.5	EPH(g)												
13.5-14.0	TOX(g)												
14.5-15.0	EPH(g)												
15.5-16.0	EPH(g)												

Collect one (1) TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
62	Drilled Shaft / Piling	400	16	1	20	5	1	4	1 Between L-61 & L-62	1	L-62a	0.5-1.0 1.5-2.0 2.0-2.5 2.5-3.0 3.5-4.0 4.5-5.0 5.0-5.5 6.0-6.5 6.5-7.0 7.0-7.5 8.0-8.5 9.0-9.5 10.0-10.5 10.5-11.0 11.5-12.0 12.5-13.0 13.0-13.5 13.5-14.0 14.5-15.0 15.5-16.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g)
Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists													

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
63	Drilled Shaft / Feeding	400	20	1	20	5	1	4	1 Between L-63 & L-64	1	L-63a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g)
												1.5-2.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC
												2.5-3.0	EPH(g) TOX(g) RCEA Char(c)
												3.5-4.0	EPH(g)
												4.5-5.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												5.5-6.0	EPH(g) TOX(g)
												6.5-7.0	EPH(g)
												7.5-8.0	TCL Pest./Herb(g) PPH(c) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												8.5-9.0	EPH(g) TOX(g)
												9.5-9.0	TOX(g)
												10.5-11.0	EPH(g)
												11.5-12.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												12.5-13.0	EPH(g) TOX(g)
												13.5-14.0	TOX(g)
												14.5-15.0	EPH(g)
												15.5-16.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
16.5-17.0	EPH(g) TOX(g)												
17.5-18.0	TOX(g)												
18.5-19.0	EPH(g)												
19.5-20.0	EPH(g)												

Collect one (1)  
TCL VOC-10 [g] where  
greatest likelihood of  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCEA Characteristic, TAL, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
64	Drilled Shaft / Piling	400	16	1	20	5	1	4	1 Between L-63 & L-64	1	L-64	0.5-1.0 1.5-2.0 2.0-2.5 2.5-3.0 3.5-4.0 4.5-5.0 5.0-5.5 6.0-6.5 6.5-7.0 7.0-7.5 8.0-8.5 9.0-9.5 10.0-10.5 10.5-11.0 11.5-12.0 12.5-13.0 13.0-13.5 13.5-14.0 14.5-15.0 15.5-16.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPE(g) TAL Metals+Cu,TC,SVOC-20, TCL PCB,(g) Hex.G and Comid(g) FullTCLP(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu,TC,SVOC-20, TCL PCB,(g) Hex.G and Comid(g) FullTCLP(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPE(g) TAL Metals+Cu,TC,SVOC-20, TCL PCB,(g) Hex.G and Comid(g) FullTCLP(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu,TC,SVOC-20, TCL PCB,(g) Hex.G and Comid(g) FullTCLP(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu,TC,SVOC-20, TCL PCB,(g) Hex.G and Comid(g) FullTCLP(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu,TC,SVOC-20, TCL PCB,(g) Hex.G and Comid(g) FullTCLP(g) RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)

Collect one (1)  
TCL VOC-10 (g) where  
greatest likelihood of  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAL, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
65	Drilled Shaft / Roofing	400	24	1	20	5	1	4	1 Between L-65 & L-66	1	L-65a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												1.5-2.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												2.5-3.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												4.0-4.3	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												5.0-5.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												6.0-6.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												7.5-8.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												8.5-9.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												9.5-10.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												11.0-11.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												12.0-12.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												13.0-13.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												14.5-15.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												15.5-16.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
												16.5-17.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)
17.5-18.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)												
20.0-20.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)												
21.0-21.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)												
22.5-23.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)												
23.5-24.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(g) RCEA Char.(c)												

Collect one (1) TCL Sample for every greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of Paint Filter 5-point Composite Samples	Number of Full TCLP, RCRA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
66	Drilled Shaft / Feeding	400	24	1	20	5	1	4	1 Between L-65 & L-66	1	L-66	0.5-1.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												1.5-2.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												2.5-3.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												4.0-4.3	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												5.0-5.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												6.0-6.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												7.5-8.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												8.5-9.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												9.5-10.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												11.0-11.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												12.0-12.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												13.0-13.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												14.5-15.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
												15.5-16.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)
16.5-17.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)												
17.5-18.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)												
20.0-20.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)												
21.0-21.5	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)												
22.5-23.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)												
23.5-24.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCLP(g) RCRA Char(g)												

Collect one (1)  
TCL VOC-10 (g) where  
greatest likelihood of  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
67	Drilled Shaft / Piling	400	30	1	20	5	1	4	1 Between L-67 & L-68	1	L-67a	0.5-1.0 1.5-2.0 3.0-3.5 4.5-5.0 6.0-6.5 7.5-8.0 9.0-9.5 10.5-11.0 12.0-12.5 13.5-14.0 15.0-15.5 16.5-17.0 17.5-18.0 19.5-20.0 21.5-22.0 23.0-23.5 24.5-25.0 26.0-26.5 27.5-28.0 29.5-30.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)

Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
68	Drilled Shaft / Piling	400	30	1	20	5	1	4	1 Between L-67 & L-68	1	L-68a	0.5-1.0 1.5-2.0 3.0-3.5 4.5-5.0 6.0-6.5 7.5-8.0 9.0-9.5 10.5-11.0 12.0-12.5 13.5-14.0 15.0-15.5 16.5-17.0 17.5-18.0 19.5-20.0 21.5-22.0 23.0-23.5 24.5-25.0 26.0-26.5 27.5-28.0 29.5-30.0	EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TCL Post-/Heb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)
Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists													

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of Paint Filter 5-point Composite Samples	Number of TCL Pest/Herb & Fertilizer 5-point Composite Samples	Number of Full TCL, DP, RCEA Characteristic, TAU, TCL, SVOC-C-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
69	Drilled Shaft / Feeding	400	30	1	20	5	1	4	1	1	Full TCL, DP, RCEA Characteristic, TAU, TCL, SVOC-C-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	L-69a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, PFC
													1.5-2.0	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, PFC
													3.0-3.5	EPH(g) TOX(g) RCEA Char(c)
													4.3-5.0	EPH(g)
													6.0-6.5	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, PFC RCEA Char(c)
													7.5-8.0	EPH(g) TOX(g)
													9.0-9.5	EPH(g)
													10.5-11.0	TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, PFC
													12.0-12.5	EPH(g) TOX(g)
													13.5-14.0	TOX(g)
													15.0-15.5	EPH(g)
													16.5-17.0	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, PFC
													17.5-18.0	EPH(g) TOX(g)
													19.5-20.0	TOX(g)
													21.5-22.0	EPH(g)
													23.0-23.5	TAL Metals+Cu, TCL SVOC-C-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, PFC
24.2-25.0	EPH(g) TOX(g)													
26.0-26.5	TOX(g)													
27.2-28.0	EPH(g)													
28.5-30.0	EPH(g)													

Collect one (1) TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
70	Drilled Shaft / Footing	400	30	1	20	5	1	4	1 Between L-09 & L-20	1	L-70a	0.5-1.0	EPI(g) EPI(g) TCL Pest./Herb(g) PF(g)
												1.5-2.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G and Cyanide(g) Full TCL, P(g) RCEA Char.(g)
												3.0-3.5	EPI(g) TOX(g) EPI(g)
												4.5-5.0	EPI(g)
												6.0-6.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G and Cyanide(g) Full TCL, P(g) RCEA Char.(g)
												7.5-8.0	EPI(g) TOX(g) EPI(g)
												9.0-9.5	EPI(g)
												10.5-11.0	TCL Pest./Herb(g) PF(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G and Cyanide(g) Full TCL, P(g) RCEA Char.(g)
												12.0-12.5	EPI(g)
												13.5-14.0	EPI(g) TOX(g) EPI(g)
												15.0-15.5	EPI(g) TOX(g) EPI(g)
												16.5-17.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G and Cyanide(g) Full TCL, P(g) RCEA Char.(g)
												18.0-18.5	EPI(g) TOX(g) EPI(g)
												19.5-20.0	EPI(g) TOX(g) EPI(g)
21.0-21.5	EPI(g) TOX(g) EPI(g)												
22.5-23.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G and Cyanide(g) Full TCL, P(g) RCEA Char.(g)												
25.0-25.5	EPI(g) TOX(g) EPI(g)												
26.5-27.0	EPI(g) TOX(g) EPI(g)												
28.0-28.5	EPI(g)												
29.5-30.0	EPI(g)												

Collect one (1) TCL Sample for every 5 feet of excavation with the greatest likelihood of contamination exists



Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
72	Drilled Shaft / Feeding	400	30	1	20	5	1	4	1 Between L-71 & L-72	1	L-72a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g)
												1.5-2.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												3.0-3.5	EPH(g) TOX(g) RCEA Char(c)
												4.3-5.0	EPH(g)
												6.0-6.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC RCEA Char(c)
												7.5-8.0	EPH(g) TOX(g)
												9.0-9.5	EPH(g)
												10.5-11.0	TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												12.0-12.5	EPH(g) TOX(g)
												13.5-14.0	TOX(g)
												15.0-15.5	EPH(g)
												16.5-17.0	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC
												17.5-18.0	EPH(g) TOX(g)
												19.5-20.0	TOX(g)
												21.5-22.0	EPH(g)
23.0-23.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL PFC												
24.2-25.0	EPH(g) TOX(g)												
26.0-26.5	TOX(g)												
27.2-28.0	EPH(g)												
28.5-30.0	EPH(g)												

Collect one (1) TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filler 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
73	Drilled Shaft / Piling	400	22	1	20	5	1	4	1 Between L-73 & L-74	1	L-73a	0.5-1.0 1.0-1.5 1.5-2.0 2.5-3.0 4.0-4.5 5.0-5.5 6.0-6.5 7.5-8.0 8.5-9.0 9.5-10.0 11.0-11.5 12.0-12.5 13.0-13.5 14.5-15.0 15.5-16.0 16.5-17.0 17.5-18.0 20.0-20.5 21.0-21.5 21.5-22.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)
Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists													

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TCE, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
74	Drilled Shaft / Piling	400	24	1	20	5	1	4	1 Between L-73 & L-74	1	L-74a	0.5-1.0 1.5-2.0 2.5-3.0 4.0-4.3 5.0-5.5 6.0-6.5 7.5-8.0 8.5-9.0 9.5-10.0 11.0-11.5 12.0-12.5 13.0-13.5 14.5-15.0 15.5-16.0 16.5-17.0 17.5-18.0 20.0-20.5 21.0-21.5 22.5-23.0 23.5-24.0	EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TCL Pest./Herb(g) PPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Comids(g) Full TCL PFC RCEA Char(c) EPH(g) TOX(g) EPH(g) EPH(g)
Collect one (1) TCL VOC-10 [g] where greatest likelihood of contamination exists													





Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TC, TCOC, TC, TCOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
77	Drilled Shaft / Footing	400	23	1	20	5	1	4	1	1	L-77a	1.0-1.3	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												2.0-2.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												3.0-3.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												4.0-4.3	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												5.0-5.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												6.0-6.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												7.0-7.3	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												8.0-8.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												9.0-9.3	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												10.0-10.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												11.0-11.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												12.0-12.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												13.0-13.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												14.5-15.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												15.5-16.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												16.5-17.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
												17.5-18.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)
20.0-20.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)												
21.0-21.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)												
22.0-23.0	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TC, TCOC-20, TCL PCB, (g) Hex.G and Comids(g) Full TCL, P(e) RCEA Char(c)												

Collect one (1)  
TCL VOC-10 (g) where  
greatest likelihood of  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Exposed CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCRA Characteristic, TAL, VOC-10, TCL PCB, PAH, RCRA Metals (Pb, Cu, Ni, V, Zn) 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
78	Mass Excavation / Retaining Wall	944	25	3	50	10	2	10	1	2	L-78a	0.0-0.3	EPI(c) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)
												1.5-2.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s) EPI(l) EPI(s)
												3.0-3.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												4.5-5.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												6.0-6.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												7.5-8.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												9.0-9.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												10.5-11.0	EPI(c) EPI(s) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)
												12.0-12.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												13.5-14.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												15.0-15.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												16.5-17.0	EPI(c) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)
												18.0-18.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												19.5-20.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												21.0-21.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												23.0-23.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												24.5-25.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												0.0-0.5	EPI(c) EPI(s) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)
												1.5-2.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
												3.0-3.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)
4.5-5.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
6.0-6.5	EPI(c) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)												
7.5-8.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
9.0-9.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
10.5-11.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
12.0-12.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
13.5-14.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
15.0-15.5	EPI(c) EPI(s) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)												
16.5-17.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
18.0-18.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
19.5-20.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
21.0-21.5	EPI(c) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)												
23.0-23.5	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												
24.5-25.0	EPI(s) EPI(l) TOX(s) EPI(s) EPI(l) EPI(s)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAU, TCL, PCB, PAH, RCRA Metals-Hx, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft)	Sample Parameters
78	Misc Excavation / Retaining Wall	944	25	3	50	10	2	10	1	2	L-78c	1.5-2.0	EPH(g)
												3.0-3.5	EPH(g)
												4.5-5.0	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex, G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												6.0-6.5	TOX(g)
												7.5-8.0	EPH(g)
												9.0-9.5	EPH(g)
												10.5-11.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex, G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												12.0-12.5	EPH(g)
												13.5-14.0	TOX(g)
												15.0-15.5	EPH(g)
												17.0-17.5	EPH(g)
												19.0-19.5	EPH(g)
												21.0-21.5	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex, G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												23.0-23.5	TOX(g)
24.5-25.0	EPH(g)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Exposed CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCRA Characteristic, TAL, TOX, SVOC-20, TCL PCB, PAH, RCRA Metals-Hg, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
79	Mass Excavation / Retaining Wall	92.8	25	3	50	10	2	10	1	2	L-79a	0.0-0.3	EPI(c) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)
												1.5-2.0	EPI(s) TOX(s) EPI(s) EPI(s) EPI(s) EPI(s)
												3.0-3.5	EPI(s) TOX(s) EPI(s) EPI(s)
												4.5-5.0	EPI(s) TOX(s) EPI(s) EPI(s)
												6.0-6.5	EPI(s) TOX(s) EPI(s) EPI(s)
												7.5-8.0	EPI(s) TOX(s) EPI(s) EPI(s)
												9.0-9.5	EPI(s) TOX(s) EPI(s) EPI(s)
												10.5-11.0	TCL Pests (s) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)
												12.0-12.5	TOX(s) EPI(s) EPI(s) EPI(s)
												13.5-14.0	EPI(s) EPI(s) EPI(s) EPI(s)
											15.0-15.5	EPI(s) EPI(s) EPI(s) EPI(s)	
											16.5-17.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)	
											18.0-18.5	EPI(s) TOX(s) EPI(s) EPI(s)	
											19.5-20.0	TOX(s) EPI(s) EPI(s) EPI(s)	
											21.0-21.5	EPI(s) TOX(s) EPI(s) EPI(s)	
											22.0-22.5	EPI(s) TOX(s) EPI(s) EPI(s)	
											23.5-24.0	EPI(s) TOX(s) EPI(s) EPI(s)	
											25.0-25.5	EPI(s) TOX(s) EPI(s) EPI(s)	
											0.0-0.5	TCL Pests (s) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)	
											L-79b	1.5-2.0	TOX(s) EPI(s) EPI(s) EPI(s)
3.0-3.5	EPI(s) TOX(s) EPI(s) EPI(s)												
4.5-5.0	EPI(s) TOX(s) EPI(s) EPI(s)												
6.0-6.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)												
7.5-8.0	EPI(s) TOX(s) EPI(s) EPI(s)												
9.0-9.5	TOX(s) EPI(s) EPI(s) EPI(s)												
10.5-11.0	EPI(s) TOX(s) EPI(s) EPI(s)												
12.0-12.5	EPI(s) TOX(s) EPI(s) EPI(s)												
13.5-14.0	EPI(s) TOX(s) EPI(s) EPI(s)												
15.0-15.5	TCL Pests (s) EPI(s) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)												
16.5-17.0	TOX(s) EPI(s) EPI(s) EPI(s)												
18.0-18.5	EPI(s) TOX(s) EPI(s) EPI(s)												
19.5-20.0	EPI(s) TOX(s) EPI(s) EPI(s)												
21.0-21.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (s) Hex G and Cyanide(g) Full TCL, P(c) RCRA Metals (s)												
23.0-23.5	EPI(s) TOX(s) EPI(s) EPI(s)												
24.5-25.0	EPI(s) TOX(s) EPI(s) EPI(s)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAU, TCL, PCB, PAH, RCRA Metals-Hx, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft)	Sample Parameters
79	Misc Excavation / Retaining Wall	92.8	25	3	50	10	2	10	1	2	L-79c	1.5-2.0	EPH(g)
												3.0-3.5	EPH(g)
												4.5-5.0	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex, G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												6.0-6.5	TOX(g)
												7.5-8.0	EPH(g)
												9.0-9.5	EPH(g)
												10.5-11.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex, G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												12.0-12.5	EPH(g)
												13.5-14.0	TOX(g)
												15.0-15.5	EPH(g)
												16.5-17.5	EPH(g)
												19.0-19.5	EPH(g)
												21.0-21.5	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex, G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												23.0-23.5	TOX(g)
												24.5-25.0	EPH(g)

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCEA Characteristic, TAL, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
80	Mass Excavation / Retaining Wall	1044	25	3	55	11	3	11	2	3	L-80a	1.0-1.5	EPH(c) EPI(c) TCL Pest./Herb(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												3.5-4.0	EPH(c)
												4.5-5.0	EPH(c)
												6.0-6.5	EPH(c)
												7.0-7.5	EPH(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												9.5-10.0	EPH(c) TOX(g)
												11.0-11.5	EPH(c)
												12.5-13.0	EPH(c) TCL Pest./Herb(c) PFI(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												14.0-14.5	EPH(c)
												15.5-16.0	EPH(c) TOX(g)
												17.0-17.5	EPH(c) TCL Pest./Herb(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												18.5-19.0	EPH(c)
												20.0-20.5	EPH(c)
												21.5-22.0	EPH(c) TOX(g)
23.0-23.5	EPH(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)												
24.5-25.0	EPH(c)												

Collect three (3) TCL VOC-10 [g] where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAU, TCL, VOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
80	Mass Excavation / Retaining Wall	1044	25	3	55	11	3	11	2	3	L-806	0.0-0.3	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												1.0-1.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												2.0-2.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												3.5-4.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												4.5-5.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												6.0-6.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												7.0-7.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												9.5-10.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												11.0-11.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												12.5-13.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												14.0-14.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												15.5-16.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												17.0-17.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												18.5-19.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												20.0-20.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
21.5-22.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												
23.0-23.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												
24.5-25.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												

Collect three (3) TCL VOC-10 (g) where appropriate for contamination exists

Table 4  
 Sample Collection Summary  
 Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAU, TCE, PCE, DCE, TCEP, PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
80	Misc Excavation / Retaining Wall	1044	25	3	55	11	3	11	2	3	L-80c	0.6-0.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCRA Char [c]
												1.0-1.5	EPH [g]
												2.0-2.5	EPH [g]
												3.5-4.0	EPH [g]
												4.5-5.0	EPH [g]
												6.0-6.5	EPH [g]
												7.0-7.5	TCL Pest./Herb [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCRA Char [c]
												8.5-10.0	EPH [g]
												11.0-11.5	EPH [g]
												12.5-13.0	TOX [g]
												14.0-14.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCRA Char [c]
												15.5-16.0	EPH [g]
												17.0-17.5	EPH [g]
												18.5-19.0	TCL Pest./Herb [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCRA Char [c]
												20.0-20.5	EPH [g]
21.5-22.0	EPH [g]												
23.0-23.5	EPH [g]												
24.0-24.5	TCL Pest./Herb [c] PTF [g] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCRA Char [c]												
24.5-25.0	EPH [g] TOX [g]												

Collect three (3) TCL SVOC-10 [g] where available for confirmation exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAL, TCL, VOC-20, TCL PCB, PAH, RCRA Metals (Pb, Cu, Ni, V, Zn) 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
81	Mass Excavation / Retaining Wall	968	25	3	50	10	2	10	1	2	L-81a	0.0-0.3	EPH (c) EPH (g) TAL Metals + Cu, TCL, SVOC-20, TCL PCB, (g) Hex, G and Cyanide (g) Full TCL, (P, c) RCRA Metals (g)
												1.5-2.0	EPH (g) TOX (g)
												3.0-3.3	EPH (g) TOX (g)
												4.5-5.0	EPH (g) TOX (g)
												6.0-6.3	EPH (g) TOX (g)
												7.5-8.0	EPH (g) TOX (g)
												9.0-9.5	EPH (g) TOX (g)
												10.5-11.0	TCL Metals (g) EPH (g) TAL Metals + Cu, TCL, SVOC-20, TCL PCB, (g) Hex, G and Cyanide (g) Full TCL, (P, c) RCRA Metals (g)
												12.0-12.5	TOX (g)
												13.5-14.0	EPH (g)
												15.0-15.5	EPH (g)
												16.5-17.0	TAL Metals + Cu, TCL, SVOC-20, TCL PCB, (g) Hex, G and Cyanide (g) Full TCL, (P, c) RCRA Metals (g)
												18.0-18.5	EPH (g)
												19.5-20.0	TOX (g)
21.0-21.5	EPH (g)												
23.0-23.5	EPH (g)												
24.5-25.0	EPH (g)												

Collect two (2) TCL VOC-10 (g) where present (method of contamination exists)

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of BPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL DP, RCRA Characteristic, TAU, TCL VOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, Va, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
81	Mass Excavation / Retaining Wall	968	25	3	50	10	2	10	1	2	L-8 1b	0.0-0.5	TCL Pest/Herb(G) PEE(G) TAL Metals + Cu, TCL SVOC-20, TCL PCB-[G] Hex G and Comps(G) RCFA Char(G) EPH(G) TOX(G)
												1.5-2.0	EPH(G)
												3.0-3.5	EPH(G)
												4.5-5.0	EPH(G)
												6.0-6.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB-[G] Hex G and Comps(G) RCFA Char(G) EPH(G)
												7.5-8.0	EPH(G)
												9.0-9.5	EPH(G)
												10.5-11.0	EPH(G)
												12.0-12.5	EPH(G)
												13.5-14.0	EPH(G)
												15.0-15.5	TCL Pest/Herb(G) PEE(G) TAL Metals + Cu, TCL SVOC-20, TCL PCB-[G] Hex G and Comps(G) RCFA Char(G) EPH(G) TOX(G)
												16.5-17.0	EPH(G)
												18.0-18.5	EPH(G)
												19.5-20.0	EPH(G)
												21.0-21.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB-[G] Hex G and Comps(G) RCFA Char(G) EPH(G)
23.0-23.5	EPH(G)												
24.5-25.0	EPH(G)												

Collective D/TCL  
pest/herb and  
pest/herb  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCHA Characteristic, TAL, TCL, VOC-20, TCL PCB, PAH, RCHA Metals-Hx, Cu, Ni, Va, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft)	Sample Parameters
81	Misc Excavation / Retaining Wall	968	25	3	50	10	2	10	1	2	L-81c	1.5-2.0	EPH(g)
												3.0-3.5	EPH(g)
												4.5-5.0	TCL Pest/Herb(g) TAL Metals + Cu, TCL VOC-20, TCL PCB, [g] Hex, G and Cyanide(g) Full TCL, P(c) RCHA Char(c)
												6.0-6.5	TOX(g)
												7.5-8.0	EPH(g)
												9.0-9.5	EPH(g)
												10.5-11.0	TAL Metals + Cu, TCL VOC-20, TCL PCB, [g] Hex, G and Cyanide(g) Full TCL, P(c) RCHA Char(c)
												12.0-12.5	EPH(g)
												13.5-14.0	TOX(g)
												15.0-15.5	EPH(g)
												16.5-17.5	EPH(g)
												19.0-19.5	EPH(g)
												21.0-21.5	TCL Pest/Herb(g) TAL Metals + Cu, TCL VOC-20, TCL PCB, [g] Hex, G and Cyanide(g) Full TCL, P(c) RCHA Char(c)
												23.0-23.5	TOX(g)
24.5-25.0	EPH(g)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCEA Characteristic, TAL, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
82	Mass Excavation / Retaining Wall	1047	25	3	55	11	3	11	2	3	L-82a	1.0-1.5	EPH(c) EPI(c) TCL Pest./Herb(c) TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												2.0-2.5	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												3.5-4.0	EPH(c) EPI(c)
												4.5-5.0	EPH(c) EPI(c)
												6.0-6.5	EPH(c) EPI(c)
												7.0-7.5	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												9.5-10.0	EPH(g) TOX(g) EPI(g)
												11.0-11.5	EPH(c) EPI(c)
												12.5-13.0	TCL Pest./Herb(c) EPI(c) TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												14.0-14.5	EPH(c) EPI(c)
												15.5-16.0	TOX(g) EPI(g)
												17.0-17.5	TCL Pest./Herb(c) EPI(c) TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												18.5-19.0	EPH(c) EPI(c)
20.0-20.5	EPH(c) EPI(c)												
21.5-22.0	TOX(g) EPI(g)												
23.0-23.5	TAL Metals+Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, P(c) RCEA Char(c)												
24.5-25.0	EPH(c) EPI(c)												

Collect three (3) TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TCL, VOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
82	Mass Excavation / Retaining Wall	1047	25	3	55	11	3	11	2	3	L-82b	0.0-0.3	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												1.0-1.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												2.0-2.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												3.5-4.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												4.5-5.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												6.0-6.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												7.0-7.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												9.5-10.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												11.0-11.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												12.5-13.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												14.0-14.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												15.5-16.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												17.0-17.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
												18.5-19.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)
20.0-20.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												
21.5-22.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												
23.0-23.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												
24.5-25.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCRA Char(c)												

Collect three (3) TCL VOC-10 (a) where available for confirmation tests



Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCA Characteristic, TAL, TCL SVOC-20, TCL PCB, PAH, RCA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
83	Misc Excavation / Retaining Wall	1598	25	4	80	15	4	16	2	4	L-83a	0.0-0.3	EPH(c) EPH(c) TCL Pest./Herb(c) PPE(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G. and Cyanide(g) Full TCL P(c) RCA Char(c)
												1.0-1.5	EPH(g) TOX(g) RCA Char(c)
												2.5-3.0	EPH(c) EPH(c)
												3.3-4.0	EPH(c)
												5.0-5.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G. and Cyanide(g) Full TCL P(c) RCA Char(c)
												6.5-7.0	EPH(c)
												7.5-8.0	EPH(c) TOX(g)
												9.0-9.5	EPH(c)
												10.0-10.5	EPH(c)
												11.5-12.0	TCL Pest./Herb(c) PPE(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G. and Cyanide(g) Full TCL P(c) RCA Char(c)
												13.0-13.5	EPH(c)
												14.0-14.5	EPH(c)
												15.5-16.0	EPH(g) TOX(g)
												16.5-17.0	EPH(c)
												18.0-18.5	EPH(c)
												19.5-20.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G. and Cyanide(g) Full TCL P(c) RCA Char(c)
21.0-21.5	EPH(c) EPH(c) TCL Pest./Herb(c) PPE(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G. and Cyanide(g) Full TCL P(c) RCA Char(c)												
22.0-22.5	EPH(c) TOX(g) RCA Char(c)												
23.5-24.0	EPH(c) EPH(c) TOX(g)												
24.5-25.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex. G. and Cyanide(g) Full TCL P(c) RCA Char(c)												

Collect four (4) TCL VOC-10 (g) where appropriate for contamination index



Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL DP, RCRA Characteristic, TAU, TCL SVOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
83	Mass Excavation / Retaining Wall	1598	25	4	80	15	4	16	2	4	L-83c	0.0-0.3	EPH(c) EPH(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)
												1.0-1.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												2.5-3.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)
												3.5-4.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												5.0-5.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)
												6.5-7.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												7.5-8.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												9.0-9.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												10.0-10.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)
												11.5-12.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)
												13.0-13.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												14.0-14.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
												15.5-16.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)
												16.5-17.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC
18.0-18.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC												
19.5-20.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC												
21.0-21.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)												
22.0-22.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC												
23.0-23.5	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC												
24.5-25.0	EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Cyanide(g) Full TCL PFC RCRA Char(c)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TCL VOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
83	Mass Excavation / Retaining Wall	1598	25	4	80	15	4	16	2	4	L-83d	0.0-0.3	EPH(c) EPH(g) TCL Pest/Herb(g) PPE(g) TAL Metals, TCL SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, Hex Cr and Cyanide(g) Full TCL PPE RCEA Char(g)
												2.5-3.0	EPH(c) EPH(g) TOX(g)
												3.5-4.0	TOX(g)
												5.0-5.5	EPH(c) EPH(g)
												6.5-7.0	EPH(c) EPH(g)
												7.5-8.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PPE RCEA Char(g)
												9.0-9.5	EPH(c) EPH(g)
												10.0-10.5	EPH(c)
												11.5-12.0	TCL Pest/Herb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PPE RCEA Char(g)
												13.0-13.5	EPH(c) EPH(g) TOX(g)
												14.0-14.5	EPH(c)
												15.5-16.0	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PPE RCEA Char(g)
												16.5-17.0	EPH(c) EPH(g) TOX(g)
												18.0-18.5	EPH(c)
19.5-20.0	TCL Pest/Herb(g) PPE(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PPE RCEA Char(g)												
21.0-21.5	EPH(c) EPH(g)												
22.0-22.5	EPH(c) EPH(g)												
23.5-24.0	EPH(c) TOX(g)												
24.5-25.0	EPH(c)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of BPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCKA Characteristic, TAL, TOX, SVOC-20, TCL PCB, PAH, RCKA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters
84	Mass Excavation / Retaining Wall	1627	25	4	85	16	4	17	2	4	L-84a	0.0-0.3	EPH (c)
												1.0-1.5	TCL Pest./Herb(c) EPH(c) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (c) Hex.G and Cyanide(g) Full TCL, P(c) RCKA Char(c)
												2.0-2.5	EPH(g) TOX(g) EPH(c)
												3.0-3.3	EPH(c)
												4.0-4.5	EPH(g) TOX(g) EPH(c)
												5.0-5.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (c) Hex.G and Cyanide(g) Full TCL, P(c) RCKA Char(c)
												6.0-6.3	EPH(g)
												7.0-7.5	TOX(g)
												8.0-8.5	EPH(c)
												9.0-9.3	EPH(c)
												10.0-10.5	TCL Pest./Herb(c) EPH(c) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (c) Hex.G and Cyanide(g) Full TCL, P(c) RCKA Char(c)
												11.0-11.5	EPH(c)
												12.0-12.5	EPH(c)
												13.0-13.5	EPH(c)
												14.0-14.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, (c) Hex.G and Cyanide(g) Full TCL, P(c) RCKA Char(c)
												15.0-15.5	EPH(c)
												16.0-16.5	EPH(g) TOX(g) EPH(c)
												17.0-17.5	EPH(c)
												18.0-18.5	TCL Pest./Herb(c) EPH(c) TAL Metals+Cu, TCL SVOC-20, TCL PCB, (c) Hex.G and Cyanide(g) Full TCL, P(c) RCKA Char(c)
												20.0-20.5	EPH(c)
22.0-22.5	EPH(c)												
24.0-24.5	EPH(c)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCEA Characteristic, TAL, TOX, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
84	Mass Excavation / Retaining Wall	1627	25	4	85	16	4	17	2	4	L-84b	0.0-0.3	EPI(g) EPI(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												1.0-1.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												2.0-2.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												3.0-3.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												4.0-4.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												5.0-5.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												6.0-6.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												7.0-7.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												8.0-8.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												9.0-9.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												10.0-10.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												11.0-11.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												12.0-12.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												13.0-13.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												14.0-14.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
												15.0-15.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)
16.0-16.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
17.0-17.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
18.0-18.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
19.0-19.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
20.0-20.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
21.0-21.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
22.0-22.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
23.0-23.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												
24.0-24.5	EPI(g) EPI(g) TCL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL PFC RCEA Char(g) TOX(g) EPI(g)												

Collect four (4)  
TCL VOC-10 (g) where  
greatest likelihood of  
contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAL, TOX, SVOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
84	Mass Excavation / Retaining Wall	1627	25	4	85	16	4	17	2	4	L-84c	0.0-0.3	EPI (c) EPI (g)
												1.0-1.5	TCL Pest./Herb (c) EPI (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide (g) Full TCL, P (c) RCRA Char (c)
												2.0-2.5	EPI (g) TOX (g) EPI (c)
												3.0-3.3	EPI (c)
												4.0-4.5	EPI (g) TOX (g) EPI (c)
												5.0-5.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide (g) Full TCL, P (c) RCRA Char (c)
												6.0-6.3	EPI (g)
												7.0-7.5	TOX (g) EPI (c)
												8.0-8.7	EPI (c)
												9.0-9.3	EPI (c)
												10.0-10.5	TCL Pest./Herb (c) EPI (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide (g) Full TCL, P (c) RCRA Char (c)
												11.0-11.5	EPI (c)
												12.0-12.5	EPI (c)
												13.0-13.5	EPI (c)
												14.0-14.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide (g) Full TCL, P (c) RCRA Char (c)
												15.0-15.5	EPI (g)
16.5-17.0	EPI (g) TOX (g) EPI (c)												
18.0-18.5	EPI (c)												
20.0-20.5	TCL Pest./Herb (c) EPI (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex.G and Cyanide (g) Full TCL, P (c) RCRA Char (c)												
22.0-22.5	EPI (c)												
24.0-24.5	EPI (c)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of Paint Filter & TCL Pest/Herb & 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAU, TCL SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
84	Mass Excavation / Retaining Wall	1627	25	4	85	16	4	17	2	4	L-8-4d	1.0-1.5	EPH(C) EPH(G)
												2.0-2.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [C] Hex C and Comide(G) RCEA Char(G)
												3.0-3.5	EPH(G) TOX(G)
												4.0-4.5	TCL Pest/Herb(G) PTF(C) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [C] Hex C and Comide(G) Bi(TCL, P) RCEA Char(G)
												5.0-5.5	EPH(G) TOX(G)
												6.0-6.5	EPH(G)
												7.0-7.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [C] Hex C and Comide(G) RCEA Char(G)
												8.0-8.5	EPH(G)
												9.0-9.5	TOX(G)
												10.0-10.5	EPH(G)
												11.0-11.5	EPH(G)
												12.0-12.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [C] Hex C and Comide(G) Bi(TCL, P) RCEA Char(G)
												13.0-13.5	EPH(G)
												14.0-14.5	EPH(G)
												15.0-15.5	TCL Pest/Herb(G) PTF(C) TAL Metals + Cu, TCL SVOC-20, TCL PCB, [C] Hex C and Comide(G) Bi(TCL, P) RCEA Char(G)
												16.5-17.0	EPH(G)
18.0-18.5	EPH(G)												
20.0-20.5	EPH(G)												
22.0-22.5	TOX(G)												
24.0-24.5	EPH(G)												

Collect four (4) TCL VOC-10 (G) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, PCB, RCEA Characteristic, TAL, TC, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
85	Mass Excavation / Retaining Wall	1075	25	3	55	11	3	11	2	3	L-85a	1.0-1.5	EPH(c) TCL Pest./Herb(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, PCB, PAH, RCEA Char(c)
												2.0-2.5	TAL Metals+ Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, PCB, PAH, RCEA Char(c)
												3.5-4.0	EPH(c)
												4.5-5.0	EPH(c)
												6.0-6.5	EPH(c)
												7.0-7.5	TAL Metals+ Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, PCB, PAH, RCEA Char(c)
												9.5-10.0	EPH(g) TOX(g)
												11.0-11.5	EPH(c)
												12.5-13.0	TCL Pest./Herb(c) PEH(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, PCB, PAH, RCEA Char(c)
												14.0-14.5	EPH(c)
												15.5-16.0	TOX(g) EPH(g)
												17.0-17.5	TCL Pest./Herb(c) TAL Metals+ Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, PCB, PAH, RCEA Char(c)
												18.5-19.0	EPH(c)
20.0-20.5	EPH(c)												
21.5-22.0	TOX(g) EPH(g)												
23.0-23.5	TAL Metals+ Cu, TC, SVOC-20, TCL PCB, (g) Hex.G and Cyanide(g) Full TCL, PCB, PAH, RCEA Char(c)												
24.5-25.0	EPH(c)												

Collect three (3) TCL VOC-10 (g) where greatest likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TCL, VOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
85	Mass Excavation / Retaining Wall	1075	25	3	55	11	3	11	2	3	L-85b	0.0-0.3	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												1.0-1.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												2.0-2.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												3.5-4.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												4.5-5.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												6.0-6.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												7.0-7.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												9.5-10.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												11.0-11.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												12.5-13.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												14.0-14.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												15.5-16.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												17.0-17.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												18.5-19.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
												20.0-20.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)
21.5-22.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)												
23.0-23.5	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)												
24.5-25.0	EPH(c) EPH(c) TCL Pest./Herb(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCL, P(c) RCEA Char(c)												

Collect three (3) TCL VOC-10 (a) where available for confirmation tests

Table 4  
 Sample Collection Summary  
 Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCKA Characteristic, TAU, TCE, TCE, TCE, TCE, TCE, TCL PCB, PAH, RCKA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
85	Misc Excavation / Retaining Wall	1075	25	3	55	11	3	11	2	3	L-85c	0.6-0.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCKA Char [c]
												1.0-1.5	EPH [g]
												2.0-2.5	EPH [g]
												3.5-4.0	EPH [g]
												4.5-5.0	EPH [g]
												6.0-6.5	EPH [g]
												7.0-7.5	TCL Pest./Herb [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCKA Char [c]
												8.5-10.0	EPH [g]
												11.0-11.5	EPH [g]
												12.5-13.0	TOX [g]
												14.0-14.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCKA Char [c]
												15.5-16.0	EPH [g]
												17.0-17.5	EPH [g]
												18.5-19.0	TCL Pest./Herb [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCKA Char [c]
20.0-20.5	EPH [g]												
21.5-22.0	EPH [g]												
23.0-23.5	EPH [g]												
24.0-24.5	TCL Pest./Herb [c] PTE [g] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [g] Hex G and Cyanide [g] Full TCL Pfc [g] RCKA Char [c]												
24.5-25.0	EPH [g] TOX [g]												

Collect three (3) TCL SVOC-10 [g] where available for confirmation exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAL, TCL SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft.) (D)	Sample Parameters
86	Mass Excavation / Retaining Wall	694	25	2	35	7	2	7	1	2	L-86a	0.9-1.3	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												1.0-1.5	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												2.5-3.0	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												4.0-4.5	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												5.5-6.0	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												6.0-6.5	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												7.5-8.0	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												9.0-9.5	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												10.5-11.0	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
												12.0-12.5	EPH (g) TOX (g) EPH (c)
												13.5-14.0	EPH (g) EPH (c)
												15.0-15.5	EPH (g) TOX (g) EPH (c)
												16.5-17.0	EPH (g) EPH (c)
												18.0-18.5	EPH (g) EPH (c) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)
19.5-20.0	EPH (c) EPH (g)												
21.0-21.5	EPH (c) EPH (g)												
22.5-23.0	EPH (c) EPH (g) TCL Pest./Herb (c) PPE (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. G and Cyanide (g) Full TCL, P (c) RCEA Char (c)												
24.0-24.5	EPH (c) EPH (g)												

Collect two (2) where greater likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAL, VOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters
86	Mass Excavation / Retaining Wall	694	25	2	35	7	2	7	1	2	L-86b	0.0-0.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												1.0-1.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												2.5-3.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												4.0-4.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												5.5-6.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												6.0-6.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												7.5-8.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												9.0-9.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												10.5-11.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												12.0-12.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												13.5-14.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												15.0-15.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												16.5-17.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
												18.0-18.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)
19.5-20.0	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)												
22.0-22.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)												
24.0-24.5	EPH (g) TOX (g) EPH (c) TCL Pest/Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex Cr and Cyanide (g) Full TCL (Pc) (c) RCRA Char (c)												



Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL DP, RCRA Characteristic, TCL VOC-20, TCL PCB, PAH, RCRA Metals-Bc, Cu, Ni, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
87	Mass Excavation / Retaining Wall	588	25	2	30	6	2	6	1	2	L-87a	0.0-0.3	EPH(g) EPH(g) TCL Pest/Herb(g) PF(g) TAL Metals, TCL SVOC-20, TCL PCB, PAH, RCRA Metals-Bc, Cu, Ni, Zn Hex Cr and Cyanide(g) Full TCL PF(g) RCRA Char(g)
												3.0-3.5	EPH(g) EPH(g) TCL Pest/Herb(g) PF(g)
												5.0-5.5	EPH(g) TAL Metals - Cu, TCL SVOC-20, TCL PCB, [g] Hex Cr and Cyanide(g) Full TCL PF(g) RCRA Char(g)
												6.5-7.0	EPH(g)
												8.0-8.5	EPH(g)
												10.0-10.5	EPH(g)
												11.5-12.0	TCL Pest/Herb(g) TAL Metals, TCL SVOC-20, TCL PCB, PAH, RCRA Metals-Bc, Cu, Ni, Zn V.s. Zn(g) Hex Cr and Cyanide(g) Full TCL PF(g) RCRA Char(g)
												13.0-13.5	EPH(g)
												15.0-15.5	EPH(g)
												16.5-17.0	TAL Metals - Cu, TCL SVOC-20, TCL PCB, [g] Hex Cr and Cyanide(g) Full TCL PF(g) RCRA Char(g)
												18.0-18.5	EPH(g)
												20.0-20.5	EPH(g)
21.5-22.0	TCL Pest/Herb(g) TAL Metals, TCL SVOC-20, TCL PCB, PAH, RCRA Metals-Bc, Cu, Ni, Zn V.s. Zn(g) Hex Cr and Cyanide(g) Full TCL PF(g) RCRA Char(g)												
23.5-24.0	EPH(g)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCKA Characteristic, TAU, TCL SVOC-20, TCL PCB, PAH, RCKA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
88	Miss Excavation / Retaining Wall	613	25	2	35	7	2	7	1	2	L-88a	0.0-0.3	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												1.0-1.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												2.5-3.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												4.0-4.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												5.5-6.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												6.0-6.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												7.5-8.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												9.0-9.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												10.5-11.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												12.0-12.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												13.5-14.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												15.0-15.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												16.5-17.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												18.0-18.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												19.5-20.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												21.0-21.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
												22.5-23.0	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)
24.0-24.5	EPI(c) EPI(h) TCL Pest./Herb(c) PF(c) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (c) Hex. C, Cyanide(c) Full TCL, P(c) RCKA Char(c)												

Collective (d) (e) where  
process identified of  
contamination exists



Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of BPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL DP, RCEA Characteristic, TAL, TCL PCB, PAH, RCEA Metals-Hx, Cu, Ni, Va, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
89	Mud Excavation / Retaining Wall	819	25	3	45	9	2	9	1	2	L-89a	0.5-1.0 2.0-2.5 3.5-4.0 5.0-5.5 6.5-7.0 8.0-8.5 9.5-10.0 11.0-11.5 13.5-14.0 15.0-15.5 16.5-17.0 18.0-18.5 19.5-20.0 21.5-22.0 23.0-23.5	EPH [c] EPH [d] TOX [g] EPH [c] EPH [c] TCL PCB [g] [c] TCL PAH [g] [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB [g] Hex, Cr and Cyanide [g] Full TCL PFC [c] RCEA Char [c] EPH [c] EPH [c] TOX [g] EPH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB [g] Hex, Cr and Cyanide [g] Full TCL PFC [c] RCEA Char [c] EPH [g] EPH [g] EPH [g] EPH [g] EPH [g] EPH [g] EPH [g] EPH [g] EPH [g] EPH [g]
Collect two (2) TCL VOC-10 [d] where present (method of determination exists)													

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCLP, RCRA Characteristic, TAL, TCL SVOC-20, TCL PCB, PAH, RCRA Metals-Bi,Cu,Ni,Va,Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
89	Misc Excavation / Retaining Wall	819	25	3	45	9	2	9	1	2	L-89b	0.5-1.0	TAL Metals+Cu,TCL SVOC-20, TCL PCB,[g] EPI(c) Hex G and Cyanide(g) Full TCLP(c) RCRA Char(c)
												2.0-2.5	EPH(g) TOX(g)
												3.5-4.0	EPH(g)
												5.0-5.5	EPH(c)
												6.5-7.0	TCL Pest./Herb(c) TAL Metals+Cu,TCL SVOC-20, TCL PCB,[g] Hex G and Cyanide(g) Full TCLP(c)
												8.0-8.5	EPH(c)
												9.5-10.0	EPH(c)
												11.0-11.5	EPH(g) TOX(g)
												13.5-14.0	EPH(c)
												15.0-15.5	EPH(g) TOX(g)
											16.5-17.0	EPH(c) TAL Metals+Cu,TCL SVOC-20, TCL PCB,[g] Hex G and Cyanide(g) Full TCLP(c)	
											18.0-18.5	EPH(c)	
											19.5-20.0	EPH(c)	
											21.0-21.5	EPH(c)	
											22.0-22.5	EPH(c)	
											23.0-23.5	EPH(c)	
											24.0-24.5	EPH(c)	
											25.0-25.5	EPH(c)	
											26.0-26.5	EPH(c)	
											27.0-27.5	EPH(c)	
28.0-28.5	EPH(c)												
29.0-29.5	EPH(c)												
30.0-30.5	EPH(c)												
31.0-31.5	EPH(c)												
32.0-32.5	EPH(c)												
33.0-33.5	EPH(c)												
34.0-34.5	EPH(c)												
35.0-35.5	EPH(c)												
36.0-36.5	EPH(c)												
37.0-37.5	EPH(c)												
38.0-38.5	EPH(c)												
39.0-39.5	EPH(c)												
40.0-40.5	EPH(c)												
41.0-41.5	EPH(c)												
42.0-42.5	EPH(c)												
43.0-43.5	EPH(c)												
44.0-44.5	EPH(c)												
45.0-45.5	EPH(c)												
46.0-46.5	EPH(c)												
47.0-47.5	EPH(c)												
48.0-48.5	EPH(c)												
49.0-49.5	EPH(c)												
50.0-50.5	EPH(c)												
51.0-51.5	EPH(c)												
52.0-52.5	EPH(c)												
53.0-53.5	EPH(c)												
54.0-54.5	EPH(c)												
55.0-55.5	EPH(c)												
56.0-56.5	EPH(c)												
57.0-57.5	EPH(c)												
58.0-58.5	EPH(c)												
59.0-59.5	EPH(c)												
60.0-60.5	EPH(c)												
61.0-61.5	EPH(c)												
62.0-62.5	EPH(c)												
63.0-63.5	EPH(c)												
64.0-64.5	EPH(c)												
65.0-65.5	EPH(c)												
66.0-66.5	EPH(c)												
67.0-67.5	EPH(c)												
68.0-68.5	EPH(c)												
69.0-69.5	EPH(c)												
70.0-70.5	EPH(c)												
71.0-71.5	EPH(c)												
72.0-72.5	EPH(c)												
73.0-73.5	EPH(c)												
74.0-74.5	EPH(c)												
75.0-75.5	EPH(c)												
76.0-76.5	EPH(c)												
77.0-77.5	EPH(c)												
78.0-78.5	EPH(c)												
79.0-79.5	EPH(c)												
80.0-80.5	EPH(c)												
81.0-81.5	EPH(c)												
82.0-82.5	EPH(c)												
83.0-83.5	EPH(c)												
84.0-84.5	EPH(c)												
85.0-85.5	EPH(c)												
86.0-86.5	EPH(c)												
87.0-87.5	EPH(c)												
88.0-88.5	EPH(c)												
89.0-89.5	EPH(c)												
90.0-90.5	EPH(c)												
91.0-91.5	EPH(c)												
92.0-92.5	EPH(c)												
93.0-93.5	EPH(c)												
94.0-94.5	EPH(c)												
95.0-95.5	EPH(c)												
96.0-96.5	EPH(c)												
97.0-97.5	EPH(c)												
98.0-98.5	EPH(c)												
99.0-99.5	EPH(c)												
100.0-100.5	EPH(c)												
101.0-101.5	EPH(c)												
102.0-102.5	EPH(c)												
103.0-103.5	EPH(c)												
104.0-104.5	EPH(c)												
105.0-105.5	EPH(c)												
106.0-106.5	EPH(c)												
107.0-107.5	EPH(c)												
108.0-108.5	EPH(c)												
109.0-109.5	EPH(c)												
110.0-110.5	EPH(c)												
111.0-111.5	EPH(c)												
112.0-112.5	EPH(c)												
113.0-113.5	EPH(c)												
114.0-114.5	EPH(c)												
115.0-115.5	EPH(c)												
116.0-116.5	EPH(c)												
117.0-117.5	EPH(c)												
118.0-118.5	EPH(c)												
119.0-119.5	EPH(c)												
120.0-120.5	EPH(c)												
121.0-121.5	EPH(c)												
122.0-122.5	EPH(c)												
123.0-123.5	EPH(c)												
124.0-124.5	EPH(c)												
125.0-125.5	EPH(c)												
126.0-126.5	EPH(c)												
127.0-127.5	EPH(c)												
128.0-128.5	EPH(c)												
129.0-129.5	EPH(c)												
130.0-130.5	EPH(c)												
131.0-131.5	EPH(c)												
132.0-132.5	EPH(c)												
133.0-133.5	EPH(c)												
134.0-134.5	EPH(c)												
135.0-135.5	EPH(c)												
136.0-136.5	EPH(c)												
137.0-137.5	EPH(c)												
138.0-138.5	EPH(c)												
139.0-139.5	EPH(c)												
140.0-140.5	EPH(c)												
141.0-141.5	EPH(c)												
142.0-142.5	EPH(c)												
143.0-143.5	EPH(c)												
144.0-144.5	EPH(c)												
145.0-145.5	EPH(c)												
146.0-146.5	EPH(c)												
147.0-147.5	EPH(c)												
148.0-148.5	EPH(c)												
149.0-149.5	EPH(c)												
150.0-150.5	EPH(c)												
151.0-151.5	EPH(c)												
152.0-152.5	EPH(c)												
153.0-153.5	EPH(c)												
154.0-154.5	EPH(c)												
155.0-155.5	EPH(c)												
156.0-156.5	EPH(c)												
157.0-157.5	EPH(c)												
158.0-158.5	EPH(c)												
159.0-159.5	EPH(c)												
160.0-160.5	EPH(c)												
161.0-161.5	EPH(c)												
162.0-162.5	EPH(c)												
163.0-163.5	EPH(c)												
164.0-164.5	EPH(c)												
165.0-165.5	EPH(c)												
166.0-166.5	EPH(c)												
167.0-167.5	EPH(c)												
168.0-168.5	EPH(c)												
169.0-169.5	EPH(c)												
170.0-170.5	EPH(c)												
171.0-171.5	EPH(c)												
172.0-172.5	EPH(c)												
173.0-173.5	EPH(c)												
174.0-174.5	EPH(c)												
175.0-175.5	EPH(c)												
176.0-176.5	EPH(c)												
177.0-177.5	EPH(c)												
178.0-178.5	EPH(c)												
179.0-179.5	EPH(c)												
180.0-180.5	EPH(c)												
181.0-181.5	EPH(c)												
182.0-182.5	EPH(c)												
183.0-183.5	EPH(c)												
184.0-184.5	EPH(c)												
185.0-185.5	EPH(c)												
186.0-186.5	EPH(c)												
187.0-187.5	EPH(c)												
188.0-188.5	EPH(c)												
189.0-189.5	EPH(c)												
190.0-190.5	EPH(c)												
191.0-191.5	EPH(c)												
192.0-192.5	EPH(c)												
193.0-193.5	EPH(c)												
194.0-194.5	EPH(c)												
195.0-195.5	EPH(c)												
196.0-196.5	EPH(c)												
197.0-197.5	EPH(c)												
198.0-198.5	EPH(c)												
199.0-199.5	EPH(c)												
200.0-200.5	EPH(c)												
201.0-201.5	EPH(c)												
202.0-202.5	EPH(c)												
203.0-203.5	EPH(c)												
204.0-204.5	EPH(c)												
205.0-205.5	EPH(c)												
206.0-206.5	EPH(c)												
207.0-207.5	EPH(c)												
208.0-208.5	EPH(c)												
209.0-209.5	EPH(c)												
210.0-210.5	EPH(c)												
211.0-211.5	EPH(c)												
212.0-212.5	EPH(c)												
213.0-213.5	EPH(c)												
214.0-214.5	EPH(c)												
215.0-215.5	EPH(c)												
216.0-216.5	EPH(c)												
217.0-217.5	EPH(c)												
218.0-218.5	EPH(c)												
219.0-219.5	EPH(c)												
220.0-220.5	EPH(c)												
221.0-221.5	EPH(c)												
222.0-222.5	EPH(c)												
223.0-223.5	EPH(c)												
224.0-224.5	EPH(c)												
225.0-225.5	EPH(c)												
226.0-226.5	EPH(c)												
227.0-227.5	EPH(c)												
228.0-228.5	EPH(c)												
229.0-229.5	EPH(c)												
230.0-230.5	EPH(c)												
231.0-231.5	EPH(c)												
232.0-232.5	EPH(c)												
233.0-233.5	EPH(c)												
234.0-234.5	EPH(c)												
235.0-235.5	EPH(c)												
236.0-236.5	EPH(c)												
237.0-237.5	EPH(c)												
238.0-238.5	EPH(c)												
239.0-239.5	EPH(c)												
240.0-240.5	EPH(c)												
241.0-241.5	EPH(c)												
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244.0-244.5	EPH(c)												
245.0-245.5	EPH(c)												
246.0-246.5	EPH(c)												
247.0-247.5	EPH(c)												
248.0-248.5	EPH(c)												
249.0-249.5	EPH(c)												
250.0-250.5	EPH(c)												
251.0-251.5	EPH(c)												
252.0-252.5	EPH(c)												
253.0-253.5	EPH(c)												
254.0-254.5	EPH(c)												
255.0-255.5	EPH(c)												
256.0-256.5	EPH(c)												
257.0-257.5	EPH(c)												
258.0-258.5	EPH(c)												
259.0-259.5	EPH(c)												
260.0-260.5	EPH(c)												
261.0-261.5	EPH(c)												
262.0-262.5	EPH(c)												
263.0-263.5	EPH(c)												
264.0-264.5	EPH(c)												
265.0-265.5	EPH(c)												
266.0-266.5	EPH(c)												
267.0-267.5	EPH(c)												
268.0-268.5	EPH(c)												
269.0-269.5	EPH(c)												
270.0-270.5	EPH(c)												
271.0-271.5	EPH(c)												
272.0-272.5	EPH(c)												
273.0-273.5	EPH(c)												
274.0-274.5	EPH(c)												
275.0-275.5	EPH(c)												
276.0-276.5	EPH(c)												
277.0-277.5	EPH(c)												
278.0-278.5	EPH(c)												
279.0-279.5	EPH(c)												
280.0-280.5	EPH(c)												
281.0-281.5	EPH(c)												
282.0-282.5	EPH(c)												
283.0-283.5	EPH(c)												
284.0-284.5	EPH(c)												
285.0-285.5	EPH(c)												
286.0-286.5	EPH(c)												
287.0-287.5	EPH(c)												
288.0-288.5	EPH(c)												
289.0-289.5	EPH(c)												
290.0-290.5	EPH(c)												
291.0-291.5	EPH(c)												
292.0-292.5	EPH(c)												
293.0-293.5	EPH(c)												
294.0-294.5	EPH(c)												
295.0-295.5	EPH(c)												
296.0-296.5	EPH(c)												
297.0-297.5	EPH(c)												
298.0-298.5	EPH(c)												
299.0-299.5	EPH(c)												
300.0-300.5	EPH(c)												
301.0-301.5	EPH(c)												
302.0-302.5	EPH(c)												
303.0-303.5	EPH(c)												
304.0-304.5	EPH(c)												
305.0-305.5	EPH(c)												
306.0-306.5	EPH(c)												
307.0-307.5	EPH(c)												
308.0-308.5	EPH(c)												
309.0-309.5	EPH(c)												
310.0-310.5	EPH(c)												
311.0-311.5	EPH(c)												
312.0-312.5	EPH(c)												
313.0-313.5	EPH(c)												
314.0-314.5	EPH(c)												
315.0-315.5	EPH(c)												
316.0-316.5	EPH(c)												
317.0-317.5	EPH(c)												
318.0-318.5	EPH(c)												
319.0-319.5	EPH(c)												
320.0-320.5	EPH(c)												
321.0-321.5	EPH(c)												
322.0-322.5	EPH(c)												
323.0-323.5	EPH(c)												
324.0-324.5	EPH(c)												
325.0-325.5	EPH(c)												
326.0-326.5	EPH(c)												
327.0-327.5	EPH(c)												
328.0-328.5	EPH(c)												
329.0-329.5	EPH(c)												
330.0-330.5	EPH(c)												
331.0-331.5	EPH(c)												
332.0-332.5	EPH(c)												
333.0-333.5	EPH(c)												
334.0-334.5	EPH(c)												
335.0-335.5	EPH(c)												
336.0-336.5	EPH(c)												
337.0-337.5	EPH(c)												
338.0-338.5	EPH(c)												
339.0-339.5	EPH(c)												
340.0-340.5	EPH(c)												
341.0-341.5	EPH(c)												
342.0-342.5	EPH(c)												
343.0-343.5	EPH(c)												
344.0-344.5	EPH(c)												
345.0-345.5	EPH(c)												
346.0-346.5	EPH(c)												
347.0-347.5	EPH(c)												
348.0-348.5	EPH(c)												
349.0-349.5	EPH(c)												
350.0-350.5	EPH(c)												
351.0-351.5	EPH(c)												
352.0-352.5	EPH(c)												
353.0-353.5	EPH(c)												
354.0-354.5	EPH(c)												
355.0-355.5	EPH(c)												
356.0-356.5	EPH(c)												
357.0-357.5	EPH(c)												
358.0-358.5	EPH(c)												
359.0-359.5	EPH(c)												
360.0-360.5	EPH(c)												
361.0-361.5	EPH(c)												
362.0-362.5	EPH(c)												
363.0-363.5	EPH(c)												
364.0-364.5	EPH(c)												
365.0-365.5	EPH(c)												
366.0-366.5	EPH(c)												
367.0-367.5	EPH(c)												

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCLP, RCRA Characteristic, TAL, TCLP, PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
90	Mass Excavation / Retaining Wall	879	9	5	45	9	2	9	1	2	L-90a	0.0-0.5	EPI(g) TOX(g) EPI(g)
												1.0-1.5	EPI(g) TOX(g) EPI(g)
												2.0-2.5	TCL Pesticide(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCLP (g) RCRA Char (g)
												3.0-3.5	EPI(g)
												4.0-4.5	EPI(g)
												5.0-5.5	EPI(g)
												6.0-6.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCLP (g) RCRA Char (g)
												7.0-7.5	EPI(g)
												8.0-8.5	TOX(g) EPI(g)
												0.0-0.5	EPI(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCLP (g) RCRA Char (g)
											L-90b	1.0-1.5	EPI(g) TOX(g) EPI(g)
												2.0-2.5	EPI(g)
												3.0-3.5	EPI(g)
												4.0-4.5	EPI(g)
												5.0-5.5	EPI(g)
												6.0-6.5	TCL Pest./Herb(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCLP (g) RCRA Char (g)
												7.0-7.5	EPI(g)
												8.0-8.5	EPI(g)
												0.0-0.5	EPI(g) TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCLP (g) RCRA Char (g)
												2.0-2.5	EPI(g) TOX(g) EPI(g)
L-90c	4.0-4.5	TOX(g) EPI(g)											
	5.0-5.5	EPI(g)											
	6.0-6.5	TOX(g) EPI(g)											
	7.0-7.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, (g) Hex G and Cyanide(g) Full TCLP (g) RCRA Char (g)											
	8.0-8.5	EPI(g)											





Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Full TCL, P, RCRA Characteristic, TAL Metals, TCL SVOC-20, TCL PCB, PAH, RCRA Metals-Hg, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
91	Mass Excavation / Retaining Wall	993	9	5	50	10	2	10	1	2	L-91d	0.0-0.3	EPH [c] EPH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex, G and Cyanide [c] Full TCL [P, c] RCRA Metals [c]
												1.0-1.5	EPH [c] EPH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex, G and Cyanide [c] Full TCL [P, c] RCRA Metals [c]
												2.0-2.5	EPH [c] EPH [c] TOX [g] EPH [c]
												3.0-3.5	EPH [c] EPH [c] TOX [g] EPH [c]
												4.0-4.5	EPH [c] EPH [c] TOX [g] EPH [c]
												5.0-5.5	EPH [c] EPH [c] TOX [g] EPH [c]
												6.0-6.5	EPH [c] EPH [c] TOX [g] EPH [c]
												7.0-7.5	TCL [P, c] EPH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex, G and Cyanide [c] Full TCL [P, c] RCRA Metals [c]
												8.0-8.5	TOX [g] EPH [c]
												9.0-9.3	EPH [c] EPH [c]
												1.0-1.5	EPH [c] EPH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex, G and Cyanide [c] Full TCL [P, c] RCRA Metals [c]
												2.0-2.5	EPH [c] EPH [c] TOX [g] EPH [c]
												3.0-3.5	EPH [c] EPH [c] TOX [g] EPH [c]
												4.0-4.5	EPH [c] EPH [c] TOX [g] EPH [c]
												5.0-5.5	EPH [c] EPH [c] TOX [g] EPH [c]
												6.0-6.5	EPH [c] EPH [c] TOX [g] EPH [c]
7.0-7.5	TCL [P, c] EPH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex, G and Cyanide [c] Full TCL [P, c] RCRA Metals [c]												
8.0-8.5	TOX [g] EPH [c]												
9.0-9.3	EPH [c] EPH [c]												
											L-91e		Collect two (2) TCL Metals + Cu, TCL SVOC-20, TCL PCB, [c] grab samples if the likelihood of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAL, TCL, VOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters
92	Mass Excavation / Retaining Wall	1044	9	5	55	11	3	11	2	3	L-92a	0.5-1.0	EPH(g) EPH(g) TCL Pest./Herb(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												1.0-1.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												2.0-2.5	EPH(g) EPH(g)
												3.0-3.5	EPH(g) EPH(g)
												4.0-4.5	EPH(g)
												5.0-5.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												6.0-6.5	EPH(g) TOX(g)
												7.0-7.5	EPH(g) EPH(g)
												8.0-8.5	TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												8.5-9.0	EPH(g) EPH(g) TOX(g) TOX(g)
											L-92b	0.0-0.5	EPH(g) TOX(g) TOX(g)
												0.5-1.0	TCL Pest./Herb(g) PF(g) TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												1.0-1.5	EPH(g)
												2.0-2.5	EPH(g) TOX(g) TOX(g)
												3.0-3.5	EPH(g) EPH(g)
												4.0-4.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												5.0-5.5	EPH(g)
												6.0-6.5	EPH(g) EPH(g) TCL Pest./Herb(g) PF(g)
												7.0-7.5	TAL Metals+Cu, TCL SVOC-20, TCL PCB, [g] Hex.G and Cyanide(g) Full TCL PFC RCEA Char(g)
												8.0-8.5	EPH(g) EPH(g) TOX(g)
8.5-9.0	EPH(g)												

Collect five (5) TCL VOC-10 (g) where greatest likelihood of contamination exists



Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Expected CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPI and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPI 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCKA Characteristic, TAL, TCL, PCB, PAH, RCKA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft)	Sample Parameters
													EPI (g) EPI (g) TOX (g) EPI (g) EPI (g) TAL Metals + Cu, TC, TCSS, Hex, G and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) TCL Pest/Herb (g) EPI (g) TAL Metals + Cu, TC, TCSS, TC, PCB, [g] Hex, G, and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) EPI (g) TCL Pest/Herb (g) EPI (g) TAL Metals + Cu, TC, TCSS, TC, PCB, [g] Hex, G, and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) EPI (g) TCL Pest/Herb (g) EPI (g) TAL Metals + Cu, TC, TCSS, TC, PCB, [g] Hex, G, and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) EPI (g) TCL Pest/Herb (g) EPI (g) TAL Metals + Cu, TC, TCSS, TC, PCB, [g] Hex, G, and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) EPI (g) TOX (g) EPI (g)
92	Mass Excavation / Retaining Wall	1044	9	5	55	11	3	11	2	3	L-92c	0.5-1.0 1.0-1.5 2.0-2.5 3.0-3.5 4.0-4.5 5.0-5.5 6.0-6.5 7.0-7.5 8.0-8.5 8.5-9.0	EPI (g) EPI (g) TOX (g) EPI (g) EPI (g) TAL Metals + Cu, TC, TCSS, Hex, G and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) TCL Pest/Herb (g) EPI (g) TAL Metals + Cu, TC, TCSS, TC, PCB, [g] Hex, G, and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) EPI (g) TCL Pest/Herb (g) EPI (g) TAL Metals + Cu, TC, TCSS, TC, PCB, [g] Hex, G, and Cyanide (g) Full TCL, PCB, [g] RCKA Char (c) EPI (g) EPI (g) EPI (g) EPI (g) TOX (g) EPI (g)

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of EPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCRA Characteristic, TAL, TCL, VOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth (ft.)	Sample Parameters
93	Mass Excavation / Retaining Wall	1084	9	5	55	11	3	11	2	3	L-93a	0.5-1.0	EPH(g) EPH(c) TCL Pest./Herb(c) TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												1.0-1.5	TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												2.0-2.5	EPH(g) EPH(c)
												3.0-3.5	EPH(g) EPH(c)
												4.0-4.5	EPH(g) EPH(c)
												5.0-5.5	TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												6.0-6.5	EPH(g) EPH(c) TOX(g)
												7.0-7.5	EPH(g) EPH(c)
												8.0-8.5	TCL Pest./Herb(c) PF(c) TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												8.5-9.0	EPH(g) EPH(c) Collect hex.G, TCL VOC-10 (g) where greatest likelihood of contamination exists
											0.0-0.5	EPH(g) TOX(g) PF(c)	
											0.5-1.0	TCL Pest./Herb(c) PF(c) TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)	
											1.0-1.5	EPH(g)	
											2.0-2.5	EPH(g)	
											3.0-3.5	EPH(g) EPH(c)	
											4.0-4.5	TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)	
											5.0-5.5	EPH(g)	
											6.0-6.5	EPH(g) EPH(c) TCL Pest./Herb(c) PF(c) TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)	
											8.0-8.5	EPH(g) TOX(g)	
											8.5-9.0	EPH(g)	
L-93b												0.5-1.0	EPH(g) EPH(c) TCL Pest./Herb(c) PF(c) TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												1.0-1.5	EPH(g)
												2.0-2.5	EPH(g)
												3.0-3.5	EPH(g) EPH(c)
												4.0-4.5	TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												5.0-5.5	EPH(g)
												6.0-6.5	EPH(g) EPH(c) TCL Pest./Herb(c) PF(c) TAL Metals+ Cu, TCL SVOC-20, TCL PCB, [c] Hex.G and Cyanide(g) Full TCL P(c) RCRA Char(c)
												8.0-8.5	EPH(g) TOX(g)
												8.5-9.0	EPH(g)

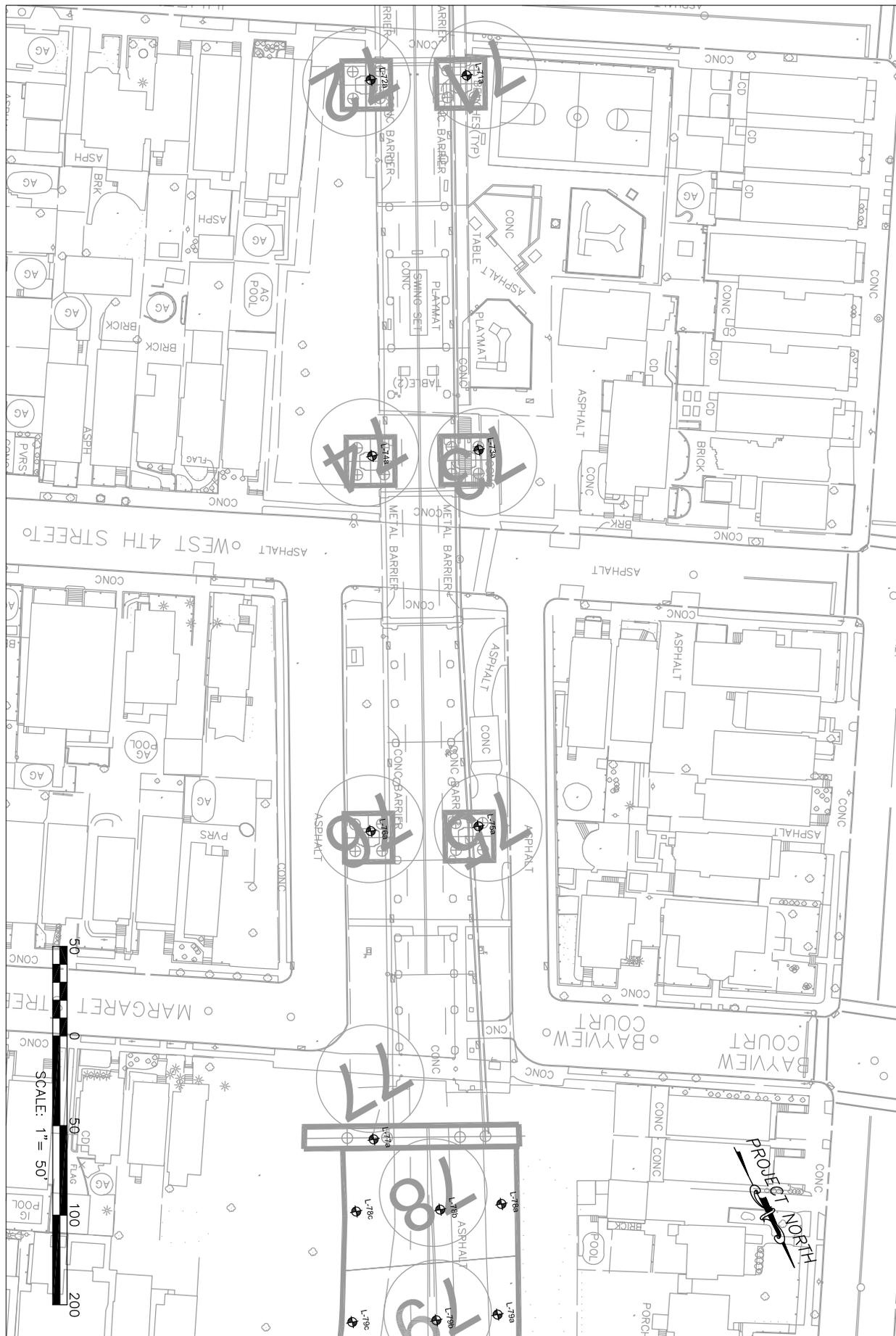
Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL DP, RCRA Characteristic, TCL VOC-20, TCL PCB, PAH, RCRA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
93	Mass Excavation / Retaining Wall	1084	9	5	55	11	3	11	2	3	L-93c	0.0-0.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] PEH [c] Hex G and Comide [c] RCFA Char [c]
												1.0-1.5	EPH [c]
												2.0-2.5	EPH [c] TON [g] EPH [c]
												3.0-3.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Comide [c] RCFA Char [c]
												4.0-4.5	EPH [c]
												5.0-5.5	EPH [c]
												6.0-6.5	TCL Pest/Herb [c] PEH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Comide [c] RCFA Char [c]
												7.0-7.5	EPH [g] TON [g]
												8.0-8.5	EPH [c] EPH [c]
												8.5-9.0	TCL Pest/Herb [c] PEH [c] TAL Metals + Cu, TCL SVOC-20, TCL PCB, [c] Hex G and Comide [c] RCFA Char [c]
													Collect two (2) TCL samples for each process identified of contamination exists

Table 4  
Sample Collection Summary  
Bayonne, New Jersey Samples

Location #	Excavation Purpose	Total Reported CY	Expected Depth of Soil Excavation (ft.)	Number of Borings	Number of Sub-Samples	Number of EPH and TOX Grab Samples	Number of TCL VOC-10 Grab Samples	Number of PPH 5-Point Composite Samples	Number of TCL Pest/Herb & Paint Filter 5-point Composite Samples	Number of Full TCL, P, RCEA Characteristic, TAL, TCL, SVOC-20, TCL PCB, PAH, RCEA Metals-Bi, Cu, Ni, V, Zn 5-Point Composite Samples	Boring Designation	Sample Depth(s) (ft.)	Sample Parameters
93	Misc Excavation / Retaining Wall	1084	9	5	55	11	3	11	2	3	L-9 3d	0.5-1.0	EPH (c) EPH (g) TOX (g) PH (g)
												1.0-1.5	EPH (g) TOX (g) PH (g)
												2.0-2.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex G and Cyanide (g) Full TCL P (c) RCEA Char (c)
												3.0-3.5	EPH (g) TOX (g) PH (g)
												4.0-4.5	EPH (g)
												5.0-5.5	EPH (g)
												6.0-6.5	EPH (g)
												7.0-7.5	EPH (g)
												8.0-8.5	TCL Pest /Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex G and Cyanide (g) Full TCL P (c) RCEA Char (c)
												8.5-9.0	EPH (g) TOX (g) PH (g)
												0.5-1.0	EPH (g) TOX (g) PH (g)
												1.0-1.5	TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex G and Cyanide (g) Full TCL P (c) RCEA Char (c)
												2.0-2.5	EPH (g) TOX (g) PH (g)
												3.0-3.5	EPH (g)
												4.0-4.5	TCL Pest /Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex G and Cyanide (g) Full TCL P (c) RCEA Char (c)
5.0-5.5	EPH (g) TOX (g) PH (g)												
6.0-6.5	EPH (g)												
7.0-7.5	EPH (g)												
8.0-8.5	TCL Pest /Herb (c) TAL Metals + Cu, TCL SVOC-20, TCL PCB (g) Hex G and Cyanide (g) Full TCL P (c) RCEA Char (c)												
8.5-9.0	EPH (g) TOX (g) PH (g)												
				5	110	200	40	214	20	30			
<b>Burials</b>													





12

PROJECT NUMBER: 13-428E  
SCALE: 1"=50'

**IN-SITU SOIL SAMPLING PLAN**  
BAYONNE BRIDGE  
CONTRACT AKB-264.039

**REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES**

**MATRIXNEWORLD**  
Enabling Progress

Matrix New World Engineering, Inc.  
26 Columbia Turnpike  
Florham Park, New Jersey 07932  
VBE / DBE / SBE  
www.matrixnewworld.com

Tel: 973-240-1800  
Fax: 973-240-1818  
www.matrixnewworld.com

NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

DATE

DRAWN BY:	JV	DATE:	8-25-2013
DESIGNED BY:	JK	DATE:	3-09-2013
APPROVED BY:	JK	DATE:	3-09-2013
NO.	DESCRIPTION	DATE:	BY: A/P/C
REVISIONS			



IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

PROJECT NUMBER:  
 SCALE: 1"=50'

**13**

**MATRIXNEWORLD**  
 Enabling Progress

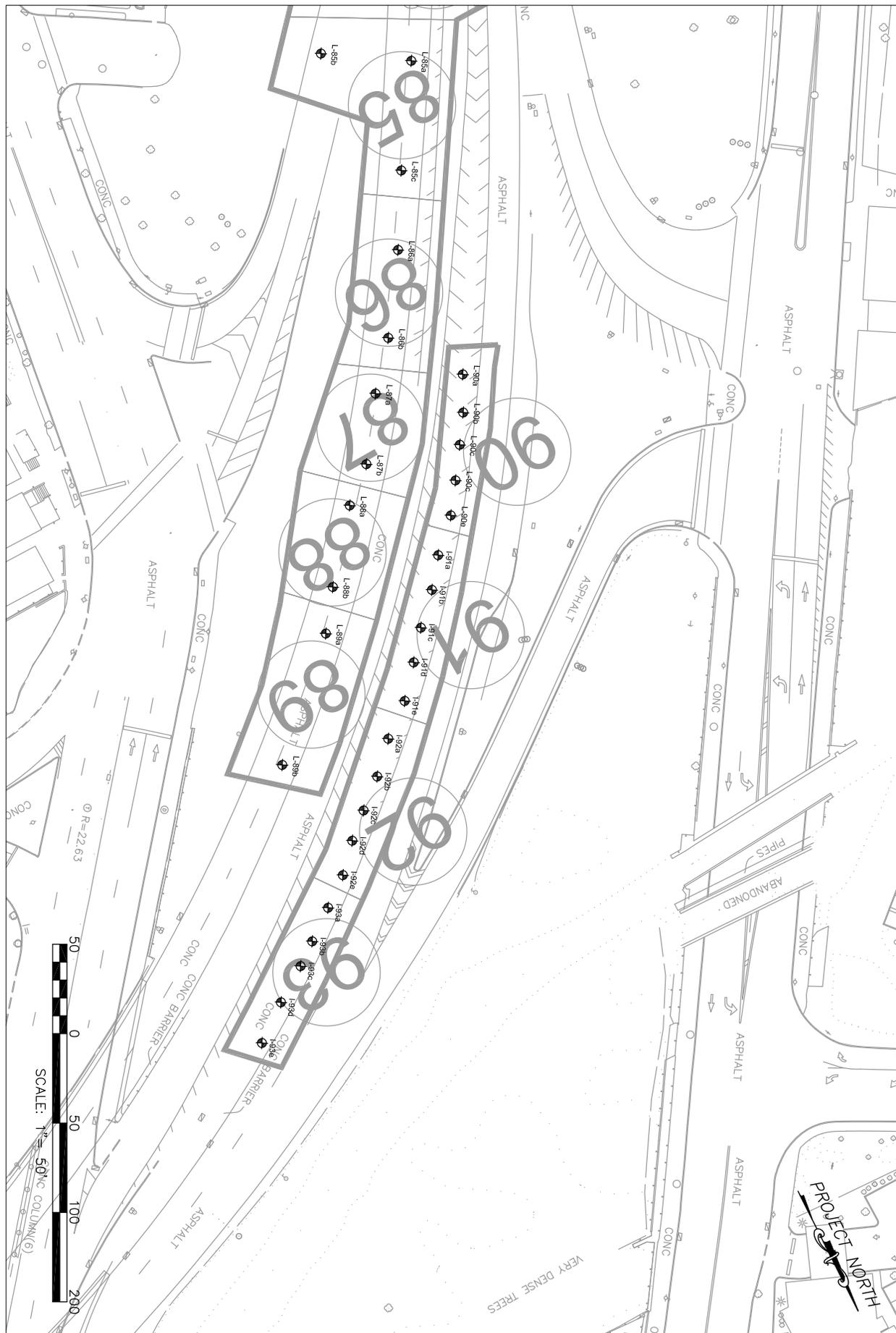
Matrix New World Engineering, Inc.  
 26 Columbia Turnpike  
 Florham Park, New Jersey 07932  
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 www.matrixnewworld.com

Tel: 973-240-1800  
 Fax: 973-240-1818

NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

DATE

DRAWN BY:	JV				
DATE:	8-23-2013				
DESIGNED BY:	JK				
DATE:	3-02-2019				
APPROVED BY:	XX				
DATE:	3-30-2012				
NO.		DESCRIPTION	DATE:	BY:	APR:
REVISIONS					



IN-SITU SOIL SAMPLING PLAN  
 BAYONNE BRIDGE  
 CONTRACT AKB-264.039

REPLACEMENT OF MAIN SPAN ROADWAY AND  
 APPROACH STRUCTURES

PROJECT NUMBER:  
 SCALE: 1"=50'

14

**MATRIXNEWORLD**  
 Enabling Progress

Matrix New World Engineering, Inc.  
 26 Columbia Turnpike  
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 www.matrixnewworld.com

DATE

DRAWN BY:	JV				
DATE:	8-25-2013				
DESIGNED BY:	JK				
DATE:	3-02-2012				
APPROVED BY:	JK				
DATE:	3-02-2012				
NO.		DESCRIPTION	DATE	BY	APR
REVISIONS					

**TABLES**





Table 3  
Compiled Disposal Facility Analytical Requirements  
Sampling and Analysis Plan  
In-Situ Sampling  
Bayonne Bridge  
Replacement of Main Span Roadway and Approach Structures  
Contract AKB-264.039

Soil Stockpile Volume	EPH		TAL / TCL + 30 & RCRA Metals				Miscellaneous			RCRA Characteristics	TCLP
	Extractable Petroleum Hydrocarbons (EPH) (Grab)	Extractable Petroleum Hydrocarbons (EPH) (5-Point Composite)	TCL VOC+10 (Grab)	TCL SVOC + 20, TCL PCBs, PAHs, RCRA Metals + Be, Cu, Ni, Va, Zn (5-Point Composite)	TCL Pesticides/Herbicides (5-Point Composite)	TOX (Grab)	Hexavalent Chromium and Cyanide (5-Point Composite)	Paint Filter (5-Point Composite)	Ignitability, Corrosivity (pH), Reactivity (Sulfide, Cyanide) (5-Point Composite)	TCLP Metals, TCLP SVOCs, TCLP Herbicides, TCLP Pesticides (5-Point Composite)	
500 CY	6	5	1	1	1	6	1	1	1	1	
1000 CY	10	10	2	2	1	10	2	1	2	2	
2000 CY	18	20	4	4	2	18	4	2	4	4	
3000 CY	26	30	6	6	3	26	6	3	6	6	
4000 CY	35	40	8	8	4	35	8	4	8	8	
5000 CY	43	50	10	10	5	43	10	5	10	10	

Notes:

- CY: Cubic Yards
- Grab: Sample collected from a discrete 6-inch interval
- TAL: Target Analyte List
- TCL: Target Compound List
- RCRA: Resource Conservation and Recovery Act
- TCLP: Toxicity Characteristic Leaching Procedure
- Be, Cu, Ni, Va, Zn: Analytes Beryllium, Copper, Nickel, Vanadium, and Zinc

Attachment D

Proposed Waste Transporter and Disposal Facilities



Attachment E

Ferreira Material Handling Plan



*"Building the Future with Pride."*

June 14, 2013

Ryan Prime  
Skanska Koch Kiewit  
Bayonne Bridge  
Contract AKB-264.039  
400 Roosevelt Avenue  
Carteret, New Jersey 07008

Re: Site-specific Materials Handling Plan  
Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures  
Contract AKB-264.039  
Bayonne, New Jersey and Staten Island, New York  
Revision 0

Dear Mr. Prime:

Ferreira Construction Company, Inc. submits the referenced plan (plan) for your review and approval. The plan is submitted to replace the Revision 0 version dated June 11, 2013, which was previously submitted. The use and application of the plan is limited to the Ferreira Construction Company, Inc. scope of work. Should you have any questions, please feel free to contact me at 908-413-4924 or at [carminec@ferreiraconstruction.com](mailto:carminec@ferreiraconstruction.com).

Sincerely,

Carmine Ciallella

Enclosures

Copy: Charles Andrews – Skanska Koch Kiewit  
Ashley Carey – Skanska Koch Kiewit  
Nelson DeOliveira – Skanska Koch Kiewit  
Scott Hunter – Skanska Koch Kiewit  
Matt Settanni – Skanska Koch Kiewit  
File

JM/jm

**Site-specific Materials Handling Plan  
Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures  
Contract AKB-264.039  
Bayonne, New Jersey and Staten Island, New York**

***Submitted To:***

**Skanska Koch Kiewit  
Bayonne Bridge  
Contract AKB-264.039  
400 Roosevelt Avenue  
Carteret, New Jersey 07008**

***Submitted By:***

**Ferreira Construction Company, Inc.  
31 Tannery Road  
Branchburg, New Jersey 08876**

**June 14, 2013  
Revision 0**

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        3.3.5 Stockpile Management.....6

## **1.0 Introduction**

Ferreira Construction Company, Inc. as a sub-contractor to Skanska Koch Kiewit the general contractor has prepared this Materials Handling Plan (MHP) for its scope of work. The MHP was prepared to conform to Port Authority of New York and New Jersey (PANYNJ) specifications for contract AKB-264.039 (Sections 02110 and 02112) for the excavation, staging, and on-site handling of non-hazardous or hazardous materials (soil or fill) for the Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures Contract AKB-264.039. The project is located in Bayonne, New Jersey and Staten Island, New York (project or site).

The Ferreira Construction Company, Inc. scope of work associated with the MHP includes excavation; the on-site hauling of soil, rock, fill, tree stumps, asphalt, or concrete (material); and the management of the project's on-site stockpile areas. Characterization sampling and analysis and the off-site transportation and disposal of material will be done by others and is not part of the Ferreira Construction Company, Inc. scope of work. Items or procedures outside the Ferreira Construction Company, Inc. scope of work are not included in the MHP. The MHP objective is to identify a general approach for safely handling non-hazardous or hazardous materials. The MHP identifies procedures that consider environmental protection including the prevention of leaks during on-site transportation between the excavation locations and the stockpile areas. The MHP will be implemented by Ferreira Construction Company, Inc. MHP procedures associated with personnel safety and health are identified in the site-specific environmental health and safety plan (SSEHASP) which will be provided under separate cover or the site-specific construction health and safety plan (HASP).

Ferreira Construction Company, Inc. acknowledges the existence of hazardous soil or fill including but not limited to that from the 235 West First Street Bayonne, New Jersey site. The Ferreira Construction Company, Inc. scope of work does not include the handling or management of hazardous soil or fill generated during the course of the project. Further, it is our understanding that hazardous soil or fill generated during the course of the project will not be placed in our work zones. However, the MHP may be applicable with the management of hazardous soil or fill on a contingency basis, as appropriate.

## **2.0 Project Contact Information**

Ferreira Construction Company, Inc. (Sub-contractor to Skanska Koch Kiewit)

Carmine Ciallella – Project Manager – 908-413-4924 (cell)

Alex DePalma – Superintendent – 908-482-1105 (cell)

Larry May – Project Engineer – 908-413-1082 (cell)

John Moco – Environmental Officer – 973-73-0065 (cell)

TBD – Site Safety Officer

### **3.0 Materials Handling Controls**

#### **3.1 Plan Evaluation and Compliance**

Section 3 applies to the common controls and methods that will be used during the handling of material associated with the Ferreira Construction Company, Inc. scope of work for the project.

Activities associated with Section 3 include training, excavation, on-site hauling, stockpile management, loading, documentation, and reporting. Section 3 is intended to comply with applicable Federal, state, or local regulations and applicable project specifications.

#### **3.2 Training**

Ferreira Construction Company, Inc. personnel involved with the handling of material will be properly trained to execute Section 3 related activities. Training will include operational and safety topics.

Operational topics are the means and methods used to execute Section 3 related activities. Operational topic training will be provided by the Superintendent, Environmental Officer, or designee. Operational training will be done verbally on-site prior to the execution of a given Section 3 activity. The MHP and any other applicable supplemental documents will be available to all personnel undergoing operational training. Operational training may include a review of the proposed Section 3 activity including but not limited to the objective, means and methods (personnel, equipment, and materials to be used), and regulatory compliance considerations, as applicable. Operational training will be in a free-flow discussion format including questions and answers.

Operational topics associated with Section 3 activities may include material handling objectives, locations, personnel and their roles, equipment to be used, and materials to be used; loading objectives, locations, personnel and their roles; and equipment to be used; hauling considerations such as haul road designation and locations, personnel and their roles, and equipment to be used; stockpiling objectives, locations, stockpile maintenance, personnel and their roles, equipment to be used, and materials to be used; and the importance of documentation. Personnel not

understanding their training, role, or responsibility will receive further training or be reassigned.

Safety topics associated with the means and methods used to execute material handling related activities will be addressed in the SSEHASP or HASP. Safety topic training will be provided by the Superintendent, Site Safety Officer, or designee. Safety training will be done verbally or with media on-site or off-site prior to the execution of a given material handling activity. The material HASP, HASP, and any other applicable supplemental documents will be available to all personnel undergoing safety training. Safety training will include a review of the proposed material handling activity and associated safety protocols including but not limited to engineering controls, institutional controls, personal protective equipment, monitoring, and safety emergency procedures. Personnel not understanding their training, role, or responsibility will receive further training or be reassigned.

Upon completion, all personnel will sign a training attendance log acknowledging the understanding of their operational and safety assignment and responsibility. Safety training logs will be maintained by the Project Manager or designee and available to Skanska Koch Kiewit.

### **3.3 On-site Handling Guidance Procedures**

#### **3.3.1 Excavation**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, and materials to perform excavation activities in accordance with applicable Federal, state, and local regulations, project plans and specifications, the MHP, and the HASP.

Areas of excavation will be limited to that associated with and identified on the project plans and specifications, or as directed by Skanska Koch Kiewit.

Excavation activities including but not limited to personnel and equipment used; the location and dimensions of excavations; the volume of material excavated; and a general description of excavation or subsurface conditions will be documented daily by the Ferreira Construction Company, Inc. foreman supervising the operation.

### **3.3.2 Field Screening**

Field screening of material will be done during excavation activities in known contaminated locations or at the discretion of the Superintendent or Site Safety Officer at suspect contaminated locations. Field screening will be done using a Multirae five gas meter or equivalent (meter). The meter will be clean, calibrated, and ready for use, and include a field calibration kit. Elevated field screening readings will be reported to Skanska Koch Kiewit.

Field screening including but not limited to readings, location, and general subsurface conditions will be documented daily by the Ferreira Construction Company, Inc. foreman or the Site Safety Officer supervising the operation utilizing a written field log. Field screening documentation will be available to Skanska Koch Kiewit.

### **3.3.3 Loading**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, or materials to load material. Special attention will be given to load trucks in a manner not to be over registered vehicle weight or in such a manner that the loaded material stays within the body of the truck between the loading area to the final destination (on-site stockpile area or off-site disposal location).

Loading including but not limited to material type, estimated quantity (loads or cubic yards), location, and identification of trucks loaded will be documented daily by the Ferreira Construction Company, Inc. foreman supervising the operation.

### **3.3.4 Hauling**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, or materials to haul material from its source to the on-site stockpile areas. Ferreira Construction Company, Inc. will load its scope of work material directly from the on-site source into dump trucks and haul it to the on-site stockpile areas.

Material will not be overloaded in any manner by which it will accidentally leave the dump truck body during hauling. All dump trucks will be properly covered with a tarp or equivalent during hauling until the material is offloaded at the on-site stockpile. Prior to leaving the source location, each dump truck will be visually inspected by the driver to ensure that the load is properly secured. All trucks hauling material will be operated in a safe manner and in accordance with applicable on-site or off-site speed limits and traffic safety requirements.

Hauling including but not limited to material type, estimated quantity (loads or cubic yards), location, and identification of trucks hauling material will be documented daily by the Ferreira Construction Company, Inc. foreman supervising the operation.

### **3.3.5 Stockpile Management**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, or materials to manage the on-site stockpile areas. Material delivered to the on-site stockpile areas will be managed in accordance with the project soil erosion and sediment control plan and specifications. Soil erosion and sediment control measures include silt fence and hay bale placement, and the installation of drainage system protective devices. Stockpile areas will be located within the project right-of-way determined by PANYNJ or Skanska Koch Kiewit.

Material will be stockpiled on an impervious surface such as asphalt or concrete, if practical. Stockpiles will be placed on 10-mil or greater thick polyethylene plastic (plastic) and covered with 10-mil or greater thick polyethylene plastic or tarps (tarps). The tarps and plastic will be properly anchored to keep the stockpiles covered at all times, except during stockpile management activities (material dumping, characterization sampling, or loading). The integrity of the tarps and plastic will be maintained at all times. Material managed within the stockpile areas will not be segregated unless Ferreira Construction Company, Inc. receives written instructions to do so from Skanska Koch Kiewit.

Attachment F

Health and Safety Plan (HASP) reference

*See PA Submittal 02897M0001*



**PROJECT:** Bayonne Bridge Replacement of  
Main Span Roadway & Approach

**CONTRACT:** AKB-264.039

---

**FROM:**

Skanska Koch-Kiewit  
111 Linnett Street  
Bayonne, NJ 07002-4300

**ATTN:** Paul Koch

**DATE:** 9/11/2013

**Package No.** 129-02897-1

**TO:**

Port Authority of NY & NJ  
241 Erie Street, Room 236  
Jersey City, NJ 07310

**ATTN:** Mostafa Yacoub

**TITLE:** Material Management Plan for Stockpiled Soils

**Port Authority**

<b>Submittal #</b>	<b>Rev#</b>	<b>DWG #</b>	<b>Discipline</b>	<b>Description</b>	<b>Status</b>
02897G0005	1			Material Management Plan for Stockpiled Soils	NEW

**Remarks:**

**CC:**

**Signed:** \_\_\_\_\_

Materials Management Plan  
for Stockpiled Soil

Revision 01

Contract AKB-264.039

Specification Section 02897

Contaminated Materials Management

Submitted by

Skanska – Koch – Kiewit JV

September 11, 2013

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2. Training and Experience of Personnel
3. Pre-construction Soil and Water Sampling and Testing to Date
4. Stockpiled Soil Sampling and Testing
5. Sampling and Testing Coordination Procedures
6. Haul and Dispose Excavated Material
7. Proposed Waste Transporter and Disposal Facilities
8. Pollution Prevention and Spill Contingency Plan
9. Documentation

Attachment A: Action and Notification Procedures

Attachment B: Pre-Construction Soil and Water Test Results

Attachment C: Contract Designated Stockpile Areas

Attachment D: Stockpile Layout for Demonstration Shaft

Attachment E: Sampling and Analysis Plan

Attachment F: Proposed Waste Transporter and Disposal Facilities

Attachment G: Ferreira Material Handling Plan

Attachment H: Health and Safety Plan (HASP) reference

## 1. Introduction

This Material Handling Plan (MHP) has been prepared in accordance with Appendix A of Specification Section 02897 Contaminated Materials Management. This document will be used in conjunction with the Pollution Prevention and Spill Contingency Plan (PPSCP) included herein and the Health and Safety Plan (HASP) to ensure pollutants are managed in such a way to protect workers, the environment and the surrounding public as well as obey regulations as they relate to regulated contaminated or hazardous material.

A separate Arsenic Removal Material Handling Plan will be prepared in accordance with Specification Sections 02110 and 02112 and submitted to the Engineer for approval prior to any remedial action of the arsenic material at 235 West 1<sup>st</sup> Street. SKK is in the process of soliciting proposals to carry out this work and the selected subcontractor will work with SKK to develop and submit the required submittals with regard to material handling and disposal of soil and groundwater from 235 West 1<sup>st</sup> Street. The MHP herein described the procedures and protocols for sampling, testing, stockpiling, hauling and disposing of contaminated, non-hazardous materials encountered throughout the site with the exception of the previously identified “hot spot” arsenic remediation areas. SKK does not anticipate encountering hazardous soil other than at the three hot spot areas identified for remediation in the Contract Documents located at 235 West 1<sup>st</sup> Street.

## 2. Training and Experience of Personnel

All SKK personnel and subcontractors involved with the handling of material will be properly trained to safely execute the hauling and disposal of excavated material. Training will include operational and safety topics. Operational topics are the means and methods used to execute related activities; and safety topics include the measures used to protect the personnel and the public from potential hazards. Training will be provided by the Superintendent, Environmental

Officer, or designee and will be done on-site prior to the execution of a given activity. The training program will be reflected in the Construction Plan for that activity. The MHP and any other applicable supplemental documents will be available to all personnel undergoing operational training. All personnel will undergo an assessment of the proposed activity and discuss the potential hazards by clearly defining the objective, evaluating the means and methods of construction (personnel responsibilities, equipment, materials to be used and personal protective equipment), and reviewing the regulatory compliance considerations as well as emergency response procedures.

In addition to operational and safety training, all SKK personnel and subcontractors involved with the excavation of soil will be trained in identifying potential contamination through safety orientation and construction plan hazard analysis. The olfactory sense is the most sensitive instrument for identifying petroleum contamination in the field. As a result, a petroleum odor may be noted although there is no visible sign of oil or staining. In some instances, decaying organic matter can produce an odor similar to petroleum, but this is rare. Crews will be trained via the Construction Plans on how to initially determine and recognize petroleum contaminated soil. The training instructs crews that petroleum-contaminated soil can be identified by the presence of free oil, oil staining, a petroleum odor, or any combination of these. Free oil is liquid oil in its natural state, which could potentially be drained or otherwise extracted from the soil. The appearance of oil staining is not always consistent, but varies depending on the nature of the oil, the soil type, and the age of the release. Staining associated with old petroleum contamination often has a greenish hue, but may also be brown or black. In addition, personnel overseeing the excavation of material will use a Photoionization Detector (PID) to scan the material and measure the presence of vapors. All of these identification methods will be a part of the crew training. If there is any doubt as to whether soil is petroleum-contaminated, the Safety Officer or Environmental Compliance Officer will be contacted to determine the appropriate action. Attachment A includes the actions and notifications when potentially petroleum contaminated soil is encountered.

If the presence of contamination is confirmed, SKK personnel will upgrade their level of Personal Protective Equipment from Level “D” protection to a modified Level “C” protection which will consist of protective disposable clothing (Tyvek coveralls), rubber boots, and task specific gloves. If a higher level Personal Protective Equipment is mandated as a result of subsequent investigations, a separate risk assessment shall be performed to identify all necessary requirements (i.e. engineering/remediation requirements, training, PPE, et.al.) to be performed to remediate the contamination.

### **3. Pre-construction Soil and Water Sampling to Date**

SKK has collected pre-job soil samples on the New York and New Jersey side of the Bayonne Bridge. A total of eight samples were collected, and then forwarded to Schneider Laboratories, Inc., and were analyzed for total concentrations of lead, arsenic and polychlorinated biphenyls (PCBs). All soil samples were collected in the field using ASTM E1727 sample collection method. The results of these tests are included in Attachment B. These composite samples indicated slightly elevated levels of lead in surface soil contamination in the eight locations tested. The results also show only minor amounts of surface soil PCB and arsenic contamination – the detectable levels found were all below clean-up criteria established for these materials by the NJDEP and NYSDEP.

In addition, SKK collected one grab sample in approximately 110 feet northeast of the toll plaza (along the curb line of the parking area) in Staten Island, New York and sent the sample to EMSL Analytical, Inc. for testing. The analytical test results for this grab sample are also included in Attachment B. The results indicate a detectable level of arsenic, lead and diesel range organics.

Lastly, SKK collected pre-job ground water samples from four excavation wells located

within the Port Authority Right-of-Way. Water samples were collected from two wells located on the Staten Island, NY side and from two wells located on the Bayonne, NJ side of the bridge. Three water samples were collected at each well for a total of twelve water samples. The samples were sent to Schneider Laboratories, Inc. and for each well one sample was analyzed for total concentrations of semi-volatile organic (SVOCs), one for volatile organic compounds (VOCs) and one for the eight RCRA metals. These results are included in Attachment B as well. Overall the samples showed detectable levels of barium and lead in the groundwater.

All effluent from construction activities will be pumped into storage tanks. SKK will notify the Engineer within 48 hours of when sampling will need to be carried out. The Engineer will sample and test the effluent and all water will be disposed of offsite at Net Cost.

#### 4. Stockpiled Soil Sampling and Testing

The designated stockpile areas called out in the Contract Documents are not sufficient to support the Construction Schedule (See Attachment C). As a result, there is a net cost provision for offsite soil stockpiling. SKK proposes to construct localized stockpiles at each pier location as an alternate to offsite stockpiling. These additional localized stockpiles will be constructed at net cost.

In terms of construction sequence, it is anticipated that all of the material generated by drilling the shafts will need to be stockpiled due to the assumed high water content of the excavated material if drilling cannot be completed in the dry.

In addition the average water table is 5.5 feet below ground surface based on the samples collected in wells described above in Section 3.0, so it is assumed that material below this

elevation will have high water content. Therefore constructing the footings will most likely generate material that requires stockpiling due to the water content of the excavated material. Once these two operations are complete the proposed localized stockpiles will be removed and the remaining designated site stockpiles will remain as needed.

If approved, the localized stockpiles at each pier locations will consist of concrete barriers with plastic liner. The layout plan for the Demonstration Shaft (DS2) is included in Attachment D and provides a typical set up for the localized stockpile. This layout plan is typical of how the localized stockpiled will be constructed at each pier location. These concrete barrier stockpiles will be used to service the adjacent foundation locations and will be removed once the footings are completed. It is anticipated that on average the top 5 feet of each footing will be dry enough (i.e. water content below 12 percent) so that the excavated material can be live loaded into trucks and transported to a disposal facility without stockpiling locally.

Soil sampling of the stockpiled material will be coordinated with the Engineer and is explained in more detail in Section 5. of this MHP.

## **5. Sampling and Testing Coordination Procedures**

The Engineer is responsible for sampling and testing the material for disposal purposes. The Contract Documents require stockpile sampling. SKK will notify the Engineer 48 hours before a sample is required to be taken. Upon receiving the notification from SKK, the Engineer or representative from Hampton Clarke Veritech (HCV) will be present on-site and retrieve the sample of stockpiled soil based on the sampling criteria for disposal. A detailed Sampling and Analysis Plan developed by Matrix New World is attached in Attachment E.

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The Engineer will provide any equipment required to sample the material. If the Engineer requests equipment from SKK to take a sample, the equipment will be tracked as a Net Cost. The Engineer will send the sample to a certified testing laboratory and notify SKK when the sample results will be available. Upon receipt of the analytical results for each sample, the Engineer will forward this information to the disposal facilities and SKK, and direct SKK to haul the tested material to a disposal facility chosen by the Engineer.

## **6. Haul and Dispose Excavated Material**

At the proposed localized stockpiles at each pier location, and the designated site stockpiles called out on the Contract Drawings, a loader will lift and load dump trucks, either 10 wheel or dump trailers. Trucks are not allowed to be overloaded. All dump trucks will be covered so that material is not accidentally discharged while in transit to the disposal facility. Transporters will have proper permits and certifications to haul the excavated material. At truck exit locations, a tracking pad will be used to remove dirt from the vehicle's wheels. In addition, any material on or around the dump gate or sides of the truck will be cleaned prior to leaving the site.

## **7. Proposed Waste Transporter and Disposal Facilities**

SKK has contacted multiple transporter and disposal facilities. A list of potential transporter and disposal facilities has been provided in Attachment F. In order to finalize agreements with a transporter or disposal facility, analytical data must be received and forward on to each facility for review. Soil will be stockpiled and the Engineer will be notified when it is appropriate to sample and test the material. Once samples have been taken and testing results are provided to SKK from the Engineer, transporter and disposal facility agreements can be finalized. In addition, when a transporter and disposal facility agreement has been finalized, the required certificate, licenses, permits, etc. will be secured from the facilities by SKK and provided to the

Engineer for approval before sending excavated material off-site.

## **8. Pollution Prevention and Spill Contingency Plan (PPSCP)**

Spill and discharge control will be achieved through the implementation of this PPSCP.

During the excavation of subsurface material, precipitation or surface run-off has the potential to come in contact with contaminated material, a chemical or other similar material, becoming contaminated. To reduce the risk of storm water becoming impacted, storm water diversion control measures consistent with the project soil erosion and sediment control plans (Contract Drawings C0801 through C0813), will be implemented as necessary or applicable. These measures include silt fencing; hay bale check dams with temporary stone outlets; temporary stone check dams; temporary slope drains; or inlet filters, silt bags, hay bale barrier as shown in the Contract Drawings.

SKK has secured Ferreira Construction Company, Inc. as a subcontractor for the Project (see Attachment G for Ferreira's Material Handling Plan). The Ferreira Construction Company, Inc. scope of work associated with this MHP includes excavation; the on-site hauling of soil, rock, fill, tree stumps, asphalt, or concrete (material); and the management of the project's on-site stockpile areas. In addition, Ferreira Construction Company will furnish, install, maintain and remove the erosion and sediment control devices shown in the Contract Drawings to limit the amount of pollutants that can enter the environment through storm water runoff.

Excavation of contaminated material will be performed in a manner to minimize dust generation and the spreading of contamination, or cross-contamination. Excavation activities will occur only when applicable engineering or procedural controls are in place to prevent to the extent reasonably possible, the spreading of contamination, or cross-contamination off-site. Selection of engineering or procedural controls will be determined in the field based upon conditions by the

Superintendent and will be consistent with the project specifications. Stockpiled contaminated material will be covered during all periods of inactivity. Consistent with the project soil erosion and sediment control in the Contract Documents, storm-water diversion control measures will be implemented as necessary or applicable.

The loading of contaminated material from site excavation activities is not anticipated to cause the discharge of contaminated substances resulting in an impact to the environment. All trucks loaded with material will be inspected by Ferreira Construction Company, Inc. to ensure they are covered and cleaned as required prior to leaving the site.

All equipment and vehicles arriving on-site will be functioning properly. Any equipment or vehicles exhibiting leakage will not be allowed on-site. To the extent possible, equipment will be serviced in area(s) on-site with an impervious surface (asphalt or concrete). The servicing area will be located away from environmentally sensitive areas, such as waterways, storm water inlets, or drainage swales. SKK's subcontractor Ferreira Construction Company, Inc. will maintain one spill kit on the New Jersey area of the site and one spill kit on the New York area of the site to contain and prevent to the extent possible, the migration of petroleum type discharges that may occur during the equipment servicing. If a discharge of hazardous materials occurs, Ferreira Construction Company, Inc. will immediately notify SKK Environmental Compliance Officer (ECO) and Safety Officer. In the event that equipment cannot be serviced on impervious surfaces, temporary measures such as plastic sheeting, earthen berms, etc., will be employed.

In the event of a spill or leak, site personnel will:

- Inform their supervisor immediately;
- Locate the source of the spillage and stop the flow if it can be done safely; and
- Begin containment and recovery of the spilled materials if it can be done safely.

If the spill or release is expected to pose significant hazards or is beyond the capabilities of the immediate personnel, then the ECO will be contacted immediately. When contacted, the ECO will obtain and assess the following information:

- the material spilled or released;
- location of the release or spill;
- an estimate of the quantity released and the rate at which it is being released;
- any injuries involved;
- fire and/or explosion or possibility of these events occurring; and
- the area and materials involved in the location of the fire or explosion.

The supervisor will then notify the Project Engineer and Safety Department with the following information:

- Detailed account of incident
- Documentation that spill was properly cleaned up

In the event of a chemical spill that is not contained within a dike or bermed area, an area of isolation will be established around the spill. The size of the area will generally be dependent on the size of the spill and the material(s) involved. When any spill occurs, only those persons involved in the oversight or performance of the emergency clean-up operations will be allowed within the designated hazard area. If possible, this area will be roped or otherwise blocked off. SKK has retained Atlantic Response Inc. of New Brunswick, New Jersey for spill cleanup and maintenance services on an as needed basis in case a spill occurs that requires additional resources beyond SKK JV capacity.

If an incident may threaten the health or safety of the surrounding community, the public will be informed and possibly evacuated from the area. The ECO will inform the proper agencies in the event that this is necessary. The telephone numbers of emergency response organizations are listed in Section 1.22 page 15 of the Emergency Action Plan (See Attachment H Health and Safety Plan reference).

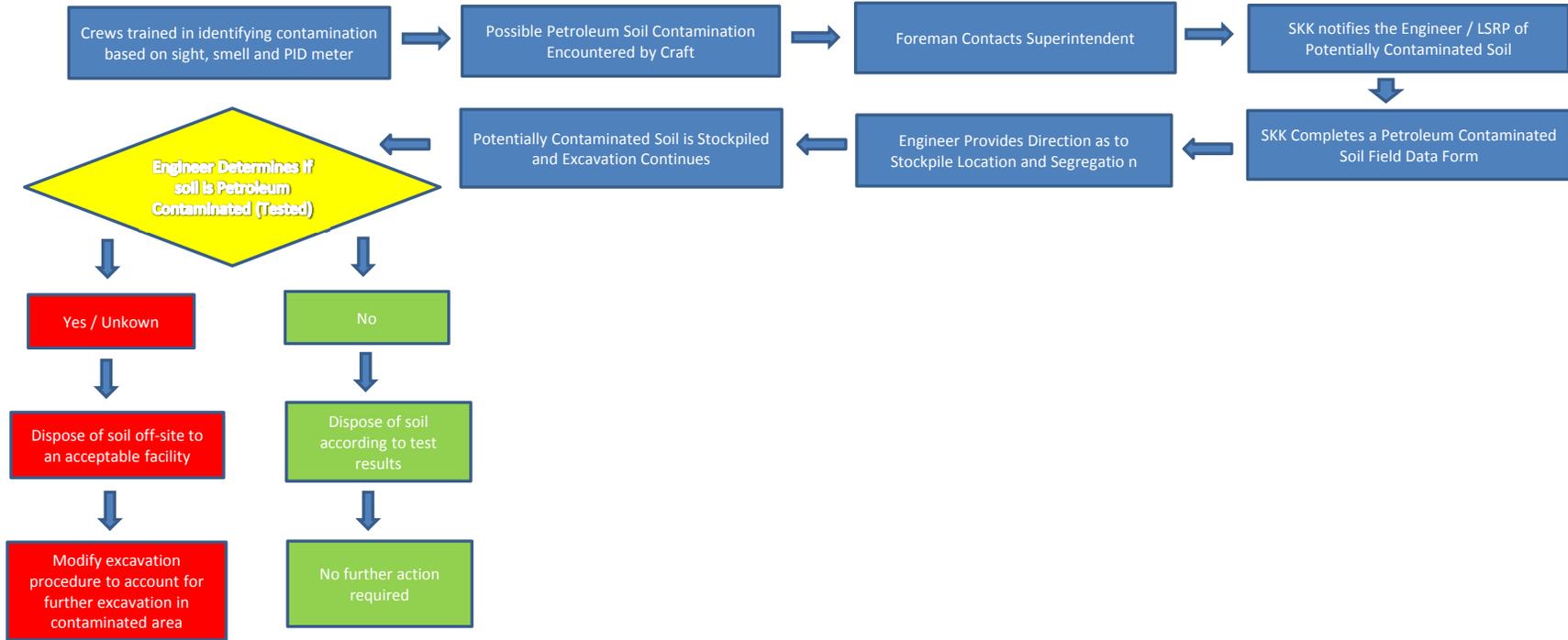
## **9. Documentation**

Transportation of contaminated material will be performed using a Non Hazardous Waste Manifest form. Manifests will be used to track transportation and disposal of material. Each manifest will be signed by the Engineer prior transporting the excavated material offsite. This manifest will have information of generator, trucker, the receiving facility and weight of material transported.

Attachment A

Action and Notification Procedures

## ACTION AND NOTIFICATION PROCEDURES



Attachment B

Pre-Construction Soil and Water Test Results

July 2, 2013



Ms. John Pouso  
Skanska Kiewit  
400 Roosevelt Avenue  
Carteret, NJ 07008

RE: Contract # AKB-264.039

email: [john.pouso@skanska.com](mailto:john.pouso@skanska.com)

Dear John:

As requested, on June 21, 2013 we collected pre-job surface soil samples on the New York and New Jersey side of the Bayonne Bridge. A total of eight samples were collected, then forwarded to Schneider Laboratories, Inc. and were analyzed for total concentrations of lead, arsenic and polychlorinated biphenyls (PCBs). All soil samples were collected in the field using the ASTM E1727 sample collection method. Results of the testing are summarized on the following pages in parts per million (ppm) along with the attached laboratory analytical reports.

#### Lead Results

EPA guidelines for lead in soil recommend abatement of soil containing 5,000 ppm lead or greater and establishment of interim controls (i.e. barriers to public access) at concentrations of 400 ppm or greater. For areas inaccessible to the public, interim controls are recommended at soil lead levels of 2,000 ppm or greater.

Soil samples identified as number three, four and five collected on the Staten Island, NY side indicated lead in soil concentrations above the EPA guideline of 400 ppm for areas accessible to the public. The three samples identified as samples eight, nine and ten collected on the Bayonne also indicated lead concentrations above this guideline.

#### Arsenic Results

The EPA has not established an action level for clean-up of arsenic contaminated soil at this time. The NYS DEC has established clean-up objectives for arsenic contaminated soils in residential areas at concentrations of 16 ppm or higher. The NJ DEP has similar recommendations for residential areas when arsenic in soil levels are 20 ppm or higher. The four samples collected on the Staten Island side of the bridge indicated non-detectable concentration of arsenic or less than 5 ppm and were below the NYS DEC criteria of 16 ppm.

#### CORPORATE HEADQUARTERS

□ 70-20 Austin Street, Suite 115, Forest Hills, New York 11375 □ Tel: 718-268-6314 □ Fax: 718-268-6317 □  
[LeightonAssociates.com](http://LeightonAssociates.com)

The three samples collected on the Bayonne side of the bridge indicated arsenic in soil concentrations of 17 ppm or less. The results were below the NJ DEP threshold level of 20 ppm for residential areas.

#### PCB Results

The NYS DEC clean-up objective for PCB contaminated soils in residential areas is 1 ppm or higher. The NJ DEP has established a clean-up criteria for PCB contaminated soils in residential areas at concentrations of 2 ppm and higher. The samples identified as numbers one, two and three collected on the Staten Island side of the bridge indicated non- detectable amounts of PCBs or less than 0.021 ppm. Sample numbers four and five collected on the NY side indicated PCB in surface soil concentrations at 0.139 ppm or less. The results were below the NYS DEC threshold value of 1 ppm. The three samples collected on the NJ side of the bridge indicated PCB in soil concentrations of 0.225 ppm or less. These results were below the NJ DEP threshold level for residential areas of 2 ppm.

#### Conclusion

These results indicate only slightly elevated levels of lead in surface soil contamination in the eight locations tested on the Bayonne, NJ and Staten Island, NY side of the bridge. The results also show only minor amounts of surface soil PCB and arsenic contamination. The detectable levels found were all below the clean-up criteria established for these materials by the NJ DEP and NYS DEP respectively. However since detectable levels of arsenic were found in the soil samples collected on the Bayonne NJ side, you may want to consider collecting additional soil samples for arsenic analysis as a precautionary measure. Based these soil sample results lead appears to the material of consequence in the areas tested. Consideration of these pre-project levels should be taken into account when and if any post job soil sampling is performed. Please let me know if you have any questions at this time.

Sincerely,



Adam McGreevy  
Sr. Industrial Hygienist

Skanska Kiewit  
 PANYNJ Contract # AKB-264.039  
 Bayonne Bridge  
 Pre-Job Soil Samples

06/21/13

Sample #	Location Description	Lead (ppm)	Arsenic (ppm)	PCB* (ppm)
1	NY side – 1.5 feet south of southwest corner of pier 59 E	397	<5	<.02
2	NY side – 1 foot east of northeast corner of pier 58 W	394	<4	<.02
3	NY side – 6 feet north of pier 10S (west)	632	<4	<.021
4	NY side – 11 feet south of pier 7S (west)	671	<4	.139
5	NY side – 11 feet southeast of southeast corner of pier 3S (east)	823	<4	.76
8	NJ side – 25 feet southeast of pier 12N	628	17	<.02
9	NJ side – 20 feet southwest of pier 12N	1,289	10	.225
10	NJ side – inside park @ fence: between piers 3N and 4N	680	5	.187

\*Detected in the form of Aroclor 1254

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## LABORATORY ANALYSIS REPORT

ACCOUNT #: 213-13-30592  
CLIENT: LEIGHTON ASSOCIATES  
ADDRESS: 70-20 AUSTIN ST STE 115  
FOREST HILLS, NY 11375

DATE COLLECTED: 6/21/2013  
DATE RECEIVED: 6/24/2013  
DATE ANALYZED: 6/25/2013  
DATE REPORTED: 6/25/2013

PROJECT NAME: SKANSKA  
JOB LOCATION: Bayonne Bridge  
PROJECT NO.:  
PO NO.:

Sample Type: SOIL

SLI ID:	Client ID:	Description:					MRL**	
Date	Collected:	Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	(µg)
31929535	1	NY-1.5ft S Of SW Corner						
6/21/2013	4:00 PM							
		Arsenic (As)	527	2.5	< 0.001	5	EPA 6010C	2.0
		Lead (Pb)	527	209.4	0.040	397	EPA 6010C	2.0
SLI ID:	Client ID:	Description:					MRL**	
Date	Collected:	Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	(µg)
31929536	2	NY-1ft Of NE Corner						
6/21/2013	4:00 PM							
		Arsenic (As)	512	< 2.0	< 0.001	< 4	EPA 6010C	2.0
		Lead (Pb)	512	201.7	0.039	394	EPA 6010C	2.0
SLI ID:	Client ID:	Description:					MRL**	
Date	Collected:	Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	(µg)
31929537	3	NY-6ft N Of Pier						
6/21/2013	4:00 PM							
		Arsenic (As)	534	< 2.0	< 0.001	< 4	EPA 6010C	2.0
		Lead (Pb)	534	337.4	0.063	632	EPA 6010C	2.0

Total Number of Pages in Report: 2

Results relate only to samples as received by the laboratory.

Soil samples are tested as received unless noted as "Dried before analysis." Equivalent units: PPM = mg/kg. \*\*MRL=Minimum Reporting Limit. Quality Control data available upon request. Unusual sample conditions, if any, are described. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.

SLI ID: 31929538		Client ID: 4		Description: NY-11ft S Of Pier		
Date 6/21/2013		Collected: 4:00 PM				
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	517	< 2.0	< 0.001	< 4	EPA 6010C	2.0
Lead (Pb)	517	347.1	0.067	671	EPA 6010C	2.0
SLI ID: 31929539		Client ID: 5		Description: NY-11ft SE Of SE Corner		
Date 6/21/2013		Collected: 4:00 PM				
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	512	< 2.0	< 0.001	< 4	EPA 6010C	2.0
Lead (Pb)	512	421.2	0.082	823	EPA 6010C	2.0

Analyst: ABISOLA O. KASALI

Total Number of Pages in Report: 2

Results relate only to samples as received by the laboratory.

  
 Reviewed By **Derek L. Jackson, Analyst**  
 Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

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WorkOrderKey  
 V: \ 961 \ 961558

Submitting Co. <b>LEIGHTON ASSOCIATES</b>	Lbb Use-WO #	Phone #	<b>1-800-269-2284</b>
70-20 AUSTIN ST STE 115	Acct #	Fax # & E-mail	
FOREST HILLS, NY 11375		213	

Project Name: <b>SKANSKA</b>	Special Instructions include requests for special reporting or data packages
Project Location: <b>Bayonne Bridge</b>	<b>Analyze for total lead, arsenic, + PCBs</b>
Project Number:	State Of Collection: <b>NY/NJ</b>

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input checked="" type="checkbox"/> 1 business day* <input type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>* not available for all tests</small> <small>Schedule rush organics, multi-metals &amp; weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (PM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Aspe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input checked="" type="checkbox"/> Soil	<b>Asbestos Air / Fiber Counts</b> <input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II) <input type="checkbox"/> Miscellaneous Tests <input type="checkbox"/> Total Crst (NIOSH 0100) <input type="checkbox"/> Resp. Dust (NIOSH 0610) <input type="checkbox"/> Silica - FTIP (NIOSH 7002) <input type="checkbox"/> Silica - XRD (NIOSH 7000)	<b>Asbestos Bulk / Asb ID</b> <input type="checkbox"/> PLM (EPA 600, 1982) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 198.11.41.8 <input type="checkbox"/> CAELAP (EPA Method) <input type="checkbox"/> TEM (D-01.15) <b>FOR ASBESTOS AIR:</b> TYPE OF RESPIRATOR USED:	<b>Metals - Total Conc.</b> <input checked="" type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input checked="" type="checkbox"/> ARSENIC <input checked="" type="checkbox"/> PCBs <b>Metals - Extract</b> <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / Full (w/ organics) Others

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSit, Bldg, Material)	Wiped Area (ft²)	Type <sup>1</sup> A,B,P,E	Time <sup>2</sup>		Flow Rate <sup>3</sup>		Total <sup>4</sup> Air Vol
						Start	Stop	Start	Stop	
1	6.21		NY - 1.5 ft S of SW corner of Pier S9E							
2	6.21		NY - 1 ft E of NE corner of Pier S8W							
3	6.21		NY - 6 ft N of Pier 10S (west)							
4	6.21		NY - 11 ft S of Pier 7S (west)							
5	6.21		NY - 11 ft SE of SE corner of Pier 3S (east)							
control →										

<sup>1</sup>Type: A=area B=blank P=personal E=excursion    <sup>2</sup>Beginning/End of Sample Period    <sup>3</sup>Pump Calibration in Liters/Minute    <sup>4</sup>Volume in Liters (time in min \* flow in L/min)

Sampled by NAME <b>Thomas Storck</b> SIGNATURE <i>[Signature]</i> DATE/TIME <b>6.19.13 1600</b>	Retrieved to lab by NAME _____ SIGNATURE _____ DATE/TIME _____	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HD <input type="checkbox"/> DB <i>[Handwritten initials]</i>
--	---	--

Sample return requested    Ambient temp \_\_\_\_\_ °C    pH \_\_\_\_\_    Cl \_\_\_\_\_    TRTS \_\_\_\_\_

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## LABORATORY ANALYSIS REPORT

ACCOUNT #: 213-13-30590  
CLIENT: LEIGHTON ASSOCIATES  
ADDRESS: 70-20 AUSTIN ST STE 115  
FOREST HILLS NY 11375

DATE COLLECTED: 6/21/2013  
DATE RECEIVED: 6/24/2013  
DATE ANALYZED: 6/25/2013  
DATE REPORTED: 6/25/2013

PROJECT NAME: SKANSKA  
JOB LOCATION: Bayonne Bridge  
PROJECT NO.:  
PO NO.:

Sample Type: SOIL

SLI ID:	Client ID:	Description:				
31929515	8	NJ-25ft SE Of Pier 12N				
Date	6/21/2013					
Collected:	4:00 PM					
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	524	8.7	0.002	17	EPA 6010C	2.0
Lead (Pb)	524	329.3	0.063	628	EPA 6010C	2.0
SLI ID:	Client ID:	Description:				
31929516	9	NJ-20ft SW Of Pier 12N				
Date	6/21/2013					
Collected:	4:00 PM					
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	530	5.2	< 0.001	10	EPA 6010C	2.0
Lead (Pb)	530	683.2	0.129	1,289	EPA 6010C	2.0
SLI ID:	Client ID:	Description:				
31929517	10	NJ-Inside Park At Fence				
Date	6/21/2013					
Collected:	4:00 PM					
Analyte	Sample Wt(mg)	Total (µg)*	Conc. (% by wt)	Conc. PPM	Analysis Method	MRL** (µg)
Arsenic (As)	511	2.7	< 0.001	5	EPA 6010C	2.0
Lead (Pb)	511	347.7	0.068	680	EPA 6010C	2.0

Analyst: ABISOLA O. KASALI

Total Number of Pages in Report: 1

Results relate only to samples as received by the laboratory.

  
Reviewed By: Derak L. Jackson, Analyst  
Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

Soil samples are tested as received unless noted as "Dried before analysis". Equivalent units: PPM = mg/kg. \*\*MRL=Minimum Reporting Limit. Quality Control data available upon request. Unusual sample conditions, if any, are described. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.



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 961 961560

Submitting Co. **LEIGHTON ASSOCIATES** Lab Use-WO# \_\_\_\_\_ Phone # **1-800-269-2284**  
 Acct# \_\_\_\_\_ Fax # & E-mail **1-718-268-6317**  
 70-20 AUSTIN ST STE 115  
 FOREST HILLS, NY 11375 **213**

Project Name: **SKANSKA** Special Instructions (Include requests for special reporting or data packages)  
 Project Location: **Bayonne Bridge** Analyze for total lead, arsenic, +  
 Project Number: \_\_\_\_\_ PCBs  
 PO Number: \_\_\_\_\_ State Of Collection **NY/NJ**

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input checked="" type="checkbox"/> 1 business day* <input type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10c) <input type="checkbox"/> Weekend* <small>* not available for all tests            Schedule rush organics, metals &amp; weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed.</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (FM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (SP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composites <input type="checkbox"/> Sludge <input type="checkbox"/> _____ <input checked="" type="checkbox"/> Soil <input type="checkbox"/> _____	<b>Asbestos Air / Fiber Counts</b> <input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II) <input type="checkbox"/> _____ <b>Miscellaneous Tests</b> <input type="checkbox"/> Total Dust (NIOSH 0600) <input type="checkbox"/> Resp. Dust (NIOSH 600) <input type="checkbox"/> Silica - FTIR (NIOSH 7402) <input type="checkbox"/> Silica - XRD (NIOSH 7500)	<b>Asbestos Bulk / Ash ID</b> <input type="checkbox"/> PLM (EPA 600, 1962) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 1FA, 1A/1, 6 <input type="checkbox"/> CAELAP (EPA Interim) <input type="checkbox"/> TEM (Challenged) <b>FOP ASBESTOS AIR:</b> _____ <b>TYPE OF RESPIRATOR</b> _____ <b>USED:</b> _____	<b>Metals - Total Conc.</b> <input checked="" type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input checked="" type="checkbox"/> Arsenic <input checked="" type="checkbox"/> PCBs <b>Metals - Extract</b> <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / Full (w/ organics) <b>Others</b> _____

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft²)	Type¹ (A,B,P,E)	Time²		Flow Rate³		Total⁴ Air Vol
						Start	Stop	Start	Stop	
8	6.21		NJ - 25ft SE of Pier 12N							
9	6.21		NJ - 20ft SW of Pier 12N							
10	6.21		NJ - Inside park at fence, between Piers 3N + 4N, 29ft South of fence corner, near NW corner of volleyball court							

¹Type: A=area B=blank P=personal E=excursion ²Beginning/End of Sample Period ³Pump Calibration in Liters/Minute ⁴Volume in Liters (Time in min \* flow in L/min)

Sampled by NAME **Thomas Storck** Retinquished to lab by NAME \_\_\_\_\_  
 SIGNATURE SIGNATURE \_\_\_\_\_  
 DATE/TIME **6.19.13 1600** DATE/TIME \_\_\_\_\_

Sample return requested  Ambient temp  Ice  pH  Cl  \_\_\_\_\_

- FX
- UPS
- USM
- HD
- DB

WB: **0215**

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AIHA/ELLAP 100527, ISO/IEC 17025, NVLAP 101150-0, NYELAP 11413, VELAP/NELAC 460135

## LABORATORY ANALYSIS REPORT

Account: 213-13-30593      Date/Time Collected: 06/21/2013      4:00 PM  
Client: LEIGHTON ASSOCIATES      Date/Time Received: 06/24/2013      9:10 AM  
Address: 70-20 AUSTIN ST STE 115      Date Reported: 06/25/2013  
FOREST HILLS, NY 11375      Receipt Temp., °C:  
Project Name: SKANSKA      Sample Matrix: SOIL  
Project No.:  
Job Location: Bayonne Bridge  
P.O.#:  
Sample Description: NY-1.5ft S Of SW Corner      SLI Sample No.: 31929545  
Client Sample No.: 1

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	20	µg/kg	1	06/25/2013	APS

**Polychlorinated Biphenyls based on SW846 8082 - Surrogate Recoveries**

Surrogate	Recovery
DCB	90%
TCMX	46%

Sample  
Description: NY-1ft Of NE Corner

SLI Sample No.: 31929546  
Client Sample No.: 2

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<u>Polychlorinated Biphenyls based on SW846 8082</u>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	20	µg/kg	1	06/25/2013	APS
<u>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</u>						
Surrogate	Recovery					
DCB	90%					
TCMX	48%					

Sample  
Description: NY-6ft N Of Pier

SLI Sample No.: 31929547  
Client Sample No.: 3

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<u>Polychlorinated Biphenyls based on SW846 8082</u>						
Aroclor - 1016	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	21	µg/kg	1	06/25/2013	APS
<u>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</u>						
Surrogate	Recovery					
DCB	83%					
TCMX	48%					

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

Sample  
Description: NY-11ft S Of Pier

SLI Sample No.: 31929548  
Client Sample No.: 4

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1254	139	24	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	24	µg/kg	1	06/25/2013	APS
Aroclor - 1282	BQL	24	µg/kg	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 – Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	70%					
TCMX	48%					

Sample  
Description: NY-11ft SE Of SE Corner

SLI Sample No.: 31929549  
Client Sample No.: 5

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	76	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1282	BQL	20	µg/kg	1	06/25/2013	APS
<b><u>Polychlorinated Biphenyls based on SW846 8082 – Surrogate Recoveries</u></b>						
Surrogate	Recovery					
DCB	54%					
TCMX	54%					

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

*Conrad Howard*

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Reviewed By: Bernard H. Howard, Supervisor

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All samples for organics testing should be shipped in cool conditions, 1 to 8°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.stabinc.com](http://www.stabinc.com) for current certifications.



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WO Lab: WorkOrderKey



V: \ 961 \ 961559

Submitting Co. <b>LEIGHTON ASSOCIATES</b>	Lab Use- WO #	Phone # <b>1-800-269-2284</b>
<b>70-29 AUSTIN ST STE 115</b>	Acct # <b>213</b>	Fax # & E-mail
<b>FOREST HILLS, NY 11375</b>		<b>1-718-268-6317</b>

Project Name: **SKANSKA** Special Instructions include requests for special reporting or data packages!  
 Project Location: **Bayonne Bridge** Analyze for total lead, arsenic, + PCBs  
 Project Number:  
 State Of Collection: **NY / NJ**

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input checked="" type="checkbox"/> 1 business day* <input type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>*not available for all tests</small> <small>Schedule rush organics, multi-metals &amp; weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed.</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> 4-Vol Filter (PM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input type="checkbox"/> <input checked="" type="checkbox"/> Soil <input type="checkbox"/>	<input type="checkbox"/> Asbestos Air / Pier / Ceiling <input type="checkbox"/> PCM (NIOSH 74100) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level 1) <input type="checkbox"/> Miscellaneous Tests <input type="checkbox"/> Total Dust (NIOSH 0500) <input type="checkbox"/> Resp. Dust (NIOSH 0600) <input type="checkbox"/> Silica - FTIR (NIOSH 7612) <input type="checkbox"/> Silica - XRD (NIOSH 7800)	<input type="checkbox"/> Asbestos Bulk / Asb ID <input type="checkbox"/> PLM (EPA 600, 1982) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 153.11/11.6 <input type="checkbox"/> CALRAP (EPA Interim) <input type="checkbox"/> TEM (Chatinco) <b>FOR ASBESTOS AIR:</b> TYPE OF RESPIRATOR USED:	<b>Metals-Total Conc.</b> <input checked="" type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input checked="" type="checkbox"/> ARSENIC <input checked="" type="checkbox"/> PCBs <b>Metals-Extract</b> <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / Full (w/organics) Others

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (sq ft)	Type <sup>1</sup> A, B, P, E	Time <sup>2</sup>		Flow Rate <sup>3</sup>		Total <sup>4</sup> Air Vol
						Start	Stop	Start	Stop	
1	6.21		NY - 1.5 ft S of SW corner of Pier 59E							
2	6.21		NY - 1 ft E of NE corner of Pier 58W							
3	6.21		NY - 6 ft N of Pier 10S (west)							
4	6.21		NY - 11 ft S of Pier 7S (west)							
5	6.21		NY - 11 ft SE of SE corner of Pier 3S (east)							

<sup>1</sup>Type: A=area B=blank P=personal E=excursion  
<sup>2</sup>Beginning/End of Sample Period  
<sup>3</sup>Pump Output in Liters/Minute  
<sup>4</sup>Flow Rate in Liters (per minute) Flow in L/min

Sampled by NAME <b>Thomas Storck</b> SIGNATURE <i>[Signature]</i> DATE/TIME <b>6.19.12 1600</b>	Relinquished to lab by: NAME _____ SIGNATURE _____ DATE/TIME _____	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HD <input type="checkbox"/> DB <input checked="" type="checkbox"/> <i>[Signature]</i>
--	---	---

Sample return requested  Ambient temp  Ice  °C pH  Cl  ORP  ...

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## LABORATORY ANALYSIS REPORT

Account: 213-13-30591	Date/Time Collected: 06/21/2013	4:00 PM
Client: LEIGHTON ASSOCIATES	Date/Time Received: 06/24/2013	9:10 AM
Address: 70-20 AUSTIN ST STE 115	Date Reported: 06/25/2013	
FOREST HILLS, NY 11375	Receipt Temp: °C	
Project Name: SPANISHA	Sample Matrix: SOIL	
Project No.:		
Job Location: Bayonne Bridge		
P.O.#:		
Sample Description: NJ-25ft SE Of Pier 12N	SLI Sample No.: 31929522	
	Client Sample No.: 8	

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b><u>Polychlorinated Biphenyls based on SW846 8082</u></b>						
Aroclor - 1016	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1221	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1268	BQL	20	µg/kg	1	06/25/2013	APS
Aroclor - 1282	BQL	20	µg/kg	1	06/25/2013	APS

**Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries:**

Surrogate	Recovery
DCB	34%
TCMX	42%

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

Sample Description: NJ-20ft SW Of Pier 12N

SLI Sample No.: 31929523  
Client Sample No.: 9

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b>Polychlorinated Biphenyls based on SW846 8082</b>						
Aroclor - 1016	BQL	22	µg/g	1	06/25/2013	APS
Aroclor - 1221	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1254	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1260	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1266	BQL	22	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	22	µg/kg	1	06/25/2013	APS
<b>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</b>						
Surrogate	Recovery					
DCB	116%					
TCMX	48%					

Sample Description: NJ-Inside Park At Fence

SLI Sample No.: 31929524  
Client Sample No.: 10

Analyte	Analysis Result	Quantitation Limit	Units	Dilution Factor	Analysis Date/Time	Analyst
<b>Polychlorinated Biphenyls based on SW846 8082</b>						
Aroclor - 1016	BQL	21	µg/g	1	06/25/2013	APS
Aroclor - 1221	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1232	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1242	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1248	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1254	187	21	µg/g	1	06/25/2013	APS
Aroclor - 1260	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1266	BQL	21	µg/kg	1	06/25/2013	APS
Aroclor - 1262	BQL	21	µg/kg	1	06/25/2013	APS
<b>Polychlorinated Biphenyls based on SW846 8082 -- Surrogate Recoveries</b>						
Surrogate	Recovery					
DCB	102%					
TCMX	48%					

*Bernard H. Howard*

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Reviewed By: Bernard H. Howard, Supervisor

All samples for organics testing should be shipped in cool conditions, 1 to 6°C. Quality Control Data available upon request. Sample concentrations below the Quantitation Limit are noted as BQL (Below Quantitation Limit) or ND (None Detected) or with a "less than" (<) sign. Values designated with a "B" indicate presence of the analyte in the laboratory blank at a concentration above the Quantitation Limit. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Soil results are reported on a dry weight basis. Results relate only to samples as received by the laboratory. Unusual sample conditions, if any, are described. All testing is done in strict accordance with SLI protocol. Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.



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Submitting Co. <b>LEIGHTON ASSOCIATES</b>	Lab Use-WO #	Phone # <b>1-800-269-2284</b>
70-20 AUSTIN ST STE 115	Acct #	Fax # & E-mail
FOREST HILLS, NY 11375	<b>213</b>	<b>1-718-268-6317</b>

Project Name: **SKANSKA** Special Instructions (Include requests for special reporting or data packages):  
 Project Location: **Bayonne Bridge** \*analyze for total lead, arsenic, +  
 Project Number: **PCBS**  
 PO Number: State Of Collection: **NY, NJ**

Turn Around Time	Matrix / Sample Type (Select ONE)	Asbestos Air / Fiber Counts	Asbestos Bulk / Asb ID	Metals - Total Conc.
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input checked="" type="checkbox"/> 1 business day* <input type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>* not available for all tests</small> <small>Schedule run organics, multi-metals &amp; weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed.</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (FATC) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input type="checkbox"/> _____ <input checked="" type="checkbox"/> Soil <input type="checkbox"/> _____	<input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level 1) <input type="checkbox"/> _____ <b>Miscellaneous Tests</b> <input type="checkbox"/> Total Dust (NIOSH 0500) <input type="checkbox"/> Resp. Dust (NIOSH 1000) <input type="checkbox"/> Sludge - FTIR (NIOSH 7800) <input type="checkbox"/> Sludge - XRD (NIOSH 7800)	<input type="checkbox"/> PLM (EPA 600, 1997) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 199, 11, 41, 6 <input type="checkbox"/> CAELAP (EPA Interim) <input type="checkbox"/> TEM (Chaffin) <b>FOR ASBESTOS AIR:</b> TYPE OF RESPIRATOR <input type="checkbox"/> USED:	<input checked="" type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input checked="" type="checkbox"/> ARSENIC <input checked="" type="checkbox"/> PCBS <b>Metals - Extract</b> <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / PAHs / organics Others

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiper Area (ft <sup>2</sup> )	Type <sup>1</sup>	Time <sup>2</sup>		Flow Rate <sup>3</sup>		Total <sup>4</sup> Air Vol
						Start	Stop	Start	Stop	
8	6.21		NJ - 25ft SE of Pier 12N							
9	6.21		NJ - 20ft SW of Pier 12N							
10	6.21		NJ - Inside park at fence, between Pier 3N + 4N, 29ft South of fence corner, near NW corner of volleyball court							

<sup>1</sup>Type: A=area B=blank P=personal E=excursion <sup>2</sup>Beginning/End of Sample Period <sup>3</sup>Pump Calibration in Liters/Minute <sup>4</sup>Flow Rate in L/min

Sampled by NAME <b>Thomas Storck</b>	Relinquished to lab by NAME _____	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HC <input type="checkbox"/> DB WB: <b>0245</b>
SIGNATURE _____	SIGNATURE _____	
DATE/TIME <b>6.19.13 1600</b>	DATE/TIME _____	

Sample return requested  Ambient temp  Ice  °C pH Cl  \_\_\_\_\_

July 16, 2013

Mr. John Pouso  
Skanska Kiewit  
400 Roosevelt Avenue  
Carteret, NJ 07008

RE: Contract # AKB-264.039

Mr. John Pouso:

As requested, on July 1, 2013 we collected pre-job ground water samples from four excavation wells located at the Bayonne Bridge Replacement of Main Span project. Water samples were collected from two wells located on the Staten Island, NY side of the bridge and from two wells located on the NJ side of the bridge. Three water samples were collected at each well for a total of twelve water samples. The samples were sent to Schneider Laboratories, Inc. and for each well one sample was analyzed for total concentrations of semi-volatile organic compounds (SVOCs), one for volatile organic compounds (VOCs) and one for the eight RCRA metals.

Attached with this report are the laboratory analytical data sheets. The SVOC and VOC results are reported in micrograms per liter ( $\mu\text{g/l}$ ) which is equivalent to parts per billion (ppb). The results for the RCRA metals are reported in milligrams per liter (mg/l) which is equivalent to parts per million (ppm).

#### Well # 1

This well was identified as being located on the NY side of the bridge between pillars 8S and 7S. The groundwater level from the surface was measured at seven feet four inches deep. As you can see from the attached laboratory reports, the sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated a total concentration of barium of 0.07 ppm. The results were non-detectable or below the laboratory detection limit for the other seven metals.

CORPORATE HEADQUARTERS

Well # 2

This well was identified as being located on the NY side of the bridge between pillars 6S and 7S. The groundwater level from the surface was measured at four feet eight inches deep. The sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated detectable concentrations of barium and lead at 0.22 ppm and 0.11 ppm, respectively. The results were non-detectable or below the laboratory detection limit for the other six RCRA metals.

Well # 3

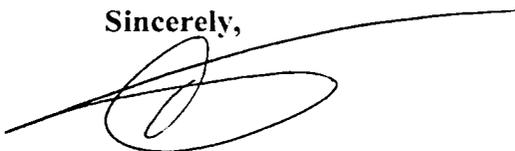
This well was identified as being located on the NJ side of the bridge between pillars 4N and 3N. The groundwater level from the surface was measured at four feet five inches deep. The sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated detectable concentrations of barium and lead at 0.26 ppm and 0.46 ppm, respectively. The results were non-detectable or below the laboratory detection limit for the other six RCRA metals.

Well # 4

This well was identified as being located on the NJ side of the bridge between pillars 2N and 3N. The groundwater level from the surface was measured at six feet zero inches deep. The sample collected for SVOCs indicated non-detectable for all of the SVOC compounds or below the laboratory quantitation limit of 10 ppb. For the VOC sample, the results were non-detectable or below the quantitation limit of 5 ppb for the all of the VOC compounds analyzed. The results for the RCRA metal sample indicated detectable concentrations of barium and lead at 0.12 ppm and 0.59 ppm, respectively. The results were non-detectable or below the laboratory detection limit for the other six RCRA metals.

Please let me know if you any questions at this time.

Sincerely,



Adam McGreevy  
Sr. Industrial Hygienist



**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: [jsmith@emsl.com](mailto:jsmith@emsl.com)

---

Attn:

**John Pouso**  
**Skanska Koch**  
**400 Roosevelt Avenue**  
**Carteret, NJ 07008**

7/11/2013

Phone: (732) 969-1700  
Fax: (732) 969-0197

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 7/9/2013. The results are tabulated on the attached data pages for the following client designated project:

**Bayonne Bridge**

The reference number for these samples is EMSL Order #011303099. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Reviewed and Approved By:

---

Julie Smith - Laboratory Director



The test results contained within this report meet the requirements of NELAC and/or the specific certification program that is applicable, unless otherwise noted.  
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.emsl.com>[jsmith@emsl.com](mailto:jsmith@emsl.com)

EMSL Order:	011303099
CustomerID:	SKNJ25
CustomerPO:	012100-JP
ProjectID:	

Attn: **John Pouso**  
**Skanska Koch**  
**400 Roosevelt Avenue**  
**Carteret, NJ 07008**

Phone: (732) 969-1700  
 Fax: (732) 969-0197  
 Received: 07/09/13 9:00 AM  
 Collected: 7/8/2013

Project: **Bayonne Bridge****Analytical Results***Client Sample Description* 012100-07082013*Collected:* 7/8/2013 *Lab ID:* 0001

<i>Method</i>	<i>Parameter</i>	<i>Result</i>	<i>RL</i>	<i>Units</i>	<i>Prep Date</i>	<i>Analyst</i>	<i>Analysis Date</i>	<i>Analyst</i>
SM 2540G	Total Solids	91	N/A	%	7/10/2013	AA	7/11/2013	MM
3550B/8082A	Aroclor-1016	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1221	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1232	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1242	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1248	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1254	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1260	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1262	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
3550B/8082A	Aroclor-1268	ND	18	µg/Kg	7/10/2013	AB	7/11/2013	EH
6010C	Arsenic	2.7	2.0	mg/Kg	7/9/2013	JS	7/10/2013	BE
6010C	Lead	8.8	2.0	mg/Kg	7/9/2013	JS	7/10/2013	BE
8015B	Diesel Range Organics	1300	370	mg/Kg	7/10/2013	AB	7/11/2013	EA
8015B	Gasoline Range Organics	ND	1.1	mg/Kg	7/10/2013	EA	7/10/2013	EA

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit

Attachment C

Contract Designated Stockpile Areas













HDR/PB, A JOINT VENTURE



CHRISTOPHER DELEONICO  
N.J. Professional Engineer # 04625700



CHRISTOPHER DELEONICO  
N.Y. Professional Engineer # 083709

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

# BAYONNE BRIDGE

CIVIL

REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES

## SOIL EROSION AND SEDIMENT CONTROL PLAN SHEET 7

This drawing is subject to conditions in contract, all revisions, sheets, and drawings. It is the responsibility of the contractor to verify all information shown on this drawing against the field conditions. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities.

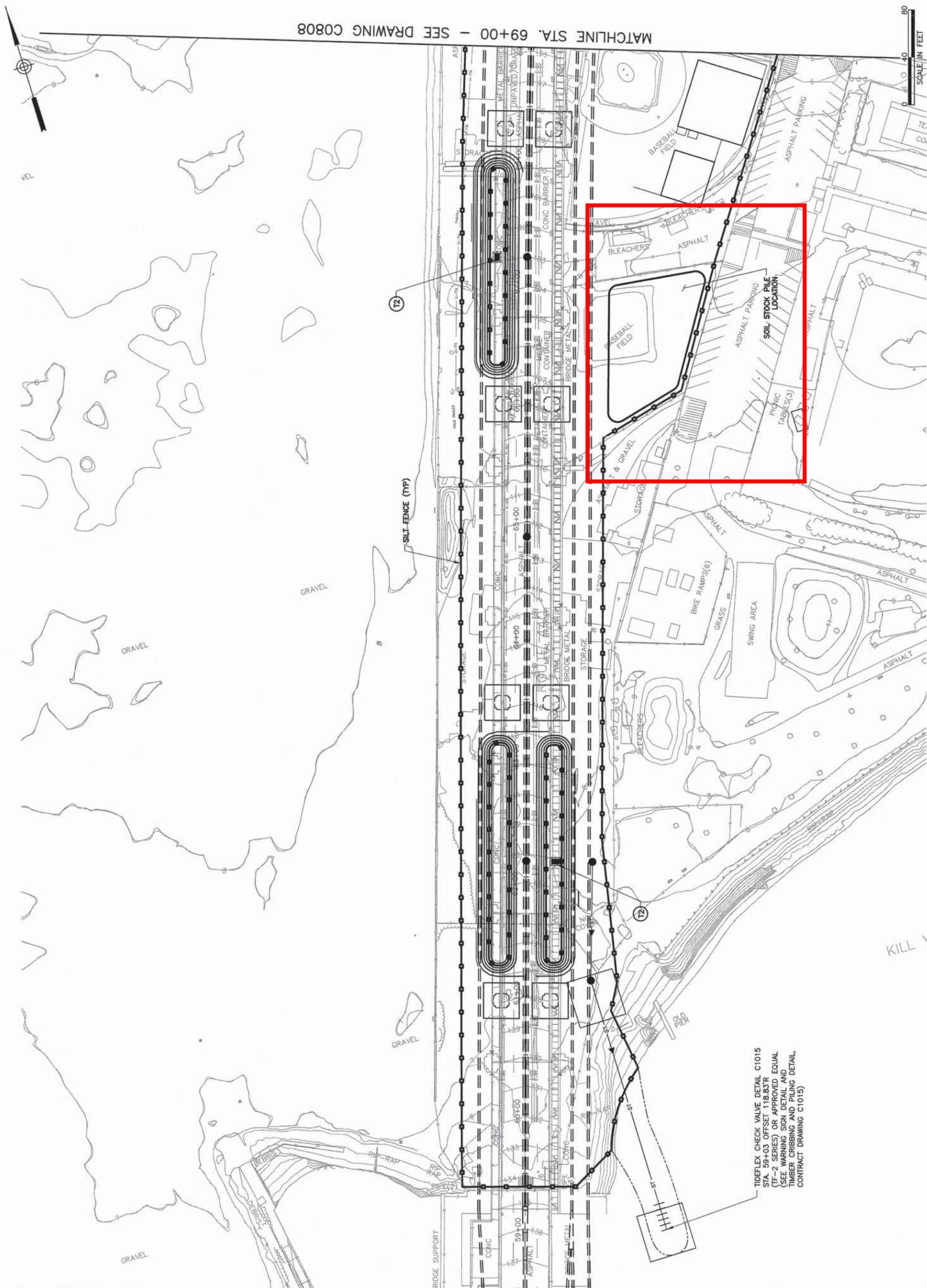
Designed by **D. DELENICK**  
 Drawn by **E. VALENTIN**  
 Checked by **D. DELENICK**  
 Date **02/15/2013**

Contract Number **AKB-264.039**

Drawing Number **C0807**  
 PDF# 08491000

MATCHLINE STA. 69+00 - SEE DRAWING C0808

MATCHLINE STA. 58+50 - SEE DRAWING C0806



SCALE IN FEET  
 0 20 40 80

TIDELEX CHECK VALVE DETAIL C1015  
 STA. 59+03 OFFSET 116.83R  
 (1F-2 SERIES) OR APPROVED EQUAL  
 (SEE WARNING SIGN DETAIL AND  
 TIMBER CRIBBING AND PILING DETAIL,  
 CONTRACT DRAWING C1015)

HDR/PB, A JOINT VENTURE



CHRISTOPHER LONGO  
N.J. Professional Engineer No. 04625700



CHRISTOPHER LONGO  
N.Y. Professional Engineer No. 04625700

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

# BAYONNE BRIDGE

CIVIL

Title  
REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES

## SOIL EROSION AND SEDIMENT CONTROL PLAN SHEET 8

This drawing is subject to conditions in contract, all specifications, laws, rules and regulations, and all applicable codes, standards, and codes. It is the responsibility of the contractor to verify all information and conditions shown on this drawing. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities.

Designed by: **D. DELENICK**  
 Drawn by: **E. VALENTIN**  
 Checked by: **D. DELENICK**  
 Date: **02/15/2013**

Contract Number: **AKB-264.039**

Drawing Number: **C0808**  
PDF: 08491000



HDR/PB, A JOINT VENTURE



CHRISTOPHER LONG  
N.J. Professional Engineer No. 02625700

CHRISTOPHER LONG  
N.Y. Professional Engineer No. 0833709

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

# BAYONNE BRIDGE

CIVIL

Title  
REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES

## SOIL EROSION AND SEDIMENT CONTROL PLAN SHEET 9

This drawing shall be used in connection with the contract, all specifications, plans, and all other documents issued by the Port Authority and may not be used for any other purpose without the written consent of the Port Authority. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate agencies. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate agencies. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate agencies.

Designed by **D. DELENICK** Drawn by **E. VALENTIN** Checked by **D. DELENICK**

Date **02/15/2013**

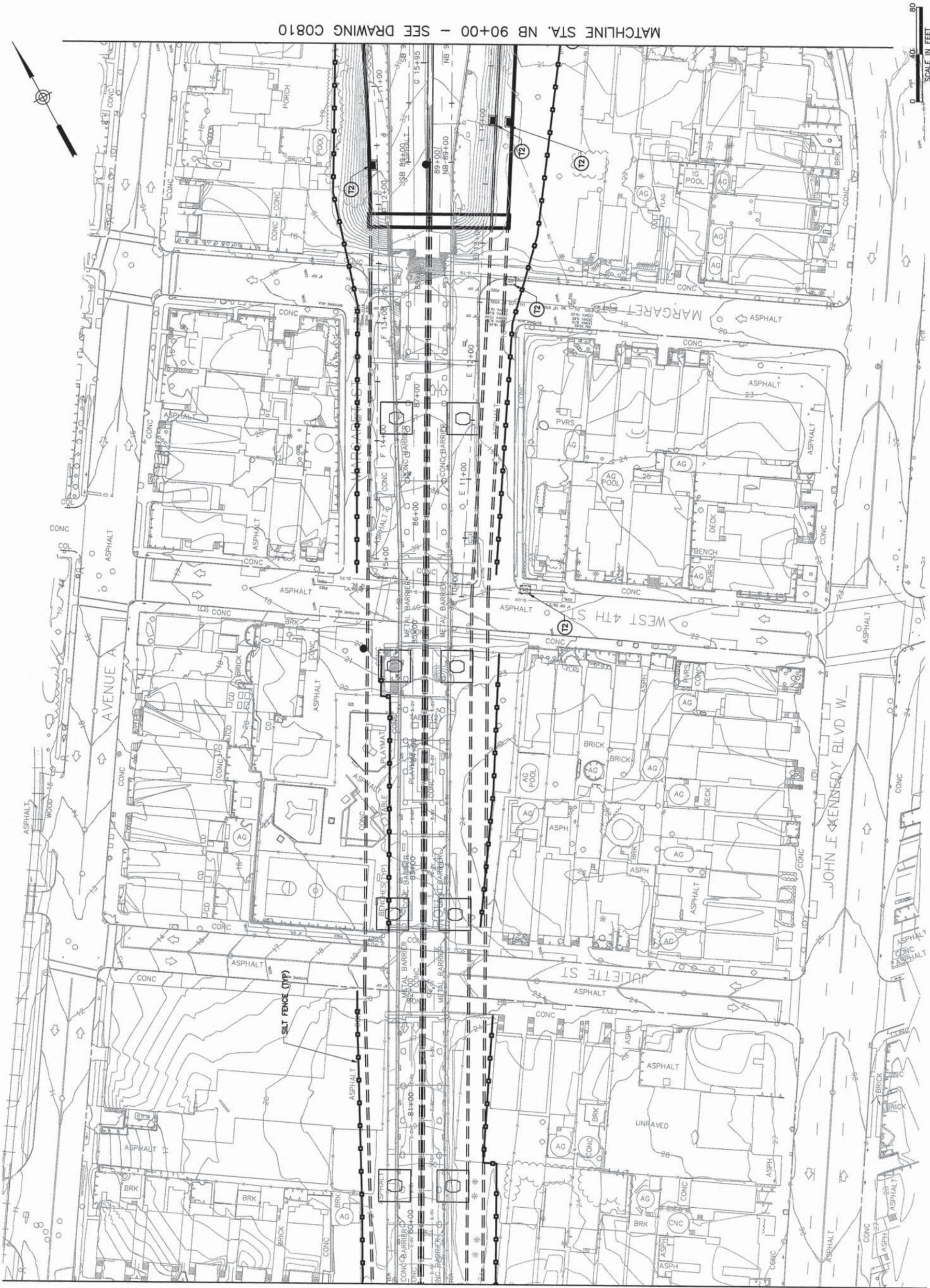
Contract Number **AKB-264.039**

Drawing Number **C0809**

PDF# 08491000

MATCHLINE STA. NB 90+00 - SEE DRAWING C0810

MATCHLINE STA. 79+50 - SEE DRAWING C0808





HDR/PB, A JOINT VENTURE



N.J. Professional Engineer # 246504625700



N.Y. Professional Engineer # 083709

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

**BAYONNE  
BRIDGE**

CIVIL

Title  
**REPLACEMENT OF MAIN SPAN ROADWAY  
AND APPROACH STRUCTURES**

**SOIL EROSION AND  
SEDIMENT CONTROL  
PLAN  
SHEET 11**

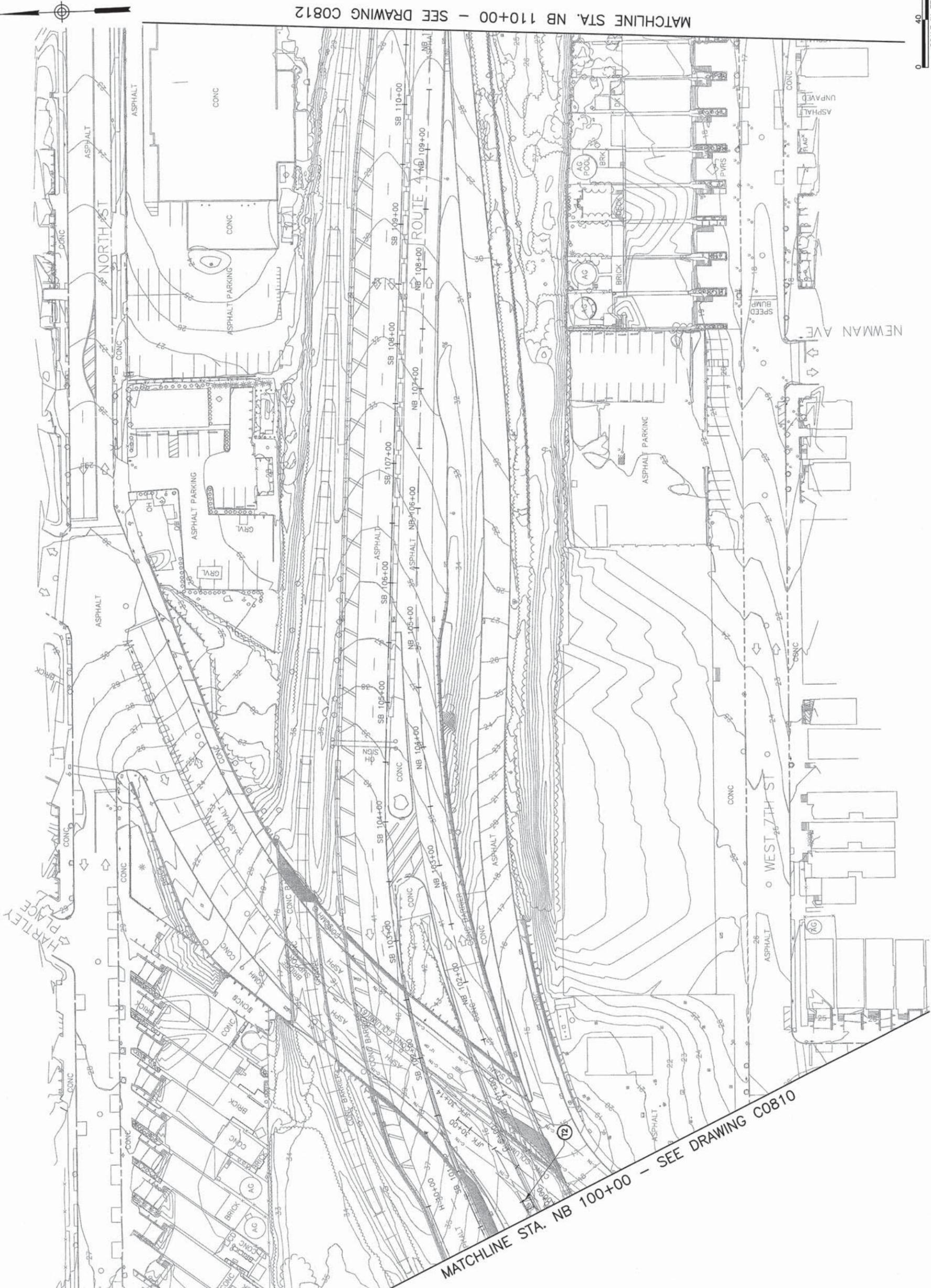
This drawing is subject to conditions in contract, all specifications, notes, and all notices of contract documents, including addenda and those who do not constitute a part of the contract documents or drawings. The contractor shall be responsible for providing all necessary information to the engineer for the preparation of the drawings. The engineer shall not be responsible for the accuracy of the information provided by the contractor. The engineer shall not be responsible for the accuracy of the information provided by the contractor. The engineer shall not be responsible for the accuracy of the information provided by the contractor.

Designed by **D. DELENICK** Drawn by **E. VALENTIN** Checked by **D. DELENICK**  
Date **02/15/2013**

Contract Number **AKB-264.039**

Drawing Number **C0811**  
PID# 08491000

MATCHLINE STA. NB 110+00 - SEE DRAWING C0812



MATCHLINE STA. NB 100+00 - SEE DRAWING C0810



HDR/PB, A JOINT-VENTURE



CHRISTOPHER J. VENTURI  
N.Y. Professional Engineer # 062270



CHRISTOPHER J. VENTURI  
N.Y. Professional Engineer # 083709

No.	Date	Revision	Approved
<b>ENGINEERING DEPARTMENT</b>			
<b>BAYONNE BRIDGE</b>			
<b>CIVIL</b>			

Title  
**REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES**

**SOIL EROSION AND SEDIMENT CONTROL PLAN**  
**SHEET 12**

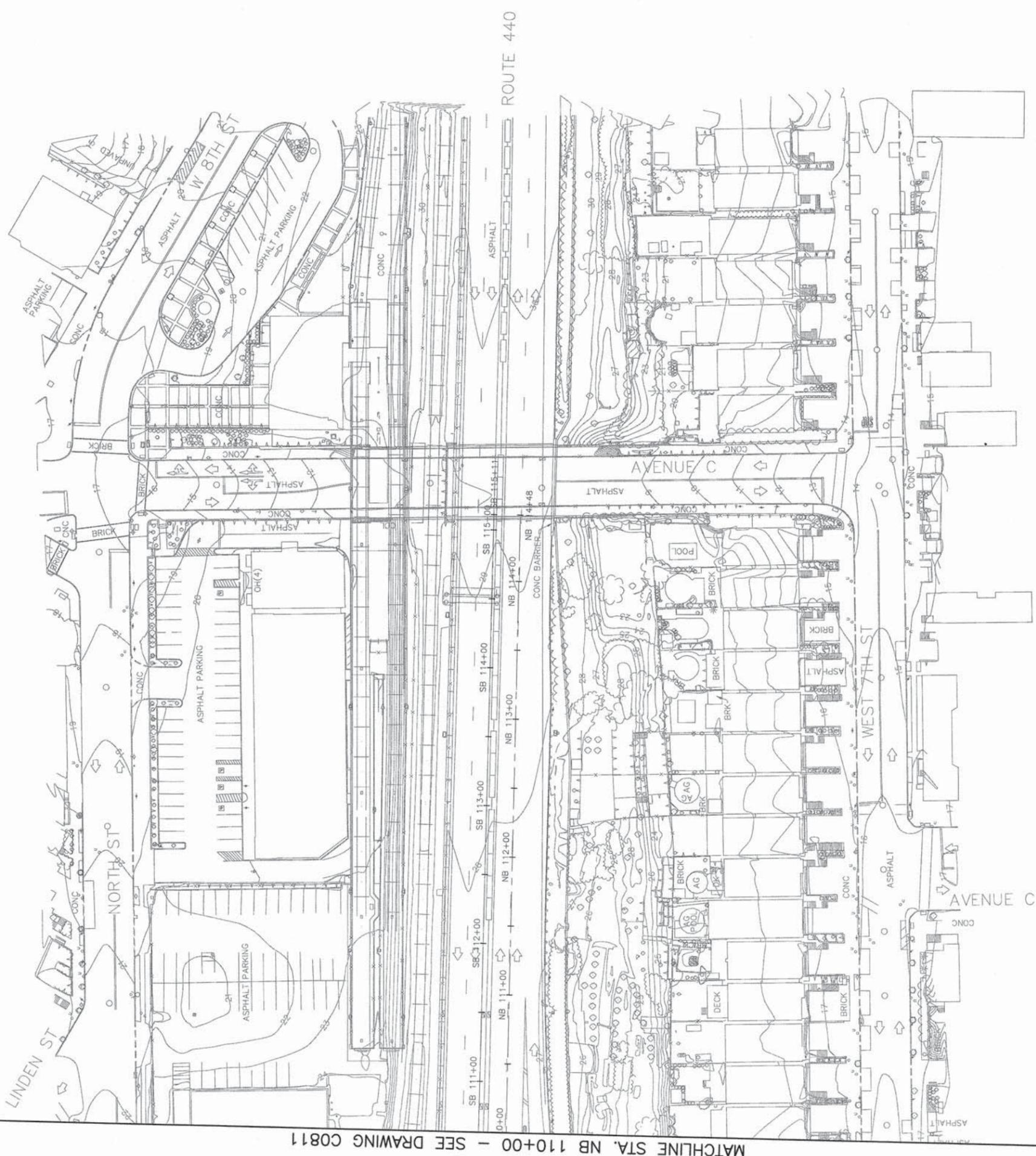
This drawing is subject to conditions in contract, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

Designed by **D. DELENICK** Drawn by **E. VALENTIN** Checked by **D. DELENICK**  
Date **02/15/2013**

Contract Number **AKB-264.039**

Drawing Number **C0812**  
Proj # **08491000**

NOTE:  
NO SOIL EROSION AND SEDIMENT CONTROL ON THIS SHEET.



MATCHLINE STA. NB 110+00 - SEE DRAWING C0811



Attachment D

Stockpile Layout for Demonstration Shaft



Attachment E

Sampling and Analysis Plan

**SAMPLING AND ANALYSIS PLAN  
SOIL STOCKPILE SAMPLING  
BAYONNE BRIDGE  
REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES  
CONTRACT AKB-264.039**

**MATRIX** **NEW** **WORLD**

Enabling Progress

**Submitted to:**

Skanska-Koch Kiewit  
The Port Authority of NY and NJ  
Bayonne Bridge Project  
111 Linnet Street  
Bayonne, NJ 07002

**Submitted by:**

Matrix New World Engineering, Inc.  
26 Columbia Turnpike  
Florham Park, New Jersey 07932

Matrix No. 13-428E

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**FIGURES**

<u>Figure No.</u>	<u>Title</u>
1	Stockpile Sampling and Analysis Plan

**TABLES**

<u>Tables</u>	<u>Title</u>
1	New Jersey Disposal Facility Analytical Requirements
2	Pennsylvania Disposal Facility Analytical Requirements
3	Compiled Disposal Facility Analytical Requirements

## 1.0 INTRODUCTION

Matrix New World Engineering, Inc. (Matrix) has prepared this Sampling and Analysis Plan (SAP) for Skanska-Koch Kiewit Joint Venture (SKK) for work associated with the Bayonne Bridge Project. As part of the engineering design services for the Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures Contract AKB-264.039 (Project), sampling and analysis of stockpiled soils must be performed to properly characterize the material for transportation and disposal (T&D) to off-site disposal facilities. Soil stockpiles may be located on both the Bayonne, New Jersey side and the Staten Island, New York side of the Bayonne Bridge. This document presents a technical approach for the collection of soil samples from previously excavated soils associated with the project. Guidance for the collection of soil samples from stockpiles of various shapes and sizes is included on Figure 1.

### 1.1 Site Description

The Bayonne Bridge spans the Kill Van Kull, and connects Bayonne, New Jersey with Staten Island, New York carrying highways NY 440 and NJ 440. The Port Authority of New York and New Jersey (PA) Board of Commissioners awarded a contract to the joint venture of SKK to raise the road deck of the existing bridge. The work, expected to begin in 2013, will raise the road deck by 64 feet, create 12-foot wide lanes, including a bicycle and pedestrian lane, and install a median divider and shoulders.

Previous investigations have identified lead in soils at concentrations exceeding the New Jersey Department of Environmental Protection's (NJDEP) Residential Direct Contact Soil Remediation Standard (RDCSR), the New York State Department of Environmental Conservation's (NYSDECs) Residential Soil Cleanup Objectives under CP-51 (SCO), and the United States Environmental Protection Agency's (USEPAs) guideline of 400 parts per million (ppm) of lead for areas accessible to the public. Groundwater is present at an average of 5.5 feet below ground surface (ft. bgs.).

## **2.0 SAMPLING AND ANALYSIS PLAN**

### **2.1 Scope of Work**

The objective of this investigation is to perform soil characterization of soil stockpiles for T&D. Soil samples will be collected from stockpiles as identified by SKK. Sampling of soil stockpiles may be conducted on both the Bayonne, New Jersey and Staten Island, New York sides of the Bayonne Bridge to meet the permit requirements of a chosen off-site disposal facility. Completion of this objective will involve advancing soil borings within each stockpile using a hand auger sampler (where sample depths are less than 4 ft) or for piles in excess of 4 ft SKK will provide an excavator so that samples may be collected at depth within the stockpile.

Soil samples collected on the Bayonne, New Jersey side of the bridge will be collected in general accordance with the New Jersey Department of Environmental Protection (NJDEP) *Technical Requirements for Site Remediation (TRSR) N.J.A.C. 7:26E* and the *NJDEP Field Sampling Procedures Manual (FSPM)*. All analyses would be conducted by a laboratory that is accredited pursuant to the National Environmental Laboratory Accreditation Program (NELAP) and the NJDEP for the category of parameters analyzed. The analytical data package for all samples will be a NJDEP Reduced Deliverable Package.

Soil samples collected from the Staten Island side of the bridge will be conducted in general accordance with the New York State Department of Environmental Conservation's (NYSDEC) DER-10 "Technical Guidance for Site Investigation and Remediation". All analyses would be conducted by a laboratory that is accredited pursuant to New York State Department of Health (NYDSOH) Environmental Laboratory Accreditation Program (ELAP) for the category of parameters analyzed. The analytical data package for all samples will be a NYSDEC ASP Category B Deliverable Package.

### **2.2 Sample Collection**

All samples will be collected by Hampton Clarke – Veritech Laboratories (HCV) field technicians that are familiar with the collection and handling of soil samples. Once the samples have been collected they will be placed in laboratory cleaned bottleware and included on a chain of custody and transported to HCV for analysis. The soils samples will be analyzed by HCV Laboratories under their PANYNJ on call contract. HCV is a NJDEP certified laboratory (#07071), and NYSDEC certified laboratory (ELAP 11408). SKK will direct the HCV field technician to the appropriate soil stockpile that will be required to be sampled. Additionally, SKK will provide the approximate volume of the soil pile to the HCV field technician so that the appropriate number of soil samples may be collected.

Once the volume and shape of the soil stockpile has been determined, the field technician will need to grid the soil stockpile according to Figure 1, so that representative samples can be collected. SKK will provide HCV field technician assistance based on the depth of the pile.

### **2.2.1 Soil Sampling Procedure**

As part of the SAP, soil stockpiles are to be characterized for proper T&D to licensed offsite disposal facilities. Part of that process is collecting soil samples for characterization. Soil sample locations are dependent on the size of the soil stockpile in question. Figure 1 illustrates the sampling procedure based on larger stockpiles being subdivided into 500 cubic yards (CY) piles so that representative samples can be obtained. Once the volume of the stockpile is known, the stockpile must be reduced to 500 CY piles so that representative samples can be collected.

After deciding on the locations for sample collection, samples must be collected for laboratory analysis. There are two types of soil samples to be collected: composite and discrete:

- Discrete samples are collected from a specific horizontal location and discrete 6-inch vertical interval. Discrete samples may be collected directly into the sample container where applicable, or material may be transferred to the sampling container with dedicated disposable sampling equipment or decontaminated stainless steel sampling equipment.
- Composite samples consist of several subsamples that are thoroughly mixed together to create one sample for analysis. After the discrete sample has been collected and placed in laboratory clean bottleware, the remaining soils are placed into a stainless-steel bowl and composited using a stainless-steel trowel or spoon. The composited sample will then be placed in laboratory supplied bottleware from the stainless-steel bowl using the trowel or spoon. In the case of either sample type (discrete and composite), sample volume is dependent on the analysis to be performed. Appropriate bottleware for each analytical parameter will be provided by the laboratory.

Sample collection procedures are dependent on the size and homogeneity of the stockpile that is to be analyzed. If it is practical to collect soil samples by hand (i.e. the soil stockpile is less than 4-ft. deep), a stainless-steel hand auger will be used. The hand auger sampler will be decontaminated before each use. Continuous hand augers will be advanced to the bottom depth of the stockpile and the retrieved soil core will be screened for evidence of contamination (i.e. staining, elevated PID readings, notable odors, etc.), and logged for material content.

If it is unreasonable to collect soil samples by hand (i.e. the soil stockpile is more than 4-ft. deep), the use of an excavator is recommended.

The excavator will advance a test pit to the bottom depth of the stockpile whereupon soils will be screened for evidence of contamination (i.e. staining, elevated PID readings, notable odors, etc.), and logged for material content.

A volatile organic compound (VOC) sample will be collected from the location with the highest PID reading and/or at the location with the greatest evidence of contamination (i.e. staining, odors, etc.). If there is no evidence of staining, collect the VOC sample at a random, discrete 6-inch interval. No matter the circumstance, document soil conditions of the borehole/test pit (i.e. soil texture, moisture, PID readings, evidence of contamination, etc.) and record the sample interval.

### 2.2.2 Soil Sampling Frequency

Matrix evaluated 13 disposal facilities that SKK provided that may potentially be utilized for the disposal of soils associated with this project. The sampling frequency varies between the facilities, but if the following parameters are analyzed at the prescribed frequencies than the soils from the Bayonne Bridge Project may be qualified to be accepted at the facilities listed on Tables 1 and 2.

- One grab for the first and second 60 CY and then 120 CY thereafter for extractable petroleum hydrocarbons, Category 2 (EPH Cat 2), and Total Organic Halides (TOX)
- One composite sample per every 100 CY analyzed for EPH Cat 2
- One grab sample per every 500 CY analyzed for target compound list (TCL) VOCs plus a forward library search (+10), and
- One five-point composite sample per every 500 CY analyzed for each of the following:
  - Target analyte list (TAL) metals,
  - Polychlorinated Byphenols (PCBs)
  - TCL semi-volatile organic compounds (SVOCs+20) plus a forward library search
  - Resource Conservation Recovery Act (RCRA) Metals including beryllium, copper, nickel, zinc and vanadium
  - Hexavalent chromium
  - Cyanide
  - Resource Conservation and Recovery Act (RCRA) characteristics, including ignitability, corrosivity (pH), and reactivity (sulfide and cyanide).
  - Toxic Characteristic Leachate Procedure (TCLP) VOCs, SVOCs, Metals, herbicides, and pesticides
- One five-point composite sample per every 800 CY analyzed for each of the following:

- Polynuclear Aromatic Hydrocarbons (PAHs)
- One five-point composite sample per every 1,000 CY analyzed for each of the following:
  - TCL Pesticides & Herbicides
  - Paint Filter
  - Toxicity Characteristic Leaching Procedure (TCLP) metals,

Combined sample requirements for all disposal facilities are described on Table 3. See Tables 1 and 2 for specific requirements of each disposal facility.

### **2.3 Reporting**

Upon the completion of all sampling activities and receipt of all analytical data, the laboratory analytical data package, field notes, chain-of-custody documentation, and sample location plans will be provided to SKK.

### **3.0 QUALITY ASSURANCE PLAN**

Sampling and analysis activities conducted by others as part of investigation activities associated with this project should follow these requirements, at a minimum.

#### **3.1 Sampling Guidelines**

The purpose of sampling is to obtain environmental data that is representative of the materials to be disposed of. Specific sampling procedures are described in the following sections. These procedures describe the recommended methods of acquiring samples that best represent the environmental matrix. The trace level of contamination of samples from external sources will be minimized and controlled through proper selection of sampling equipment as well as proper sampling techniques.

The following section provides a description of sampling procedures.

##### **3.1.1 Sampling Procedures**

Collection, preservation, and handling of these samples will be in accordance with the procedures outlined in this SAP.

##### **3.1.2 QA/QC Samples**

The collection and analysis of QA/QC samples is not proposed as part of this SAP.

##### **3.1.3 Sample Identification and Shipment**

All sample containers shall be marked and identified with legible sample labels and sample possession will be recorded in a field log. The method of identifying a sample depends on the type of measurement or analysis performed. Field measurements are recorded directly into field log book and should include identifying information such as site code, locations, date, time and sampling or measuring device with identification number.

#### **3.2 Sample and Document Custody Procedures**

##### **3.2.1 Sample Tracking**

Possession of samples collected in the field will be traceable from the time of collection until they are analyzed by an analytical laboratory or disposed.

To maintain and document sample possession, chain-of-custody procedures will be followed. A chain-of-custody record will be utilized by field personnel and completed at the time of sample collection. This record will include, but is no limited to, the following information:

- Project name and number;
- Names (s) of sampler (not initials);
- Sample identification number of location;
- Date and time of collection;
- Number and type of containers;
- Required analyses;
- Preservatives;
- Courier;
- Signatures (not initials) documenting change-of-sample custody; and,
- Preservatives.

Chain-of-custody forms will accompany samples at all times. Chain-of-custody will be initiated when the laboratory releases the sample containers to the sampling personnel. When transferring possession of the samples, the individuals relinquishing and receiving the samples will sign, date and record the time of transfer on the form. Additionally, the samples will remain in the physical possession of the person assigned to the samples until they are shipped to the laboratory or will be placed in a locked storage facility prior to shipping. The original chain-of-custody record will accompany the sample to the analytical laboratory. A copy of each record will be placed in the project file and the original will be kept with the sample.

The laboratory is responsible for the storage and internal distribution of the samples. The samples will be tracked in the analytical laboratory.

Samples will be collected in clean glass containers supplied by the analytical laboratory. A sample numbering system will provide a tracking mechanism to allow retrieval of a sample and identification of the sampling locations. The unique sample number will be noted in the field logbook and on the chain-of-custody forms, cross-referencing the sample number of the associated sample.

It is imperative that each sample collected be clearly identified. This will typically be accomplished by labeling each sample container with a pre-aped blank label with the following information:

- Project name and number
- Sample number
- Date and time of collection
- Analyses required

Sample identification numbers will be issued prior to field collection by the Quality Control Officer.

### **3.2.2 Packing and Shipping Procedures**

This section describes packing and shipping procedures used for environmental samples collected from the stockpile locations.

- All samples will be classified as environmental and must be packaged using the following procedures to minimize breakage or leakage of sample container contents.
- Check all labels for legibility and accuracy -- replace labels if necessary.
- Ensure that all labels are covered with wide, clear cellophane or similar tape to protect information on the labels from becoming illegible during shipping.
- Visually check the outside surface of the containers for proper decontamination. If any containers appear to be soiled, decontaminate again.
- Check all container lids and tighten if necessary.
- Wrap sample containers with appropriate packaging material to prevent breakage during shipping.

- Place sufficient packaging material in bottom and around the sides of the shipping cooler.
- Place wrapped samples in the cooler. Complete and check chain-of-custody forms during packaging.
- Add ice to the cooler. Ice should be placed in Ziploc type plastic bags.
- Fill excess space in cooler with packaging material as appropriate to prevent movement of the sample containers.
- Contact the field team leader or his designee to review the chain-of-custody paperwork and the sample packaging before proceeding. Check to determine that information on field sheets and documents for laboratory are identical.
- The paperwork which accompanies the samples to the laboratory is placed inside a plastic bag, sealed and taped to the inside of the cooler lid, when appropriate.
- The following markings are placed on the top of the cooler when it is to be shipped to the laboratory:
  - “This End Up” labels or arrows
  - “Environmental Samples” label
  - Total quantity of coolers in shipment (i.e., 2 of 4)
  - Shippers name and address
- The cooler is closed and sealed with filament tape in a manner to prevent inadvertent opening during shipping.
- A custody seal will be placed on the cooler in an area that would indicate if tampering had occurred.
- A completed label for shipping by express carrier is attached to the top of the cooler.
- Arrange cooler pick up with laboratory.

### 3.2.3 Chain-Of-Custody Protocol

This section describes procedures for sample documentation including chain-of-custody. The purpose of these procedures is to document the authorized and interrupted possession of samples during collection, transportation and storage of analysis. The Engineer/Geologist is responsible for monitoring compliance with these procedures. The following records are to be kept for the permanent project file:

- Chain-of-custody forms
- Sample collection field sheets
- Field notebooks
- Airbills, and
- Photographs

The chain-of-custody form provides a written record which can be used to trace possession and holding of samples from the time of collection through data analysis and reporting.

The Engineer/Geologist is responsible for the care and custody of the samples collected by them until the samples are transferred to another party, dispatched to the laboratory, or disposed. The Engineer/Geologist is also responsible for enforcing chain-of-custody procedures during field work.

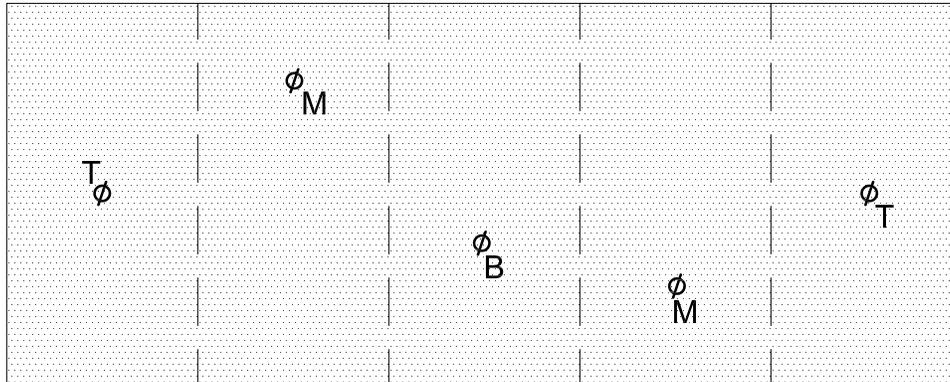
The chain-of-custody procedures are summarized below:

1. At the time of sample collection, the chain-of-custody form is completed for the particular sample. The sample identification number, sampling location, sample date, sample time, and analysis requested are recorded on the form in ink.
2. When all samples have been collected that will fit in a cooler, the Engineer/Geologist checks the form for possible errors and signs the chain-of-custody form. If necessary, corrections are made to the form with a single strike mark and initialed and dated. Each cooler will have a separate chain-of-custody form.

When transferring custody of the samples, the individuals relinquishing and receiving them should sign, date and note the time on the form. This process documents sample custody transfer from the sampler to the sample custodian in the laboratory. Samples are packaged for shipment and dispatched to the analytical laboratory with a separate chain-of-custody form accompanying each shipment. A copy of each chain-of-custody form is retained by the sampling team for the project file and the original is kept with samples.

**FIGURES**

## 5 POINT COMPOSITE SAMPLE PROTOCOL

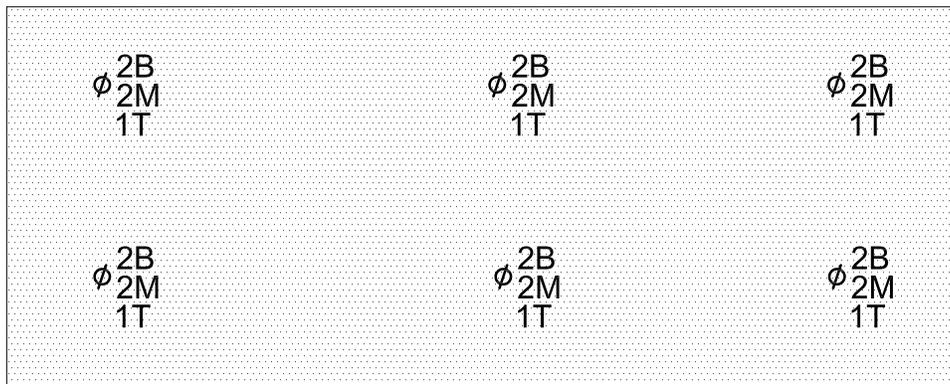


Notes: 500 cubic yard soil piles divided into 100 cubic yard sub sections

### KEY

- φ - Sample Location.
- T - Collected subsample from top 1/3 of pile.
- M - Collect subsample from middle 1/3 of pile.
- B - Collect subsample from bottom 1/3 of pile.

## EPH and TOX SAMPLING DIAGRAM



Notes: 500 cubic yard soil pile  
 One sample from each boring biased towards evidence of contamination for EPH grab sample  
 Each sample location composited to make 1 EPH composite sample

### KEY

- φ - Sample Location.
- 1T - One sample collected from top 1/3 of pile.
- 2M - Two samples collected from middle 1/3 of pile.
- 2B - Two samples collected from bottom 1/3 of pile.

## SAMPLING AND ANALYSIS PLAN BORING LOCATION GUIDANCE

**MATRIX****NEWORLD**  
 Enabling Progress

26 Columbia Turnpike  
 Florham Park, New Jersey 07932  
 WBE / DBE / SBE

Tel: 973-240-1800  
 Fax: 973-240-1818  
 www.matrixnewworld.com

SOIL STOCKPILE SAMPLING  
 BAYONNE BRIDGE  
 REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES  
 CONTRACT AKB-264.039

SCALE: NTS	DATE: AUGUST 2013	JOB NO.: 13-428E	FIGURE NO.: 1
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Table 1  
New Jersey Disposal Facility Analytical Requirements  
Sampling and Analysis Plan  
Soil Stockpile Sampling  
Bayonne Bridge  
REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES  
CONTRACT AKB-264.039

Facility	Location	Frequency	EPH	Miscellaneous							RCRA Characteristics			Toxicity Characterization Leaching Procedure (TCLP)								
			Extractable Petroleum Hydrocarbons (EPH)	TCL VOC+10	TCL SVOC + 20	TAL Metals	TCL Pesticides/Herbicides	TCL PCBs	RCRA Metals	PAHs	TOX	Hexavalent Chromium	Cyanide	Paint Filter	Ignitability	Corrosivity (pH)	Reactivity (Sulfide, Cyanide)	TCLP VOC	TCLP Metals	TCLP SVOC	TCLP Herbicides	TCLP Pesticides
Clean Earth	Carteret Facility	5-point composite every 100 cy (1 grab/20 cy)	X																			
		8-point composite every 800 cy (1 grab/100 cy)		X					X	X	X				X	X	X		X			
	Dupont (Beneficial Reuse)	Grab every 750 tons		X																		
		5-point composite every 750 tons (1 grab every 150 tons)			X	X			X				X	X	X	X	X	X	X			
	North Jersey Facility (Hazardous Soils)	Grab every 750 tons		X														X				
		5-point composite every 750 tons (1 grab every 150 tons)			X				X	X	+ Be, Cu, Ni, Va, Zn		X	X	X	X	X		X	X		
Impact Environmental	Lincoln Park West, Jersey City, or Impact Reuse & Recovery Center, Lyndhurst, NJ and Cumberland County Landfill	Grab every 1000 cy		X																		
		5-point composite every 1000 cy (1 grab every 200 cy)	X		X	X	X	X							X				X			
Pure Soil	Jackson, NJ Facility	Grab every 1200 tons		X																		
		5-point composite every 1200 tons (1 grab every 240 tons)			X	X	X	X					X	X	X	X	X		X			
	Middlesex County Landfill	Grab every 150 tons	X																			
		5-point composite every 500 cy (1 grab every 100 cy)							X						X	X	X	X	X	X	X	X
	Beneficial Reuse Malanka Yard Secaucus, NJ	Grab every 5000 cy		X																		
		5-point composite every 5000 cy (1 grab every 1000 cy)	X		X	X	X	X					X	X	X	X	X		X			
Durable Companies	Hazelton Creek Properties LLC, PA	1 grab per 1000 cy		X																		
		5-point composite per 1000 cy (1 grab every 200 cy)			X	X	X	X											X			
	Secaucus Brownsfield (Malanka)	1 grab per 5000 cy		X																		
		5-point composite per 5000 cy (1 grab every 1000 cy)			X	X	X	X												X		
Soil Safe	Logan NJ	One 5-point composite per 100 cy	X																			
		1 grab per 800 cy		X					X		X											
		One 5-point composite per 800 cy				X																
		One 5-point composite per site												X					X			

Notes:  
 CY: Cubic Yards  
 Grab: Sample collected from a discrete 6-inch interval  
 TAL: Target Analyte List  
 TCL: Target Compound List  
 RCRA: Resource Conservation and Recovery Act  
 TCLP: Toxicity Characteristic Leaching Procedure  
 ppm: Parts per million (milligrams per kilogram [mg/kg])  
 Be, Cu, Ni, Va, Zn: Analytes Beryllium, Copper, Nickel, Vanadium, and Zinc

Table 2  
Pennsylvania Disposal Facility Analytical Requirements  
Sampling and Analysis Plan  
Soil Stockpile Sampling  
Bayonne Bridge  
REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES  
CONTRACT AKB-264.039

Facility	Location	Frequency	EPH	TCL / TAL									Miscellaneous			RCRA Characteristics			Toxicity Characterization Leaching Procedure (TCLP)							
			Extractable Petroleum Hydrocarbons (EPH)	BTEX	TOX	TCL VOC+10	TCL SVOC + 20	PAHs	TAL Metals	RCRA Metals	TCL Pesticides/Herbicides	TCL PCB	Hexavalent Chromium	TOX	Cyanide	Ignitability	Corrosivity	Reactivity	TCLP VOC	TCLP Metals	TCLP SVOC	TCLP Herbicides	TCLP Pesticides			
Clean Earth	Southeast PA (Morrisville) Facility	Grab - First 90 tons; Second 90 tons; every 180 tons thereafter	X		X									X												
		Grab - Every 900 tons																								
		5-point composite every 900 tons (1 grab/180 tons)							X			X	X		X	X	X				X	X				
	Philadelphia	Grab every 250 tons	X																							
		Grab every 1000 tons				X																X				
		5-point composite every 1000 tons (1 grab every 200 tons)					X			X	X				X	X	X					X	X	X	X	
Impact Environmental	Total Recycling Corp (TRC) Northampton, PA & Phase III Environmental, Palmerton, PA	3 grab samples for the first 3000 cy and 1 grab sample for each 1000 cy thereafter				X																				
		3 5-point composites for the first 3000 cy and 1 5-point composite for each 1000 cy thereafter (1 grab every 200 cy)					X			X		X	X													

Notes:  
 CY: Cubic Yards  
 Grab: Sample collected from a discrete 6-inch interval  
 TAL: Target Analyte List  
 TCL: Target Compound List  
 RCRA: Resource Conservation and Recovery Act  
 TCLP: Toxicity Characteristic Leaching Procedure  
 Cu, Ni, Zn: Analytes Copper, Nickel and Zinc

Table 3  
 Compiled Disposal Facility Analytical Requirements  
 Sampling and Analysis Plan  
 Soil Stockpile Sampling  
 Bayonne Bridge  
 Replacement of Main Span Roadway and Approach Structures  
 CONTRACT AKB-264.039

Soil Stockpile Volume	EPH		TAL / TCL + 30 & RCRA Metals			Miscellaneous			RCRA Characteristics	TCLP
	Extractable Petroleum Hydrocarbons (EPH) (Grab)	Extractable Petroleum Hydrocarbons (EPH) (5-Point Composite)	TCL VOC+10 (Grab)	TAL Metals, TCL SVOC + 20, TCL PCBs, PAHs, RCRA Metals + Be, Cu, Ni, Va, Zn (5-Point Composite)	TCL Pesticides/Herbicides (5-Point Composite)	TOX (5-Point Composite)	Hexavalent Chromium and Cyanide (5-Point Composite)	Paint Filter (5-Point Composite)	Ignitability, Corrosivity (pH), Reactivity (Sulfide, Cyanide) (5-Point Composite)	TCLP VOC, TCLP Metals, TCLP SVOCs, TCLP Herbicides, TCLP Pesticides (5-Point Composite)
500 CY	6	5	1	1	1	6	1	1	1	1
1000 CY	10	10	2	2	1	10	2	1	2	2
2000 CY	18	20	4	4	2	18	4	2	4	4
3000 CY	26	30	6	6	3	26	6	3	6	6
4000 CY	35	40	8	8	4	35	8	4	8	8
5000 CY	43	50	10	10	5	43	10	5	10	10

Notes:

- CY: Cubic Yards
- Grab: Sample collected from a discrete 6-inch interval
- TAL: Target Analyte List
- TCL: Target Compound List
- RCRA: Resource Conservation and Recovery Act
- TCLP: Toxicity Characteristic Leaching Procedure
- Be, Cu, Ni, Va, Zn: Analytes Beryllium, Copper, Nickel, Vanadium, and Zinc

Attachment F

Proposed Waste Transporter and Disposal Facilities



Attachment G

Ferreira Material Handling Plan



June 14, 2013

Ryan Prime  
Skanska Koch Kiewit  
Bayonne Bridge  
Contract AKB-264.039  
400 Roosevelt Avenue  
Carteret, New Jersey 07008

Re: Site-specific Materials Handling Plan  
Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures  
Contract AKB-264.039  
Bayonne, New Jersey and Staten Island, New York  
Revision 0

Dear Mr. Prime:

Ferreira Construction Company, Inc. submits the referenced plan (plan) for your review and approval. The plan is submitted to replace the Revision 0 version dated June 11, 2013, which was previously submitted. The use and application of the plan is limited to the Ferreira Construction Company, Inc. scope of work. Should you have any questions, please feel free to contact me at 908-413-4924 or at [carminec@ferreiraconstruction.com](mailto:carminec@ferreiraconstruction.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Carmine Ciatella", is written over the typed name.

Carmine Ciatella

Enclosures

Copy: Charles Andrews – Skanska Koch Kiewit  
Ashley Carey – Skanska Koch Kiewit  
Nelson DeOliveira – Skanska Koch Kiewit  
Scott Hunter – Skanska Koch Kiewit  
Matt Settanni – Skanska Koch Kiewit  
File

JM/jm

**Site-specific Materials Handling Plan**  
**Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures**  
**Contract AKB-264.039**  
**Bayonne, New Jersey and Staten Island, New York**

*Submitted To:*

**Skanska Koch Kiewit**  
**Bayonne Bridge**  
**Contract AKB-264.039**  
**400 Roosevelt Avenue**  
**Carteret, New Jersey 07008**

*Submitted By:*

**Ferreira Construction Company, Inc.**  
**31 Tannery Road**  
**Branchburg, New Jersey 08876**

**June 14, 2013**  
**Revision 0**

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## **1.0 Introduction**

Ferreira Construction Company, Inc. as a sub-contractor to Skanska Koch Kiewit the general contractor has prepared this Materials Handling Plan (MHP) for its scope of work. The MHP was prepared to conform to Port Authority of New York and New Jersey (PANYNJ) specifications for contract AKB-264.039 (Sections 02110 and 02112) for the excavation, staging, and on-site handling of non-hazardous or hazardous materials (soil or fill) for the Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures Contract AKB-264.039. The project is located in Bayonne, New Jersey and Staten Island, New York (project or site).

The Ferreira Construction Company, Inc. scope of work associated with the MHP includes excavation; the on-site hauling of soil, rock, fill, tree stumps, asphalt, or concrete (material); and the management of the project's on-site stockpile areas. Characterization sampling and analysis and the off-site transportation and disposal of material will be done by others and is not part of the Ferreira Construction Company, Inc. scope of work. Items or procedures outside the Ferreira Construction Company, Inc. scope of work are not included in the MHP. The MHP objective is to identify a general approach for safely handling non-hazardous or hazardous materials. The MHP identifies procedures that consider environmental protection including the prevention of leaks during on-site transportation between the excavation locations and the stockpile areas. The MHP will be implemented by Ferreira Construction Company, Inc. MHP procedures associated with personnel safety and health are identified in the site-specific environmental health and safety plan (SSEHASP) which will be provided under separate cover or the site-specific construction health and safety plan (HASP).

Ferreira Construction Company, Inc. acknowledges the existence of hazardous soil or fill including but not limited to that from the 235 West First Street Bayonne, New Jersey site. The Ferreira Construction Company, Inc. scope of work does not include the handling or management of hazardous soil or fill generated during the course of the project. Further, it is our understanding that hazardous soil or fill generated during the course of the project will not be placed in our work zones. However, the MHP may be applicable with the management of hazardous soil or fill on a contingency basis, as appropriate.

## **2.0 Project Contact Information**

Ferreira Construction Company, Inc. (Sub-contractor to Skanska Koch Kiewit)

Carmine Ciallella – Project Manager – 908-413-4924 (cell)

Alex DePalma – Superintendent – 908-482-1105 (cell)

Larry May – Project Engineer – 908-413-1082 (cell)

John Moco – Environmental Officer – 973-73-0065 (cell)

TBD – Site Safety Officer

### **3.0 Materials Handling Controls**

#### **3.1 Plan Evaluation and Compliance**

Section 3 applies to the common controls and methods that will be used during the handling of material associated with the Ferreira Construction Company, Inc. scope of work for the project.

Activities associated with Section 3 include training, excavation, on-site hauling, stockpile management, loading, documentation, and reporting. Section 3 is intended to comply with applicable Federal, state, or local regulations and applicable project specifications.

#### **3.2 Training**

Ferreira Construction Company, Inc. personnel involved with the handling of material will be properly trained to execute Section 3 related activities. Training will include operational and safety topics.

Operational topics are the means and methods used to execute Section 3 related activities. Operational topic training will be provided by the Superintendent, Environmental Officer, or designee. Operational training will be done verbally on-site prior to the execution of a given Section 3 activity. The MHP and any other applicable supplemental documents will be available to all personnel undergoing operational training. Operational training may include a review of the proposed Section 3 activity including but not limited to the objective, means and methods (personnel, equipment, and materials to be used), and regulatory compliance considerations, as applicable. Operational training will be in a free-flow discussion format including questions and answers.

Operational topics associated with Section 3 activities may include material handling objectives, locations, personnel and their roles, equipment to be used, and materials to be used; loading objectives, locations, personnel and their roles; and equipment to be used; hauling considerations such as haul road designation and locations, personnel and their roles, and equipment to be used; stockpiling objectives, locations, stockpile maintenance, personnel and their roles, equipment to be used, and materials to be used; and the importance of documentation. Personnel not

understanding their training, role, or responsibility will receive further training or be reassigned.

Safety topics associated with the means and methods used to execute material handling related activities will be addressed in the SSEHASP or HASP. Safety topic training will be provided by the Superintendent, Site Safety Officer, or designee. Safety training will be done verbally or with media on-site or off-site prior to the execution of a given material handling activity. The material HASP, HASP, and any other applicable supplemental documents will be available to all personnel undergoing safety training. Safety training will include a review of the proposed material handling activity and associated safety protocols including but not limited to engineering controls, institutional controls, personal protective equipment, monitoring, and safety emergency procedures. Personnel not understanding their training, role, or responsibility will receive further training or be reassigned.

Upon completion, all personnel will sign a training attendance log acknowledging the understanding of their operational and safety assignment and responsibility. Safety training logs will be maintained by the Project Manager or designee and available to Skanska Koch Kiewit.

### **3.3 On-site Handling Guidance Procedures**

#### **3.3.1 Excavation**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, and materials to perform excavation activities in accordance with applicable Federal, state, and local regulations, project plans and specifications, the MHP, and the HASP.

Areas of excavation will be limited to that associated with and identified on the project plans and specifications, or as directed by Skanska Koch Kiewit.

Excavation activities including but not limited to personnel and equipment used; the location and dimensions of excavations; the volume of material excavated; and a general description of excavation or subsurface conditions will be documented daily by the Ferreira Construction Company, Inc. foreman supervising the operation.

### **3.3.2 Field Screening**

Field screening of material will be done during excavation activities in known contaminated locations or at the discretion of the Superintendent or Site Safety Officer at suspect contaminated locations. Field screening will be done using a Multirae five gas meter or equivalent (meter). The meter will be clean, calibrated, and ready for use, and include a field calibration kit. Elevated field screening readings will be reported to Skanska Koch Kiewit.

Field screening including but not limited to readings, location, and general subsurface conditions will be documented daily by the Ferreira Construction Company, Inc. foreman or the Site Safety Officer supervising the operation utilizing a written field log. Field screening documentation will be available to Skanska Koch Kiewit.

### **3.3.3 Loading**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, or materials to load material. Special attention will be given to load trucks in a manner not to be over registered vehicle weight or in such a manner that the loaded material stays within the body of the truck between the loading area to the final destination (on-site stockpile area or off-site disposal location).

Loading including but not limited to material type, estimated quantity (loads or cubic yards), location, and identification of trucks loaded will be documented daily by the Ferreira Construction Company, Inc. foreman supervising the operation.

### **3.3.4 Hauling**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, or materials to haul material from its source to the on-site stockpile areas. Ferreira Construction Company, Inc. will load its scope of work material directly from the on-site source into dump trucks and haul it to the on-site stockpile areas.

Site-specific Materials Handling Plan  
Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures

Material will not be overloaded in any manner by which it will accidentally leave the dump truck body during hauling. All dump trucks will be properly covered with a tarp or equivalent during hauling until the material is offloaded at the on-site stockpile. Prior to leaving the source location, each dump truck will be visually inspected by the driver to ensure that the load is properly secured. All trucks hauling material will be operated in a safe manner and in accordance with applicable on-site or off-site speed limits and traffic safety requirements.

Hauling including but not limited to material type, estimated quantity (loads or cubic yards), location, and identification of trucks hauling material will be documented daily by the Ferreira Construction Company, Inc. foreman supervising the operation.

### **3.3.5 Stockpile Management**

Ferreira Construction Company, Inc. will provide the appropriate labor, equipment, or materials to manage the on-site stockpile areas. Material delivered to the on-site stockpile areas will be managed in accordance with the project soil erosion and sediment control plan and specifications. Soil erosion and sediment control measures include silt fence and hay bale placement, and the installation of drainage system protective devices. Stockpile areas will be located within the project right-of-way determined by PANYNJ or Skanska Koch Kiewit.

Material will be stockpiled on an impervious surface such as asphalt or concrete, if practical. Stockpiles will be placed on 10-mil or greater thick polyethylene plastic (plastic) and covered with 10-mil or greater thick polyethylene plastic or tarps (tarps). The tarps and plastic will be properly anchored to keep the stockpiles covered at all times, except during stockpile management activities (material dumping, characterization sampling, or loading). The integrity of the tarps and plastic will be maintained at all times. Material managed within the stockpile areas will not be segregated unless Ferreira Construction Company, Inc. receives written instructions to do so from Skanska Koch Kiewit.

Attachment H

Health and Safety Plan (HASP) reference

*See PA Submittal GC099G01*

**DIVISION 2**

**SECTION 02095**

**CONTAINMENT, WORKER, AND ENVIRONMENTAL PROTECTION**

**PART 1. GENERAL**

**1.01 SUMMARY**

- A. This Section specifies requirements for
  - 1. The installation and use of containment systems for the removal of paint coatings containing lead and other toxic metals. All work on this project shall be performed in 1A containment as defined in the Society for Protective Coatings (SSPC) guidelines listed on the attached Table 1.
  - 2. Worker and Environmental Compliance Plans for the protection of Contractor workers, the public, and the environment from exposure to harmful levels of dust, lead, and other toxic metals that may be present in the paint.
  - 3. The protection of workers entering permit required confined spaces.
  - 4. Ensuring that all waste is collected, handled, stored, transported, and disposed of in accordance with RCRA and other applicable regulations.
  - 5. Complying with applicable noise regulations and criteria as specified herein, providing for noise mitigation and maintaining acceptable noise levels during construction.
- B. For permitting purposes, the Authority is to be considered as the generator of all existing hazardous waste materials

**1.02 REFERENCES**

- A. The following is a listing of the publications referenced in this Section.

Code of Federal Regulations (CFR)

29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1926	Occupational Safety and Health Regulations for Construction
29 CFR 1926.20	General Safety and Health Provisions
29 CFR 1926.21	Safety Training and Education
29 CFR 1926.51	Sanitation
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.62	Lead
29 CFR 1926.103	Respiratory Protection
29 CFR 1926.353	Ventilation and Protection in Welding, Cutting, and Heating
29 CFR 1926.400-417	Electrical Safety

29 CFR 1926.450-454	Scaffolding
29 CFR 1926.500-503	Fall Protection
29 CFR 1926.1118	Inorganic Arsenic
29 CFR 1926.1127	Cadmium
40 CFR 50	National Primary and Secondary Ambient Air Quality Standards
40 CFR 58	Ambient Air Quality Surveillance
40 CFR 60, App A-Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources
40 CFR 60, App. A-Method 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Fires
40 CFR 302	Designation, Reportable Quantities and Notification
40 CFR 204	Noise Control Regulations for Air Compressors
CFR 355	Emergency Planning and Notification
40 CFR 261, App. II	Toxicity Characteristic Leaching Procedure
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265, Subp. C	Preparedness and Prevention
40 CFR 265, Subp. D	Contingency Plan and Emergency Notification
40 CFR 265.16	Personnel Training
40 CFR 268	Land Disposal Restrictions
49 CFR 171-179	Hazardous Materials Transportation Act (HMTA)
	<u>EPA Methods</u>
Method 3050	Acid Digestion of Sediment, Sludge and Soils
EP/600/R-94/038b	Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II Ambient Air Specific Methods, Section 2.8 (Lead)
SW 846	Test Methods for Evaluating Solid Waste Physical/Chemical Methods
Method 1311	a.Toxicity Characteristic Leaching Procedure (TCLP)

### NIOSH Methods

Method 7048	Cadmium
Method 7082	Lead
Method 7300	Chromium
Method 7900	Arsenic
	<u>The Society for Protective Coatings (SSPC)</u>
Guide 6	Guide for Containing Debris Generated During Paint Removal Operations
Guide 7	Guide for Disposal of Lead-Contaminated Surface Preparation Debris
SSPC 93-02	Industrial Lead Paint Removal Handbook, 2nd Edition, Volume I
SSPC 95-06	Project Design, Industrial Lead Paint Removal Handbook, Volume II
	<u>American Industrial Hygiene Association (AIHA)</u>
	Environmental Lead Proficiency Analytical Testing Program (ELPAT)
	Environmental Lead Laboratory Accreditation Program (ELLAP)
	Proficiency Analytical Testing Program (PAT) for metals analysis
	Laboratory Accreditation for Metals Analysis
	American Board of Industrial Hygiene (ABIH) Certified Industrial Hygienist (CIH) Certification
	<u>American National Standard Institute (ANSI)</u>
10.10	Safety requirements for temporary and portable space heating devices & equipment
	<u>New Jersey Administrative Code (NJAC)</u>
NJAC, Title 7	New Jersey Pollution Prevention Program Rules
NJAC, Title 7	New Jersey Spill Control Regulations
NJAC, Title 7	New Jersey Surface Water Quality Standards
NJAC, Title 7	New Jersey Storm Water Management Rules
NJAC, Title 7	New Jersey Solid and Hazardous Waste Management Act
NJAC, Title 7, Chapter 26	New Jersey Air Pollution Control Laws
NJAC Title 7, Chapter 27	New Jersey Regulations on Toxic Substances
NJAC Title 7, Chapter 29 I.1 - 2.12	New Jersey Noise Control Regulations
NJAC, Title 8, Chapter 62	New Jersey Department of Health, Standards for Lead Certification
NJAC, Title 12, Chapter 120	Safety and Health Standards

NJAC, Title 13	New Jersey Solid Waste Management Act
NJAC, Title 58, Chapter 10 B	New Jersey Hazardous Discharge Site Remediation
NJAC, Title 58	New Jersey Water Pollution Control Act
NJAC, Title 5, Chapter 17	New Jersey Lead Hazard Evaluation and Abatement Code

New York Code of Rules and Regulations (NYCRR)

Title 6, Chapter III, Part 211	General Process Emission Sources
Part 211.2	Air Pollution
Part 211.3	Visible Emissions
Title 6, Chapter III, 256-257	Ambient Air Quality Standards
Title 6, Chapter X	New York State Pollutant Discharge of Water Resources Elimination System
Title 6, Chapter 364	Waste Transporter Permits
Title 6, Chapter 370	Hazardous Waste Management
Title 6, Chapter 371	Identification and Listing of Hazardous Wastes
Title 6, Chapter 372	Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities
Title 6, Chapter 373	Treatment, Storage and Disposal Facilities
Title 6, Chapters 595-597	New York Rules of Releases, Registration, and Listing of Hazardous Substances
NYAC, Title 24, Chapter 2	Environmental Protection and Utilities Noise Control

**1.03 REGULATORY REQUIREMENTS**

- A. Comply with 1.03 B. and 1.03 C. as though the Authority were a private corporation.
- B. Comply with the requirements of this Section and all applicable federal, state, and city laws, codes, and regulations, including, but not limited to the regulations of the United States Environmental Protection Agency (USEPA), Occupational Safety and Health Administration (OSHA), New Jersey Department of Environmental Protection (NJDEP), New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), and the New York State Department of Labor (NYSDOL).
- C. Comply with all applicable regulations even if the regulation is not specifically referenced herein. If a Federal, State, or City regulation is more restrictive than the requirements of this Section, follow the more restrictive requirements.

#### 1.04 WORK AREA CONDITIONS

- A. Throughout the Work of this Section, representatives of the EPA, NJDEP, NYSDEC, or other federal, state, or local agencies may be at the construction site and the Area of Work. Cooperate with and give assistance to such representatives as may be directed by the Engineer.

#### 1.05 QUALIFICATIONS AND EXPERIENCE

##### A. Contractor and its Subcontractors

- 1. Verify that the Contractor or its subcontractor who will be performing the Lead Abatement Work in the State of New Jersey are certified under the Lead Hazard Evaluation and Abatement Code for Steel Structures and Commercial Buildings, at NJAC 5.17-2.1, and that the certifications are maintained throughout the duration of the Contract.
- 2. Provide evidence of at least 3 years of successful experience in the handling, storage, transportation, and disposal of hazardous waste from paint removal projects that are similar in size and scope to the Work under this Section. Submit a list of projects, a brief description of each, the date of completion, and the name, address, and telephone number of the Owner

##### B. Laboratory Qualifications

- 1. Verify that the analytical laboratory is American Industrial Hygiene Association (AIHA) accredited for metals analysis, and has successfully participated (previous 12 months at a minimum) in the AIHA ELPAT program and PAT program.
- 2. Confirm that the laboratory conducting the worker blood analyses is approved by OSHA and NYSDOH.
- 3. Verify that the analytical laboratory performing the waste characterization testing is certified by New York and New Jersey for such analyses.

##### C. Containment Design Engineer

- 1. Utilize Professional Engineer(s) who are licensed in the States of New York & New Jersey, to provide the ventilation and containment system design, shop drawings, and calculations for the loads and stresses imposed upon the containment system.
- 2. The Professional Engineer(s) must have not less than two years of structural engineering experience in the design of lead based paint removal containment systems, and must be certified as a lead Abatement Project Designer under NJAC 8:62.

##### D. Competent Person: Employ a competent person at the construction site who:

- 1. Has a minimum of two years industrial painting field experience, with a minimum of ninety days field supervisory or management experience in paint removal projects,
- 2. Holds valid certification of completion of 29 CFR 1926.62 (b) lead in construction training;

3. Has training in the relevant portions of 40 CFR 50 National Primary and Secondary Ambient Air Quality Standards (NASA), and New York site cleanup and spill response regulations;
4. Holds valid certification of Emergency response to Chemical incidents training in accordance with 29 CFR 1910.120 (q)(6)(i);
5. Holds a valid certification in Cardiopulmonary Resuscitation (CPR);
6. Holds valid certification as a competent person such as certificate for completion of The Society for Protective Coatings Supervisor/Competent Person for Deleading of Industrial Structures course or equivalent; and
7. Has been trained in hazardous waste management training in accordance with 40 CFR 265.16.(a), (b), and (c).

E. Certified Industrial Hygienist (CIH)

1. Confirm that the CIH holds a valid certification by the American Board of Industrial Hygiene (ABIH).
2. Verify that the CIH has at least two years experience on projects involving lead that are similar in size and complexity to the Work of this Section.

F. Workers/Supervisors

1. For work in New Jersey, confirm that at least one supervisor for each shift of operation is certified by the State of New Jersey Lead Abatement Supervisor Program for Commercial Buildings and Super Structures, and that the certifications are maintained throughout the duration of the Contract.
2. For work in New Jersey, confirm that all workers are certified by the State of New Jersey Lead Abatement Worker Program for Commercial Buildings and Super Structures, and that the certifications are maintained throughout the duration of the Contract.
3. Confirm that all workers and supervisors whose job description includes hazardous waste have been trained in hazardous waste management training in accordance with 40 CFR 265.16 (a), (b), and (c).
4. Confirm that all workers entering confined spaces have proper training in accordance with 29 CFR 1910.146.

1.06 SUBMITTALS

See Appendix A.

## **PART 2. PRODUCTS**

### **2.01 CONTAINMENT MATERIALS**

- A. Supply all equipment and materials needed to contain debris in accordance with the attached Table 1 of this Section. This may include, but is not limited to, the following: ground covers, rigging, structural steel framing elements, decking, cables, planking, containment materials, dust collection and ventilation equipment, and HEPA vacuums.
- B. Use materials that are free of loose dust and debris, both when brought onto the construction site, and upon removal.
- C. Containment materials shall be fire retardant.

### **2.02 PERSONAL PROTECTIVE MATERIALS AND MONITORING EQUIPMENT**

- A. Monitoring and Testing Equipment
  - 1. Supply the instrumentation needed for the monitoring of carbon monoxide, and worker and area exposures.
  - 2. Supply equipment for the monitoring of weather conditions and wind velocity at the bridge. Provide Davis Weather Monitor II with an external temperature and humidity sensor, or equal. Davis Instruments, 3465 Diablo Avenue, Hayward, CA., 94545 (510-732-9229)
  - 3. Supply 2 self-contained portable weather radios. Provide Maxon Co. Model WX-70 or equal. Maxon Systems, Inc., 10828 Northwest Air World Drive, Kansas City, Mo. 64153 (800-922-9083).
  - 4. Provide all equipment to be used during confined space entry, whether permit required confined spaces or non-permit required confined spaces. Equipment includes, but is not limited to: lighting equipment, air monitoring equipment, ventilation equipment, personal protective equipment, and rescue equipment.
  - 5. Supply all equipment needed for the operation of all instrumentation and monitors (e.g., generators, batteries, power cords, fuel, etc.)
  - 6. Use equipment that is free of loose dust and debris when brought onto the construction site, and upon removal.
- B. Personal Protective Equipment and Hygiene Facilities
  - 1. Provide all personal protective clothing and equipment (PPE) needed for Contractor workers and for up to four Engineer representatives at each shift, including proper cleaning and disposal.
  - 2. Repair or replace PPE as required to assure that it continues to provide its intended purpose.
  - 3. Use PPE and hygiene facilities that are free of loose dust and debris when brought onto the construction site, and upon removal.
- C. Waste Containers

1. **Hazardous Waste** - Provide DOT-approved containers of the appropriate size and type for the hazardous waste generated. Use containers that are resistant to rust and corrosion (painted, if constructed of steel), that have tight fitting lids or covers, and which are water-resistant and leak proof. Verify that the containers are acceptable to the disposal facility.
2. **Municipal/Construction Waste** - Provide all containers for non-hazardous municipal/construction waste. Use containers that are free of loose debris when brought to the construction site.
3. **Spent Solvents** - Provide all containers for spent solvents. Do not mix spent solvents with spent abrasives, paint debris, water, or other waste.

## **PART 3. EXECUTION**

### **3.01 CONTAINMENT**

#### **A. General**

1. Use a containment system that maintains the Work area free of emissions of dust and debris in accordance with all provisions of the Section.
2. All work shall be performed in 1A containment. Follow the containment requirements as specified in this Section and as stipulated in SSPC Guide 6 for the selected method of removal. The requirements are summarized in Table 1 attached to this Section.
3. The supervisor or foreman in the containment area must have a portable phone in his possession at all times when a containment is being installed, is in place, or is being dismantled in order to immediately receive information on upcoming inclement weather.
  - a. In the event of impending inclement weather or when high winds cause excessive billowing of the containment or create a situation where contaminated dust and debris may be emitted from the containment system, suspend the paint or coating removal operations.
  - b. When gusts or sustained winds are forecasted to be 40 mph or above, drop and secure the containment as stipulated later in this Section.

#### **B. Containment Flooring System and Scaffolding and Additional Collectors**

1. If the floor or ground beneath the structure being prepared serves as the base of the containment, cover it with air and dust impenetrable materials such as panels of plywood. Maintain the materials throughout the performance of the Work to avoid loss of debris through rips, tears, or breaks.
2. If a suspended or elevated platform is constructed to serve as the base of the containment, use rigid and/or flexible materials, and cover as needed to create an air and dust impenetrable enclosure.

3. Strictly follow all applicable OSHA regulations regarding the installation and daily inspection of scaffolding, platforms, and wire cables. Maintain a daily log of the results of the inspections made each shift, and after any occurrence which could affect the structural integrity of the scaffolding or wire ropes.
  4. Provide ground covers around and beneath the Work Area to capture inadvertent spills or leaks of debris. Remove debris from the ground covers at least once per shift, or as directed by the Engineer.
- C. Containment Components - The basic components that make up containment systems are defined below. The components are combined in Table 1 herein to establish the minimum containment system requirements for the method of paint removal specified for the Contract.
1. Rigidity of Containment Materials - Rigid containment material consists of solid panels of plywood, aluminum, rigid metals, plastic, fiberglass, composites, or similar materials. Flexible materials consist of screens, tarps, drapes, plastic sheeting, or similar materials. Do not use flexible materials for horizontal surfaces directly over traffic lanes or vertical surfaces in close proximity to traffic lanes.
  2. Permeability of Containment Materials - The containment materials are identified as air impenetrable if they are impervious to dust or wind such as provided by rigid panels, coated solid tarps, or plastic sheeting. Air penetrable materials are those that are formed or woven to allow air flow. Water impermeable materials are those that are capable of containing and controlling water when wet methods of preparation are used. Chemical resistant materials are those that are resistant to chemical and solvent stripping solutions. Use fire retardant materials in all cases.
  3. Support Structure - Rigid support structures consist of structural steel and framing (as shown conceptually on the Contract Drawings) to which the containment materials are affixed to minimize the movement of the containment. Flexible support structures are comprised of cable, chains, or similar systems to which the containment materials are affixed.
  4. Containment Joints – Fully sealed joints require that mating surfaces between the containment materials and the structure being prepared are completely sealed. Sealing measures include tape, caulk, velcro, clamps, or other similar material capable of forming a continuous, impenetrable or impermeable seal. If emissions escape at the joints, a more positive means of sealing is required.
  5. Entryway – An airlock entryway involves a minimum of one stage that is fully sealed to the containment and which is maintained under negative pressure using the ventilation system of the containment. Resealable door entryways involve the use of flexible or rigid doors capable of being repeatedly opened and resealed. Sealing methods include the use of zippers, velcro, clamps or similar fasteners. Overlapping door tarpaulin entryways consist of two or three overlapping door tarpaulins.
  6. Mechanical Ventilation - The requirement for mechanical ventilation is to ensure that adequate air movement is achieved to reduce worker exposure to toxic metals to as low as feasible in accordance with OSHA regulations (e.g., 29 CFR 1926.62), and to enhance visibility. Design the system with proper exhaust ports or plenums, adequately sized ductwork, adequately sized discharge fans and air cleaning devices (dust collectors) and properly sized and distributed make-up air points.

7. Negative Pressure – Shall be required at all times to achieve a minimum of 0.03 in. (7.5 mm) water column (W.C.) relative to ambient conditions, or confirm through visual assessments for the concave appearance of the containment enclosure.
  8. Exhaust Ventilation - When mechanical ventilation systems are used, provide filtration of the exhaust air. Use fabric filters designed for a 99.9% efficiency for particles greater or equal to 0.5 microns approximate equivalent diameter (AED).
- D. Temporary Heating Units
1. Use only self-contained, vented units, equipped with individual space thermostatic controls that have been tested and approved by UL, FM or another recognized association related to the type of fuel to be consumed.
  2. Install and operate heating units in accordance with ANSI A10.10.
- E. Work over Water and Coast Guard Requirements
1. When working over or near water, provide the necessary material and equipment at the construction site to contain inadvertent spills or releases of fuel, dust and debris. When working overland, provide a spill kit for any spills on land.
  2. When the use of stationary water booms is not feasible or practical, use boats with skimmers to keep the water clean of debris, and have water booms available on shore for deployment in the event of a spill.
  3. Remove all Work-related dust and debris from the surface areas at the end of each workday at a minimum. Include debris which is visible on the sediment along riverbanks, shorelines, and around piers.
- F. Maintenance of Bridge Lighting Systems and Containment Lighting Requirements
1. Maintain all bridge and aviation lighting throughout the construction site. Aviation lighting must be visible and operational at all times while cleaning and painting the surrounding steel.
  2. Comply with the Contract Drawings and Specifications for each individual Work Order addressing the removal, protection, and reinstallation of the bridge lighting, and for the use of temporary lighting.
  3. Maintain all navigational and aviation lighting throughout the construction site. Provide the lighting plan to the Engineer for approval in advance.
  4. Provide adequate lighting for all surface preparation, paint application, and inspection work. Maintain a minimum of 10 foot-candles for surface preparation and painting, and a minimum of 30 foot-candles of general area lighting for inspection. Increase the lighting if workers or inspectors have difficulty in seeing. Use explosion-proof lighting.
- G. Relocation of Telephone, and Video Systems
1. Temporarily relocate, and assure the proper operation of telephones and video surveillance cameras that are present in the Work area. Reinstall the equipment in the original locations upon completion of paint application.

- H. Protection of Drainage Systems and Fire Hoses
  - 1. Protect storm sewers and drains from the entrance of debris from the performance of the Work. Keep all drain protection systems clean and operational throughout the duration of the Contract. At the end of each workday at a minimum, remove all visible debris from the drain protection systems, or from areas where rainwater could carry the debris into drains or storm sewers.
  - 2. Identify the methods that will be used to route run-off from the existing deck drains through the containment enclosure. Do not close any bridge deck drains without the explicit approval of the Engineer.
  - 3. Protect fire standpipes and hoses. Maintain immediate access to them at all times.
- I. Cleaning and Securing of Containment at End of Work Day, Prior to Moving, and When the Containment will be Unmanned
  - 1. At the end of work each day, or when the crew responsible for dropping and securing the containment leaves the containment area, remove loose abrasive and debris from within the containment to prevent emissions during non-working hours. Secure the containment and equipment as a safeguard against unanticipated heavy winds or inclement weather.
  - 2. Prior to removing, dropping, or moving the containment, remove loose abrasive, debris, and dust to the extent that it is not dislodged by handling. Cleaning may be accomplished by blowing down all surfaces with the ventilation system in operation and/or by HEPA vacuuming.
- J. High Wind Conditions and Inclement Weather
  - 1. Monitoring of Weather Conditions
    - a. Provide 2 portable weather radios as specified in 2.02 A.3 and locate one in the Engineer's office and one in the Contractor's office trailer. Continuously monitor the NOAA weather radio broadcast on local weather conditions.
    - b. Contract with a FAX and phone weather service to anticipate high winds, inclement weather conditions, and weather emergencies in advance. The contract with the weather service shall provide continuous daily weather monitoring services for daily weather monitoring services without interruption for the duration of the Contract.
    - c. The weather monitoring service shall possess the following equipment and provide the following services:
      - (1) Dedicated 24/7 Access to the National Lightning Network.
      - (2) Satellite weather link-up receiver that obtains the following:  
DIFAX/WEFAX circuit, FAA 4800 Baud circuit, FAA High Speed Circuit, Domestic and International circuit, Public Products Circuit, Numerical Products Circuit
      - (3) NEXRAD/DOPPLER Radar covering the construction site along with applicable WSR-57 and WSR-74 radar sites. Updated every 3 minutes.
      - (4) Satellite Link to GOES and NOAA satellites.

- d. The weather monitoring service shall provide forecasts for the following seasonal weather phenomena:
  - (1) Winter: Snow and ice, severe cold, high winds, coastal flooding and dense fog
  - (2) Spring: Late season snow and ice, high winds, heavy thaws, heavy rains, dense fog, severe electrical storms and tornadoes
  - (3) Summer: Severe electrical storms, hail, high winds, heavy rains, tornadoes, dense fog and hurricanes
  - (4) Fall: Hurricanes, heavy rains, dense fog, early snow and ice storms
- e. The weather monitoring service shall:
  - (1) Provide a detailed forecast tailored to the construction site when any storm is impending. Storm watches shall be posted 12 to 24 hours in advance and shall contain the following data:
    - (a.) Time storm is expected to begin
    - (b.) Type of precipitation
    - (c.) Predicted rate of and total accumulations
    - (d.) Time of changes and type
    - (e.) Expected duration of storm
    - (f.) Predicted wind speed
  - (2) During the course of major storms, provide hourly updated or revised bulletins for the construction site. Special forecasts of severe storms shall be included with as much lead time as possible. Forecasts shall detail which areas are expected to experience these conditions.
  - (3) During the hurricane season, furnish advisories and position reports of all tropical storms or hurricanes that may be of potential threat to the construction site. Furnish tracking charts if needed.
  - (4) Answer any questions 24 hours a day, 7 days a week regarding meteorological conditions in or forecast in the location of the construction site.
- f. The weather monitoring service shall supply complete weather forecasting services 24 hours per day, 7 days per week. The weather forecast package shall consist of the following:
  - (1) Two forecasts faxed daily at 6:00AM and 2:00PM EST and shall include temperature, wind direction, wind speed, wind gusts, precipitation probability, type and amount, precipitation beginning and ending times, and visibility detailed for 12-hour periods for 48 hours.
  - (2) Updates containing watches, warnings or advisories shall be issued as needed depending on the current weather scenario.
  - (3) Forecasts shall be faxed to the field offices of the Engineer and the Contractor.

- (4) Follow all faxed warnings with a phone call to the Contractor's 24-hour contact phone number for verbal communication of warnings.
  - (5) 24-Hour Storm Warning Service with updated forecast information issued every 1-3 hours or sooner during any storm situation, i.e., snow, ice, heavy rain, thunderstorms, strong winds, tornadoes, hurricanes etc.
- g. Use the services provided by one of the following or approved equal:
- (1) National Weather Service Forecast  
175 Brookhaven Avenue, Bldg. No NWSI  
Opton, NY 11973  
(631) 924-0517
  - (2) Weatherdata Network  
45-22 Little Neck Parkway  
Little Neck, NY 11363  
(718) 631-0808
- h. Establish a continuous emergency phone and fax service with the weather company. Direct the company to immediately notify the Contractor in the case of sudden weather changes or if pending bad weather is approaching. When such notification is received, immediately contact the Engineer.
- i. Submit to the Engineer on a daily basis, one copy of each FAX weather transmission containing the weather and wind velocity information used to decide whether or not the containment enclosure(s) should be lowered.

2. Definition of Inclement Weather and Required Action

- a. Inclement weather which necessitates immediate action includes, but is not limited to, sustained wind speeds or gusts of 40 mph or greater, and heavy snow storms that will place unacceptable loads on the temporary structure.
- b. Upon receipt of weather information of sustained wind speeds at 40 mph or greater, or heavy snow storms, immediately initiate the emergency demobilization plan approved by the Engineer to assure that all equipment is secure and that the necessary containment materials have been lowered or removed.
- c. Follow the same emergency demobilization procedure if the Engineer directs the Contractor to dismantle the containment system based on the Engineer's determination of an excessive wind load condition.

K. Containment Monitoring During Shut Downs

- 1. Assign personnel to monitor the weather conditions during weekends, holidays, and other extended shut down periods. In the case of extended shut downs, inspect the containment, platform, and its components at least once every two weeks.
- 2. In the event of inclement weather, initiate the emergency demobilization procedure in the same manner as if the Work was in full operation.
- 3. During shut downs over the winter months, have a crew immediately available when needed at all times to remove snow from the containment system to avoid excessive loading, and to safeguard pedestrian and vehicular traffic.

- L. **Maintenance of the Weather Station**  
The Authority has installed a weather station on the New York side stair tower. Maintain the operation of the weather station throughout the duration of the Work.

### 3.02 NOISE ABATEMENT

- A. The Authority will perform a survey of noise levels at and around the construction site to establish noise mitigation criteria, and will inform the Contractor of such criteria. At a minimum, if the median A-weighted L(eq)(10min) noise level measured at any residential receptor during construction activity is at any time 3 dB greater than the background noise level established without construction activity, then the impact of noise from construction shall be mitigated.
- B. Any noise mitigation required for compliance with the established sound level criteria will be the responsibility of the Contractor throughout the Work of this Contract.
- C. The Contractor shall submit a noise abatement plan to mitigate noise pollution generated from the Work, based on the noise mitigation criteria established herein.
- D. The Contractor shall conduct sound pressure level tests in a professionally responsible manner to provide information required by the Authority. Measurements shall be supervised by an acoustician who is either a Board Certified Member of Noise Control Engineering or a Principal of a Member Firm of the National Council of Acoustical Consultants.
- E. The Authority will measure noise levels emitted by Contractor's activity during the Work of this Contract to confirm that noise levels do not exceed the criteria established by the Authority. Any noise mitigation required for compliance with the established noise level criteria will be the responsibility of the Contractor throughout the Work of this Contract.
- F. The Contractor will be advised when such monitoring will be performed and will be provided with verbal background and on-going results. Written results will be provided if requested by the Contractor.
- G. Additional noise protection shall be provided on all noisy equipment and containments that are close to sensitive receptors (residences, stores, commercial businesses, etc.). Noise protection can be a combination of manufacturer recommended mufflers and, or flexible and solid noise barriers. Comply with the noise level criteria of 3.02 A.

### 3.03 WORKER PROTECTION CRITERIA FOR LEAD AND OTHER TOXIC METALS

- A. **Competent Person** - confirm that daily inspections of all work areas will be made by a competent person.
- B. **Compliance Program** - Maintain a copy of the Lead (Toxic Metal) Health and Safety Compliance Program at the construction site for review by all employees and interested parties.
- C. **Exposure Monitoring/Initial Assessment**

1. Collect representative personal air samples at the beginning of the paint removal work to determine employee exposures to lead and other toxic metals that might be present in the coating. Tasks resulting in the potential exposure to toxic metals include, but are not limited to, paint removal activities, cleanup, and debris handling operations. Collect full shift (at least 7 hours) air samples for workers in each job classification in each exposure area.
2. When lead is present, protect workers during the initial monitoring to the anticipated exposure levels as dictated by 29 CFR 1926.62 and as specified below. A few activities in addition to those dictated by OSHA are included. Use the same level of protection when other toxic metals are found in the coating, unless OSHA has developed a comprehensive health and safety standard for that metal (e.g., cadmium and inorganic arsenic). In those cases, implement the protection requirements of the standard for that metal.
3. Assume an exposure of at least 500  $\mu\text{g}/\text{m}^3$ : Manual demolition of structures containing lead-containing coatings or paint (e.g., dry wall), manual scraping, manual sanding, heat gun applications, power tool cleaning with dust collection systems, and spray painting with lead paint. Although not identified in 29 CFR 1926.62, chemical stripping, water washing, and the operation of abrasive grit recovery equipment are included in this category.
  - a. Assume an exposure of at least 2,500  $\mu\text{g}/\text{m}^3$ : Using lead-containing mortar, lead burning, or conducting the following activities where lead-containing coatings or paint are present: rivet busting, power tool cleaning without dust collection systems, cleanup activities where dry expendable abrasives are used, and the movement and removal of abrasive blasting enclosures. Although not identified in 29 CFR 1926.62, water jetting and wet abrasive blasting removal of paint are included in this category.
  - b. Assume an exposure of more than 2,500  $\mu\text{g}/\text{m}^3$ : Activities involving lead containing coatings or paint on structures disturbed by abrasive blasting, welding, cutting, and torch burning.
  - c. During any of the above activities, provide appropriate respiratory protection, personal protective clothing and equipment, change areas and washing facilities, blood lead and zinc protoporphyrin monitoring, and employee training. Maintain the protection as specified above until the test results are received, then modify the protection measures as necessary.
4. Collect and analyze all air samples according to the appropriate NIOSH method, or equivalent, for the metal of concern (e.g., Method 7082 for lead, Method 7048 for cadmium, Method 7300 for chromium, Method 7900 for inorganic arsenic).
5. Conduct periodic exposure monitoring of Contractor workers and provide written employee notifications within five days of receipt of results in strict accordance with the applicable OSHA standard for the metal of concern (e.g., 29 CFR 1926.62 for lead). At a minimum, this requires monitoring at the start of the Work, and after any changes in work practices are made which could have an effect on airborne exposures. If there is no OSHA standard for the detected metal, conduct the monitoring and employee notification based on the requirements of OSHA 29 CFR 1926.62. Provide the Engineer with the results of any subsequent monitoring within

the same 5 day notification period required for the employee, but no later than 10 days after sampling.

D. Action Level

1. The Action Level for lead is  $30 \mu\text{g}/\text{m}^3$  as an eight (8) hour Time Weighted Average (TWA), the Action Level for cadmium is  $2.5 \mu\text{g}/\text{m}^3$  as an 8 hour TWA, and the Action Level for inorganic arsenic is  $5 \mu\text{g}/\text{m}^3$  as an 8 hour TWA. For other metals that are found in the coating, and for which no Action Level exists, establish the Action Level at 1/2 of the Permissible Exposure Limit (PEL) (e.g., if the PEL is  $5 \mu\text{g}/\text{m}^3$ , establish the Action Level at  $2.5 \mu\text{g}/\text{m}^3$ ).
2. In addition to the initial protection provided, invoke the following protective measures when the airborne exposure to a toxic metal found in the coating exceeds the Action Level:
  - a. Exposure Monitoring
  - b. Housekeeping
  - c. Employee Medical Surveillance and Medical Removal Protection
  - d. Employee Information and Training
  - e. Signs and Restricted Zones
  - f. Recordkeeping

E. Permissible Exposure Limit (PEL) or Threshold Limit Value (TLV)

1. The PEL for airborne lead exposure is  $50 \mu\text{g}/\text{m}^3$  as an 8 hour TWA. The PEL for cadmium is  $5 \mu\text{g}/\text{m}^3$  as an 8 hour TWA, and for inorganic arsenic is  $10 \mu\text{g}/\text{m}^3$  as an 8 hour TWA. The PELs or TLV's for other metals can be found in 29 CFR 1926.55.
2. In addition to complying with the requirements identified when exceeding the Action Level, invoke the following protective measures when the airborne exposure to a toxic metal found in the coating exceeds the PEL or TLV:
  - a. Written Compliance Program
  - b. Respiratory Protection
  - c. Protective Clothing and Equipment
  - d. Hygiene Facilities and Practices

F. Respiratory Protection

1. After feasible engineering controls and work practices have been implemented, use respiratory protection if necessary to maintain employees' exposures to lead and other toxic metals below the PEL or TLV. Require the use of respirators for all employees, inspectors, observers, or other personnel who enter areas where airborne exposures exceed or are expected to exceed the PEL or TLV, or when entering restricted zones.
2. Provide respiratory protection for up to four Engineer representatives at each site. The Engineer is responsible for verifying that the representatives are medically fit to wear respirators.

3. Develop a written Respiratory Protection Program in compliance with 29 CFR 1926.103, including commitments to provide the necessary medical examinations. When lead is present, include the provisions of 29 CFR 1926.62. When cadmium is present, include 29 CFR 1926.1127. When inorganic arsenic is present, include 29 CFR 1926.1118. Address the selection, use, maintenance and inspection of respirators, fit testing, and medical clearance for respirator users.
4. Treat used respirator cartridges as hazardous waste and dispose of in accordance with 3.09 hereinafter.

**G. Protective Clothing and Equipment**

1. Provide protective clothing and equipment and ensure they are worn by all employees whose exposures exceed the PEL or TLV. Provide all required protective clothing and equipment for use by up to four Engineer representatives at each site.
2. Do not allow workers to wear street clothing beneath protective clothing in any areas where exposures to toxic metals exceed the PEL or TLV.
3. Clean or replace the protective clothing as required by the appropriate OSHA standard for the toxic metal that is present. In the case of lead, clean or replace the clothing weekly if the airborne exposure levels are less than 200  $\mu\text{g}/\text{m}^3$  as an 8 hour TWA, or daily if the exposure levels are greater than or equal to 200  $\mu\text{g}/\text{m}^3$ . In the case of inorganic arsenic, the threshold for daily versus weekly cleaning or replacement is 100  $\mu\text{g}/\text{m}^3$ . Do not use disposable clothing for a period longer than one day.
4. Do not remove or clean the clothing by any means which reintroduces the toxic metals into the ambient air such as brushing, shaking, or blowing. Use vacuums equipped with HEPA filters for cleaning.
5. Store the used clothing in sealed containers.
  - a. If the clothing is to be laundered and it has been exposed to lead, label the containers with the following: "CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS." If the clothing has been exposed to cadmium, chromium, inorganic arsenic, or other metals, modify the above text accordingly.
  - b. If the clothing is disposable, label the containers as clothing contaminated with lead and other toxic metals, if applicable. Apply hazardous waste labels as appropriate after testing.
6. If the clothing is washed on site, provide containers for the collection and retention of the water after filtration. Provide ample filtration (e.g., through a multi-stage filtration system ending in 5 microns or better if needed) until the water can be disposed of as non-hazardous. Conduct all required tests of the water, and comply with the provisions of this Section for its disposal.

## H. Housekeeping

1. Clean accumulations of dust or debris containing lead or other toxic metals daily, at a minimum. Clean more frequently if visible accumulations are observed that could be carried outside of the restricted zone by wind, workers' shoes, rainwater, or other means.
2. Conduct all cleaning with HEPA vacuums. Do not use compressed air for housekeeping purposes unless it is used in conjunction with a ventilation system capable of capturing the resulting airborne particulate.

## I. Personal Hygiene Facilities and Equipment/Decontamination Zone

1. Provide clean lavatory and hand washing facilities in accordance with OSHA sanitation standard 29 CFR 1926.51.
  - a. Locate the hand washing facilities in close proximity to the paint removal operation, in an area that is convenient for washing prior to eating or smoking. Hot and cold water, hand soaps and towels shall be provided at the handwash facility.
  - b. Provide showers when exposures exceed the PEL. Confirm that all employees whose exposures exceed the PEL or TLV shower prior to leaving the construction site. The Engineer's representatives will also use the lavatory and hand washing/shower facilities.
  - c. If a remote shower facility is utilized, provide transportation for the exclusive use of the workers who are exposed to metals above the PEL or TLV. Clean the vehicles free of lead or toxic metals before leaving the construction site.
2. Filter and containerize all hygiene water. Provide ample filtration (e.g., through a multi-stage filtration system ending in 5 microns or better if needed) until the water can be disposed of as non-hazardous. Conduct all required tests of the water.
3. Prohibit eating, drinking, smoking, chewing of food or tobacco products, or the application of cosmetics in any area where the exposure to toxic metals exceeds the PELs or TLVs or within restricted zones, and confirm that workers thoroughly wash hands and face prior to undertaking any of these activities.
4. Provide clean lunch and break areas for use by all employees, and maintain airborne concentrations in these areas below the Action Levels.
5. Provide clean change area(s) for employees whose exposures exceed the PELs or TLVs. Equip the change area(s) with separate storage facilities for street clothing that are adequately segregated to prevent cross-contamination from work clothing. Assure that employees do not leave the construction site wearing any clothing that was worn while performing activities where exposures exceeded the PELs.

J. Medical Surveillance and Medical Removal Protection

1. Provide all employees with initial and periodic blood and zinc protoporphyrin (ZPP) sampling and analysis, and medical surveillance as required by the published OSHA health and safety standards for the metal of concern such as 1926.62 for lead and 1926.1127 for cadmium. Provide the specialized medical surveillance and X-rays required by 1926.1118 for employees exposed to inorganic arsenic. Provide cadmium blood and urine testing required by 1926.1127 for employees exposed to cadmium.
2. In the case of lead, conduct blood sampling and analysis prior to coming onto construction site and at a minimum of once every two months for the first six months of exposure, and at six month intervals thereafter. Conduct exit blood tests for each worker upon completion of his/her work activities which involve exposure to lead, even if this occurs prior to the completion of the Work of the Contract including seasonal suspension of Work.
3. Do not use workers with initial blood lead tests of 40 µg/dl for any work activities involving exposure to lead above the Action Level.
4. Provide for the temporary removal of employees from exposures above the Action Level for the metal of concern when the blood analysis indicates that unacceptable results are occurring (e.g., 50 µg/dl or above in the case of blood lead). Protect employees' benefits during any period of medical removal and conduct all tests required by the OSHA standard for the metal of concern during the removal period. In the case of lead, conduct blood sampling and analysis at a minimum of once every month during the removal period, and return workers to exposures above the PEL only after two consecutive blood tests are below 40 µg/dl.
5. Provide all physical examinations as required by the appropriate OSHA standards for the metal(s) of concern, and verify that all examinations are performed by or under the direct supervision of a licensed physician.
6. Provide all exam information and test results to the employees in writing within 5 days of receipt.
7. Provide the Engineer with letter reports signed by a CIH which summarizes all examination results, within 15 days of each testing period.

K. Employee Training and Information

1. Provide initial and annual refresher site-specific training for all employees who will be exposed to toxic metals above the respective Action Levels on any one day in a 12-month period. Include all of the elements of training that are required by the appropriate OSHA standard. If a standard for the metal does not exist, use the training requirements of 29 CFR 1926.62 as the basis of the training program highlighting the differences as appropriate for the other metals of concern.
2. When other contractors or employers are present at the construction site, notify them of the nature of the lead exposure work, the need to remain out of restricted areas, the warning signs and labeling system in effect, and the potential need for them to take measures to protect their employees in accordance with the applicable OSHA regulations.

L. Signs and Restricted Zones

1. As described later in this Section, establish restricted zones around areas or activities that might generate airborne emissions of toxic metals in excess of the Action Levels.
2. Post caution signs around each restricted zone. If there is no regulation for the metal of concern, use the legend for the CAUTION sign as found in 29 CFR 1926.62 as the basis, and insert the name(s) of the other toxic metals. Sign requirements for lead, cadmium, and inorganic arsenic are as follows:

WARNING  
LEAD WORK AREA  
POISON  
NO EATING OR SMOKING

DANGER,  
CADMIUM  
CANCER HAZARD,  
CAN CAUSE LUNG AND KIDNEY DISEASE,  
AUTHORIZED PERSONNEL ONLY,  
RESPIRATORS REQUIRED IN THIS AREA

DANGER  
INORGANIC ARSENIC  
CANCER HAZARD  
AUTHORIZED PERSONNEL ONLY  
NO SMOKING OR EATING  
RESPIRATOR REQUIRED

3. Use signs that are a minimum of 8 1/2 inches by 11 inches in size with black block lettering on a white, yellow, or orange background. Do not use caution ribbons as a substitute for signs.
4. Verify that all workers who enter the restricted zone have had the proper training, blood analysis and medical examinations, and are wearing the required protective clothing and equipment. Prohibit eating, drinking, smoking, and chewing of food or tobacco products in any area where the exposures exceed the Action Level.

M. Recordkeeping

1. Retain all records related to training, medical examinations, blood analysis, exposure monitoring, respirator fit testing, inspections by a competent person, and other related documentation on file at the construction site and make available to the Engineer for review.
2. Retain all records for the duration of employment plus 30 years.

### 3.04 ESTABLISHMENT OF RESTRICTED ZONES

#### A. Identifying and Monitoring Restricted Zones

1. Establish restricted zones around locations or activities that might generate airborne emissions of lead, cadmium, chromium, inorganic arsenic, or other toxic metal in excess of the Action Level (e.g., paint removal and clean-up locations, dust collector staging areas, waste storage areas, etc.). Use ropes, ribbons, tape, or other visible means to define the areas and prohibit entrance into restricted zones by unprotected or untrained personnel to ensure that they are not exposed to toxic metals.
2. Conduct instrument monitoring to verify the adequacy of the restricted zone. Use a minimum of two low flow or two high flow pumps at each restricted zone location (e.g., one pump upwind and one pump downwind). Unless otherwise directed by the Engineer, until the monitoring results are available to establish the perimeter of the restricted zone, initially establish the boundary a minimum of 15 feet away from any equipment or operations that might generate airborne emissions of toxic metals.
3. Conduct the monitoring according to NIOSH Method 7082, or equivalent method for the other metals of concern, at the pre-established boundaries of the restricted zone(s). Collect the samples throughout an entire work shift upon commencement of the paint removal activities.
4. If the monitoring confirms that emissions at the established boundary do not exceed the Action Level as an 8 hour TWA, establish the boundary at that location and discontinue monitoring.
5. If the monitoring shows that the emissions exceed the Action Level, modify and improve work practices and containment to provide better controls over the emissions, or reestablish the boundary at a different location if allowed by the Engineer. Repeat the monitoring in either case.
6. Conduct additional monitoring to reconfirm the adequacy of the restricted zone at a minimum of once every two (2) weeks for the first three (3) months and at monthly intervals thereafter. If the restricted zone changes, establish the new boundary according to the monitoring procedures described in this Section.
7. Provide the test results to the Engineer in writing within one week of the field sampling.

#### B. Controlling and Reporting Access into Restricted Zones

1. Maintain a permanently bound daily entry log at each restricted zone. Identify the name of the Contractor and subcontractors on the log and the Authority Contract Number.
2. Have all individuals who enter the restricted zone sign in and out. Make the log available for Engineer's review.

### 3.05 ENVIRONMENTAL COMPLIANCE - VISIBLE EMISSIONS AND RELEASES TO AIR, SOIL, AND WATER

- A. General - Conduct daily assessments of visible emissions and releases to the air, soil, water, and sediment, as applicable. Undertake all necessary corrective action to control emissions and clean up the work site during and after completion of the Work of the Contract, including the removal of pre-existing litter or debris.
- B. Assessment and Correction of Visible Emissions
  1. Conduct visible emissions assessments as defined in this Section and in accordance with 40 CFR 60, Appendix A, Method 22. Method PD/Lead A4 of SSPC publication 95-06, Project Design, provides guidance on visible emissions assessments.
  2. Conduct the visible emissions assessments to account for all locations where emissions of lead dust might be generated, including but not limited to, the containment, dust collection and abrasive recovery equipment, and waste containerizing areas.
  3. Conduct casual observations and corrections of visible emissions on an ongoing daily basis, but conduct the specialized assessments and inspections as described in this Section for a minimum of two, one-hour (continuous) intervals each shift.
  4. No visible emissions are permitted to escape or pass beyond the restricted zones. Immediately stop the applicable operations if these criteria are violated. Correct and repair the deficiencies responsible for the emission, and undertake clean-up using HEPA vacuums.
  5. Do not resume the emission-producing operations until the corrective action and repairs are inspected and approved by the Engineer.
  6. Even if the visible emissions results are acceptable, immediately suspend the Work and initiate corrective action any time there are exceedances of high volume ambient air monitoring criteria conducted by the Engineer, in accordance with and as defined in Section 3.05.E.5.
- C. Assessment and Correction of Spills or Releases to Soil, Water, or Sediment
  1. Conduct all activities so that spills or releases of paint chips or debris to the soil, water, sediment, or storm sewers do not occur.
  2. Visually inspect the construction site on an ongoing basis for releases of dust, paint chips, and debris outside of the work area that have become deposited on surrounding property, structures, equipment, or vehicles; on the unprotected ground, soil, water or sediment; around storm sewers or drains; or in areas where rain water could carry the debris into storm sewers or drains.
  3. Clean up visible paint chips and debris on a daily basis at the end of each shift, or more frequently if directed by the Engineer. Clean up all paint chips and debris. Conduct the cleaning by manually removing paint chips or by using HEPA vacuums

4. When releases are observed, in addition to cleaning the debris, change work practices, modify the containment, or take other appropriate corrective action to prevent similar releases from occurring in the future. Do not resume operations until the corrective measures have been inspected and approved by the Engineer.
5. The Engineer will conduct laboratory testing and analysis of soil, water, and/or sediment to determine if they have been impacted by the Work. Sampling shall also be conducted at the hazardous waste storage areas prior to the start of Work. The Contractor will be advised when such testing and analysis will be performed. Sample site selection will be conducted by the Engineer and sample removal will be in accordance with the guidance provided in Methods S1 and WS1 of SSPC publication 95-06, Project Design. The ground (soil), water, and sediment will be considered to have been impacted by the Work based on the laboratory analysis as described below:
  - a. Visible paint chips or debris on the ground, water, or sediment are not allowed and must be removed regardless of the laboratory test results.
  - b. Soil - The ground (soil) is considered to have been impacted by the Work based on increases over the geometric mean lead concentration existing at the start of the Work.
    - (1) If the geometric mean total lead concentration existing at the start of the Work is less than 200 ppm, an impact is considered to have occurred if the geometric mean lead concentration shows an increase of 100 ppm or more.
    - (2) If the concentration existing at the start of the Work is greater than 200 ppm, an impact is considered to have occurred if the geometric mean lead concentration exceeds the initial geometric mean plus 2 standard deviations, or an increase of 100 ppm occurs, whichever is greater.
  - c. Sediment- The sediment will be considered to have been impacted from the Work following the same criteria utilized for soils.
  - d. Water - The water is considered to have been impacted by the Work based on increases over the geometric mean lead concentration existing at the start of the Work.
    - (1) If the geometric mean total lead concentration existing at the start of the Work is less than 3.5 µg/L, an impact is considered to have occurred if the geometric mean lead concentration shows an increase of 1.5 µg/L or more.
    - (2) If the concentration existing at the start of the Work is greater than 3.5 µg/L, an impact is considered to have occurred if the geometric mean lead concentration exceeds the initial geometric mean plus 2 standard deviations, or an increase of 1.5 µg/L occurs, whichever is greater.
6. If the laboratory analysis shows the soil, water or sediment to have been impacted by the Work, as directed by the Engineer, conduct the cleanup or remediation necessary to return the media to pre-existing levels, at no additional cost to the Authority.

D. Reporting of Visible Emissions and Releases

1. Maintain and make available for the Engineer's inspection, a permanently bound daily log documenting inspections and the occurrence of unusual incidents, if any, at each Work Area(s).
2. Document in the log, all cases where work has been halted due to unacceptable visible emissions or releases, the cleanup activities invoked, and the corrective action taken to avoid a recurrence. Provide a written report to the Engineer within 48 hours of the occurrence.
3. Summarize the results of the assessments in a monthly report. Identify the frequency of observations made, the methods of observation utilized, the name of the observer(s), and results. Include and summarize the documentation prepared for work stoppages due to unacceptable visible emissions or releases. Provide monthly reports to the Engineer within 15 days of the last workday of the previous month.

E. High Volume Ambient Air Monitoring

1. The Engineer will undertake high volume ambient air monitoring during paint removal and clean-up activities to confirm that emissions do not exceed the EPA National Primary and Secondary Ambient Air Quality Standards (NAAQS), or specific New York City or New Jersey regulations.
2. Total suspended particulate (TSP-lead) will be analyzed in accordance with 40 CFR 50 Appendix G.
3. The number and location of monitors will be determined by the Engineer, taking into consideration proximity to homes, businesses, and the general surroundings. Monitor siting and operation will be performed in accordance with the guidance provided in Methods A1 and A2 of SSPC publication 95-06, Project Design.
4. The Contractor will be advised if such monitoring will be performed and will be provided with verbal background and ongoing results. Written results will be provided if requested by the Contractor.
5. Take the following corrective action when air monitoring results exceed the following:
  - a. If the emissions of 1 day of blasting exceed:
    - (1)  $0.45 \mu\text{g}/\text{m}^3$  (8 hour period) minus two times the average 8 hour background level for TSP-lead,
    - (2) Assess all field data for that day and take appropriate corrective action to control emissions.
  - b. If the emissions of 2 consecutive days of blasting exceed:
    - (1)  $0.45 \mu\text{g}/\text{m}^3$  (8 hour period) minus two times the average 8 hour background level for TSP-lead,
    - (2) Suspend dust producing operations (e.g., paint removal and/or clean-up) and implement appropriate corrective action to control emissions.
  - c. If the emissions on any one day exceed:

- (1) 1.35  $\mu\text{g}/\text{m}^3$  (8 hour period) minus two times the average 8 hour background level for TSP-lead,
- (2) Suspend dust producing operations (e.g., paint removal and/or clean-up) and implement appropriate corrective action to control emissions.

### 3.06 CLEANING OF MATERIALS, EQUIPMENT, AND SURROUNDING PROPERTY

#### A. Equipment and Material Cleaning Requirements

1. Remove debris from the containment materials and equipment prior to relocation to another point along the structure or within the facility. Clean to the extent that debris or dust are not dislodged by winds or physical contact during handling and transportation. Use compressed air for cleaning only if it is accomplished inside a contained area that is equipped with an operating ventilation system capable of capturing the dust and debris.
2. Thoroughly HEPA vacuum, wash, or otherwise decontaminate reusable items until all loose surface dust and debris have been removed. Items requiring cleaning include, but are not limited to, paint removal and ventilation equipment, containment materials, ground covers, and scaffolding.
3. If adequate cleaning is not possible, treat the materials as a separate waste stream, and dispose of in accordance with the requirements of 3.08 herein. Collect water used for cleaning and dispose of in accordance with the requirements of 3.08 herein.
4. When the Contractor uses solvents to clean painting equipment, treat the spent solvents as a separate waste stream. Collect the spent solvents, perform the sampling, testing, and classification, transportation, and disposal of the solvent waste stream in accordance with 3.08 herein.

#### B. Final Cleaning/Clearance Evaluations of Construction Site and Surrounding Property

1. Upon completion of all Work, and after all Contractor equipment and materials have been removed, conduct a thorough inspection of the construction site, and all surrounding property and surfaces located within the likely dispersion zone of dust and debris for the presence of debris. Debris includes, but is not limited to, spent abrasives or other paint removal media, paint chips, materials of construction, fuel, and other litter.
2. Remove all visible debris from the construction site. When cleaning paint chips and dust, use HEPA vacuums, manual removal of paint chips and debris, wet washing, or other means that will effectively remove the dust and debris without re-dispersing it into the air. Do not use compressed air for cleanup activities unless it is used in conjunction with a ventilation system designed to capture the airborne particulate
3. Collect water used for cleaning and dispose of in accordance with 3.09 herein
4. After all clean up activities are completed, conduct a final inspection with the Engineer. Conduct any additional cleaning identified by the Engineer. Consider the construction site properly cleaned under the following conditions:
  - a. Paint chips, spent abrasive and other paint removal media, fuel, materials of construction, litter, or other debris are not visible on or around the construction site.

- b. Lead dust has been removed from the surface of the completed structure as well as from surrounding structures and equipment.
- 5. Collect solvents used for painting equipment cleaning and any spent solvents, and dispose of in accordance with 3.09 herein.

C. Report on Clearance Inspections

- 1. Prepare a letter report presenting the results of the inspections conducted to verify the final cleanliness of the construction site, surrounding property, waterways, equipment, buildings, and structures.
- 2. Include a summary of any problems or releases that occurred during the performance of the work, and the clean up and corrective action measures that were taken to resolve the problem.
- 3. Provide final clearance report within 10 days of final inspection.

3.07 REPORTABLE RELEASES

- A. A release of material in a 24 hour period of ten pounds or more of lead is a reportable quantity under the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA).
- B. Immediately shut down operations following any emergency situation or accident or non-compliance incident, estimate the quantity of lead released into the environment, and undertake clean-up.
- C. If there is a release of ten or more pounds of lead in a 24 hour period from the construction site, immediately notify the Engineer, NYSDEC or NJDEP as applicable, and the National Response Center at 800-424-8802 in accordance with 40 CFR 302.6. Within 2 days of the incident, provide the Engineer with a written report of the cause of the problem, the estimated quantity of lead released, and corrective action taken to prevent a recurrence

3.08 ON-SITE MANAGEMENT, TRANSPORTATION, AND DISPOSAL OF PAINT DEBRIS, WASTE WATER, AND ANY OTHER WASTE GENERATED FROM THE WORK

A. GENERAL

- 1. The Authority and the Contractor are responsible for the hazardous waste generated from this Work. All waste products shall be handled, transported, stored and disposed in accordance with RCRA and other applicable federal, state and local requirements. The Authority will provide the EPA identification number for lead waste disposal for permitting purposes, but the Contractor is responsible for the collection, handling, storage, transportation and disposal of all wastes. The Contractor is responsible for payment of any fees or taxes (e.g. including annual or quarterly fees, per load stipends, etc.) imposed by any state or local taxing agency for hazardous waste disposal.
- 2. The Contractor is responsible for the collection, handling, transportation, and disposal of all solvent wastes generated from the Work. The Contractor must acquire his own EPA identification number for the disposal of solvent wastes.

3. The Contractor is responsible for the collection, handling, transportation, and disposal of all non-hazardous municipal/ construction waste and waste water generated from the Work.
  4. The Contractor is responsible for recovering all waste products generated during the paint removal Work, including but not limited to rags, tape, disposable coveralls, filters, and sediments. These materials should be characterized to determine if they are hazardous wastes in accordance with RCRA and applicable New York and New Jersey requirements.
  5. Store waste only at location designated by the Engineer. Transport the waste to the designated storage area at the end of each working day, at a minimum. Satellite accumulation areas must meet all RCRA requirements, such as volume limits, container limits and labeling.
  6. Store paint, solvent or paint and solvent wastes on Authority property and in accordance with applicable regulations.
  7. Hazardous waste manifests and fees imposed by the States shall be handled and paid for by the Contractor. The Contractor will be reimbursed by the Authority.
- B. WASTE SAMPLING, TESTING, AND CLASSIFICATION (SOLID WASTE AND WASTE WATER)
1. Sampling
    - a. Solid Waste (with the exception of waste water)
      - (1) Engineer shall collect and have analyzed, representative samples of each waste stream generated by the Work.
        - (a.) Collect the samples with assistance of Contractor, as needed..
        - (b.) Collect the samples in accordance with SW-846, "Test Methods for Evaluating Solid Waste -Physical/Chemical Methods." Use a random sampling technique.
        - (c.) Collect a minimum of four representative samples of all waste streams. These waste streams include, but are not limited to, spent abrasives, paint chips and dusts, spent solvents, solvents used for paint thinning and equipment cleaning, dust collector debris and chemical stripping debris.
      - (2) Complete the initial sampling of each waste stream immediately upon contractor filling the first container, or within 30 days of the beginning of waste accumulation. After the representative samples are collected, the Engineer shall send them immediately to the laboratory for analysis.
      - (3) Unless otherwise directed by the Engineer, or required by State regulations or the waste recycling or disposal facility, once each waste stream is sampled, tested, and classified, additional sampling and analysis are not required for subsequent shipments unless the waste stream changes.
    - b. Waste water
      - (1) Engineer shall collect representative samples of waste water generated by the Work.

- (2) Engineer shall complete the initial sampling of each waste water stream immediately upon filling the first container, but shall not allow waste water to accumulate for longer than 30 days before sampling. After the representative samples are collected, send them immediately to the laboratory for analysis.

c. Sampling Frequency

- (1) If the nature of the waste stream initially tested remains constant (e.g. the paint system remains the same), additional testing and analysis are not required for subsequent shipments unless otherwise directed by the Engineer, or required by state regulations or the disposal facility.
- (2) If the nature of the waste stream changes after the initial testing, Engineer shall collect and have analyzed a new series of samples of the waste stream.
- (3) If there is a Work shut down at the end of a season (e.g. winter shutdown), Engineer shall collect and have analyzed a new series of samples (i.e. a minimum of four representative samples) of each waste stream when the Work resumes.

2. Testing

a. Solid Waste – Engineer shall

- (1) Direct the laboratory to test the solid waste in accordance with 40 CFR 261, Appendix II, Method 1311, Toxicity Characteristic Leaching Procedure (TCLP), to determine if it is hazardous.
- (2) Analyze the first two samples from each waste stream for full TCLP as defined in C.3.a)(1)(a) hereunder. Conduct any additional test required by the disposal facility. Analyze subsequent samples of the waste stream(s) for lead and any metal or hazardous material that is detected in the initial TCLP testing. When chemical strippers are used, test all liquids and sludge. Include pH to determine corrosivity. Test all spent solvents, and solvent/sludge resulting from paint equipment cleaning.
- (3) Waste water - test the waste water for Total metals (As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Zn), hexavalent chromium, pH, suspended solids, oil and grease, BOD, temperature, total cyanide, TPH, and other analytical parameters required for disposal characterization or by the disposal facility.

3. Classification of Solid Waste

a. Hazardous Waste Classification

- (1) A waste stream shall be classified by Engineer as hazardous waste if it meets any of the following criteria:
  - (a.) It is a RCRA listed hazardous waste as defined in 40 CFR 261, Subpart D (i.e. many solvent and paint wastes are RCRA listed wastes).

OR

  - (b.) The leachate contains any of the 8 metals or other hazardous substances in concentrations at or above limits established in 40 CFR 261.24 including but not limited to:

Arsenic	5.0 mg/L
Barium	100.0 mg/L
Cadmium	1.0 mg/L
Chromium	5.0 mg/L
Lead	5.0 mg/L
Mercury	0.2 mg/L
Selenium	1.0 mg/L
Silver	5.0 mg/L
Methyl Ethyl Ketone	200 mg/L

OR

- (c.) The waste has the following RCRA characteristics, as defined in 40 CFR 261, Subpart C :

Corrosivity  
 Ignitability  
 Reactivity

OR

- (d.) The waste stream contains total PCBs at or above 50 mg/L.

b. Non-hazardous waste classification

- (1) Waste streams shall be classified by Engineer as non-hazardous if:

- (a.) It is not a RCRA listed hazardous waste and  
 (b.) The waste contains toxic metals or hazardous substances below or outside of the threshold identified above which would classify it as hazardous.

- (2) When paint debris TCLP test results indicate lead concentrations less than 5 mg/L, notify the disposal facility that the waste contains lead and provide the TCLP test results.

- c. Classification of waste generated using steel abrasive: When recycled steel grit abrasives are used and the resulting TCLP test results indicate lead concentrations from 1 to less than 5mg/L, Engineer shall notify the Contractor and Treatment Storage Disposal (TSD) facility that the waste contains lead. Provide the TCLP test results, and stipulate that further stabilization to TCLP levels below 0.75 mg/L is required prior to disposal.

d. Painted Scrap Metal

- (1) Painted scrap metal that is disposed of or recycled is a solid waste; however, it is exempt from EPA Subtitle C regulation when it is reclaimed.

- (a.) Scrap steel coated with paint, which contains lead or other heavy metal, can be shipped for recycling. If not shipped for recycling, the Engineer shall direct the Contractor to handle, test, store and dispose of it in the same manner as paint removal waste, as detailed in preceding sections.

- (b.) The Contractor shall store all demolition metal on solid ground covers or on solid surfaces, such as pavement and isolate the area with ribbons or other barriers. The storage area need not be covered unless loose paint is present which rain or wind could dislodge.
- (c.) An MSDS or letter shall accompany scrap metal shipments identifying the heavy metals present. A copy of MSDS or letter shall be provided by Contractor to Engineer.
- (d.) The Contractor shall obtain written confirmation from the scrap dealer at the time the scrap metal is received, stating that the painted metal will be re-melted and properly destroyed.

4. Laboratory Report

- a. Shall include the following minimum information in each report: Identity of the RCRA listed waste streams and identity of the waste stream(s) analyzed, the number of samples collected and tested, dates of sampling and testing, laboratory test procedures utilized, the names and signatures of the individuals collecting the samples and analyzing the laboratory tests, interpretation of the test results, and final determination.
- b. Include copies of the chain-of-custody forms in the documentation of hazardous waste and non-hazardous waste streams.
- c. Provide laboratory reports to the Contractor within 15 days of sample collection but no later than 45 days after start of Work.

C. WASTE HANDLING, PACKAGING, AND STORAGE

- 1. Contractor shall under supervision of PA facility environmental coordinator comply with 40 CFR 262, NJAC Title 7, and 6 NYCRR 372 for the on-site handling, packaging, and storage of all waste generated by the Work.
- 2. All paint debris shall be vacuumed and collected in DOT-approved drums or containers in compliance with 49 CFR 173 and 178 at the end of each Work period. Paint debris shall include paint chips and dust and shall not include any other construction debris, trash or chemical solvents. All disposable protective clothing and interior lining of the containment system shall be collected in DOT-approved drums or containers at the end of each Work period.
- 3. Contractor shall not place hazardous waste on unprotected grounds (e.g. cover the ground with impervious tarping). Locate in a secure area with signs around the perimeter, and shield adequately to prevent dispersion of the waste by wind or water.
- 4. At a minimum, Contractor shall collect and store the hazardous waste at the end of each working day in storage drums or containers such that no waste is left overnight. Use DOT-approved drums for hazardous waste storage. Once a drum of hazardous waste at the Work areas is full, move it to a designated secure storage area within 3 days. The hazardous waste generated from Work in New Jersey shall be stored in New Jersey. The hazardous waste generated from Work in New York shall be stored in New York.
- 5. Contractor shall properly transport all non-hazardous waste municipal/construction waste from the Work areas to the designated storage area. Verify that the waste is completely covered during transportation.

6. Contractor shall maintain all drums and containers in good operating conditions with all lids and closing mechanisms intact and operational to prevent escape of debris by winds, spilling of contents, or access by unauthorized personnel.
7. Contractor shall cover all drums immediately upon filling and confirm that all lids are attached except when filling. Verify that all drums are labeled upon filling and that labels remain intact.
8. Contractor shall inspect the drums or containers for corrosion and leaks. Conduct daily inspections in New Jersey, and weekly inspections in New York. Record the results of the inspections in a log book and make available to the Engineer for review.
9. Contractor shall store non-hazardous waste separately from hazardous waste. Do not co-mix hazardous waste with non-hazardous waste. Do not mix different types of hazardous waste unless specifically approved by the Engineer.
10. Contractor shall arrange containers in the storage areas for easy accessibility. Stage the containers together in lots no greater than two rows of five containers each. Maintain a minimum lane clearance of 36 inches between each lot of ten containers.
11. Contractor shall verify that all waste is transported to the appropriate recycling or disposal facility within 60 days after waste is first placed into the container.
12. Improper waste storage is cause for immediate suspension of the Work by the Engineer until appropriate corrective action is completed.
13. Contractor shall train all personnel in the proper handling of hazardous waste at the Work site in accordance with 40 CFR 265.16, including the procedures to follow in the event of a release or spill, required notifications, and methods of clean-up. Maintain all training records on-site and make available to the Engineer for review.
14. Contractor shall not fill any drums in excess of the capacity marked on the container.
15. If soil remediation is required as a result of Contractor activities, Contractor shall place the soil into separate containers, and assume all costs for its disposal.

**D. LABELING OF CONTAINERS**

1. Contractor shall immediately label all containers of waste and paint debris to identify the contents. Label containers of paint debris as HAZARDOUS WASTESCONTAINING LEAD CHIPS. Include the Contract Number and locations. Provide similar labels on containers of other waste, wastewater and debris.
2. After the TCLP test results are received, or after determination of hazardous waste status based on generator knowledge of waste stream and RCRA list at 40 CFR 261, Subpart D, Contractor shall immediately apply hazardous waste labels, if the waste tests hazardous. Label each container of hazardous waste in accordance with 40 CFR 262, and 49 CFR 171-179. Include the following minimum information:
  - a. Hazardous Waste. Federal law prohibits improper disposal. If found, contact the nearest police, or public safety authority, or the U.S. Environmental Protection Agency.
  - b. Proper DOT Shipping Name.
  - c. Manifest Document No.

- d. Generator name, address, and EPA ID No.
  - e. Date of Accumulation
  - f. EPA or State designated Waste Identification No.
3. Contractor shall enter the above information using permanent marking material, printed in English, and displayed on a background of contrasting color unobscured by other labels or attachments. Locate labeling away from other markings that could substantially reduce its effectiveness.
  4. Contractor shall complete the labeling, marking, and placarding activities under the observation of the Engineer, prior to storing or transporting any container.
- E. WASTE TRANSPORTATION AND DISPOSAL (WITH THE EXCEPTION OF WASTE WATER AND WASTE WHICH CONTAINS STEEL GRIT)**
1. **Hazardous Waste – Contractor shall**
    - a. Prepare the hazardous waste manifest for each shipment and provide to the Engineer for review and signature.
    - b. Arrange for the transportation of all hazardous waste by a licensed transporter in accordance with 40 CFR 263, 49 CFR 171-179, and 6 NYCRR 364. Also comply with applicable City regulations. Verify that all waste is completely covered during transport.
    - c. Unless specifically approved by the Engineer in writing ensure that, the hazardous waste transporter does not stop enroute either before or after the pickup of hazardous materials from the construction site.
    - d. Arrange for the recycling or disposal of all hazardous waste in accordance with 40 CFR 264, 40 CFR 268, and 6 NYCRR 373. Verify that only licensed recycling facility or Treatment, Storage, and Disposal (TSD) facilities are used.
    - e. If the waste is shipped to a TSD facility, notify the facility that stabilization to less than 0.75 mg/L lead is required and provide copy of LDR to the PA.
    - f. Provide a certification for each manifested shipment that the waste was accepted by the recycling or disposal facility, and properly treated and disposed. Comply with all of the manifesting, certification, and reporting requirements for hazardous waste in accordance with 40 CFR 262, 40 CFR 268, and 6 NYCRR 372, including certificates of final disposal for each shipment.
  2. **Non-Hazardous Municipal/Construction Waste – Contractor shall**
    - a. Properly transport, and dispose of all non-hazardous municipal construction waste.
    - b. Verify that waste is completely covered during transport.
    - c. If toxic metals or hazardous substances were detected during the laboratory testing, notify the disposal facility that such metals or materials are present in the waste.
    - d. Comply with additional City regulations as applicable as though the Authority were a private corporation.

F. SPECIAL WASTE REQUIREMENTS FOR RECYCLED STEEL GRIT

1. When recycled steel abrasives are used and the resulting TCLP test results of lead concentration between 1 mg/L and 5 mg/L, contractor shall collect, handle, store, and transport the waste in the same manner as if it tested hazardous.
2. Contractor shall notify the waste recycling or TSD facility that the waste contains high levels of lead.
3. If the waste is shipped to a TSD facility, contractor shall notify the facility that further stabilization is required prior to disposal. Use the stabilization methods that would have been used in the event the waste tested hazardous. Stabilize to less than 0.75 mg/L lead.

G. WASTE WATER HANDLING AND DISPOSAL

1. Contractor shall provide containers for the collection and retention of all waste water including but not limited to the water used for steam cleaning, hygiene purposes, laundering of clothing if done on site, decontamination and cleanup activities.
2. Contractor shall filter visible paint chips and particulate from the waste water prior to placing it into the containers. Prior to disposal, provide ample filtration (e.g. through a multi-stage filtration system ending in 5 microns or better if needed). Test the water and filtered waste streams for total toxic metals and for other parameters specified herein.
3. Contractor shall make disposal arrangement with the local publicly owned treatment works (POTW), sanitation company, or other appropriate permitted facility. Provide the Engineer with documentation signed by an official of the facility stating that such facility will accept the waste, and that the levels of any lead, toxic metals and constituents remaining in the waste water are acceptable by the facility.

END OF SECTION

## SECTION 02095

### CONTAINMENT, WORKER, AND ENVIRONMENTAL PROTECTION

#### APPENDIX "A"

#### SUBMITTALS

- A. GENERAL - Provide all submittals of this Appendix in accordance with the requirements of "Shop Drawings, Catalog Cuts, and Samples" of Division 1, General Provisions.
- B. PRE-CONSTRUCTION
  - 1. Qualifications, Experience, and Certifications - provide written qualification, experience, and certification information for the following:
    - a. Contractor and its Subcontractors
      - (1) Provide certifications of the entity who will be performing Lead Abatement Work in accordance with the New Jersey Lead Hazard Evaluation and Abatement Code for Superstructures and Commercial Buildings, at NJAC 5.17 - 2.1.
      - (2) Provide evidence of confined space training for workers who will be entering, supervising and attending confined spaces.
    - b. Laboratory
      - (1) Provide the name, address, telephone number, and contact person and copy of AIHA certification of the laboratory that will be used for the worker and restricted zone exposure monitoring required under this Section.
      - (2) Provide the name, address, telephone number, and contact person of the laboratory that will be used for the analysis of waste samples as required by this Section.
      - (3) Provide evidence that the analytical laboratory proposed for TCLP testing and waste analysis (i.e. solid and liquid) is experienced to perform full TCLP and waste analysis for all parameters as specified.
    - c. Acoustics Firm - submit the name, address, telephone number, and contact person of the acoustics firm that will be employed. Include the names of the employee(s) who will be performing the acoustical design and consulting services under this Contract. Provide the name(s) and telephone number(s) of previous project owners for whom the acoustics firm has provided similar services.
    - d. Certified Industrial Hygienist - provide the name, experience, and qualifications of the CIH who will be reviewing, approving and sealing the site-specific Lead Health and Safety Compliance Program.

- e. Supervisors and workers:
    - (1) Provide written confirmation that the supervisors and workers who will be installing the containment system have successfully completed at least one contract of similar size and complexity within two years preceding the Authority's acceptance of the Contractor's Proposal. In the case of abrasive blast cleaning, the project must have involved the use of a containment system equivalent to SSPC Class 1A with negative air pressure.
    - (2) Provide certifications of supervisors and workers who will be performing Work in the State of New Jersey under New Jersey Lead abatement Supervisor and Worker Programs.
    - (3) Provide evidence of training for all supervisors and workers responsible for hazardous waste management
  - f. Competent Person - Provide written confirmation that the person or persons designated as the OSHA competent person meets the requirements for "Competent Person" as stated in 1.05D "Qualifications and Experience".
  - g. Containment Design Engineers - Provide written confirmation of the license and experience of the Professional Engineers as stated in 1.06 C "Qualifications and Experience".
2. Containment Plans and Drawings - Provide a written description, shop drawings, and calculations for the design and construction of work platforms, and containment and ventilation systems, including, but not limited to the following:
- a. Detailed drawings signed and stamped by Professional Engineer(s) licensed in the States of New York and New Jersey. Have the engineer(s) analyze the system for the effects of wind forces on the bridge structure and the containment system itself, and all other maximum live and dead imposed loads (e.g., platforms, equipment, personnel, waste, traffic, etc.). Do not allow the containment system to induce a load on the bridge which will create an overstress condition, exceed the limits given on the Contract Drawings that will be issued for each individual work order, or otherwise affect the structural integrity of the bridge or the containment or temporary structures, and do not allow the system to encroach upon the required bridge clearances.
  - b. Data, calculations, and assumptions used for the design of the containment and ventilation system and the imposed loads on the existing structure, signed by Professional Engineer(s) licensed in the States of New York and New Jersey. Include the design air flows within containment, and the locations and sizes of air inlets and exhaust ducts and dust collectors. Include calculations for static pressure losses through the system.
  - c. Dimensioned elevation and sectional views showing all containments and encroachments of waterway or highway traffic created by the containment, debris collection equipment, and ventilation or recycled abrasive systems.

- d. The plan for staging, installing, moving, and removing the containment; and the methods of attachment that will be used. Make attachment points to specific, substantial framing members only, as approved by the Engineer. Design the containment in order for it to be disassembled and secured within one hour of notification, such as under inclement weather conditions. Design it in such a manner that it is capable of being disassembled during high wind conditions of at least 40 mph.
  - e. Include the methods of access that will be provided to work areas inside containment, locations of safety lines, and locations of containment entryways.
  - f. The methods and procedures that will be used for cleaning and securing the containment at the end of each work day, and the cleaning undertaken prior to dropping or relocating the containment.
  - g. Controls that will be exercised to prevent excessive sagging during cable installation (e.g., temporary cradles) to ensure the protection of traffic.
  - h. Plans for maintaining roadway lighting and signage, navigational and aviation lighting, weather station located at the New York side stair tower during the Work, as applicable.
  - i. Plans for the collection and removal of debris from the surface of water when working over streams, rivers, lakes, and other bodies of water.
  - j. Technical data sheets, specification sheets, any other information needed to thoroughly describe the containment plan and materials proposed for use. Include a two (2) sq. ft. sample of each of the proposed enclosure material(s), together with the manufacturer's specifications on light transmittance, flame spread, and fuel contributed, burst strength, abrasion durability, and unit weight of material.
  - k. A description of debris collection and air filtration equipment, including the equipment data sheets, airflow capacity, fan curves, equipment weights and temporary utility service requirements.
  - l. Information on any temporary heating units proposed for use, fuel to be used and the safety measures to be employed for heater use and fuel storage.
  - m. The methods and procedures that will be used to control spills or releases of dust or debris into the environment.
  - n. Provide the plan for monitoring the soundness of the containment during weekends, holidays, or extended shut downs. Provide the procedures for mobilizing crews to the site to initiate the emergency demobilization plan in the event of inclement weather, and the plans for the immediate removal of snow and ice from the containment structure.
3. Plan for Monitoring of Weather and Wind Conditions
- a. Provide catalog cuts of radios that will be used to monitor weather conditions and wind velocity, and the name, address, phone number, and contact of the weather service that will be used and a copy of the contract with the weather monitoring service.

- b. Provide the plan for monitoring weather and wind conditions, including the procedures that will be followed to communicate impending inclement weather to the field Supervisor/foreman and Engineer through the use of mobile phones, and the faxing of weather information to the Engineer when deciding whether or not to lower containments.
  - c. Provide the plan for monitoring of weather conditions during weekends, holidays, or other shut down periods.
  - d. Provide contact names and phone numbers of Contractor personnel responsible for monitoring weather, inspecting the containment and performing emergency demobilization in the event of inclement weather.
4. Emergency Containment Demobilization Plan
- a. Provide a detailed plan for dropping the containment within 1 hour of the notification of inclement weather, such as sustained wind speeds of 40 mph or greater, or heavy snow.
  - b. Include the methods and procedures that will be followed to assure that:
    - (1) All equipment and tools are secured,
    - (2) The containment is cleaned of loose dust and debris,
    - (3) All containment system roof and wall enclosure elements that could contribute to adding wind load to the bridge structure are removed or lowered (excluding containment framing), and
    - (4) Snow and ice are routinely removed from the containment.
5. Lead (Toxic Metal) Health and Safety Compliance Program - Submit the following plans, programs, and information addressing worker health and safety from exposure to lead and other toxic metals. Note that this program is in addition to other OSHA hazard communication and health and safety requirements including scaffolding, electrical safety and general construction safety requirements of OSHA.
- a. Provide a written, project-specific Lead (Toxic Metal) Health and Safety Compliance Program under the direction of, and signed and sealed by, a Certified Industrial Hygienist (CIH). Identify the methods of compliance that will be used to reduce worker exposures to toxic metals including engineering and waste practice controls.
  - b. Include the methods and procedures that will be followed for complying with this Section and any OSHA standards published for the toxic metals present in the paint (e.g., 29 CFR 1926.62 for lead, 29 CFR 1926.1127 for cadmium, and 29 CFR 1926.1118 for inorganic arsenic). When toxic metals are present in the paint for which OSHA has not developed a comprehensive health and safety standard, include statements that the workers will not be exposed above the PEL established for the metal as identified in 29 CFR 1926.55.
  - c. Rely on respiratory protection only after feasible engineering and work practice controls have been implemented to reduce airborne exposures.
  - d. Include the name of the competent person who will be making routine inspections of Work activities to ensure compliance with the program, and the frequency of inspections that will be made.

- e. Verify that any subcontractors working for the Contractor are included in the program or in a separate program which meets the requirements of this Section. If subcontractors are operating under a separate program, include the program(s) with the submittals.
  - f. Revise and update the program as needed and at least every six months during the portion(s) of the Work which involve the disturbance of toxic metals. Verify that the CIH signs off on all six-month reviews and revisions.
  - g. Outside Laundry - Provide the name, address, and qualifications of the launderer, if one will be used, for the cleaning of reusable clothing. Provide a letter from the laundry indicating that it is permitted to handle clothing contaminated with lead and/or the other toxic metals of concern. Provide a copy of a letter to the laundry informing it that the clothing from the Work is contaminated with lead or other toxic metals and that the laundry must have procedures in effect to handle such clothing.
  - h. Personal Protective Equipment for Engineer Use - Acknowledge that all protective clothing and equipment, laundering or disposal, and hygiene facilities will be provided for up to four Engineer representatives.
6. Plan for Establishing Restricted Zones - Submit a plan for the establishment of restricted zones around equipment and operations that may generate emissions of dust or debris containing lead or other toxic metals. Include the methods that will be used for instrument monitoring and designating the restricted zones.
7. Environmental Compliance Plan - Submit an Environmental Compliance Plan which establishes programs for the monitoring activities that will be undertaken under the Contract:
- a. Assessments of Visible Emissions and Releases - A written program for the observation of visible emissions during the performance of the Work, and inspections for releases or spills of dust and debris that become deposited on surrounding equipment, property, soil, water, and sediment. Include the frequency and methods of observation and inspection that will be made, areas or work activities that will be observed, and the frequency and nature of clean up that will be undertaken. Include the name(s) and qualifications of the personnel conducting the observations and inspections.
  - b. Ground (Soil) Evaluations - A written program for the inspection of the ground and soil prior to commencement of the Work and upon completion to assure that the ground has not been impacted by the Work.
  - c. Water/Sediment Evaluations - A written program for the inspection of the water and sediment prior to commencement of the Work and upon completion to assure that the water and sediment have not been impacted by the Work.
  - d. Final Cleaning/Clearance Evaluations - A written program identifying the procedures and methods that will be used to conduct final clean up, and final visual cleanliness inspections and evaluations.
  - e. Include a statement that the Contractor will undertake all clean-up and remediation necessary to return the soil, water, and sediment to pre-job conditions in the event that sampling and analysis conducted by the Authority show that contamination has occurred, at no additional cost to the Authority.

8. **Noise Abatement Plan**
  - a. Provide a written noise abatement plan which establishes the programs for mitigation of noise pollution generated from the Work, to comply with the noise mitigation criteria established in 3.02 A., herein.
    - (1) Include the means and methods that will be employed to comply with the criteria set forth in 3.02 A., herein.
    - (2) Required measurements shall be supervised by an acoustician who is either a Board Certified Member of Noise Control Engineering or a Principal of a Member Firm of the National Council of Acoustical Consultants.
    - (3) All design drawings of noise abatement enclosures and barriers shall be signed and sealed by a Professional Engineer licensed in the States of New York and New Jersey.
  - b. Provide description of noise mitigation to be employed, including the name of the manufacturer of any material used and its specifications.
  - c. Provide catalog cuts and technical data sheets of construction equipment to be employed during Work of this Contract.
  - d. Submit for review all acoustical and structural capacity calculations, including wind load, and drawings for each enclosure or barrier, with certification that such enclosures and barriers conform to all structural, clearance, or other requirements that may be included elsewhere in this Contract.
9. **Transporter Qualifications, Experience, and Permits**
  - a. Provide the names, addresses, qualifications, and contact person for the proposed transporter(s) of hazardous waste, non-hazardous waste, and waste water.
  - b. Provide evidence that each transporter has current registration approved by NYSDEC and NJDEP, as applicable. Hazardous waste haulers are required to have a 6 NYCRR, Part 364, Waste Transporter Permit.
  - c. Ensure that hazardous waste haulers are required to possess a Spill Prevention, Control and Countermeasure (SPCC) plan. Provide evidence of such a plan.
  - d. If it is proposed that the transportation pass through other states, provide evidence that the transporter complies with the applicable transportation regulations of the respective states.
10. **Hazardous Waste and Waste Water Disposal Facility Qualifications, Experience, and Permits**
  - a. Provide the name, address, telephone number and contact person for each waste disposal facility proposed for use in the Contract, including but not limited to hazardous, non-hazardous, and waste water.
  - b. Provide evidence that each disposal facility has current registrations and permits for the operation of such facilities, or written approval from the state (and by the USEPA or other local agency, if applicable) in which it operates.
  - c. Provide evidence that each disposal facility maintains current state Pollution Discharge Elimination System Permits, if applicable.

- d. If recycled steel grit abrasives will be used, advise the facilities that the lead paint waste must be handled and stabilized as if it tested hazardous. Provide the proposed means of stabilization that will be used by the facility to comply with the requirements of this Section.
  - e. If it is proposed that a secondary smelter will be used for the recycling of the waste, provide evidence that the smelter holds a valid EPA and consignment waste approval for the treatment of the hazardous materials present in the waste that will be generated (e.g., D008 in the case of lead-containing waste).
  - f. If the Contractor proposes to discharge waste water directly into the sewer system, provide a written permit or written documentation from the local sewer district which provides approval of such activities.
  - g. Advise each legally permitted recycling or waste disposal facility that bridge paint debris will be generated (e.g., lead paint debris, water), and identify the toxic metals that the waste will be likely to contain.
    - (1) Based on the above information, provide a letter from each of the proposed hazardous waste recycling or disposal facilities, stating that the facility can accept this type of waste, is authorized to accept the waste under the laws of the State of residence; has the required capability to treat and dispose of the materials; and will provide or assure the ultimate disposal method indicated on the Uniform Hazardous Waste Manifest.
    - (2) Provide a letter from the proposed waste water disposal facility, indicating that the facility has the capability to handle and properly dispose of the waste water.
    - (3) Provide the Engineer with the original letters signed by a legally authorized representative of each facility.
11. Provide evidence that during the last twelve (12) months, each proposed disposal facility has not incurred:
- a. a more than five (5) Notice of Violations (NOVs) related to accepting unpermitted haulers, or accepting waste containing contamination above the facility's permit limits;
  - b. more than three (3) NOVs related to poor housekeeping, such as spills of chemicals or petroleum products that could contaminate soil and ground water; and
  - c. an Administrative Consent Order (ACO) related to ground water remediation.
12. Non-hazardous Waste Disposal Facility Qualifications, Experience, and Permits - Provide the name, address, telephone number, contact person, and permit for each waste landfill that will accept the non-hazardous waste generated by the Contractor.
13. Waste Handling Plan - A written program that addresses the proper handling and disposal of all waste. Include the procedures and equipment that will be used for:
- a. the collection of waste water, paint, spent abrasive and paint chips and other debris, and its transportation to the storage area identified by the Engineer or on the Contract Drawings;
  - b. the collection of representative samples of waste for testing;

- c. the testing and analysis procedures that will be used;
- d. the determination of hazardous waste and non-hazardous waste streams, as defined in 40 CFR 261.2;
- e. the site handling, storage, packing, and labeling of the waste.

14. Contingency Plan and Emergency Procedures

- a. Submit a Contingency Plan and Emergency Procedures to respond to fires, explosions, or any unplanned sudden or non-sudden releases of hazardous waste or hazardous waste constituents to air, soil, or surface water at the Work site.
- b. The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, and state and local emergency response teams.
- c. The plan must list names, addresses, and phone numbers of all persons qualified to act as emergency coordinators; and include a list of all emergency equipment at the Work site (fire extinguishers, spill control equipment, communications and alarm systems and decontamination equipment).
- d. The plan must include an evacuation plan for workers, describe signals to be used to begin evacuation, identify routes and alternate evacuation routes.
- e. Submit evidence that a copy of the plan has been submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

C. CONSTRUCTION START-UP

- 1. Containment Lowering, Removal, and Relocation - Unless directed otherwise by the Engineer, prior to beginning any paint removal operations, demonstrate:
  - a. The lowering and removal, within one hour, of those elements of the containment system which contribute wind loads to the bridge, and that the lowering and removal can be performed under high wind conditions of at least 40 mph.
  - b. The removal, within one hour, of those elements of the containment system which are above the roadways, railways and navigation channel or waterways.
  - c. Confirm the results of the demonstration in writing and provide to the Engineer prior to the commencement of paint removal operations.
- 2. Certification of Containment Installation
  - a. Prior to working within each containment, submit a letter signed and sealed by the containment design engineer, stating that the containment system has been assembled as shown on the approved, signed and sealed drawings.
  - b. If the containment is not installed in accordance with the design drawings, issue supplemental calculations for the new design for Engineer review and approval in accordance with the original submittal requirements.

**D. CONSTRUCTION PHASE**

1. Maintain and make available for Engineer review, a daily (in New Jersey) and weekly (in New York) inspection log of hazardous waste storage.
2. Provide a complete analytical package of TCLP test results of waste samples within 15 days after sample collection, but not later than 45 days after start-up.
3. Provide a complete analytical package of waste water test results of waste sample collection within 15 days after sample collection, but not later than 45 days after start-up.
4. Waste Manifests - Submit to the Engineer one copy of:
  - a. Executed and signed manifests for each load of waste material transported from the Work site. Provide the manifest to the Engineer within one day of shipment.
  - b. Executed waste manifest form signed by a responsible party of the disposal facility. Provide the form within one day of receipt. If the copy is not received within 35 days from the date of shipment, contact the Engineer, and assist as directed, in efforts to locate the shipment, and in the completion of the EPA Exception Reports (if the signed manifest is not received within 45 days of the date of shipment).
  - c. Certificate of final disposal for each manifest or certificate of recycling for recycled material. Provide the certification within one day of receipt.
5. Bills of Lading - Provide bills of lading for the disposal of all non-hazardous municipal/construction waste within one week of the date of shipment.
6. Waste water - Provide written documentation of the receipt of disposal of all waste water within one week of the date of shipment.
7. Containment scaffolding inspection log - maintain, and make available for review by the Engineer, a daily log of the inspections of scaffolding, platforms, and wire ropes in accordance with the OSHA requirements. Conduct the inspections each shift, and after any occurrence which could affect the structural integrity of the scaffolding or wire suspension ropes.
8. Temporary Heating Units - If the use of temporary heating units was not anticipated at the time of the initial submittals, notify the Engineer at least one week in advance of use of heating units. Submit, for approval, information on fuel to be used and the safety measures to be employed for heater use and fuel storage.
9. Weather Conditions - submit to the Engineer, one copy of each FAX weather transmission containing the wind velocity information used to decide whether or not the containment enclosure(s) should be lowered.
10. Acoustical Tests - submit three copies of all acoustical test results to the Engineer within two calendar days of testing.
11. Medical Surveillance Summary

- a. Provide the Engineer with letter reports signed by a CIH which summarize employee medical surveillance results that are indicative of worker exposures to (or which demonstrate proper protection from) toxic metals. In the case of lead, summarize the blood lead and ZPP results, indicate any observed trends, and identify worker removal provisions that were invoked based on the results. Provide reports to the Engineer within 15 days of each testing period.
  - b. Provide summary reports of test results prior to exposing workers to toxic dust, emissions or releases, periodic surveillance results, and results upon completion of site exposures. Provide the Engineer with an original signed copy of each report within 5 calendar days after receipt of the test results, but no later than 10 days after sampling.
12. Personnel and Restricted Zone Air Monitoring - report all employee and restricted zone air monitoring exposure results to the Engineer verbally within one day of receipt, and in writing within one week thereafter.
  13. Restricted Zone Log - Maintain and make available for Engineer inspection, permanently bound log(s) for the signatures of all individuals entering and leaving restricted zones.
  14. Visible Emissions and Releases
    - a. Maintain and make available for Engineer inspection a permanently bound log for the documentation of daily inspections and the documentation of unusual incidents or releases.
    - b. Provide the Engineer with an immediate verbal report each time that Work has been halted due to unacceptable visible emissions or releases. Include the cleanup activities invoked, and the corrective action taken to avoid a recurrence. If the release represents a reportable quantity, identify the amount of material (e.g., lead) released and the notifications that were made. Provide a written report within 2 days of the incident.
    - c. Summarize the results of all visible emissions assessments in a monthly report. Provide monthly report to the Engineer within 15 days of the last workday of the previous month.
  15. Construction Site Clean-up - Prior to issuance of Certificate of Final Completion, provide the Engineer with a letter report presenting the results of the inspections conducted to verify the final cleanliness of the construction site, surrounding property, waterways, equipment, buildings, and structures. Provide the final clearance report within 10 days of the final inspection.

END OF APPENDIX "A"

Section 02095 - Table 1

Containment Criteria for Removal of Paint Containing Lead and Other Toxic Metals<sup>1</sup>

Containment Removal Method	Containment SSPC Class <sup>2</sup>	Containment Material Flexibility	Containment Material Permeability <sup>3</sup>	Support Structure	Material Joints	Containment Entryway	Ventilation System Required	Negative Pressure Required	Exhaust Filtration Required
Hand Tool Cleaning <sup>4</sup>	3P	Rigid or Flexible	Permeable or Impermeable	Minimal	Partially Sealed	Overlapping or Open Seam	Natural	No	No
Power Tool Cleaning w/ Vacuum <sup>4</sup>	3P	Rigid or Flexible	Permeable or Impermeable	Minimal	Partially Sealed	Overlapping or Open Seam	Natural	No	No
Power Tool Cleaning w/o Vacuum <sup>5</sup>	2P	Rigid or Flexible	Permeable or Impermeable	Rigid or Flexible	Fully or Partially Sealed	Overlapping or Open Seam	Natural <sup>5</sup>	No	No <sup>5</sup>
Chemical Stripping <sup>6</sup>	3C	Rigid or Flexible	Permeable or Impermeable	Minimal	Partially Sealed	Open Seam	Natural	No	No <sup>6</sup>
Wet 2W-3W Methods <sup>7</sup>	Rigid or Flexible	Permeable or Flexible	Rigid, Flexible, Impermeable	Partially or Minimal	Overlapping or Sealed	Open Seam	No	No <sup>7</sup>	
Abrasive Blast Cleaning <sup>8</sup>	1A	Rigid or Flexible	Impermeable	Rigid or Flexible	Fully Sealed	Airlock or Resealable	Mechanical	Yes	Yes

<sup>1</sup>This table provides general design criteria only. It does not guarantee that specific controls over emissions will occur because unique site conditions must be considered in the design. Other combinations of materials may provide controls over emissions equivalent to or greater than those combinations shown above.

<sup>2</sup>The SSPC Classification is based on SSPC Guide 6. Note that for work over water, water booms or boats with skimmers must be employed, where feasible, to contain spills or releases. Debris must be removed daily at a minimum.

<sup>3</sup>Permeability addresses both air and water as appropriate. In the case of water or chemical removal methods, the containment materials must be resistant to both chemicals and water. Ground covers should always be impermeable, and of sufficient strength to withstand the impact and weight of the debris and the equipment used for collection and clean-up.

<sup>4</sup>Ground covers and/or free hanging tarpaulins may provide suitable controls over emissions without the need to completely enclose the work area.

<sup>5</sup>Ventilation is not required provided the emissions are controlled as specified in this Section, and provided worker exposures are properly controlled. If unacceptable worker exposures to lead or other toxic metals occurs, incorporate a ventilation system into the containment.

<sup>6</sup>Ground covers must always be impermeable and of sufficient strength to withstand the weight and impact of the debris and the equipment used for cleaning. If debris escape through the seams, then additional sealing of the seams and joints is required. All containment materials and materials used for sealing must be resistant to both chemicals and water. If unacceptable worker exposures to lead or other toxic metals occurs, incorporate a ventilation system.

<sup>7</sup>This method applies to pressure washing, high pressure water jetting with and without abrasive, and wet abrasive blast cleaning. Although both permeable and impermeable containment materials are included, ground covers and the lower portions of the containment must be water impermeable with fully sealed joints, and of sufficient strength and integrity to facilitate the collection and holding of the water and debris for proper disposal. Ventilation is not required provided the emissions are controlled as specified in this Section, and provided worker exposures are properly controlled. If unacceptable worker exposures to lead or other toxic metals occurs, incorporate a ventilation system into the containment.

<sup>8</sup>Ground covers must be of sufficient strength to withstand the impact and weight of the abrasive and the equipment used for cleaning. Ground covers must also extend beyond the containment boundary to capture escaping debris. If vacuum blasting is employed, ground covers and/or free hanging tarpaulins may provide suitable controls over emissions without the need to completely enclose the work area.

**HAZARDOUS WASTE MANAGEMENT  
RCRA EMERGENCY CONTINGENCY PLAN  
FOR  
THE PORT AUTHORITY OF NY AND NJ**

**CONTRACT AKB-264.039**

**BAYONNE BRIDGE ~ REPLACEMENT OF MAIN SPAN  
ROADWAY AND APPROACH STRUCTURES**

**REVISION #2**

**AHERN PAINTING CONTRACTORS**

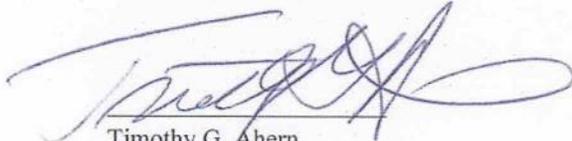
69-24 49th Avenue  
Woodside, NY 11377

**OCTOBER 2013**

# MISSION STATEMENT

## AHERN PAINTING CONTRACTORS

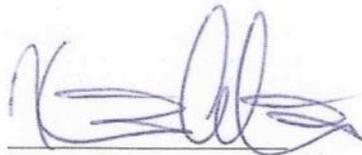
Ahem Painting Contractors is dedicated to providing the highest quality of work available while at the same time providing for the protection of the surrounding environment and natural resources, and the safety and well being of the community, its residents, the traveling public, as well as all employees of Ahem Painting Contractors and the Port Authority of New York and New Jersey (PANYNJ) or any of its subcontractors or consultants and visitors on this or any job sites and projects in which the Company endeavors to do business. In all cases Ahem Painting will meet or exceed all government regulations, industry standards and job specifications, including those of OSHA, EPA, the PANYNJ, as well as NYCRR 373-3.4(g)(5), NYCRR 373-3.4(g)(6), NYCRR 373-3.4(g)(7), NYCRR 373-3.4(g)(8) and NYCRR 373-3.4(g)(9). Resources will be committed as necessary to ensure that all health, safety and environmental issues are adequately covered. Anyone knowingly found to violate this policy or any of these requirements will be subjected to the company's disciplinary program which includes warning followed by temporary and then permanent dismissal from employment. This Hazardous Waste Management RCRA Emergency Contingency Plan is an important element in the Company's overall Health and Safety Program which I wholeheartedly support. This commitment will be communicated to all employees through continual management support of the program. In addition, quality will be emphasized through the company's Quality Control Program.



Timothy G. Ahern  
President

09/03/13  
Date

I have reviewed and approved this Hazardous Waste Management RCRA Emergency Contingency Plan for Ahem Painting Contractors



Kieran Ahern  
Corporate Safety & Quality Control Coordinator

09/03/13  
Date

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## **EMERGENCY CONTACTS/NOTIFICATION SYSTEM**

The following list provides names and telephone numbers for emergency contact personnel for this Hazardous Waste Management RCRA Emergency Contingency Plan. It will be posted in the decontamination trailers, office trailers and will be maintained by Ahern Project Management. In the event of a medical emergency, personnel will take direction from the Emergency Coordinator (EC) and notify the appropriate emergency organization. In the event of a fire or spill, the EC will notify the appropriate local, state, and federal agencies. Directions to the local hospital are found in Appendix E. These directions will also be posted at various locations on the job site.

### **Organization Telephone**

Ambulance/Police/ Fire	911
Richmond University Medical Center	(718) 818-1234
Bayonne Medical Center	(201) 858-7342
Poison Control Center	(800) 222-1222
National Response Center	(800) 424-8802
Centers for Disease Control	(404) 488-4100
CHEMTREC	(800) 424-9300
NYSDEC Spill Bureau	(800) 457-7362
NYC DEP	(888) 426-7433
Project Manager Chris Daskalakis	(917) 578-8058 (cell) (718) 548-0131 (home)
Emergency Coordinator Stanley Moore	(917) 939-6732 (cell)
Project Foreman/Traffic Safety John Redmond	(917) 217-2906 (cell)
Certified Industrial Hygienist Peter Johnston	(718) 762-0544
Port Authority Police – Bayonne	(718) 390-2502
NJDEP Emergency Response	(877) 927-6337

## **1.0 GENERAL INTRODUCTION**

This section of the Hazardous Waste Management RCRA Emergency Contingency Plan defines the general responsibilities for implementation of the Plan and the individuals assigned to those responsibilities.

### **1.1 SCOPE AND APPLICABILITY OF THE PLAN**

The purpose of this plan is to define the requirements and designate protocols to be followed to safely handle lead paint waste, flammable solvent waste, used containment materials, as well as other potential RCRA metal wastes. This plan also applies to the safe handling of potentially generated universal wastes such as: batteries, fluorescent bulbs, computer monitors, cell phones, non-empty aerosol cans and etc. Applicability extends to all Government employees, contractors, subcontractors, visitors, and anybody entering the job site area. This plan covers work to be performed on the PANYNJ Contract No. AKB-264.039 Bayonne Bridge – Replacement of Main Span Roadway and Approach Structures.

All personnel on site shall be made aware of the existence of this Plan and shall receive detailed instructions in its requirements prior to entering any of the work areas. This Plan must be reviewed and an agreement to comply with the requirements (see Appendix D) must be signed by all personnel prior to entering the work areas or areas of the project site where potential for contact with or exposure to potentially harmful agents may exist. This plan will be reviewed frequently for its continued applicability to site operations and regulations. During development of this Hazardous Waste Management RCRA Emergency Contingency Plan, consideration was given to current environmental standards as defined by the EPA, NJDEP and PANYNJ, specifically the following references:

- EPA 40 CFR 260 (Hazardous Waste Management); 261 (Identification & Listing of Hazardous Waste); 262 (Generators of Hazardous Waste); 263(Transporters of Hazardous Waste); 264 (Owners & Operators of TSDs); 265(Interim Status Standard for Owners & Operators of TSDs); 268 (Land Disposal Restrictions); and 745 (Lead-Based Paint Activities). NYSDEC (NYCRR 370-376) regulations. NJDEP (N.J.A.C. 7:26; Solid and Hazardous Waste)
- Transportation 49 CFR 172 (Hazardous Materials); 178 (Shipping Containers); and 214 (Bridge Safety).

### **1.2 SITE DESCRIPTION**

Ahern Painting will perform paint removal on the structural steel of the Bayonne Bridge. The paint removal will be accomplished to SSPC SP-10, near-white metal blast cleaning, using recyclable steel grit. In addition, SSPC

Class 1A tight enclosure containments and five 40,000 cfm dust collector negative pressure exhaust ventilation systems will be utilized to control worker exposures and environmental emissions. In specific areas designated by the Port Authority, paint removal will also be accomplished by hand tool cleaning to SSPC-SP2, power tool cleaning to SSPC SP-3, removing loose, adhering paint, rust and mil scale and power tool cleaning to SSPC SP-15 commercial grade power tool cleaning. The power tools will be equipped with customized shrouds which will be serviced by HEPA vacuums in order to reduce the concentrations of airborne lead dust potentially generated during the power tool cleaning operations. In addition during the hand tool cleaning and power tool cleaning operations, SSPC 3P containment systems, consisting of loose hanging wall

tarps and ground tarps, will also be used to further capture and control potential emissions of lead dust and debris. The existing coatings on the Bayonne Bridge contain lead based paint, and as a result of the work scheduled to be performed on this project there will be lead based paint waste generated, which as per Port Authority contract specification will be automatically classified as a hazardous characteristic toxic waste. Also, the used paint and solvent waste generated on this project will be classified as flammable hazardous waste and respective listed wastes. All hazardous waste containers will be temporarily stored on or as close to Port Authority property and will be inaccessible to the public.

There are two locations designated to store the hazardous waste as follows: 1) Ahern's 1<sup>st</sup> Street equipment yard on the Bayonne, NJ side of the bridge, 2) Ahern's Richmond Terrace equipment yard on the Staten Island, NY side of the bridge. The universal waste will be stored in a separate storage location at Ahern's field office trailer located at 1<sup>st</sup> Street Yard underneath the Bridge in Bayonne, NJ. These locations have all been approved by the Port Authority.

This Hazardous Waste Management RCRA Emergency Contingency Plan outlines the information that will be applicable to this project and covers all aspects of the paint removal and coating operations at these sites.

Waste Characterization Testing;

### **1.3 PERSONNEL QUALIFICATIONS AND TRAINING**

**(See Appendix H for Personnel Certifications)**

#### **Project Manager**

Chris Daskalakis will be the project manager for this project (See emergency contact information). Mr. Daskalakis has over 20 years experience with abrasive blasting and industrial coating projects involving bridge and elevated structures. In addition to having received specialized SSPC Supervisor/Competent Person C-3 Training and the corresponding SSPC C-5 refresher training, Mr. Daskalakis has also received OSHA 40-hour Hazardous Waste Operations Training (HAZWOPER). Mr. Daskalakis will oversee all issues relating to hazardous waste management on this project. In the event of an emergency and/or hazardous material release Mr. Daskalakis will work in coordination with the NJ & NYC Fire and Police Departments as necessary. The Project Manager will also notify the EPA, NRC, NJDEP and NYSDEC, as appropriate. As the project manager, Mr. Daskalakis will maintain all reports and documentation associated with all hazardous waste management related issues.

#### **Project Supervisor**

Martin Kittle has over 20 years of experience in the industrial painting industry and over 10 years of experience working as a supervisor. Mr. Kittle also has specialized SSPC C-3 and C-5 training and is very familiar with lead based paint safety and hazardous waste management issues. As the project supervisor, Mr. Kittle will provide the Project Manager and Ahern employees with the necessary support and oversight for the day to day site activities on this project. The Project Supervisor is responsible for ensuring a safe work environment for the workers on this project and must also ensure that site activities do not pose hazards to the adjacent public or other project staff and personnel involved with the inspection and audits of the job site. In that regard the Project Supervisor will provide all necessary support to the Project Manager, Emergency Coordinator (EC) and the foreman with respect to all hazardous waste management issues.

### **Project Foreman**

John Redmond will be the foreman for this project. Mr. Redmond has twenty years of experience in the industrial painting industry and has also received specialized SSPC C-3 and C-5 training and OSHA HAZWOPER training.

The Project Foreman must be present at the site and/or immediately available at all times when Ahern Painting is performing work on this project. Mr. Redmond will supervise workers involved with the collection, storage and handling of all hazardous waste generated on this project. The Project Foreman must review all project related schedules and planning with the supervisor, project manager and the EC in order to conduct all site inspections in regard to hazardous waste management, safety, and quality control compliance.

### **Emergency Coordinator**

Stanley Moore is the Emergency Coordinator (EC) for this project. Mr. Moore has over 13 years experience in the industrial painting industry and has also received specialized SSPC C-3 and C-5 training as well as OSHA 40-hour HAZWOPER training. Mr. Moore is also the designated Health and Safety Officer (HSO) for this project and is therefore responsible for the day to day worker safety on this project. In addition he will be responsible for providing all workers with site specific training, planning of upcoming activities and coordination among all staff in relation to safety and health. Mr. Moore will maintain written documentation of all site audits and inspections that will indicate non-compliance conditions and steps taken to correct each condition. Mr. Moore must ensure that all workers are in compliance with the corresponding Lead, Health and Safety Plan for this project. As the designated EC for this project, Mr. Moore will also be responsible for the implementation of this Hazardous Waste Management RCRA Emergency Contingency Plan. In that regard his duties will include the following: coordinate all emergency responses with the Project Manager and local emergency authorities, procuring and maintaining all emergency response equipment such as fire extinguishers, spill control equipment, air horns and decontamination equipment. As the EC, Mr. Moore will maintain communications with all Ahern site personnel in the event of an emergency and/or hazardous material spill. He will also ensure that the solid waste storage area and liquid solvent waste storage area are properly segregated and secured at all times. The EC will conduct routine inspections of the waste storage areas to ensure that the containers are in good condition, properly labeled and there is adequate aisle space to access the waste storage containers.

### **Equipment Operators**

The abrasive blasting equipment operators assigned to this project will have the necessary experience required. The operators are all trained in lead awareness as well as the components of the hazardous waste management program, which includes the packaging, labeling and storing of hazardous waste. The Operators will be trained to respond to minor spills and clean ups. Workers that will engage in hazardous waste emergency response activities, must have received Hazwoper training depending on the level of response assigned to them.

### **Vacuums**

Vacuums will be trained in the use of supplied air respirators and will also be trained in accordance with OSHA lead awareness, fall protection and all other related safety training. The vacuums will always work in pairs when inside the containment and will not be left inside the containment without supervision.

### **Abrasive Blasters**

All workers who engage in abrasive blasting activities must have prior experience with blasting equipment. The blasters will be trained in the use of supplied air respirators and will also have the necessary OSHA lead awareness and fall protection training.

#### **Hazardous Waste Handlers**

These are workers who have received the OSHA 24 hour HAZWOPER training and are responsible for moving hazardous waste from the point of generation to the secure hazardous waste storage areas.

#### **Painters**

Painters will be trained in OSHA lead awareness, fall protection and use of supplied air respirators. All painters on this project will be familiar with the use of spray paint guns and pressure pot operations. They must be aware of fire safety issues associated with painting operations in enclosed or restricted space.

#### **Industrial Hygienist (IH)**

CORE Environmental, Inc. is the industrial hygiene consultant for Ahern Painting Contractors, Inc. At Ahern's request, a representative of CORE will visit this job site on a monthly basis to review Ahern Paintings operations for compliance with the requirements of the OSHA Lead Standard 29 CFR 1926.62, the PANYNJ contract specifications and applicable Federal, State and local regulations.

### **1.4 TRAINING REQUIREMENTS**

Prior to the start of work, all workers and staff must obtain, "On the Job Training." This training will be conducted by the EC and will include lead awareness and hazard communication, Hazardous Waste Management, fall protection and general safety. See Appendix I for the training outline detailing the topics covered in the Hazardous Waste Management training. Appendix J of this plan includes a spreadsheet which details the workers that have received the "On the Job Training". The Project Manager, the EC and an additional five Ahern employees assigned to this project have received the OSHA 40 hour HAZWOPER Training. Ahern Management and these five workers will act as the site response team in the event of an emergency and/or hazardous waste spill. This training is also required for the hazardous waste handlers who are in charging of moving hazardous waste from the point of generation to the secure hazardous waste storage areas. The persons who have received the OSHA HAZWOPER training are identified by name and job description in section 1.4.1 of this plan. All other Ahern employees will receive "On the Job Training" which includes:

#### Lead Awareness Training:

- OSHA Lead Standard 29 CFR 1926.62
- Routes of exposure
- Health effects of lead exposure
- Exposure monitoring
- Personal Protective Equipment
- Personal hygiene
- Medical Surveillance program
- Emergency Response
- Employee Right to know

#### Fall Protection Training:

- Guardrail System
- Safety net system
- Personal Fall Arrest System
- Project from Falling Objects
- Warning line system

- Positioning system
- Control access zones
- Protection from openings
- Ladder safety
- Scaffold safety

Hazard Communication:

- OSHA 1926.59
- Material Safety Data Sheets
- Labeling Requirements
- Emergency Precautions

General Construction Safety:

- Site safety and health orientation
- Site specific safety and health plan
- Fire prevention
- Emergency response and notification
- Hard hat, foot, hand, eye protection
- Hearing protection
- Respiratory Protection
- Restricted zones
- Electric Safety (GFI)

Hazardous Management Awareness Training:

- Hazwoper regulations
- List nature of Hazardous chemicals on site
- MSDS references
- Chain of command on site
- Spill detection, reporting, and clean ups
- Safe work practices
- Hazardous waste containers, labeling
- Decontamination equipment
- Emergency Response Plan

### 1.4.1 HAZWOPER TRAINED AHERN PERSONNEL

Below we have a provided a table which details the Ahern project management personnel and Ahern workers who have received the OSHA 40 Hour HAZWOPER Training (see Appendix H for certifications). The table includes the job title and their designated job description for responding to an emergency. All of these workers are able to respond in the event of an emergency involving the spill, leak or release of a hazardous waste and/or materials from this job site.

Name	Job Title	Description
Chris Daskalakis	Project Manager	Oversight of all issues relating to hazardous waste management. In the event of an emergency and/or hazardous material release Mr. Daskalakis will work in coordination with the NYC Fire and Police Departments as necessary.
Stanley Moore	Emergency Coordinator	Coordinate all emergency responses with the Project Manager and local emergency authorities. Maintain and distribute all emergency response equipment such as fire extinguishers, spill control equipment, air horns and decontamination equipment.
John Redmond	Project Foreman	Assign the appropriately trained personnel to respond to the emergency and supervise the shut-off of all work operations and clean-up activities associated with any spills or release of hazardous waste and/or materials.
Stanley Moore	Health and Safety Officer's	Supervise the health and safety of any worker assigned to an emergency response
Marvin Perez	Blaster/Painter Journeyman	Take direction from the Project Foreman in regards to clean-up activities and/or emergency precautions. Assigned to waste handling operations
Marvin Perez	Equipment Operators & Waste Handlers	Operate all abrasive blasting and recovery systems used on the project and have access to the emergency waste feed cut-offs in the event of such an emergency. The equipment operators also handle all waste generated on site and supervise the handling operations used to locate this waste to the secure storage area

## 2.0 WASTE MANAGEMENT

The EPA hazardous waste identification number for The Port Authority of NY and NJ Bayonne Bridge Project AKB-264.039 is

FACILITY	MAILING ADDRESS	EPA ID NO.	FACILITY COORDINATOR	PHONE NUMBER
Bayonne Bridge - NJ	2777 Goethals Bridge North Staten Island, NY 10303	NJD986645216	Ron Borup	(917) 662-6466
Bayonne Bridge - NY	2777 Goethals Bridge North Staten Island, NY 10303	NYD987026127	Ron Borup	(917) 662-6466

The EPA # will be affixed to all hazardous waste labels as well as the manifest documents used to ship the solid hazardous waste off this job site. EPA regulations 40 CFR 262 stipulate how hazardous waste such as organic solvents, lead-bearing materials (i.e. abrasive blast waste, used PPE and used containment materials) and universal waste is to be stored, transported and disposed of. Waste from site operations will be handled in the following manner.

### 2.1 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

As per PANYNJ specification requirements, all lead paint chips, grit, and debris generated during the paint removal operations is characterized as hazardous waste for lead. Used containment materials and used PPE is characterized as hazardous for lead based on the results of TCLP testing. Organic solvent wastes, such as Methyl Ethyl Ketone (MEK) potentially generated from the application operations will not be tested for TCLP analysis but will be classified as hazardous waste and will be stored, handled and disposed of in accordance with all applicable federal, state and local regulations. All potential universal waste generated at this site is stored separately from the solid hazardous lead waste and will not be tested by TCLP.

### 2.2 QUANTITY GENERATED AND REQUIREMENTS

All bridge locations under this contract will be treated as Large Quantity Generator (LQG) sites as per PANYNJ specification requirements. The table below indicates the requirements on the project as a Large Quantity Generator (LQG):

Waste Generator Category	Amount of Waste Generated per Month	Amount of Waste Stored On-Site At Any Time	Storage Time Limit
LQG	Greater Than	Greater Than	45 Days
	1000 kilograms or 2200 pounds or 260 gallons * or (3) 55-gallon drums	6000 kilograms or 13,200 pounds or 260 gallons* or (20) 55-gallon drums	If greater than 6000 kilograms of waste are stored on-site for greater than 45 days, then you will not be in compliance with the PANYNJ contract specification requirements.

\* The gallon equivalents will vary according to the density (weight per volume. E.g. lbs/gal) of your waste. Number of drums is approximate.

According to the PANYNJ contract specifications if 1000 kg/month or more of waste is stored on-site, the on-site storage limit is 45 days. In either case, the following requirements will apply to waste stored on-site which has been determined in Section 2.1 above to be hazardous, or assumed to be hazardous:

1. Obtain an EPA identification number; and
2. Store the waste in DOT-approved 55-gallon steel drums or other suitable containers which are clearly marked with the words "hazardous waste" and with the date collection into that drum began, and observe the following rules:
  - A. Keep the containers in good condition; handle them carefully to prevent leaks, mixing and ruptures, and replace any leaking drums or roll-off dumpsters;
  - B. Keep containers closed except when filling or emptying;
  - C. Inspect containers weekly for corrosion/leaks;
  - D. Other hazardous waste that is ignitable or reactive is stored separately as far as possible away from the site perimeter. Nonhazardous waste will be kept in a separate area and segregated from the hazardous waste to minimize the quantity of hazardous waste to be disposed of; and
  - E. Post signs in the storage area identifying it as a hazardous waste storage area with appropriate warning restrictions for the area.
3. Have the waste removed from the site by a licensed hazardous waste hauler having an EPA identification number;
4. Have the waste taken to a licensed hazardous waste disposal facility with an EPA identification number; and
5. Complete a uniform hazardous waste manifest, and obtain and keep the signed disposal facility copy for at least three years. If the manifest does not return from the disposal facility within 35 days, a call will be placed to the facility reminding them to return the last part of the form. If not received within another 10 days, a report will be sent to the regional EPA office explaining the efforts made to receive the manifest, and a copy of the original manifest will be included.

### **2.3 SITE REQUIREMENTS**

Hazardous waste generated on this project may include paint chips, used abrasive materials, other lead-bearing debris such as used containment materials and PPE, solvent waste from the paint application operations and universal wastes. The paint chips and spent abrasive waste will be containerized into white double lined "King Bags" filled directly from the recycling equipment, vacuum truck or dust collector. Once filled the Kings Bags will be transferred into either US DOT approved 20 cubic yard roll-off dumpsters or US DOT 1A1 55 gallon steel lined removable head drums. All waste will be transferred into either the roll-off dumpster and/or 55 Gallon drums on a daily basis. Spent solvent waste is stored in sealed US DOT 1A2 55 gallon sealed head drums. The drums containing the spent solvents are stored in a secondary containment in the respective storage areas. In the event of a spill site personnel must refer to the Spill Response Plan in Section 20.0 of the Lead Health and Safety Plan for this project and Section 4.7 of this herein. Universal waste is stored in US DOT 1A1 55 gallon steel line removable head drums in a separate storage location at Ahern's field office trailer located at 1<sup>st</sup> Street underneath the Bayonne Bridge in Bayonne, NJ. The roll-off dumpsters and respective US DOT 55 gallon drums containing the lead hazardous waste, spent solvents and or universal wastes will be labeled and handled as provided below. In addition, the

contractor will conduct weekly inspections and provide the Engineer a weekly inventory of the type and amount of wastes accumulated at all satellite and main locations.

### **2.3.1 Labeling**

All solid lead waste, spent solvent liquid waste and universal waste containers will be labeled with the respective labels shown in Appendix A. The solid lead hazardous waste and solvent waste labels will include the following information:

#### Solid Hazardous Lead Waste

- Waste EPA Waste Code D008
- EPA Identification Number
- Manifest Document #
- Accumulation Start Date
- RQ Hazardous Waste n.o.s. 9, NA 3077
- PG III (contains lead compounds)

#### Solvent Hazardous Waste

- Waste EPA Waste Code D001, D035, F001 & F003
- EPA Identification Number
- Manifest Document #
- Accumulation Start Date
- Spent Solvents

### **2.3.2 Storage**

All solid lead hazardous waste generated on this project will be cleaned up and bagged in white double lined "King Bags". The bags will then be placed into the labeled rolled off dumpsters and sealed with tight fitting tarpaulin to protect the contents from the environmental elements. US DOT 1A1 55 gallon steel lined removable head drums will also be used to contain some of this waste.

Roll-off dumpsters and drums will be set-up in the two designated hazardous waste storage areas. Solid and liquid waste will be stored in the Ahern's 1<sup>st</sup> St equipment yard in Bayonne, NJ side of the bridge. Solid and liquid waste will also be stored at the Richmond Terrace equipment yard on the Staten Island side of the bridge.

For the solid hazardous waste two layers of polyethylene plastic sheeting is placed underneath the roll-off dumpster and drums is replaced after each hazardous waste pick up. Spent solvent waste is stored in sealed US DOT 55 gallon 1A2 steel lined sealed head drums. The drums containing the spent solvents are stored in a secondary containment in the respective storage areas. Universal waste is stored in US DOT 55 gallon 1A1 drums in a separate storage location at Ahern's field office trailer located at 1<sup>st</sup> St on the Bayonne, NJ Side of the Bridge.

Prior to removing waste drums the driver must provide his EPA identification numbers and sign the Hazardous Waste Manifest, discussed under item # 5 in Section 2.2. IWT will transport all solid lead hazardous waste and spent solvent waste to Clean Earth of New Jersey (EPA 10 #NJD991291105).

The manifest will be procured by IWT when they arrive to the site for a scheduled pick. The manifest tracking form is initiated by the generator will include the following information:

Generator's Name and Address

PANYNJ  
Bayonne Bridge  
2777 Goethals Bridge North  
Staten Island, NY 10303

- EPA Identification # NJD986645216 (NJ) and # NYD987026127 (NY)
- Corresponding Manifest Document #
- IWT Transport Inc. EPA 10 # NJR986628162
- Clean Earth of New Jersey EPA ID # NJD991291105
- US DOT Description
- Number of containers and total quantities
- EPA waste codes lead solid waste 0008
- EPA waste codes for spent solvents 0001, 0035, F001 and F005

Note, weekly inspections and inventories of waste areas will be performed and documented. All copies of inspections will be made available to the PA Facility Environmental Coordinator.

### **2.3.3 Disposal/TCLP Testing**

All lead paint debris (i.e. paint chips, blasting grit, etc.) is characterized as hazardous waste in accordance with PANYNJ protocols. Used containment materials will be classified based on TCLP results. Solvent wastes will also be automatically classified as hazardous with no TCLP testing. TCLP testing is not required for universal wastes. Clean Earth of North Jersey (EPA ID # NJD991291105) is the designated Treatment Storage Disposal (TSD) facility for this project and will handle solid lead waste and spent solvent waste disposal.

### **2.3.4 Accumulation**

In accordance with the PANYNJ contract specifications solid and liquid waste will not remain at the job site longer than 45 days. At least every 45 days, waste will be manifested and removed from the job site by a licensed hazardous waste hauler using a hazardous waste manifest. Maximum storage time for Universal waste will be one year. As a reference, see Appendix B for the EPA hazardous waste generator classifications and onsite storage requirements.

### **2.3.5 Record Keeping**

All waste records, including the manifests, exception reports, TCLP results, etc., will be retained for at least three years.

### **2.3.6 Waste Water**

Waste water will be generated from shower facilities, pressure washing, hand wash stations and water used to wet wipe equipment. All waste water will be collected, filtered and tested for lead. Tests will be performed using EPA Method 6010 by an approved laboratory of the American Board of Industrial Hygiene.

Ahern Painting will provide the Engineer with these results and the name, address and license of the transporter and disposal facility to be used. If the public owned treatment works (POTW) authorizes the disposal of water down the sanitary sewer system, Ahern Painting must provide the Engineer with a letter from the POTW authorizing disposal.

### **2.3.7 Solvent Storage and Disposal**

All chemicals, such as solvents, will be stored in their original or approved containers with a proper label attached, except small quantities intended for immediate use.

Solvent liquid waste will be segregated and stored separately from the lead hazardous waste. Any container not properly labeled should be given to the EC for proper labeling or disposal. Any solvent left after work is completed must be returned to the original containers or to the site EC for proper handling.

Unmarked containers of any size must not be left unattended in the work area at any time. When storing flammable liquids: not more than 25 gallons will be stored indoors unless in an approved storage facility; not more than 1,100 gallons of flammable liquids will be stored in any one outdoor storage area.

At least one portable fire extinguisher having a rating not less than 20-B units will be located not less than 25 feet or more than 75 feet from any flammable liquid storage area.

All empty solvent cans generated on this site will be placed into DOT approved roll-off containers sealed with secure lids. Solvent cans will be collected and containerized daily, and segregated from lead-containing waste for proper disposal and transportation by a licensed hazardous waste hauler.

The flammable liquid waste is located in the waste storage areas located at Ahern's 1<sup>st</sup> St yard located on the Bayonne side of the bridge and at the Richmond Terrace Yard on the Staten Island Side of the Bridge. Both of these locations are within the PANYNJ property line. While this may not meet the requirement stipulated in the NYS DEC container storage requirements (NYCRR 373-3.9 (f)), which requires flammable waste to be stored 50 feet from the property line, they were deemed appropriate locations for a bridge painting project of this nature. The NYC DEC requirement seems appropriate for operations in a building facility where the flammable waste must be stored fifty away from the property line as a fire prevention precaution for that facility. This requirement does not seem applicable for a PANYNJ bridge painting project since fifty away from the facility property line could conceivably be in areas accessible to the general public. Therefore all necessary precautions will be taken to ensure that these areas are protected from fire and explosion. The storage areas will be equipped with fire extinguishers and will be inspected by Ahern personnel on a daily basis.

### **3.0 CERCLA REPORTABLE QUANTITIES**

EPA regulations for releases of reportable quantities of hazardous materials are found in 40 CFR 300 and 302. These regulations require that any discharge of more than ten pounds of lead-bearing material, less than 4-mils mean diameter, in a 24-hour period must be reported to the National Response Center. To determine the potential for such releases, the following assumptions were made:

Assumptions:  
Concentration lead in paint 22%  
Weight of dried paint 0.061 lbs/sq. ft.  
Production level 1000 sq. ft/day  
Efficiency of dust control 95%  
Paint removal percentage 100%

Therefore, we estimate that this painting project should not be releasing reportable quantities of lead. If an incident occurs, or if the assumptions change this situation, the EC will notify the National Response Center immediately.

The above assumptions will be re-evaluated to determine if the potential for daily release of lead dust under anticipated conditions predicted for this project will remain below the EPA limit. If necessary, site operations will be modified to once again provide for conditions which will comply with the EPA limit.

## **4.0 PREPAREDNESS, PREVENTION & CONTINGENCY PLAN**

This section describes contingencies and emergency planning procedures to be implemented at the site. This plan is compatible with local, State and federal disaster and emergency management plans as appropriate, and will be coordinated with local authorities. In addition, a meeting or other communication with the local hospital will occur so as to advise the emergency room of the nature and type of contaminants victims may have been exposed to while on site, in the event they are transported to the hospital. Directions to the hospital will be posted on site and a copy will be placed in all site vehicles when this plan is in effect. Emergency procedures will be posted and covered in daily site briefings. The EC will schedule a meeting with all emergency responders (i.e. FDNY, NYCDEP, NYPD, Bayonne PD, Bayonne FD and the local hospital). The meeting will address the contents of this section.

See Appendix F for emergency notification letters to local authorities and hospitals.

### **4.1 PRE-EMERGENCY PLANNING**

The EC and/or the Project Manager will establish a line of communications with local hospitals, government agencies and local emergency authorities prior to site activities. A pre-construction letter detailing the project and an invitation to tour the site has been sent out to local response agencies in a certified letter. The NYC/Bayonne Fire Department will be designated as the primary emergency authority with the NYC/Bayonne Police Department as the secondary authority. In the event of an emergency spill or release of hazardous materials from this site, the EC and Project Manager will coordinate efforts to have Ahern site personnel respond accordingly. Ahern has seven workers assigned to this project who have received the OSHA HAZWOPER training which is required for workers responding to a spill or environmental release of hazardous material and will immediately respond to all such potential releases. Therefore Ahern will all handle and respond to all spills as necessary. It will be the joint responsibility of the Project Manager and the EC to determine if any such emergency necessitates the notification of first the NYC/Bayonne Fire Department and then the NYC/Bayonne Police Department.

During the site briefings held periodically, all employees will be trained in and reminded of provisions of the emergency response plan, communication systems, and evacuation routes. Upon the request of Ahern Painting, the plan will be reviewed by the CIH and revised as necessary. This will ensure that the plan is adequate and consistent with prevailing site conditions.

### **4.2 LINES OF AUTHORITY**

The Emergency Coordinator (EC) in consultation with the Project Manager will have primary responsibility for responding to and correcting emergency situations. This includes taking appropriate measures to ensure the safety of site personnel and the public. Possible actions may involve evacuation of adjacent personnel. Additionally he is responsible for ensuring that corrective measures have been implemented, appropriate authorities notified, and follow up reports completed.

### **4.3 EMERGENCY RECOGNITION AND PREVENTION**

Personnel will be familiar with techniques of hazard recognition from pre-assignment training and site specific briefings. The EC is responsible for ensuring that prevention devices or equipment (air horn, two-way radio, mobile phone, emergency vehicles, directions to hospital, emergency phone numbers, etc.) is available to personnel.

#### 4.4 EVACUATION ROUTES AND PROCEDURES

If a worker discovers a fire, chemical spill or release, or other process upset necessitating emergency action, he or she will immediately notify the EC, or his or her supervisor. An immediate decision will be made as to whether to evacuate the site or other actions to be taken. The Project Manager and EC in a joint effort will be primarily responsible for this decision.

The primary response to any emergency will be to protect the health and safety of employees, contractors, sub-contractors and visitors on-site, as well as the community and environment. Steps will be taken to *identify, contain, treat, and properly dispose of* the materials involved as a secondary response.

In the event of an emergency which necessitates an evacuation of the site, the following alarm procedures will be implemented:

### THREE LONG BLASTS OF A COMPRESSED AIR HORN

When notified to evacuate, all personnel working on the NJ side span will be expected to proceed to Ahern's 1<sup>st</sup> St Yard in the Bayonne side of the bridge (See Appendix G Site Layout). If access to this location is compromised, the alternate evacuation location will be the Richmond Terrace Equipment Yard on the Staten Island Side of the Bridge. All personnel working on the NY Side span will be expected to proceed to the aforementioned Richmond Terrace Equipment Yard on the Staten Island Side of the bridge. If access to this location is compromised, personnel will utilize the 1<sup>st</sup> St Yard in the Bayonne side of the bridge. Personnel will be instructed to remain at the designated evacuation area until the Re-entry Alarm (single blast of air horn) is sounded or an authorized individual provides further instructions. Air horns will be located in the Exclusion Zone, and the decontamination zone.

If in the event the primary and secondary evacuation areas are both inaccessible, employees should proceed to a location that is **upwind** and **uphill** from the site or location of the incident, unless otherwise instructed by supervisory personnel. Wind socks and/or flagging will be employed on-site to indicate the upwind direction to which evacuation should proceed.

#### 4.5 EMERGENCY MEDICAL TREATMENT PROCEDURES

Any person who becomes ill or injured in the Exclusion Zone must be decontaminated to the maximum extent possible. A pre-job hazard analysis for an industrial painting project of this nature indicates that the potential hazards which workers may be exposed during the abrasive blasting, support work, equipment operation, paint application, clean-up, rigging and moving containment systems, handling/recycling hazardous waste and other associated activities include but are not limited to the following: exposure to toxic dust, fumes and/or vapors, falls, electrocution, noise, cuts, bruises, eye injuries, heat exhaustion and abrasive blasting injuries. The EC will address these potential hazards with all site personnel in a pre-job briefing. Workers will be given instructions as to the location of all first aid stations and the Material Safety Data Sheets (MSDS) for all materials used on this project. Workers will be required to report any injury, regardless of how minor, immediately to the HSO/EC.

First aid will be administered immediately and will be appropriate for the injury incurred as follows: Falls - If unconscious the worker will be covered in a blanket, look for signs of skull fractures such as unequal pupils, bleeding from ears or clear fluid from the nose. The worker will be stabilized to the greatest extent possible until medical assistance arrives. Heat- Any worker overcome by heat will be relocated to cool, shady location (i.e. air conditioned office trailer). A cool wet compress will be administered and if able the worker will be given tepid water to drink. Solvent Splashes in Eyes – the MSDSs for the chemicals involved will be referenced in order to determine correct First Aid response and if required the worker will be brought immediately to the eye wash station. Lead Dust and/or Fume Exposure- the worker will be removed from the regulated area immediately and brought in the office trailer where the occupational physician will be contacted for consultation. All other injuries incurred such as cuts, scrapes, bruises and etc. will be treated with rudimentary first aid procedures at which time it will be determined if outside emergency medical assistance is needed.

If a worker sustains a minor injury or illness while working inside the containment or another lead regulated area, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket). First aid should be administered while awaiting an ambulance or paramedics. Again all injuries and illnesses must be immediately reported to the HSO/EC.

Any person being transported to a clinic or hospital for treatment should take with them the MSDS information on the chemical(s) they have been exposed to at the site. All MSDS for products used on this project will be maintained in Ahern's office trailer located in the 1<sup>st</sup> St Yard in Bayonne.

#### **4.6 FIRE OR EXPLOSION**

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival, the Project Manager or designated alternate will advise the fire commander of the location, nature, and identification of the hazardous materials on site. If it is safe to do so, site personnel may:

- Use firefighting equipment available on site to control or extinguish the fire,
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.

#### **4.7 SPILLS OR LEAKS**

Seven Ahern workers assigned to this project have received the OSHA 40-hour HAZWOPER so that they can effectively respond to an emergency spill. In the event of a spill site personnel must refer to the Spill Response Plan in Section 20.0 of the Lead Health and Safety Plan for this project and will:

- Inform their supervisor immediately;
- Locate the source of the spillage and stop the flow if it can be done safely, and;
- Begin containment and recovery of spilled materials if it can be done safely.
- Prevent a spill from entering nearby drains if it can be done safely.

If the spill or release is expected to pose significant hazards or is beyond the capabilities of the immediate personnel, then the EC will be contacted immediately. When contacted, the EC will obtain and assess the following information:

- the material spilled or released;
- location of the release or spill;
- an estimate of the quantity released the release rate;
- any injuries involved;
- fire and/or explosion or possibility of these events occurring, and;
- the area and materials involved in the location of the fire or explosion.

In the event of a chemical spill that is not contained within a diked or bermed area, an area of isolation will be established around the spill. The size of the area will generally be dependent on the size of the spill and the material(s) involved. When any spill occurs, only those persons involved in the oversight or performance of the emergency cleanup operations will be allowed within the designated hazard area. If possible, this area will be roped or otherwise blocked off.

If an incident may threaten the health or safety of the surrounding community, the public will be informed and possibly evacuated from the area. The EC will inform the proper agencies in the event that this is necessary and will consult with the NYC Fire Department in order to determine if such an evacuation is necessary. The telephone numbers of emergency response organizations are listed on page 6 of this plan under Emergency Contacts and Notification Systems.

If the control and cleanup of the spill or release is within the capabilities of on-site personnel then the police or emergency management personnel will NOT be notified unless the release migrates beyond the perimeter of the site. Reporting of spills or releases in accordance with other federal, State and local regulations is also the responsibility of the EC.

#### **4.8 EMERGENCY EQUIPMENT/FACILITIES**

The following emergency equipment will be stored on-site at all times (See Appendix K Emergency Equipment Cut Sheets):

- 5 “25 Man” First Aid Kits
- 15 10lb Multi-Purpose Fire Extinguishers
- 5 Eye Wash Stations
- Two Decontamination Shower Trailers
- Two-way radio or mobile phone
- Air Horn

The following clean-up equipment will be stored on-site to deal with spills:

- Oil Absorbents (Speedy-Dri)
- HEPA Vacuum Cleaner
- Shovels

**Fire Extinguishers** - are located 50 feet of any paint mixing operations and any flammable waste storage area. A minimum rating of 2A:10B:C is required. Within not more than 100 feet travel distance, a **fire extinguisher** with a minimum rating of 10B ABC is placed close to any flammable storage area with more than 5 gallons of flammable materials

**Spill Control Kits** - are available in the 1<sup>st</sup> St equipment yard as well as close to the paint mixing operations on the bridge. Spill kits will be marked as “Spill Control Kit” and shall include at a minimum, a 25 pound absorbents bag, rags, empty containers, marker to label waste containers afterward and PPE when necessary.

**Stationary HEPA Vacuum** units and a network of ducts installed from the staging area to the Class 1A containment enclosures are utilized for the removal of the lead waste (D008) in case of spills. A minimum of one HEPA vacuum unit will serve every Class 1A containment during the lead based paint removal operations. Portable HEPA units will be utilized for smaller clean ups involving spent abrasive waste.

**Compressed Air Horn** canisters are located on site. Any staging area outside of the yards will be equipped with an Air horn in the close proximity of the recycling unit or the blast pot equipment.

**Decontamination equipment** Shower facilities are available at the main yard. Hand wash facilities will be available by the equipment staging areas during the abrasive blasting or any other operation involving lead abatement.

#### **4.9 EMERGENCY INCIDENT FOLLOW-UP AND CRITIQUE**

Following all emergency response actions and activation of this plan, the EC will conduct a debriefing session of all key personnel involved. The response will be critiqued, documented, and response plans revised, if necessary. Corrective actions will be listed where procedures were inadequate or need improvement. Responsible persons will be listed and held accountable for follow-up. If material was released, ground surfaces and/or water will be tested to determine the effectiveness of the clean-up procedures.

Within fifteen days after the incident, a written report issued by the Project Manager and EC will be submitted to the applicable NJDEP, NYSDEC, US Coast Guard and local authorities as required. The report will include date and time which incident occurred and will include a summary of all actions taken to control potential releases of any hazardous materials released into the environment. The report will also address any additional precautionary control measures taken to mitigate the emergency.

**APPENDIX A**  
**WASTE DRUM LABEL**

# HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY,  
OR THE U. S. ENVIRONMENTAL PROTECTION AGENCY

## GENERAL INFORMATION

Generator's Name \_\_\_\_\_

Generator's Address \_\_\_\_\_ Phone \_\_\_\_\_

Generator's City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

EPA ID No. \_\_\_\_\_ Manifest \_\_\_\_\_ Document No. \_\_\_\_\_

Date of generation/accumulation \_\_\_\_\_ EPA Waste No. \_\_\_\_\_

D.O.T. Proper Shipping Name \_\_\_\_\_

Technical Name(s) \_\_\_\_\_

**HANDLE WITH CARE - THIS CONTAINER IS DANGEROUS AND CONTAINS  
HAZARDOUS OR TOXIC WASTE**

In the event of a spill or release of this hazardous waste, contact the  
U.S. Coast Guard National Response Center at (800) 424-8802  
for information and assistance.

# Universal WASTE

**FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.**  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

GENERATOR INFORMATION: \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

EPA / MANIFEST  
ID NO. / DOCUMENT NO. \_\_\_\_\_ / \_\_\_\_\_

ACCUMULATION EPA  
START DATE \_\_\_\_\_ WASTE NO. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

## HANDLE WITH CARE

# HAZARDOUS WASTE

**FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.**  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

GENERATOR INFORMATION: \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

EPA / MANIFEST  
ID NO. / DOCUMENT NO. \_\_\_\_\_ / \_\_\_\_\_

ACCUMULATION EPA  
START DATE \_\_\_\_\_ WASTE NO. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

## HANDLE WITH CARE

# LIQUID WASTE

**FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.**  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

**GENERATOR INFORMATION:** \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

EPA / MANIFEST  
ID NO. / DOCUMENT NO. \_\_\_\_\_ / \_\_\_\_\_

ACCUMULATION EPA  
START DATE \_\_\_\_\_ WASTE NO. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

## HANDLE WITH CARE

# HAZARDOUS WASTE

**FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.**  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

**GENERATOR INFORMATION:** \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

EPA / MANIFEST  
ID NO. / DOCUMENT NO. \_\_\_\_\_ / \_\_\_\_\_

ACCUMULATION EPA  
START DATE \_\_\_\_\_ WASTE NO. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

## HANDLE WITH CARE

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**APPENDIX B**

**LEAD WASTE TRACKING FLOW CHART**

# **Lead Waste Tracking Flow Chart**

## **Job Site**

Waste Disposal: PANY & NJ Cont# AKB-264.039 - Replace Main Span Roadway & Approach Structures on Bayonne Bridge

## **Hazardous Waste Transporter**

IWT Transport, Inc.  
306 Ramapo Valley Road, Suite 2, Oakland, NJ 07436  
201-644-0485

States to be passed through: NY (Lic.# NJ-880, Exp. 07/09/14) NJ (Lic.# NJDEP-0050277, Exp. 06/30/15)

## **TSD Facility**

Clean Earth of North Jersey  
(formerly S&W Waste)  
105 Jacobus Avenue  
Kearny, NJ 07032  
973-344-4004  
EPA ID # NJD991291105

**Treated Waste From Clean Earth to final disposal facility:**

## **Solid Waste Transporter**

DJM Transport LLC  
109-113 Jacobus Avenue  
Kearny, NJ 07032  
973-344-6447  
PA ACT 90 Authorization # WH10419

## **Landfill \*\***

G.R.O.W.S. North Landfill  
1000 New Ford Mill Road  
Morrisville, PA 10967  
215-788-8600  
ID# 101680

\*\*Note Waste Profile MUST be annotated: "GROWS ONLY"

Clean Earth of North Jersey & Final Disposal Sites  
(Insurance Documents & Operating Licenses)



# CERTIFICATE OF LIABILITY INSURANCE

OP ID: J8

DATE (MM/DD/YYYY)

06/28/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. 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).

<b>PRODUCER</b> The Addis Group, Inc. 2500 Renaissance Blvd. Ste 100 King of Prussia, PA 19406-2772 Matthew W. Donahoe, AIC		<b>Phone: 610-279-8550</b> <b>Fax: 610-279-8543</b>	<b>CONTACT NAME:</b> <b>PHONE (A/C, No, Ext):</b> <b>E-MAIL ADDRESS:</b> <b>PRODUCER CUSTOMER ID #: CLEAN-1</b>	<b>FAX (A/C, No):</b>
<b>INSURED</b> Clean Earth, Inc. 334 South Warminster Road Hatboro, PA 19040		<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
		<b>INSURER A : Ironshore Specialty Ins. Co.</b>		<b>25445</b>
		<b>INSURER B : Praetorian Insurance Company</b>		<b>37257</b>
		<b>INSURER C : Zurich American Insurance Co.</b>		<b>16535</b>
		<b>INSURER D :</b>		
		<b>INSURER E :</b>		
		<b>INSURER F :</b>		

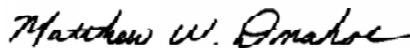
**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b>			001087002	06/30/2013	06/30/2014	EACH OCCURRENCE \$ <b>1,000,000</b>
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ <b>500,000</b>
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ <b>25,000</b>
	<b>Contractual</b>						PERSONAL & ADV INJURY \$ <b>1,000,000</b>
	<b>XCU included</b>						GENERAL AGGREGATE \$ <b>2,000,000</b>
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMPI/OP AGG \$ <b>2,000,000</b>
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC						\$
B	<b>AUTOMOBILE LIABILITY</b>			PICIS0001366 INCL. MCS-90 \$1,000,000	06/30/2013	06/30/2014	COMBINED SINGLE LIMIT (Ea accident) \$ <b>1,000,000</b>
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
	<input checked="" type="checkbox"/> HIRED AUTOS						<b>HC Phys Damage</b> \$ <b>50,000</b>
	<input checked="" type="checkbox"/> NON-OWNED AUTOS						<b>Ded Comp/Coll</b> \$ <b>\$100/\$1000</b>
A	<b>UMBRELLA LIAB</b>			001087102	06/30/2013	06/30/2014	EACH OCCURRENCE \$ <b>10,000,000</b>
	<input checked="" type="checkbox"/> EXCESS LIAB						AGGREGATE \$ <b>10,000,000</b>
	<input type="checkbox"/> CLAIMS-MADE						\$
	DEDUCTIBLE						\$
	RETENTION \$						\$
C	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>			WC8196476	03/01/2013	03/01/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y / N	N / A				E.L. EACH ACCIDENT \$ <b>1,000,000</b>
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ <b>1,000,000</b>
							E.L. DISEASE - POLICY LIMIT \$ <b>1,000,000</b>
A	<b>Ctrctrs Pollution</b>			001087002	06/30/2013	06/30/2014	<b>Limit</b> <b>1,000,000</b>
	<b>Poll Legal/Profes</b>			PROF DED \$25,000			<b>Poll Ded</b> <b>100,000</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)  
 Where required by a written contract or agreement with Clean Earth, IWT Transport, Inc. & Industrial Waste Technologies, Inc. are included as Additional Insured for General Liability.

**CERTIFICATE HOLDER****CANCELLATION**

<b>INDUSWA</b>  <b>IWT Transport, Inc. &amp; Industrial Waste Technologies, Inc.</b> <b>306 Ramapo Valley Road, Ste 2</b> <b>Oakland, NJ 07436</b>	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
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## NAMED INSUREDS:

Allied Environmental Group, LLC  
Clean Earth of Maryland, LLC  
Clean Earth of North Jersey, Inc.  
Clean Earth of New Castle, LLC  
Clean Earth of Philadelphia, LLC  
Clean Earth of Carteret, LLC  
Clean Earth Dredging Technologies, LLC  
Clean Earth of Southeast Pennsylvania, LLC  
Clean Earth of Williamsport, LLC  
Clean Earth of Southern Florida, LLC  
Clean Earth of Georgia, LLC  
Clean Earth Environmental Services, Inc.  
Clean Earth of Greater Washington, LLC

**ENDORSEMENT FOR  
MOTOR CARRIER POLICIES OF INSURANCE FOR PUBLIC LIABILITY  
UNDER SECTIONS 29 AND 30 OF THE MOTOR CARRIER ACT OF 1980**

Form Approved:  
OMB No. 2125-0074

Issued to **CLEAN EARTH, INC. of 334 SOUTH WARMINSTER ROAD, HATBORO, PA 19040**

Dated at Irving, TX \_\_\_\_\_ this 28<sup>TH</sup> day \_\_\_\_\_ of \_\_\_\_\_ JUNE \_\_\_\_\_, 2013

Amending Policy No. PICIS0001366 \_\_\_\_\_ Effective Date 06/30/2013 \_\_\_\_\_

Name of Insurance Company \_\_\_\_\_ Praetorian Insurance Company \_\_\_\_\_

Telephone Number (214) 493-4300 \_\_\_\_\_ Countersigned by: \_\_\_\_\_ *Deep South Surplus, Inc.*

The policy to which this endorsement is attached provides primary or excess insurance, as indicated by "X" for the limits shown:

This insurance is primary and the company shall not be liable for amounts in excess of \$ 1,000,000 for each accident.

This insurance is excess and the company shall not be liable for amounts in excess of \$ \_\_\_\_\_ for each accident in excess of the underlying limit of \$ \_\_\_\_\_ for each accident.

Whenever required by the Federal Highway Administration (FHWA) or the Interstate Commerce Commission (ICC), the company agrees to furnish the FHWA or the ICC a duplicate of said policy and all its endorsements. The company also agrees, upon telephone request by an authorized representative of the FHWA or the ICC, to verify that the policy is in force as of a particular date.

Cancellation of this endorsement may be effected by the company or the insured by giving (1) thirty-five (35) days notice in writing to the other party (said 35 days notice to commence from the date the notice is mailed, proof of mailing shall be sufficient proof of notice), and (2) if the insured is subject to the ICC's jurisdiction, by providing thirty (30) days notice to the ICC (said 30 days notice to commence from the date notice is received by the ICC at its office in Washington, D.C.).

**DEFINITIONS AS USED IN THIS ENDORSEMENT**

**ACCIDENT** includes continuous or repeated exposure to conditions which result in bodily injury, property damage, or environmental damage which the insured neither expected nor intended.

**MOTOR VEHICLE** means a land vehicle, machine, truck, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used in a highway for transporting property, or any combination thereof.

**BODILY INJURY** means injury to the body, sickness, or disease to any person, including death resulting from any of these.

**ENVIRONMENTAL RESTORATION** means restitution for the

loss, damage, or destruction of natural resources arising out of the accidental discharge, dispersal, release or escape into or upon the land, atmosphere, watercourse, or body of water, of any commodity transported by a motor carrier. This shall include the cost of removal and the cost of necessary measures taken to minimize or mitigate damage to human health, the natural environment, fish, shellfish, and wildlife.

**PROPERTY DAMAGE** means damage to or loss of use of tangible property.

**PUBLIC LIABILITY** means liability for bodily injury, property damage, and environmental restoration.

The insurance policy to which this endorsement is attached provides automobile liability insurance and is amended to assure compliance by the insured, within the limits stated herein, as a motor carrier of property, with Sections 29 and 30 of the Motor Carrier Act of 1980 and the rules and regulations of the Federal Highway Administration (FHWA) and the Interstate Commerce Commission (ICC).

In consideration of the premium stated in the policy to which this endorsement is attached, the insurer (the company) agrees to pay, within the limits of liability described herein, any final judgment recovered against the insured for public liability resulting from negligence in the operation, maintenance or use of motor vehicles subject to the financial responsibility requirements of Sections 29 and 30 of the Motor Carrier Act of 1980 regardless of whether or not such negligence occurs on any route or in any territory authorized to be served by the insured or elsewhere. Such insurance as is afforded for public liability does not apply to injury to or death of the insured's employees while engaged in the course of their employment, or property transported by the insured, designated as cargo. It is understood and agreed that no condition, provision, stipulation, or limitation contained in the policy, this endorsement, or any other endorsement thereon, or violation thereof, shall relieve the

company from liability or from the payment of any final judgment, within the limits of liability herein described, irrespective of the financial condition, insolvency or bankruptcy of the insured. However, all terms, conditions, and limitations in the policy to which the endorsement is attached shall remain in full force and effect as binding between the insured and the company. The insured agrees to reimburse the company for any payment made by the company on account of any accident, claim, or suit involving a breach of the terms of the policy, and for any payment that the company would not have been obligated to make under the provisions of the policy except for the agreement contained in this endorsement.

It is further understood and agreed that, upon failure of the company to pay any final judgment recovered against the insured as provided herein, the judgment creditor may maintain an action in any court of competent jurisdiction against the company to compel such payment.

The limits of the company's liability for the amounts prescribed in this endorsement apply separately to each accident and any payment under the policy because of any one accident shall not operate to reduce the liability of the company for the payment of final judgments resulting from any other accident.

The Motor Carrier Act of 1980 requires limits of financial responsibility according to type of carriage and commodity transported by the motor carrier. It is the MOTOR CARRIER'S obligation to obtain the required limits of financial responsibility.

THE SCHEDULE OF LIMITS SHOWN ON THE REVERSE SIDE DOES NOT PROVIDE COVERAGE.

The limits shown in the schedule are for information purposes only.

Form MCS-90 TRANSMITTAL #9R2

(Over)

32 of 116

**SCHEDULE OF LIMITS**  
**Public Liability**

Type of Carriage	Commodity Transported	Minimum Insurance
(1) For-hire (In interstate or foreign commerce).	Property (nonhazardous)	\$ 750,000
(2) For-hire and Private (In interstate, foreign, or intrastate commerce).	Hazardous substances, as defined in 49 CFR 171.8, transported in cargo tanks, portable tanks, or hopper-type vehicles with capacities in excess of 3,500 water gallons; or in bulk Divisions 1.1, 1.2, and 1.3 materials, any quantity of Division 2.3, Hazard Zone A, or Division 6.1, Packing Group 1, Hazard Zone A material; in bulk Division 2.1 or 2.2; or highway route controlled quantities of a Class 7 material, as defined in 49 CFR 173.403	5,000,000
(3) For-hire and Private (In interstate or foreign commerce: in any quantity) or (in intrastate commerce: in bulk only).	Oil listed in 49 CFR 172.101; hazardous materials and hazardous substances defined in 49 CFR 171.8 and listed in 49 CFR 172.101, but not mentioned in (2) above or (4) below.	1,000,000
(4) For-hire and Private (In interstate or foreign commerce).	Any quantity of Division 1.1, 1.2 or 1.3 material; any quantity of a Division 2.3, Hazard Zone A, or Division 6.1, Packing Group 1, Hazard Zone A material; or highway route controlled quantities of a Class 7 material as defined in 49 CFR 173.403.	5,000,000

**Note:** The type of carriage listed under numbers (1), (2) and (3) applies to vehicles with a gross vehicle weight rating of 10,000 pounds or more. The type of carriage listed under number (4) applies to all vehicles with a gross vehicle weight rating of less than 10,000 pounds.

**SCHEDULE OF LIMITS**  
**Public Liability**

For-hire motor carriers of passengers operating in interstate or foreign commerce

Vehicle Seating Capacity	Minimum Insurance
(1) Any vehicle with a seating capacity of 16 passengers or more.	\$ 5,000,000
(2) Any vehicle with a seating capacity of 15 passengers or less.	1,500,000

Policy Number: 001087002  
 Insured Name: Clean Earth, Inc.

Effective Date: June 30, 2013

**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY**

**SPECIFIED ADDITIONAL INSURED(S)  
 PRIMARY AND NON-CONTRIBUTORY**

This endorsement modifies insurance provided under the following:

**ENVIRONMENTAL PROTECTION INSURANCE COVERAGE PACKAGE (EPIC PAC)**

It is hereby agreed that the policy to which this Endorsement is attached is amended as follows:

**SCHEDULE**

Name of Additional Insured Person(s) Or Organization(s)
Burlington Neck, LLC
Kinder Morgan Liquid Terminals, LLC
Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates
New York City Transit Authority (NYCTA)
The Manhattan and Bronx Surface Transit Operating Authority (MABSTOA)
The Staten Island Rapid Transit Operating Authority (SIRTOA)
MTA Capital Construction Co.
Triborough Bridge & Tunnel Authority (B&T)
MTA Bus Company (MTA Bus)
The PBS Capital LLC, MIU Realty LLC and JLK Capital LLC,
Green Bus Holding Corp., Jamaica Bus Holding Corp., and Triboro Coach Holding Corp.
Metro-North Railroad (MNRR)
Midtown TDR Ventures LLC
Midtown Trackage Ventures LLC and The State of Connecticut and Connecticut Department of Transportation (CDOT)
Long Island Rail Road (LIRR)
Metropolitan Suburban Bus Authority (LI BUS) and Nassau County
State of New York and City of New York
Industrial Waste Technologies, Inc.
General Electric Capital Corporation, as Agent

**A. SECTION II – WHO IS AN INSURED, Paragraph 4.e. is amended to specify the entity indicated in the Schedule above as:**

- e. Any person or organization with whom you agree to include as an insured in a written contract, written agreement or permit, but only with respect to **bodily injury, property damage, environmental damage or personal and advertising injury** arising out of your operations, **your work**, equipment or premises leased or rented by you, or **your products** which are distributed or sold in the regular course of a vendor’s business, however:**

- (1) A vendor is not an insured as respects **bodily injury, property damage, environmental damage or personal and advertising injury**:**



- (a) For which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement except that which the vendor would have in the absence of the contract or agreement;
  - (b) Arising out of any express warranty unauthorized by you;
  - (c) Arising out of any physical or chemical change in the product made intentionally by the vendor;
  - (d) Arising out of repackaging, except when unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from you, and then repackaged in the original container;
  - (e) Arising out of any failure to make inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;
  - (f) Arising out of demonstration, installation servicing or repair operations, except such operations performed at the vendor's location in connection with the sale of the product; or
  - (g) Arising out of products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor.
- (2) A manager or lessor of premises, a lessor of leased equipment, or a mortgagee, assignee, or receiver is not an insured as respects **bodily injury, property damage, environmental damage or personal and advertising injury:**
- (1) Arising out of any **occurrence** that takes place after the equipment lease expires or you cease to be a tenant; or
  - (2) Arising out of structural alterations, new construction or demolition operations performed by or on behalf of the manager or lessor of premises, or mortgagee, assignee, or receiver.

**B. SECTION IV – CONDITIONS, Condition 17. Other Insurance, Paragraph a.** is amended to specify the entity indicated in the Schedule above as a person or organization with whom you agreed to insure and we will not seek contributions from any such other insurance issued to such person or organization:

ALL OTHER TERMS, CONDITIONS OF THIS POLICY REMAIN UNCHANGED.

          Kurt A. Boyer            
Authorized Representative

          6/30/13            
Date

September 9, 2013

Mr. David O'Brien  
Industrial Waste Technologies, Inc.  
306 Ramapo Valley Rd., Suite 2  
Oakland, NJ 07436

RE: 40 CFR 264.12

Dear Mr. O'Brien:

In compliance with 40 CFR 264.12, we are notifying you that we have the appropriate permits and the capacity to accept all Paint Removal Waste Streams classified as D008, with no UHC's, for which an approved Clean Earth of North Jersey, Inc. Waste Profile exists.

In compliance with 6 NYCRR 372.2 (b)(2)(ii), we are notifying you that the ultimate disposal method is correctly followed.

If you have any questions please contact our office at your earliest convenience.

Best regards,



Douglas W. Smith  
Contracts Manager



## State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID AND HAZARDOUS WASTE MANAGEMENT PROGRAM  
BUREAU OF LANDFILL & HAZARDOUS WASTE PERMITTING  
P.O. BOX 414 401 EAST STATE STREET  
TRENTON, NEW JERSEY 08625-0414  
TELEPHONE: 609-984-6985 TELECOPIER: 609-633-9839  
<http://www.state.nj.us/dep/dshw>

MARK N. MAURIELLO  
*Acting Commissioner*

JON S. CORZINE  
*Governor*

OCT 27 2009

Re: Part B Permit Application for the Renewal of an Existing Hazardous Waste Facility Permit;  
Clean Earth of North Jersey Inc., South Kearny, Hudson County;  
EPA ID No. NJD9912191105, Permit No. HWP040002

Dear Sir/Madam:

The Bureau of Landfill and Hazardous Waste Permitting (Bureau) is in receipt of a Part B hazardous waste permit application dated August 2009 submitted by Clean Earth of North Jersey, Inc. (Clean Earth), for the renewal of its existing hazardous waste facility permit.

The current permit issued to Clean Earth is a combined hazardous waste and solid waste facility permit. It has been decided that two separate permits will be issued for hazardous waste and solid waste management respectively at the facility. The Bureau has accepted the above reference submission for the purposes of issuing a hazardous waste permit renewal. The solid waste permit application for Clean Earth will be processed as a separate action by the Bureau of Transfer Stations and Recycling Facilities.

The Bureau has completed an administrative review of the application and determined that the application is administratively complete. Therefore, the Bureau has accepted the application for technical review.

In accordance with the procedures of 40 CFR 124.32(b), the Bureau is notifying you that a Part B permit application has been submitted. Anyone interested in submitting information, opinions, and inquiries during the permit application process should follow the procedures described in the enclosed public notice.

Very truly yours,

Robert M. Confer, Chief  
Bureau of Landfill and Hazardous Waste Permitting

HF09-6898  
Enclosure: Public Notice  
Document: Generic Application Notice

*New Jersey is an Equal Opportunity Employer. Printed on Recycled Paper and Recyclable*

## NOTICE OF THE SUBMITTAL OF AN APPLICATION FOR RENEWAL OF A HAZARDOUS WASTE FACILITY PERMIT

The State of New Jersey, Department of Environmental Protection (NJDEP), is in receipt of a Part B renewal application dated August 2009, submitted by:

Clean Earth of North Jersey, Inc.  
South Kearny  
Hudson County  
EPA ID No. NJD991291105

for the storage, treatment, or transfer of off-site generated hazardous waste. The current permit issued to Clean Earth of North Jersey, Inc. (Clean Earth) is a combined hazardous waste and solid waste facility permit, which was originally issued on July 18, 1994. The Department has decided that two separate permits will be issued for hazardous waste and solid waste management respectively at the facility. The above referenced submission has been accepted for the purposes of issuing a hazardous waste permit renewal. The solid waste permit application for Clean Earth will be processed as a separate action.

### FACILITY DESCRIPTION

Clean Earth of North Jersey Inc. owns and operates a commercial hazardous waste treatment, storage, and transfer facility. The facility receives waste streams of various hazardous waste types from off-site generators via both highway and rail. The wastes are: stored in containers and tanks; treated on site in containers, tanks, process equipment, and a containment building; or transferred off-site in containers. The facility has an existing hazardous waste storage capacity of 1442 cubic yards in the containment building, 412,864 gallons in containers in areas outside the containment building; and 15,000 gallons in tanks.

Hazardous waste treatment activities include: the blending of waste in tanks and tankers; the solidification/ stabilization of waste solids, slurries and sludges in containers and the containment building; container repackaging; and the homogenization of waste in containers.

As part of this hazardous waste permit renewal, Clean Earth is proposing the following changes:  
1. relocation of its hazardous waste tanks on-site; and 2. construction of a new rail track.

### WHERE TO OBTAIN ADDITIONAL INFORMATION

Copies of the permit application and supporting documents are available for review and copying at the NJDEP's headquarters in Trenton. Anyone interested in viewing and/or copying the

permit application and supporting documents or being placed on the facility mailing list should contact:

Robert M. Confer, Chief  
Bureau of Landfill & Hazardous Waste Permitting  
401 East State Street  
P.O. Box 414  
Trenton, New Jersey 08625-0414  
Telephone: (609) 984-6985

Mr. Robert Fixter is the applicant's contact person. He can be reached at (973) 344-4004 for additional information regarding the facility and the permit renewal application.

#### HOW TO PROVIDE YOUR COMMENTS

Information, opinions, and inquiries may be directed throughout the permit application review process to Mr Robert M. Confer at the above address.



State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE  
Governor

LISA P. JACKSON  
Commissioner

Solid & Hazardous Waste Management Program  
P.O. Box 414  
Trenton, NJ 08625-0414  
Tel. No. (609) 984-5950  
Fax. No. (609) 633-9839  
<http://www.state.nj.us/dep/dshw>

Solid and Hazardous Waste Facility Permit

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

CLEAN EARTH OF NORTH JERSEY INC  
105 Jacobus Ave  
Kearny, New Jersey 07032

For the Purpose of Operating a:	Solid and Hazardous Waste Treatment, Storage and Transfer Facility
Lot & Block Nos:	14,14A, 289
In the Municipality of:	Kearny Town
County:	Hudson
Under Facility Permit No.:	HWP050002
EPA ID No.:	NJD991291105

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to riparian land, nor does it allow the permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department of Environmental Protection or the U.S. Environmental Protection Agency.

July 18, 1994  
Issuance Date

Anthony Fontana, Chief  
Bureau of Solid and Hazardous Waste Permitting - North

October 23, 2006  
Latest Modification Date

August 18, 2004  
Expiration Date



### State of New Jersey

Department of Environmental Protection  
Division of Solid and Hazardous Waste  
401 East State Street  
P.O. Box 414  
Trenton, New Jersey 08625-0414  
Phone # (609) 292-9880  
Fax # (609) 633-9839

James E. McGreevey  
Governor

Bradley M. Campbell  
Commissioner

### Hazardous Waste Facility Permit

Under the provisions of N. J. S. A. 13: 1E I et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

Clean Earth of North Jersey, Inc.  
105 Jacobus Avenue  
Kearny, New Jersey 07032

For the Purpose of Operating a: Hazardous Waste Treatment, Storage and Transfer Facility  
On Lot No.: 14, 14A  
Block No.: 289  
In the Municipality of: Kearny Town  
County: Hudson  
Under Facility Permit No.: 0907N1HP14  
USEPA ID No.: NJD 991 291 105

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to riparian land, nor does it allow the permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department of Environmental Protection or the U.S. Environmental Protection Agency. This permit does not authorize the operation of a Major Hazardous Waste Facility as defined at N.J.A.C. 7:26G-14.6.

July 18, 1994

Issuance Date

June 30, 1998

Reissuance Date

July 30, 1998

Effective Date

November 23, 1998

Modification Date

December 30, 1998

Modification Date

August 10, 1999

Modification Date

September 25, 2001

Modification Date

May 22, 2002

Modification Date

August 18, 2004

Expiration Date

Thomas Sherman  
Assistant Director,  
Division of Solid and Hazardous Waste

April 18, 2013

Mr. David O'Brien  
IWT Transport, Inc.  
306 Ramapo Valley Rd., Suite 2  
Oakland, NJ 07436

RE: Clean Earth of North Jersey, Inc. Facility Permit Status

Dear Mr. O'Brien:

Clean Earth of North Jersey, Inc. (CENJ) has a NJDEP issued Hazardous Waste Facility operating permit, HWP050002. Our renewal application was submitted timely and was acknowledged by NJDEP. While our permit would appear to have expired in 2004, it is still valid and authorizes CENJ to continue to operate. If further verification of this is required please contact Jennifer Meyer at NJDEP. She can be reached at 609-984-4608. If you have any questions please contact me at your convenience.

Best regards,



Douglas W. Smith  
Contract Manager

## Jill Babcock

---

**From:** Meyer, Jennifer [<mailto:Jennifer.Meyer@dep.state.nj.us>]  
**Sent:** Monday, April 15, 2013 4:31 PM  
**To:** 'Jill Babcock'  
**Subject:** RE: Clean Earth Permit

Ms. Babcock:

Good afternoon.

Clean Earth of North Jersey, Inc continues to be an authorized hazardous waste facility, operating under a permit that appears to be expired.

In accordance with 40 CFR 270.10(h), Clean Earth submitted a timely permit renewal application. The current permit remains in full force and effect until a final decision is made on the permit renewal application. In this case, a final decision has not been made. Therefore, Clean Earth's permit is still effective.

I trust that this email provides you the information and documentation that you need.

Jennifer Meyer  
Mail Code: 401-02C  
New Jersey Department of Environmental Protection  
Solid and Hazardous Waste Management Program  
Bureau of Landfill and Hazardous Waste Permitting  
P.O. Box 420  
Trenton, NJ 08625-0420  
Phone: 609-984-4608 Telecopier: 609-777-1951  
<http://www.state.nj.us/dep>

**CERTIFICATE OF WORKERS COMPENSATION INSURANCE**

**INSURED**

ENVIRONMENTAL TRANSPORT GROUP INC  
PO BOX 296  
FLANDERS NJ 07836

**PROJECT** OPERATIONS IN THE STATE OF NEW JERSEY

**POLICY NO.** W/17012-6                      **EFFECTIVE** 01/06/2013                      **EXPIRING** 01/06/2014

This policy insures the obligations imposed upon the Insured by the provisions of the Workers Compensation Law of New Jersey. The limits of liability for Part Two - Employers Liability - under this policy are as follows:  
Bodily Injury by Accident \$1,000,000 each accident, and for Bodily Injury by Disease \$1,000,000 policy limit, \$1,000,000 each employee.

NOTE: Waiver of subrogation and/or inclusion of interests not owned in the majority by the insured are not permitted under this policy by New Jersey Workers Compensation Statute.

IF THIS POLICY IS CANCELLED PRIOR TO EXPIRATION, THE COMPANY WILL PROVIDE THE CERTIFICATE HOLDER NAMED BELOW WITH THIRTY (30) DAYS ADVANCE NOTICE OF SUCH CANCELLATION, UNLESS THE POLICY IS CANCELLED FOR NONPAYMENT OF PREMIUM, IN WHICH CASE TEN (10) DAYS ADVANCE NOTICE WILL BE PROVIDED.

The issuance of this Certificate imposes no liability on the Company beyond that provided by the terms, conditions and exclusions of such policy as are described above by policy number, effective and expiration dates.



**CERTIFICATE HOLDER**

IWT TRANSPORT INC  
ATT: DAVID O'BRIEN  
306 RAMAPO VALLEY RD STE 2  
OAKLAND NJ 07436

Let's protect our earth.



State of New Jersey  
Department of Environmental Protection  
Solid Waste and Pesticides Enforcement  
9 Ewing Street, Mail Code 09-01  
PO Box 420  
Trenton, NJ 08625-0420  
(609) 292-7081

**LICENSED HAZARDOUS WASTE**

*NJDEP Registered Transporter:*

**ENVIRONMENTAL TRANSPORT GROUP INC  
PO BOX 296  
FLANDERS, NJ 07836**

**NJDEP Transporter Vehicle Registration Card**

Expiration Date: **6/30/2015**  
Decal Number: **HWL-15-403063**  
Vin ID#: **1M2AG10C26M045261** NJ  
License Plate #: **AP299N**  
Vehicle Type: **Single Unit Vehicle**  
Vehicle leased?: **N**  
If Yes, lessor's name:

304

NJDEP Registered Transporter:  
**ENVIRONMENTAL TRANSPORT GROUP INC**  
NJDEP #: **07107**

**This card must be carried in the cab of the vehicle at all times.**  
**This registration card & decal are valid for use only by the listed registrant.**  
**Leased equipment can only be used to transport waste by the listed registrant.**



State of New Jersey  
Department of Environmental Protection  
Solid Waste and Pesticides Enforcement  
9 Ewing Street, Mail Code 09-01  
PO Box 420  
Trenton, NJ 08625-0420  
(609) 292-7081

**LICENSED SOLID WASTE**

*NJDEP Registered Transporter:*

**ENVIRONMENTAL TRANSPORT GROUP INC  
PO BOX 296  
FLANDERS, NJ 07836**

**NJDEP Transporter Vehicle Registration Card**

Expiration Date: **6/30/2015**  
Decal Number: **SWL-15-003286**  
Vin ID#: **1M2AG10C26M045261 NJ**  
License Plate #: **AP299N**  
Vehicle Type: **Single Unit Vehicle**  
Vehicle leased?: **N**  
If Yes, lessor's name:

304

NJDEP Registered Transporter:

**ENVIRONMENTAL TRANSPORT GROUP INC  
NJDEP #: 15532**

**This card must be carried in the cab of the vehicle at all times.  
This registration card & decal are valid for use only by the listed registrant.  
Leased equipment can only be used to transport waste by the listed registrant.**



# CERTIFICATE OF LIABILITY INSURANCE

1/1/2014

DATE (MM/DD/YYYY)  
12/12/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. 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).

PRODUCER	LOCKTON COMPANIES, LLC 5847 SAN FELIPE, SUITE 320 HOUSTON TX 77057 866-260-3538	CONTACT NAME:	
		PHONE (A/C, No, Ext):	FAX (A/C, No):
E-MAIL ADDRESS:			
		INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED 1300299	WASTE MANAGEMENT HOLDINGS, INC. & ALL AFFILIATED, RELATED & SUBSIDIARY COMPANIES INCLUDING: WASTE MANAGEMENT OF PENNSYLVANIA, INC. 600 TYBURN ROAD MORRISVILLE PA 19067	INSURER A:	ACE American Insurance Company 22667
		INSURER B:	Indemnity Insurance Co of North America 43575
		INSURER C:	ACE Property & Casualty Insurance Co 20699
		INSURER D:	
		INSURER E:	
		INSURER F:	

**COVERAGES** AJ CERTIFICATE NUMBER: 3516286 REVISION NUMBER: XXXXXXXX

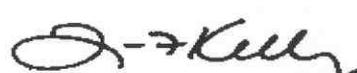
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE 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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> XCU INCLUDED <input checked="" type="checkbox"/> ISO FORM CG 00011207 GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input checked="" type="checkbox"/> LOC	Y	Y	HDO G27015189	1/1/2013	1/1/2014	EACH OCCURRENCE \$ 5,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 5,000,000 MED EXP (Any one person) \$ XXXXXXXX PERSONAL & ADV INJURY \$ 5,000,000 GENERAL AGGREGATE \$ 6,000,000 PRODUCTS - COMP/OP AGG \$ 6,000,000 \$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> MCS-90 <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	Y	Y	MMT H08712293	1/1/2013	1/1/2014	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$	Y	Y	XOO G27048201	1/1/2013	1/1/2014	EACH OCCURRENCE \$ 15,000,000 AGGREGATE \$ 15,000,000 \$ XXXXXXXX
B A A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N	Y N/A	WLR C47128249 (AOS) WLR C47128250 (CA & MA) SCF C47128262 (WI)	1/1/2013 1/1/2013 1/1/2013	1/1/2014 1/1/2014 1/1/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 3,000,000 E.L. DISEASE - EA EMPLOYEE \$ 3,000,000 E.L. DISEASE - POLICY LIMIT \$ 3,000,000
A	EXCESS AUTO LIABILITY	Y	Y	XTR H0871230A	1/1/2013	1/1/2014	COMBINED SINGLE LIMIT \$9,000,000 (EACH ACCIDENT)

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / (Attach ACORD 101, Additional Remarks Schedule, if more space is required)  
BLANKET WAIVER OF SUBROGATION IS GRANTED IN FAVOR OF CERTIFICATE HOLDER ON ALL POLICIES WHERE AND TO THE EXTENT REQUIRED BY WRITTEN CONTRACT WHERE PERMISSIBLE BY LAW. CERTIFICATE HOLDER IS NAMED AS AN ADDITIONAL INSURED (EXCEPT FOR WORKERS' COMP/EL) WHERE AND TO THE EXTENT REQUIRED BY WRITTEN CONTRACT.

### CERTIFICATE HOLDER

### CANCELLATION

<b>3516286</b>  IWT TRANSPORT, INC. INDUSTRIAL WASTE TECHNOLOGIES 306 RAMAPO VALLEY ROAD, SUITE 2 OAKLAND NJ 07436	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE  



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401  
November 15, 2007

Southeast Regional Office

484-250-5960  
Fax 484-250-5961

RECEIVED  
NOV 15 2007

Mr. Charles Ballod, P.E.  
Eastern Market Area Engineering Manager  
Waste Management, Inc.  
1000 New Ford Mill Road  
Morrisville, PA 19067

BY:.....

Re: GROWS North Landfill  
Falls Township  
Bucks County  
ID No. 101680  
APS No. 522165, AUTH No. 553256

Dear Mr. Ballod:

The Department has reviewed your application for the construction and operation of a new landfill to be known as GROWS North Landfill, located in Falls Township, Bucks County, and has determined that you have satisfied all applicable requirements necessary to perform this activity. Therefore, we have issued the enclosed permit in accordance with Act 97, the Pa. Solid Waste Management Act.

Compliance with the limitations and stipulations that have been set forth in your permit is mandatory.

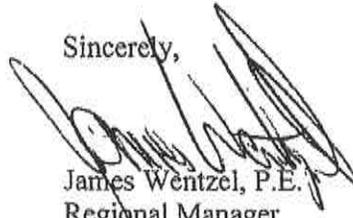
Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 PA C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action, unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717-787-3483) FOR MORE INFORMATION.

Thank you for your cooperation.

Sincerely,



James Wentzel, P.E.  
Regional Manager  
Waste Management Program

Enclosure: Permit

cc: Falls Township (w/enclosure)  
Bucks County Health Department (w/enclosure)  
Re, 30

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

**Permit  
For  
Solid Waste Disposal and/or Processing Facility  
FORM NO. 8**

Permit No. 101680  
Date Issued November 15, 2007  
Date Expired November 15, 2014

Under the provisions of the Pennsylvania Solid Waste Management Act of July 7, 1980, Act 97, a permit for a solid waste disposal and/or processing facility at (municipality) Falls Township in the County of Bucks is granted to (applicant) Waste Management Disposal Services of Pennsylvania, Inc. at (address) 1000 New Ford Mill Road, Morrisville, PA 19067

This permit is applicable to the facility named as G.R.O.W.S. North Landfill and described as:

Latitude - 40°, 09', 44

Longitude - 74°, 46', 35"

This permit is subject to modification, amendment, and supplement by the Department of Environmental Protection (Department) and is further subject to revocation or suspension by the Department for any violation of the applicable laws or the rules and regulations adopted there under, for failure to comply in whole or in part with the conditions of this permit and the provisions set forth in the application No. 101680, which is made a part hereof, or for causing any condition inimical to the public health, safety, or welfare.

See Attachment for waste limitations and/or Special Conditions.

  
\_\_\_\_\_  
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

**THIS PERMIT IS NON - TRANSFERABLE**

Page 1 of 49



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

04/15/13

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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<b>PRODUCER</b> Exit 15w Agency, Inc. 837 Kearny Avenue Kearny, NJ 07032 Phone (201) 246-1059 Fax (201) 246-1093		<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): (201) 246-1059 FAX (A/C, No): (201) 246-1093 E-MAIL ADDRESS: anabela@renaisanceinsurance.net	
<b>INSURED</b> DJM Transport, LLC 2 Fish House Road Kearny, NJ 07032-		<b>INSURER(S) AFFORDING COVERAGE</b> INSURER A: Knightbrook Insurance Company INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	
		<b>NAIC #</b>	

**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

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.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR <input type="checkbox"/> <input type="checkbox"/> GENL. AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					EACH OCCURRENCE	\$
						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
						MED EXP (Any one person)	\$
						PERSONAL & ADV INJURY	\$
						GENERAL AGGREGATE	\$
						PRODUCTS - COMP/OP AGG	\$
							\$
A	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> <input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$		150004428	03/31/2013	03/31/2014	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000.00
						BODILY INJURY (Per person)	\$
						BODILY INJURY (Per accident)	\$
						PROPERTY DAMAGE (Per accident)	\$
							\$
						EACH OCCURRENCE	\$
						AGGREGATE	\$
							\$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A				<input type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER	
						E.L. EACH ACCIDENT	\$
						E.L. DISEASE - EA EMPLOYEE	\$
						E.L. DISEASE - POLICY LIMIT	\$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

Clean Earth of North Jersey  
334 S. Warminster Road  
Hatboro, PA 19040

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
4/15/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. 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).

<b>PRODUCER</b> Statewide Resources Insurance Agency, LLC 2 Fish House Road Kearny NJ 07032		<b>CONTACT NAME:</b> Caroline Burke <b>PHONE (A/C No. Ext):</b> (201) 246-6360 <b>E-MAIL ADDRESS:</b> cburke@njtruckins.com <b>FAX (A/C No.):</b> (201) 246-6361	
<b>INSURED</b> DJM Transport, LLC 2 Fish House Road Kearny NJ 07032		<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Atain Specialty Insurance NAIC # 17159 <b>INSURER B:</b> NJ CRIB <b>INSURER C:</b> Liberty Surplus Insurance 10725 <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>	

**COVERAGES**      **CERTIFICATE NUMBER:** CL1241701688      **REVISION NUMBER:**

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY			CIP111924	4/10/2013	4/10/2014	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 5,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY \$ 1,000,000
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC						GENERAL AGGREGATE \$ 2,000,000
	AUTOMOBILE LIABILITY						PRODUCTS - COMP/OP AGG \$ 2,000,000
	ANY AUTO						COMBINED SINGLE LIMIT (Ea accident) \$
	ALL OWNED AUTOS						BODILY INJURY (Per person) \$
	HIRED AUTOS						BODILY INJURY (Per accident) \$
	SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
	NON-OWNED AUTOS						\$
	UMBRELLA LIAB						EACH OCCURRENCE \$
	EXCESS LIAB						AGGREGATE \$
	DED						\$
	RETENTION \$						\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WC00727271	4/13/2013	4/13/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y/N	N/A				E.L. EACH ACCIDENT \$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 500,000
							E.L. DISEASE - POLICY LIMIT \$ 500,000
C	Pollution Liability			TVENY102926-110	9/21/2012	9/21/2013	OCC \$1MM/AGG \$1MM \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

<b>CERTIFICATE HOLDER</b>  Clean Earth of North Jersey 334 South Warminster Road Hatboro, PA 19040	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE  Caroline Burke/CAROL <i>Caroline Burke</i>

**ENDORSEMENT FOR  
MOTOR CARRIER POLICIES OF INSURANCE FOR PUBLIC LIABILITY  
UNDER SECTIONS 29 AND 30 OF THE MOTOR CARRIER ACT OF 1980**

Form Approved  
OMB No. 2125-0074

Issued to DJM Transport LLC of 2 Fish House Road, Kearny, NJ 07032  
Dated at Valley View, Pa this 29th day of March, 20 13  
Amending Policy No. 150004428 Effective Date March 31, 2013  
Name of Insurance Company KnightBrook Insurance Company  
Telephone Number ( 570 ) 682-9429 Countersigned by Richard B. Riddle, CPCU  
Authorized Company Representative

The policy to which this endorsement is attached provides primary or excess insurance, as indicated by "", for the limit shown:  
 This insurance is primary and the company shall not be liable for amounts in excess of \$ 1,000,000 for each accident.  
 This insurance is excess and the company shall not be liable for amounts in excess of \$ \_\_\_\_\_ for each accident in excess of the underlying limit of \$ \_\_\_\_\_ for each accident.

Whenever required by the Federal Highway Administration (FHWA) or the Interstate Commerce Commission (ICC), the company agrees to furnish the FHWA or the ICC a duplicate of said policy and all its endorsements. The company also agrees, upon telephone request by an authorized representative of the FHWA or the ICC, to verify that the policy is in force as of a particular date.

Cancellation of this endorsement may be effected by the company or the insured by giving (1) thirty-five (35) days notice in writing to the other party (said 35 days notice to commence from the date the notice is mailed, proof of mailing shall be sufficient proof of notice), and (2) if the insured is subject to the ICC's jurisdiction, by providing thirty (30) days notice to the ICC (said 30 days notice to commence from the date the notice is received by the ICC at its office in Washington, D.C.).

**DEFINITIONS AS USED IN THIS ENDORSEMENT**

**ACCIDENT** includes continuous or repeated exposure to conditions which results in bodily injury, property damage, or environmental damage which the insured neither expected nor intended.

**MOTOR VEHICLE** means a land vehicle, machine, truck, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used on a highway for transporting property, or any combination thereof.

**BODILY INJURY** means injury to the body, sickness, or disease to any person, including death resulting from any of these.

**ENVIRONMENTAL RESTORATION** means restitution

for the loss, damage, or destruction of natural resources arising out of the accidental discharge, dispersal, release or escape into or upon the land, atmosphere, watercourse, or body of water, of any commodity transported by a motor carrier. This shall include the cost of removal and the cost of necessary measures taken to minimize or mitigate damage to human health, the natural environment, fish, shellfish, and wildlife.

**PROPERTY DAMAGE** means damage to or loss of use of tangible property.

**PUBLIC LIABILITY** means liability for bodily injury, property damage, and environmental restoration.

The insurance policy to which this endorsement is attached provides automobile liability insurance and is amended to assure compliance by the insured, within the limits stated herein, as a motor carrier of property, with Sections 29 and 30 of the Motor Carrier Act of 1980 and the rules and regulations of the Federal Highway Administration (FHWA) and the Interstate Commerce Commission (ICC).

In consideration of the premium stated in the policy to which this endorsement is attached, the insurer (the company) agrees to pay, within the limits of liability described herein, any final judgment recovered against the insured for public liability resulting from negligence in the operation, maintenance or use of motor vehicles subject to the financial responsibility requirements of Sections 29 and 30 of the Motor Carrier Act of 1980 regardless of whether or not each motor vehicle is specifically described in the policy and whether or not such negligence occurs on any route or in any territory authorized to be served by the insured or elsewhere. Such insurance as is afforded, for public liability, does not apply to injury or to death of the insured's employees while engaged in the course of their employment, or property transported by the insured, designated as cargo. It is understood and agreed that no condition, provision, stipulation, or limitation contained in the policy, this endorsement, or any other endorsement thereon, or violation thereof, shall relieve the company from liability or

from the payment of any final judgment, within the limits of liability herein described, irrespective of the financial condition, insolvency or bankruptcy of the insured. However, all terms, conditions, and limitations in the policy to which the endorsement is attached shall remain in full force and effect as binding between the insured and the company. The insured agrees to reimburse the company for any payment made by the company on account of any accident, claim, or suit involving a breach of the terms of the policy, and for any payment that the company would not have been obligated to make under the provisions of the policy except for the agreement contained in this endorsement.

It is further understood and agreed that, upon failure of the company to pay any final judgment recovered against the insured as provided herein, the judgment creditor may maintain an action in any court of competent jurisdiction against the company to compel such payment.

The limits of the company's liability for the amounts prescribed in this endorsement apply separately, to each accident, and any payment under the policy because of any one accident shall not operate to reduce the liability of the company for the payment of final judgments resulting from any other accident.

The Motor Carrier Act of 1980 requires limits of financial responsibility according to the type of carriage and commodity transported by the motor carrier. It is the MOTOR CARRIER'S obligation to obtain the required limits of financial responsibility. THE SCHEDULE OF LIMITS SHOWN ON THE REVERSE SIDE DOES NOT PROVIDE COVERAGE. The limits shown in the schedule are for information purposes only.



State of New Jersey  
 Department of Environmental Protection  
 Solid Waste and Pesticides Enforcement  
 9 Ewing Street, Mail Code 09-01  
 PO Box 420  
 Trenton, NJ 08625-0420  
 (609) 292-7081

**NJDEP Transporter Vehicle Registration Card**

Expiration Date: 6/30/2015  
 Decal Number: SWL-15-006504  
 Vin ID#: 1E1UY28X4RC34590 NJ  
 License Plate #: TGE43K  
 Vehicle Type: Trailer  
 Vehicle leased?: N  
 If Yes, lessor's name:

**LICENSED SOLID WASTE**

*NJDEP Registered Transporter:*

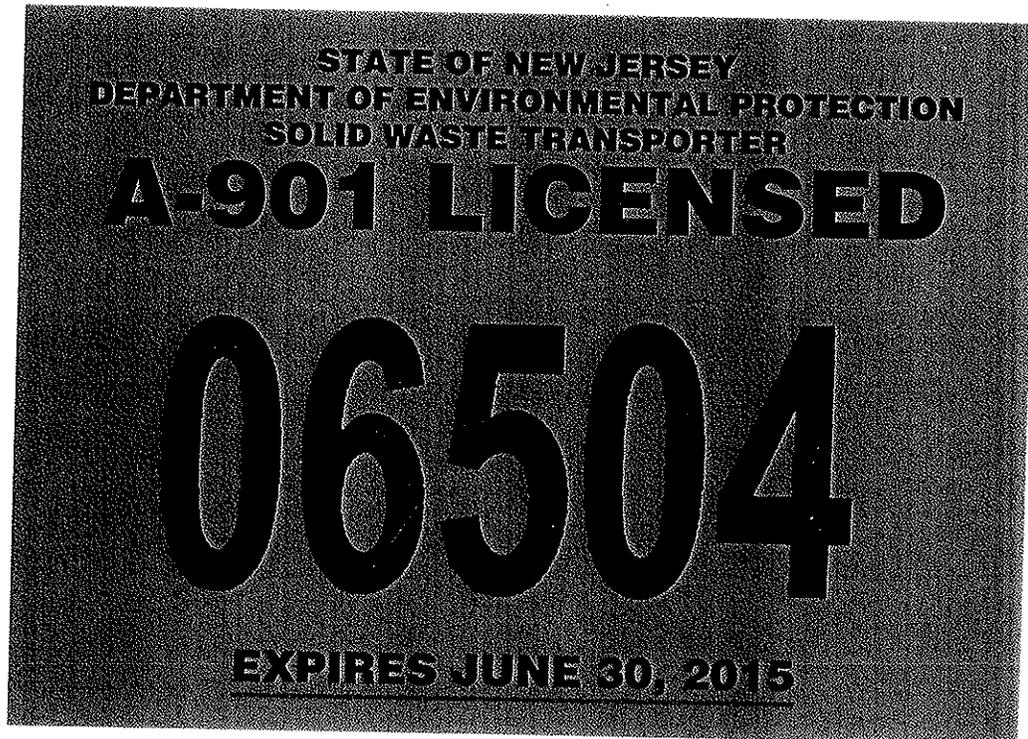
**DJM TRANSPORT LLC**  
**2 FISH HOUSE RD 2ND FL FRONT**  
**KEARNY, NJ 07032**

registrant.

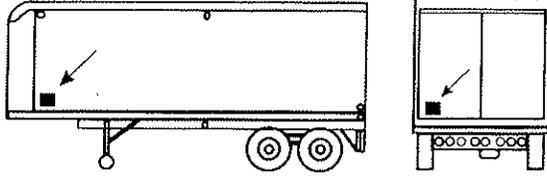
NJDEP Registered Transporter:

**DJM TRANSPORT LLC**  
 NJDEP #: 29681

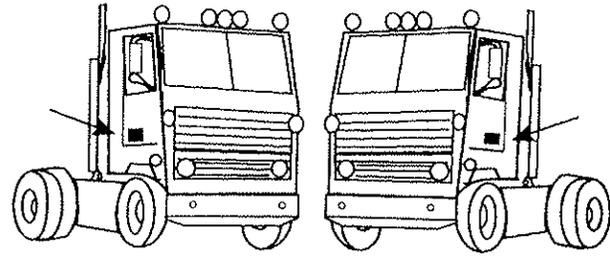
**This card must be carried in the cab of the vehicle at all times.**  
 This registration card & decal are valid for use only by the listed registrant.  
 Leased equipment can only be used to transport waste by the listed



Waste Trailers



Trucks and Truck Tractors



Apply stickers to a clean, dry surface. It may take 24 hours for adhesive to reach full tack. Do not remove stickers once they are applied.

Each qualified waste vehicle is issued two (2) stickers. Place the stickers on the vehicle as shown in the diagram.

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**COMMONWEALTH OF PENNSYLVANIA**  
**Waste Transportation Safety Program**  
**Written Authorization**

0419140923

Phone No. (201)-246-6352

VIN# 1S94A4827XM006092  
 WH10419  
 Expires Jun 2014

DJM TRANSPORT LLC  
 RONALD BANKO  
 2 FISH HOUSE RD FRNT  
 KEARNY, NJ 07032-4320

**REPLACEMENT**

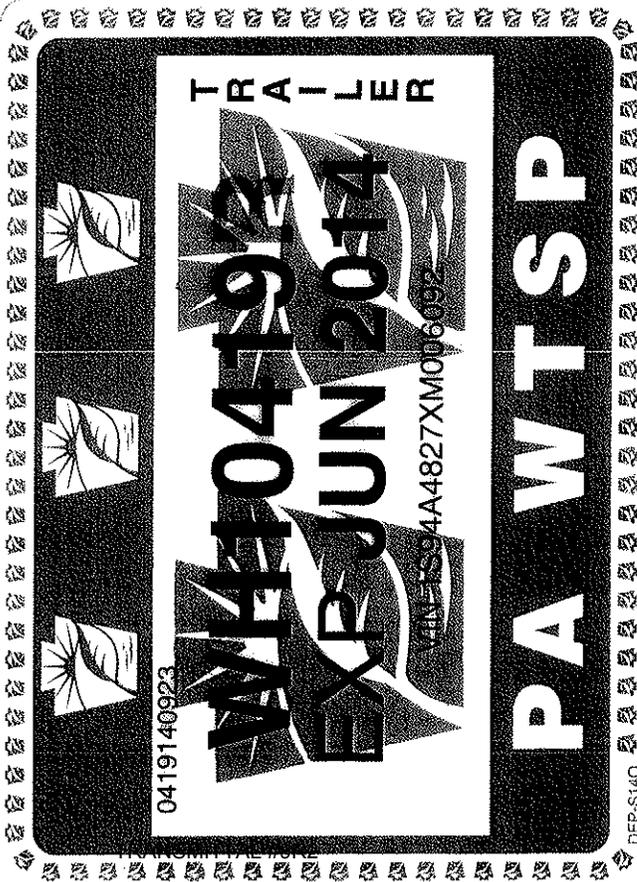
THIS WRITTEN AUTHORIZATION MUST BE KEPT WITH THE WASTE TRANSPORTATION VEHICLE AT ALL TIMES. If lost or damaged contact DEP immediately at 717-783-9258. A replacement fee is required. Duplication or Photocopies of this original documentation are not valid.

THIS DOCUMENT SECURITY BACKGROUND IS PRINTED IN BLUE INK ON WHITE PAPER

**CAUTION! REMOVE STICKERS CAREFULLY.**

*6/3 CA&F*

Applied stickers take 24 hours to reach full tack



APPLICATION INSTRUCTIONS

1. Clean Surface To Which Sticker Will be Applied of Dirt, Grease or Oily Substances.
2. Remove Sticker From Carrier Sheet.
3. Position Sticker, Then Press Firmly Until Tightly Affixed To Surface.



**IWT Transport, Inc.**  
**(Insurance Documents & Transportation Permits)**



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
3/14/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. 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).

<b>PRODUCER</b> Strategic Insurance Partners 7822 Kennedy Blvd PO BOX 7207 North Bergen NJ 07047	<b>CONTACT NAME:</b> Celeste Santos <b>PHONE (A/C No. Ext):</b> (201)662-0300 <b>E-MAIL ADDRESS:</b>	<b>FAX (A/C No):</b> (201)662-8802
	<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> IWT Transport Inc; Industrial Waste Technologies Inc; United Waste Technologies 306 Ramapo Valley Road, Suite#2 Oakland NJ 07436	<b>INSURER A:</b> Century Surety Company <b>NAIC #</b> 36951	
	<b>INSURER B:</b> Star Insurance Company <b>NAIC #</b> 18023	
	<b>INSURER C:</b> Companion Property & Casualty <b>NAIC #</b> 12157	
	<b>INSURER D:</b>	
	<b>INSURER E:</b>	
	<b>INSURER F:</b>	

**COVERAGES**                      **CERTIFICATE NUMBER:** 13-14 Liability                      **REVISION NUMBER:**

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b>			CCP810927	3/16/2013	3/16/2014	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						\$
A	<b>AUTOMOBILE LIABILITY</b>			CA0706372	3/16/2013	3/16/2014	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> CA9948	<input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input checked="" type="checkbox"/> MCS-90					
							\$
A	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b>			CCP810928	3/16/2013	3/16/2014	EACH OCCURRENCE \$ 6,000,000
	<input type="checkbox"/> <b>EXCESS LIAB</b>	<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE					
	DED      RETENTION \$						\$
B	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>			100000015272113	3/16/2013	3/16/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS      OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input type="checkbox"/>	N/A				E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	<b>Pollution Liability</b> <b>Professional Liability</b>			CCP759251	03/16/2013	03/16/2014	Each Occurrence/Aggregate \$1,000,000 Each Claim/Aggregate \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)  
Coverages are subject to Terms, Conditions and Exclusions on the policies. The following entity/ies is/are listed as Additional Insured on the General Liability policy with respect to the scheduled operations of our named insured, per form #ENV2019 (available upon request) when required by written contract:

### CERTIFICATE HOLDER

### CANCELLATION

*** EVIDENCE OF INSURANCE ***	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE  Mark Grossbard/SW 

# STAR INSURANCE COMPANY

26255 American Drive  
Southfield, MI 48034-6112

## BUSINESS AUTO DECLARATIONS

POLICY NUMBER: CA0706372

COMMERCIAL AUTO  
CA DS 03 03 10

### ITEM ONE

<b>Company Name:</b> STAR INSURANCE COMPANY 26255 American Drive Southfield, MI 48034-6112	<b>Producer Name:</b> 0010250 MarketPlus Insurance Agency, Inc. 26255 American Drive Southfield, MI 48034-6112
<b>Named Insured:</b> IWT Transport, Inc.; United Waste Technologies, Inc.; As Per Named Insured Extension	
<b>Mailing Address:</b> 306 Ramapo Valley Road Oakland, NJ 07436	
<b>Policy Period</b>	
<b>From:</b> 03/16/2013	
<b>To:</b> 03/16/2014	At 12:01 AM Standard Time at your mailing address shown above
<b>Previous Policy Number:</b> CA0706372	

<b>Form Of Business:</b>		
<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Limited Liability Company	<input type="checkbox"/> Individual
<input type="checkbox"/> Partnership	<input type="checkbox"/> Other:	

In return for the payment of the premium, and subject to all the terms of this policy, we agree with you to provide the insurance as stated in this policy.

<b>Premium shown is payable at inception:</b>
<b>Audit Period (If Applicable):</b> <input type="checkbox"/> Annually <input type="checkbox"/> Semiannually <input type="checkbox"/> Quarterly <input type="checkbox"/> Monthly

<b>Endorsements Attached To This Policy</b>
IL 00 17 - Common Policy Conditions (IL 01 46 in Washington)
IL 00 21 - Broad Form Nuclear Exclusion (Not applicable in New York)
See Schedule of Forms and Endorsements.



## SCHEDULE OF FORMS AND ENDORSEMENTS

<b>POLICY NUMBER:</b> CA0706372	<b>EFFECTIVE DATE:</b> 03/16/2013
------------------------------------	--------------------------------------

<u>NUMBER</u>	<u>TITLE</u>
ACORD 51 NJ (06-07)	Permanent State of New Jersey Insurance Identification Card
09 15 IL (03-12)	Witness Clause
CA DS 03 (03-10)	Business Auto Declarations
CA 00 01 (03-10)	Business Auto Coverage Form
45 29 CA (03-06)	Blanket Waiver of Transfer of Rights of Recovery Against Others To Us
48 47 CA (02-09)	Additional Insured - Automatic Status For Contracts Or Agreements
CA 03 02 (03-10)	Deductible Liability Coverage
CA 23 86 (01-06)	Exclusion of Terrorism Above Minimum Statutory Limits
CA 99 44 (12-93)	Loss Payable Clause
CA 99 48 (03-06)	Pollution Liability - Broadened Coverage For Covered Autos - Business Auto and Truckers Coverage Forms
CA 01 88 (06-08)	New Jersey Changes
CA 21 14 (02-08)	New Jersey Uninsured And Underinsured Motorists Coverage
CA 01 12 (11-11)	New York Changes In Business Auto and Truckers Coverage Forms
CA 02 25 (01-11)	New York Changes - Cancellation
IL 00 17 (11-98)	Common Policy Conditions
IL 00 21 (09-08)	Nuclear Energy Liability Exclusion Endorsement (Broad Form)
IL 01 41 (09-08)	New Jersey Changes - Civil Union
IL 02 08 (09-07)	New Jersey Changes - Cancellation and Nonrenewal
IL 01 83 (08-08)	New York Changes - Fraud
MCS-90 (03-07)	Endorsement for Motor Carrier Policies of Insurance

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

## POLLUTION LIABILITY – BROADENED COVERAGE FOR COVERED AUTOS – BUSINESS AUTO, MOTOR CARRIER AND TRUCKERS COVERAGE FORMS

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM  
MOTOR CARRIER COVERAGE FORM  
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

**A. Liability Coverage** is changed as follows:

1. Paragraph **a.** of the **Pollution** Exclusion applies only to liability assumed under a contract or agreement.
2. With respect to the coverage afforded by Paragraph **A.1.** above, Exclusion **B.6. Care, Custody Or Control** does not apply.

**B. Changes In Definitions**

For the purposes of this endorsement, Paragraph **D.** of the **Definitions** Section is replaced by the following:

- D.** "Covered pollution cost or expense" means any cost or expense arising out of:
1. Any request, demand, order or statutory or regulatory requirement that any "insured" or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of "pollutants"; or
  2. Any claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to or assessing the effects of "pollutants".

"Covered pollution cost or expense" does not include any cost or expense arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

- a. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or
- b. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraphs **a.** and **b.** above do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

- (1) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and
- (2) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

**ENDORSEMENT FOR  
MOTOR CARRIER POLICIES OF INSURANCE FOR PUBLIC LIABILITY  
UNDER SECTIONS 29 AND 30 OF THE MOTOR CARRIER ACT OF 1980**

Issued to IWT Transport, Inc.; United Waste Technologies, Inc.; Industrial Waste

of 306 Ramapo Valley Road Oakland, NJ 07436

Dated at 26255 American Drive Southfield, MI 48034 this 20 day of March 2013

Amending Policy No. CA0706372 Countersigned by \_\_\_\_\_

Effective Date 03/16/2013 Authorized Company Representative

Name of Insurance Company STAR INSURANCE COMPANY - ENVIRONMENTAL

The policy to which this endorsement is attached provides primary or excess insurance, as indicated by "[X]," for the limits shown:

- This insurance is primary and the company shall not be liable for amounts in excess of \$ 1,000,000 for each accident.
- This insurance is excess and the company shall not be liable for amounts in excess of \$ \_\_\_\_\_ for each accident in excess of the underlying limit of \$ \_\_\_\_\_ for each accident.

Whenever required by the Federal Motor Carrier Safety Administration (FMCSA), the company agrees to furnish the FMCSA a duplicate of said policy and all its endorsements. The company also agrees, upon telephone request by an authorized representative of the FMCSA, to verify that the policy is in force as of a particular date. The telephone number to call is: 678-494-3325

Cancellation of this endorsement may be effected by the company or the insured by giving (1) thirty-five (35) days notice in writing to the other party (said 35 days notice to commence from the date the notice is mailed, proof of mailing shall be sufficient proof of notice), and (2) if the insured is subject to the FMCSA's registration requirements under 49 U.S.C. 13901, by providing thirty (30) days notice to the FMCSA (said 30 days notice to commence from the date the notice is received by the FMCSA at its office in Washington, D.C.).

**DEFINITIONS AS USED IN THIS ENDORSEMENT**

**ACCIDENT** includes continuous or repeated exposure to conditions or which results in bodily injury, property damage, or environmental damage which the insured neither expected nor intended.

**MOTOR VEHICLE** means a land vehicle, machine, truck, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used on a highway for transporting property, or any combination thereof.

**BODILY INJURY** means injury to the body, sickness, or disease to any person, including death resulting from any of these.

**PROPERTY DAMAGE** means damage to or loss of use of tangible property.

**ENVIRONMENTAL RESTORATION** means restitution for the loss, damage, or destruction of natural resources arising out of the accidental discharge, dispersal, release or escape into or upon the land, atmosphere, watercourse, or body of water, of any commodity transported by a motor carrier. This shall include the cost of removal and the cost of necessary measures taken to minimize or mitigate damage to human health, the natural environment, fish, shellfish, and wildlife.

**PUBLIC LIABILITY** means liability for bodily injury, property damage, and environmental restoration.

The insurance policy to which this endorsement is attached provides automobile liability insurance and is amended to assure compliance by the insured, within the limits stated herein, as a motor carrier of property, with Sections 29 and 30 of the Motor Carrier Act of 1980 and the rules and regulations of the Federal Motor Carrier Safety Administration (FMCSA).

In consideration of the premium stated in the policy to which this endorsement is attached, the insurer (the company) agrees to pay, within the limits of liability described herein, any final judgment recovered against the insured for public liability resulting from negligence in the operation, maintenance or use of motor vehicles subject to the financial responsibility requirements of Sections 29 and 30 of the Motor Carrier Act of 1980 regardless of whether or not each motor vehicle is specifically described in the policy and whether or not such negligence occurs on any route or in any territory authorized to be served by the insured or elsewhere. Such insurance as is afforded, for public liability, does not apply to injury to or death of the insured's employees while engaged in the course of their employment, or property transported by the insured, designated as cargo. It is understood and agreed that no condition, provision, stipulation, or limitation contained in the policy, this endorsement, or any other endorsement thereon, or violation thereof, shall relieve the company from liability or from the payment of any final judgment, within the limits of liability herein described, irrespective of the financial condition, insolvency or bankruptcy of the insured. However, all terms, conditions, and limitations in the policy to which the endorsement is attached shall remain in full force and effect as binding between the insured and the company. The insured agrees to reimburse the company for any payment made by the company on account of any accident, claim, or suit involving a breach of the terms of the policy, and for any payment that the company would not have been obligated to make under the provisions of the policy except for the agreement contained in this endorsement.

It is further understood and agreed that, upon failure of the company to pay any final judgment recovered against the insured as provided herein, the judgment creditor may maintain an action in any court of competent jurisdiction against the company to compel such payment.

The limits of the company's liability for the amounts prescribed in this endorsement apply separately to each accident and any payment under the policy because of any one accident shall not operate to reduce the liability of the company for the payment of final judgments resulting from any other accident.

**SCHEDULE OF LIMITS  
Public Liability**

Type of carriage	Commodity transported	Jan. 1, 1985
(1) For-hire (in interstate or foreign commerce, with a gross vehicle weight rating of 10,000 or more pounds).	Property (nonhazardous)	\$ 750,000
(2) For-hire and Private (in interstate, foreign, or intrastate commerce, with a gross vehicle weight rating of 10,000 or more pounds).	Hazardous substances, as defined in 49 CFR 171.8, transported in cargo tanks, portable tanks, or hopper-type vehicles with capacities in excess of 3,500 water gallons; or in bulk Division 1.1, 1.2, and 1.3 materials, Division 2.3, Hazard Zone A, or Division 6.1, Packing Group I, Hazard Zone A material; in bulk Division 2.1 or 2.2; or highway route controlled quantities of a Class 7 material, as defined in 49 CFR 173.403	\$5,000,000
(3) For-hire and Private (in interstate or foreign commerce, in any quantity; or in intrastate commerce, in bulk only; with a gross vehicle weight rating of 10,000 or more pounds).	Oil listed in 49 CFR 172.101; hazardous waste, hazardous materials, and hazardous substances defined in 49 CFR 171.8 and listed in 49 CFR 172.101, but not mentioned in (2) above or (4) below.	\$1,000,000
(4) For-hire and Private (in interstate or foreign commerce, with a gross vehicle weight rating of less than 10,000 pounds).	Any quantity of Division 1.1, 1.2, or 1.3 material; any quantity of a Division 2.3, Hazard Zone A, or Division 6.1, Packing Group I, Hazard Zone A material; or highway route controlled quantities of a Class 7 material as defined in 49 CFR 173.403.	\$5,000,000



A Federal Agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2126-0008. Public reporting burden for this collection of information is estimated to average 2 minutes per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Motor Carrier Safety Administration, MC-RMA, Washington, D.C. 20590.



U.S. Department of Transportation  
Federal Motor Carrier  
Safety Administration

ENDORSEMENT FOR MOTOR CARRIER POLICIES OF INSURANCE FOR  
PUBLIC LIABILITY UNDER SECTIONS 29 AND 30 OF THE MOTOR  
CARRIER ACT OF 1980

Issued to IWT Transport, Inc.; Industrial Waste Technol of 306 Ramapo Valley Road Oakland, NJ 07436

Dated at 465 Cleveland Avenue Westerv this 26th day of March, 20 13

Amending Policy No CCP810928 Effective Date 3/16/2013

Name of Insurance Company Century Surety Company

Countersigned by Joshua Bowen  
*Authorized Company Representative*

The policy to which this endorsement is attached provides primary or excess insurance, as indicated by "[X]" for the limits shown:

- [ ] This insurance is primary and the company shall not be liable for amounts in excess of \$ \_\_\_\_\_ for each accident.  
[X] This insurance is excess and the company shall not be liable for amounts in excess of \$ 4,000,000 for each accident in excess of the underlying limit of \$ 1,000,000 for each accident.

Whenever required by the Federal Motor Carrier Safety Administration (FMCSA), the company agrees to furnish the FMCSA a duplicate of said policy and all its endorsements. The company also agrees, upon telephone request by an authorized representative of the FMCSA, to verify that the policy is in force as of a particular date. The telephone number to call is: 878.494.3325

Cancellation of this endorsement may be effected by the company or the insured by giving (1) thirty-five (35) days notice in writing to the other party (said 35 days notice to commence from the date the notice is mailed, proof of mailing shall be sufficient proof of notice), and (2) if the insured is subject to the FMCSA's registration requirements under 49 U.S.C. 13901, by providing thirty (30) days notice to the FMCSA (said 30 days notice to commence from the date the notice is received by the FMCSA at its office in Washington, D.C.).

DEFINITIONS AS USED IN THIS ENDORSEMENT

**Accident** includes continuous or repeated exposure to conditions which results in bodily injury, property damage, or environmental damage which the insured neither expected nor intended.

**Motor Vehicle** means a land vehicle, machine, truck, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used on a highway for transporting property, or any combination thereof.

**Bodily Injury** means injury to the body, sickness, or disease to any person, including death resulting from any of these.

**Property Damage** means damage to or loss of use of tangible property.

**Environmental Restoration** means restitution for the loss, damage, or destruction of natural resources arising out of the accidental discharge, dispersal, release or escape into or upon the land, atmosphere, watercourse, or body of water, of any commodity transported by a motor carrier. This shall include the cost of removal and the cost of necessary measures taken to minimize or mitigate damage to human health, the natural environment, fish, shellfish, and wildlife.

**Public Liability** means liability for bodily injury, property damage, and environmental restoration.

The insurance policy to which this endorsement is attached provides automobile liability insurance and is amended to assure compliance by the insured, within the limits stated herein, as a motor carrier of property, with Sections 29 and 30 of the Motor Carrier Act of 1980 and the rules and regulations of the Federal Motor Carrier Safety Administration (FMCSA).

In consideration of the premium stated in the policy to which this endorsement is attached, the insurer (the company) agrees to pay, within the limits of liability described herein, any final judgment recovered against the insured for public liability resulting from negligence in the operation, maintenance or use of motor vehicles subject to the financial responsibility requirements of Sections 29 and 30 of the Motor Carrier Act of 1980 regardless of whether or not each motor vehicle is specifically described in the policy and whether or not such negligence occurs on any route or in any territory authorized to be served by the insured or elsewhere. Such insurance as is afforded, for public liability, does not apply to injury to or death of the insured's employees while engaged in the course of their employment, or property transported by the insured, designated as cargo. It is understood and agreed that no condition, provision, stipulation, or limitation contained in the policy, this endorsement, or any other

endorsement thereon, or violation thereof, shall relieve the company from liability or from the payment of any final judgment, within the limits of liability herein described, irrespective of the financial condition, insolvency or bankruptcy of the insured. However, all terms, conditions, and limitations in the policy to which the endorsement is attached shall remain in full force and effect as binding between the insured and the company. The insured agrees to reimburse the company for any payment made by the company on account of any accident, claim, or suit involving a breach of the terms of the policy, and for any payment that the company would not have been obligated to make under the provisions of the policy except for the agreement contained in this endorsement.

It is further understood and agreed that, upon failure of the company to pay any final judgment recovered against the insured as provided herein, the judgment creditor may maintain an action in any court of competent jurisdiction against the company to compel such payment.

The limits of the company's liability for the amounts prescribed in this endorsement apply separately to each accident and any payment under the policy because of any one accident shall not operate to reduce the liability of the company for the payment of final judgments resulting from any other accident.

THE SCHEDULE OF LIMITS SHOWN ON THE REVERSE SIDE DOES NOT PROVIDE COVERAGE. The limits shown in the schedule are for information purposes only.

**SCHEDULE OF LIMITS—PUBLIC LIABILITY**

Type of carriage	Commodity transported	Jan. 1, 1985
(1) For-hire (In interstate or foreign commerce, with a gross vehicle weight rating of 10,000 or more pounds).	Property (nonhazardous)	\$ 750,000
(2) For-hire and Private (In interstate, foreign or intrastate commerce, with a gross vehicle weight rating of 10,000 or more pounds).	Hazardous substances, as defined in 49 CFR 171.8, transported in cargo tanks, portable tanks, or hopper-type vehicles with capacities in excess of 3,500 water gallons; or in bulk Division 1.1., 1.2, and 1.3 materials, Division 2.3, Hazard Zone A, or Division 6.1, Packing Group 1, Hazard Zone A material; in bulk Division 2.1 or 2.2; or highway route controlled quantities of a Class 7 material, as defined in 49 CFR 173.403.	\$5,000,000
(3) For-hire and Private (In interstate or foreign commerce, in any quantity, or in intrastate commerce, in bulk only, with a gross vehicle weight rating of 10,000 or more pounds).	Oil listed in 49 CFR 172.101; hazardous waste, hazardous materials, and hazardous substances defined in 49 CFR 171.8 and listed in 49 CFR 172.101, but not mentioned in (2) above or (4) below.	\$1,000,000
(4) For-hire and Private (In interstate or foreign commerce, with a gross vehicle weight rating of less than 10,000 pounds).	Any quantity of Division 1.1, 1.2, or 1.3 material; any quantity of a Division 2.3, Hazard Zone A, or Division 6.1, Packing Group 1, Hazard Zone A material; or highway route controlled quantities of a Class 7 material as defined in 49 CFR 173.403.	\$5,000,000

Let's protect our earth



State of New Jersey  
Department of Environmental Protection  
Solid Waste and Pesticides Enforcement  
9 Ewing Street, Mail Code 09-01  
PO Box 420  
Trenton, NJ 08625-0420  
(609) 292-7081

**LICENSED SOLID WASTE**

*NJDEP Registered Transporter:*

**IWT TRANSPORT INC**  
306 RAMAPO VALLEY RD STE 2  
OAKLAND, NJ 07436

registrant.

**NJDEP Transporter Vehicle Registration Card**

Expiration Date: 6/30/2015  
Decal Number: SWL-15-011230  
Vin ID#: 1M2AG12C03M004538 NJ  
License Plate #: AK330A  
Vehicle Type: Single Unit Vehicle  
Vehicle leased?: Y

If Yes, lessor's name:

**INDUSTRIAL WASTE TECHNOLOGIES INC**

NJDEP Registered Transporter:

**IWT TRANSPORT INC**

NJDEP #: 0034676

**This card must be carried in the cab of the vehicle at all times.**

**This registration card & decal are valid for use only by the listed registrant.**

**Leased equipment can only be used to transport waste by the listed**

**STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID WASTE TRANSPORTER  
A-901 LICENSED**

**11230**

**EXPIRES JUNE 30, 2015**

Let's protect our earth



State of New Jersey  
Department of Environmental Protection  
Solid Waste and Pesticides Enforcement  
9 Ewing Street, Mail Code 09-01  
PO Box 420  
Trenton, NJ 08625-0420  
(609) 292-7081

**LICENSED HAZARDOUS WASTE**

*NJDEP Registered Transporter:*

**IWT TRANSPORT INC**  
306 RAMAPO VALLEY RD STE 2  
OAKLAND, NJ 07436

registrant.

**NJDEP Transporter Vehicle Registration Card**

Expiration Date: **6/30/2015**  
Decal Number: **HWL-15-408584**  
Vin ID#: **1M2AG12C03M004538 NJ**  
License Plate #: **AK330A**  
Vehicle Type: **Single Unit Vehicle**  
Vehicle leased?: **Y**

If Yes, lessor's name:  
**INDUSTRIAL WASTE TECHNOLOGIES INC**  
NJDEP Registered Transporter:  
**IWT TRANSPORT INC**  
NJDEP #: **0050277**

**This card must be carried in the cab of the vehicle at all times.**  
This registration card & decal are valid for use only by the listed registrant.  
Leased equipment can only be used to transport waste by the listed

**STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
HAZARDOUS WASTE TRANSPORTER**

**A-901 LICENSED**

**408584**

**EXPIRES JUNE 30, 2015**



ENVIRONMENTAL SERVICES • HAZARDOUS WASTE MANAGEMENT  
306 Ramapo Valley Road, Suite 2, Oakland, NJ 07436 • (201) 644-0485 • Fax: (201) 644-0489

Monday, September 9, 2013

RE: 6 NYCRR 372.2(b)(2)(ii)

To whom it may concern:

In compliance with 6 NYCRR 372.2(b)(2)(ii), we are notifying you that we are authorized to deliver and transport manifested waste to Clean Earth of North Jersey, Inc. for treatment, storage, and disposal. If you have any questions, please contact me at (201) 644-0485.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. O'Brien".

David O'Brien  
President



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF MATERIALS MANAGEMENT

**PART 364**

**WASTE TRANSPORTER PERMIT NO. NJ-880**

Pursuant to Article 27, Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

**PERMIT ISSUED TO:**

IWT TRANSPORT, INC.  
306 RAMAPO VALLEY ROAD  
SUITE 2  
OAKLAND, NJ 07436

**PERMIT TYPE:**

- NEW
- RENEWAL
- MODIFICATION

CONTACT NAME: DAVID O'BRIEN  
COUNTY: OUT OF STATE  
TELEPHONE NO: (201)644-0485

EFFECTIVE DATE: 08/14/2013  
EXPIRATION DATE: 07/09/2014  
US EPA ID NUMBER: NJR986628162

**AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:**

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 SAND COMPANY CLEAN FILL DISPOSAL	MELVILLE , NY	Non-Hazardous Industrial/Commercial Asbestos	
ADVANCED ENVIRONMENTAL RECYCLING CO, LLC	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial	
CHEMICAL WASTE MANAGEMENT	EMELLE , AL	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial	
CLEAN EARTH CLAREMONT	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial Waste Oil	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Petroleum Contaminated Soil Sludge from Sewage or Water Supply Treatment Plant	
CLEAN EARTH OF NORTH JERSEY	SOUTH KEARNY , NJ	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial Waste Oil	

\*\*\* AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) \*\*\*

**NOTE:** By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS: New York State Department of Environmental Conservation  
Division of Materials Management - Waste Transporter Program  
625 Broadway, 9th Floor  
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: M J McTague Date: 8/12/13

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF MATERIALS MANAGEMENT

**PART 364**  
**WASTE TRANSPORTER PERMIT NO. NJ-880**

Pursuant to Article 27, Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

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SUITE 2  
OAKLAND, NJ 07436

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CONTACT NAME: DAVID O'BRIEN  
COUNTY: OUT OF STATE  
TELEPHONE NO: (201)644-0485

EFFECTIVE DATE: 08/14/2013  
EXPIRATION DATE: 07/09/2014  
US EPA ID NUMBER: NJR986628162

**AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)**

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CWM CHEMICAL SERVICES LLC	MODEL CITY , NY	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial Waste Oil	
Development Authority of the North Country Landfill	Rodman (T) , NY	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil	
Envirosafe Services of Ohio, Inc.	Oregon , OH	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial	
EQ OHIO	CANTON , OH	Non-Hazardous Industrial/Commercial Asbestos Sludge from Sewage or Water Supply Treatment Plant Hazardous Industrial/Commercial Waste Oil	
EQ PENNSYLVANIA	YORK , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial Waste Oil	
G & S TECHNOLOGIES	KEARNY , NJ	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial Waste Oil	
GROWS LANDFILL (WASTE MGT.)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil	
HIGH ACRES WESTERN EXPANSION LANDFILL	FAIRPORT , NY	Non-Hazardous Industrial/Commercial Asbestos	

\*\*\* AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) \*\*\*

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF MATERIALS MANAGEMENT

**PART 364**

**WASTE TRANSPORTER PERMIT NO. NJ-880**

Pursuant to Article 27, Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

**PERMIT ISSUED TO:**

IWT TRANSPORT, INC.  
306 RAMAPO VALLEY ROAD  
SUITE 2  
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**PERMIT TYPE:**

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CONTACT NAME: DAVID O'BRIEN  
COUNTY: OUT OF STATE  
TELEPHONE NO: (201)644-0485

EFFECTIVE DATE: 08/14/2013  
EXPIRATION DATE: 07/09/2014  
US EPA ID NUMBER: NJR986628162

**AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)**

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
HIGH ACRES WESTERN EXPANSION LANDFILL	FAIRPORT , NY	Petroleum Contaminated Soil Sludge from Sewage or Water Supply Treatment Plant	
MICHIGAN DISPOSAL WTP	BELLEVILLE , MI	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Sludge from Sewage or Water Supply Treatment Plant Hazardous Industrial/Commercial Waste Oil	
NORTHEAST LAMP RECYCLING, INC.	EAST WINDSOR , CT	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial	
REPUBLIC ENVIRONMENTAL SYSTEMS	HATFIELD , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Grease Trap Waste Hazardous Industrial/Commercial Waste Oil	
REVERE SMELTING & REFINING CORPORATION	MIDDLETOWN , NY	Hazardous Industrial/Commercial	
TULLYTOWN LANDFILL (WASTE MANAGEMENT)	TULLYTOWN BURROUGH , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil	
VEOLIA ES TECHNICAL SOLUTIONS	FLANDERS , NJ	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial	
VEOLIA ES TECHNICAL SOLUTIONS LLC	WEST BRIDGEWATER , MA	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial	
VEOLIA ES TECHNICAL SOLUTIONS, LLC	PORT ARTHUR , TX	Non-Hazardous Industrial/Commercial	
WAYNE DISPOSAL, INC	BELLEVILLE , MI	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF MATERIALS MANAGEMENT

**PART 364**

**WASTE TRANSPORTER PERMIT NO. NJ-880**

Pursuant to Article 27, Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

**PERMIT ISSUED TO:**

IWT TRANSPORT, INC.  
306 RAMAPO VALLEY ROAD  
SUITE 2  
OAKLAND, NJ 07436

**PERMIT TYPE:**

- NEW  
 RENEWAL  
 MODIFICATION

CONTACT NAME: DAVID O'BRIEN  
COUNTY: OUT OF STATE  
TELEPHONE NO: (201)644-0485

EFFECTIVE DATE: 08/14/2013  
EXPIRATION DATE: 07/09/2014  
US EPA ID NUMBER: NJR986628162

**AUTHORIZED VEHICLES:**

The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

10 (Ten) Permitted Vehicle(s)

ME 1596738  
ME 162357A  
ME 1679091  
NJ AH755H  
NJ AK330A  
NJ AM379S  
NJ AM842Y  
NJ AN723M  
NJ AP667H  
NJ AP692T  
End of List

2510-CD-LRWM0056 Rev. 4/00

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
HAZARDOUS WASTE TRANSPORTER LICENSE

**PA-AH0798**

HWT LICENSE NO.

**08/31/2014**

EXPIRATION DATE

**6**

NO. OF COPIES

-VOID UNLESS VALIDATED

**VALIDATED**

**08/02/2012**

NAME & ADDRESS OF LICENSEE  
**IWT TRANSPORT, INC.**

**306 RAMAPO VALLEY RD  
STE 2  
OAKLAND NJ 07346**

BUSINESS PHONE NO.  
**201-644-0485**

24-HOUR PHONE NO.  
**973-768-5107**



SEE REVERSE FOR ADDITIONAL CONDITIONS -

# Alliance for Uniform HazMat Transportation Procedures Uniform Program Credentials



IWT TRANSPORT INC  
306 RAMAPO VALLEY RD STE 2  
OAKLAND, NJ 07436

**ALLIANCE**  
FOR UNIFORM  
**HAZMAT**  
TRANSPORTATION  
PROCEDURES

USDOT Census # **02306223**

MC Docket # **00787352**

EPA Transporter ID # **NJR986628162**

346849

Intrastate Motor Carrier #: **N/A**

292502

Phone Number to call in case of a accident or emergency: **(973) 768-5107 -- 24 Emergency HM Contact**

Uniform Program ID: **UPW-2306223-OH**

Certified By: **Leonard Shenk**

Issuance Date: **03-May-2013** Expiration Date: **01-Jul-2014**

Issuing Agency: **PUBLIC UTILITIES COMMISSION OF OHIO**

Agency Telephone: **(614) 466-3392**



**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION**



**HAZARDOUS MATERIALS  
CERTIFICATE OF REGISTRATION  
FOR REGISTRATION YEAR(S) 2013-2016**

**Registrant:** IWT TRANSPORT INC  
Attn: DAVID O'BRIEN  
306 RAMAPO VALLEY RD STE2  
OAKLAND, NJ 07436

This certifies that the registrant is registered with the U.S. Department of Transportation as required by 49 CFR Part 107, Subpart G.

This certificate is issued under the authority of 49 U.S.C. 5108. It is unlawful to alter or falsify this document.

**Reg. No: 052413 552 014VX      Issued: 05/24/2013      Expires: 06/30/2016**

**HM Company ID: 156118**

**Record Keeping Requirements for the Registration Program**

The following must be maintained at the principal place of business for a period of three years from the date of issuance of this Certificate of Registration:

- (1) A copy of the registration statement filed with PHMSA; and
- (2) This Certificate of Registration

Each person subject to the registration requirement must furnish that person's Certificate of Registration (or a copy) and all other records and information pertaining to the information contained in the registration statement to an authorized representative or special agent of the U. S. Department of Transportation upon request.

Each motor carrier (private or for-hire) and each vessel operator subject to the registration requirement must keep a copy of the current Certificate of Registration or another document bearing the registration number identified as the "U.S. DOT Hazmat Reg. No." in each truck and truck tractor or vessel (trailers and semi-trailers not included) used to transport hazardous materials subject to the registration requirement. The Certificate of Registration or document bearing the registration number must be made available, upon request, to enforcement personnel.

For information, contact the Hazardous Materials Registration Manager, PHH-52, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590, telephone (202) 366-4109.

**Chain Of Custody**  
**(Schneider Laboratories)**



**Schneider Laboratories Inc. Elap Certification**

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2014  
Issued April 01, 2013

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. RAJA ABOUZAKI  
SCHNEIDER LABORATORIES GLOBAL, INC  
2512 WEST CARY STREET  
RICHMOND, VA 23220-5117

NY Lab Id No: 11413

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2003) for the category  
ENVIRONMENTAL ANALYSES NON POTABLE WATER  
All approved analytes are listed below:*

**Volatile Halocarbons**

Dichlorodifluoromethane EPA 8260B

**Wastewater Metals I**

Lead, Total EPA 200.7 Rev. 4.4  
EPA 200.9 Rev. 2.2  
EPA 6010C  
SM 18-21 3111B (99)

**Sample Preparation Methods**

EPA 3005A  
EPA 3010A  
EPA 3020A  
EPA 5030B

Serial No.: 48640

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2014  
Issued April 01, 2013

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

**MR. RAJA ABOUZAKI**  
**SCHNEIDER LABORATORIES GLOBAL, INC**  
**2512 WEST CARY STREET**  
**RICHMOND, VA 23220-5117**

**NY Lab Id No: 11413**

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2003) for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved analytes are listed below:*

**Characteristic Testing**

**Sample Preparation Methods**

TCLP	EPA 1311	EPA 3010A
<b>Metals I</b>		EPA 3031
Barium, Total	EPA 6010C	EPA 3050B
Cadmium, Total	EPA 6010C	EPA 3550C
Chromium, Total	EPA 6010C	
Lead, Total	EPA 6010C	
Nickel, Total	EPA 6010C	
Silver, Total	EPA 6010C	
<b>Metals II</b>		
Antimony, Total	EPA 6010C	
Arsenic, Total	EPA 6010C	
Chromium VI	EPA 7196A	
Mercury, Total	EPA 7471A	
	EPA 7471B	
Selenium, Total	EPA 6010C	
<b>Polychlorinated Biphenyls</b>		
PCB-1016	EPA 8082A	
PCB-1221	EPA 8082A	
PCB-1232	EPA 8082A	
PCB-1242	EPA 8082A	
PCB-1248	EPA 8082A	
PCB-1254	EPA 8082A	
PCB-1260	EPA 8082A	

**Serial No.: 48641**

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2014  
Issued April 01, 2013

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. RAJA ABOUZAKI  
SCHNEIDER LABORATORIES GLOBAL, INC  
2512 WEST CARY STREET  
RICHMOND, VA 23220-5117

NY Lab Id No: 11413

*is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:*

**Miscellaneous**

Asbestos in Friable Material	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Lead in Dust Wipes	EPA 7000B
Lead in Paint	EPA 7000B

**Sample Preparation Methods**

APP. 14.2, HUD JUNE 1995  
EPA 3050B

STATE OF NEW YORK  
DEPARTMENT OF HEALTH

**Serial No.: 48642**

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



## Sample Blank Waste Manifest

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number <b>000067910 WAS</b>			
5. Generator's Name and Mailing Address				Generator's Site Address (if different than mailing address)				
Generator's Phone:				U.S. EPA ID Number				
6. Transporter 1 Company Name				U.S. EPA ID Number				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address				U.S. EPA ID Number				
Facility's Phone:								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes		
		No.	Type					
1.								
2.								
3.								
4.								
14. Special Handling Instructions and Additional Information								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offeror's Printed/Typed Name				Signature		Month	Day	Year
18. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name				Signature		Month	Day	Year
Transporter 2 Printed/Typed Name				Signature		Month	Day	Year
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
Manifest Reference Number: _____ U.S. EPA ID Number _____								
18b. Alternate Facility (or Generator)								
Facility's Phone:				U.S. EPA ID Number				
18c. Signature of Alternate Facility (or Generator)								
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1.	2.	3.	4.					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

**Hazardous Waste Label**

# HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE, OR APPROVAL #  
PUBLIC SAFETY AUTHORITY, OR THE  
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROPER U.S. DOT

DESCRIPTION RO Hazardous waste solid, n.o.s.  
NA3077, PG111

GENERATOR INFORMATION:

NAME ABC Co. Inc.

ADDRESS 123 B Street

CITY New York

PHONE 000-123-4567

STATE NY ZIP 11111

EPA

EPA MANIFEST

EPA WASTE NO.

ID NO. NY000000123 DOCUMENT NO.

0008

ACCUMULATION

START DATE

1-1-03

STATE MANIFEST

DOCUMENT NO. NJA444555

**HANDLE WITH CARE!**  
**CONTAINS HAZARDOUS OR TOXIC WASTES**

Printed By: North American Software, Inc. P.O. Box 1167 Los Forest, CA 95030 • (800) 886-5878

Form FA

## **APPENDIX C**

# **HAZARDOUS WASTE TSD INFORMATION**



ENVIRONMENTAL SERVICES • HAZARDOUS WASTE MANAGEMENT

306 Ramapo Valley Road, Suite 2, Oakland, NJ 07436 • (201) 644-0485 • Fax: (201) 644-0489

Monday, September 30, 2013

Mr. Liam Harney  
Ahern Painting Contractors, Inc.  
P.O. Box 1070  
Woodside, NY 11377

**Re: Waste Disposal: PANY & NJ Cont# AKB-264.039 - Replace Main Span Roadway & Approach Structures on Bayonne Bridge**

To Whom It May Concern:

IWT Transport, Inc. has entered into an agreement with Ahern Painting Contractors, Inc. to manage the transportation, treatment and disposal of the waste generated on the above referenced project. The method being used will be as follows:

- 1. Storage Container:** A storage container which conforms to 49 CFR Part 178.504 (Non-bulk Performance-oriented Packaging standards for steel drums) will be used. Each storage container will have a removable lid. The container will not be damaged or in a condition that would allow seepage of any of the material contained therein. Drums will be 1A2 (steel removable head) drums.
- 2. Maintenance: The Painting Contractor** will maintain any temporary loading and storage facilities on site as required until completion of project. Waste storage arrangements prior to pick up will be maintained by the **Painting Contractor** according to specifications outlined in the contract documents. **The Painting Contractor** will be responsible for the submittal of his work plan which will include the information concerning air, water, and soil testing. It will also disclose the nature of the collection and storage procedure along with its intended record-keeping information. **The Painting Contractor** shall also be responsible for providing the generator with its Emergency Management Plan, which would include all aspects of Emergency Management, equipment list and materials and methods to be used in the completion of this project.
- 3. Sampling and Analysis:** Representative samples shall be collected in accordance with the requirements of SW846 and tested by TCLP for lead in accordance with Appendix II of 40 CFR 261 if required by contract. Sampling will be done by a representative of The Port Authority of NY & NJ. Analysis will be performed by Schneider Laboratories Inc., 2512 West Cary Street, Richmond, VA (Certification certificate attached). If required by contract, TCLP Lead testing will be performed for drum or bulk treatment / disposal at Clean Earth of North Jersey that is in conformance with their permit requirements. The sample will be delivered to Schneider Laboratories Inc. with a proper chain of custody record (see attached Chain of Custody example).

4. **Waste Characterization:** Waste will be characterized based on the laboratory waste analytical report or generator knowledge. A Waste Characterization Report (WCR) for Clean Earth of North Jersey, 105 Jacobus Avenue, Kearny, NJ 07032 will be prepared by IWT and must be signed by the generator representative. The WCR report will be submitted to the treatment facility and be reviewed for approval. When acceptance is granted the treatment facility will issue a commitment letter which will be forwarded to the Painting Contractor by Industrial Waste Technologies. A tracking or approval number will then be assigned. This tracking number will be written on the manifest and on the hazardous waste label.

5. **Labeling:** Containers will be properly labeled with DOT approved hazardous waste labels (sample attached) containing the following information: Generators name and address, EPA ID#, Manifest number, Date of Generation, EPA Waste number, DOT Proper shipping name, technical name, and UN/NA number. The containers will be labeled according to DOT shipping requirements as stated by the contract documents.

6. **Transportation:** (Permits attached) A licensed Hazardous Waste hauler (IWT Transport, Inc., 306 Ramapo Valley Road, Suite 2, Oakland, NJ, EPA ID# NJR986628162) will transport the material to the treatment facility. The manifest will be prepared in compliance with 40 CFR Part 263 (Standards applicable to Transporters of Hazardous waste). The manifest will accompany the hauler along with the properly labeled waste to the treatment facility.

7. **Treatment:** Material will be treated at a licensed facility (Clean Earth of North Jersey, 105 Jacobus Avenue, South Kearny, NJ 07032 EPA ID# NJD991291105) which uses the Pozzolanic solidification process to stabilize and solidify waste which locks hazardous constituents into an insoluble matrix, to ready for non-hazardous disposal. A commitment letter from the treatment facility can only be obtained when a properly filled out Waste Characterization Form is filled out and submitted and approved.

8. **Paperwork:** IWT will confer with a generator representative, prepare the manifest, and deliver the manifest to the transporter. At the time of transportation the proper copies of the manifest will be left with the generator on site. The transporter and TSDF copies will accompany the waste to the treatment site. After the waste is accepted, treated, and disposed of properly, a signed copy of the manifest will be mailed from the TSDF to the Generator along with a Certificate of Disposal.

Sincerely,



David O'Brien  
President

Enclosures: Clean Earth of North Jersey  
(Insurance Documents & Operating Licenses)  
IWT Transport, Inc.  
(Insurance Documents & Transportation Permits)  
Chain of Custody  
Schneider Laboratories Inc. ELAP Certification  
Hazardous Waste Label  
Sample Blank Waste Manifest

**APPENDIX D**

**HAZARDOUS WASTE MGT. RCRA PLAN  
AGREEMENT SHEET**

**HAZARDOUS WASTE MANAGEMENT RCRA EMERGENCY CONTINGENCY PLAN  
AGREEMENT SHEET**

NAME: \_\_\_\_\_

SOCIAL SECURITY #: \_\_\_\_\_

DATE: \_\_\_\_\_

I HAVE RECEIVED TRAINING IN THE REQUIREMENTS OF THE HAZARDOUS WASTE MANAGEMENT RCRA EMERGENCY CONTINGENCY PLAN AND UNDERSTAND THAT IT IS MY RESPONSIBILITY TO COMPLY WITH THESE REQUIREMENTS AS A CONDITION OF EMPLOYMENT ON THIS JOB SITE, INCLUDING ALL SAFETY, HEALTH, ENVIRONMENTAL AND HAZARDOUS WASTE PROCEDURES. I AGREE TO THESE CONDITIONS.

FURTHERMORE, I HAVE BEEN NOTIFIED OF THE HAZARDS OF THIS PROJECT AND UNDERSTAND THAT I HAVE A RIGHT TO ACCESS RECORDS OF BOTH MY MEDICAL EVALUATIONS AND INFORMATION, AND ANY EXPOSURE INFORMATION PERTAINING TO WORK ON THIS JOB.

SIGNATURE: \_\_\_\_\_

**APPENDIX E**  
**DIRECTIONS TO HOSPITAL**

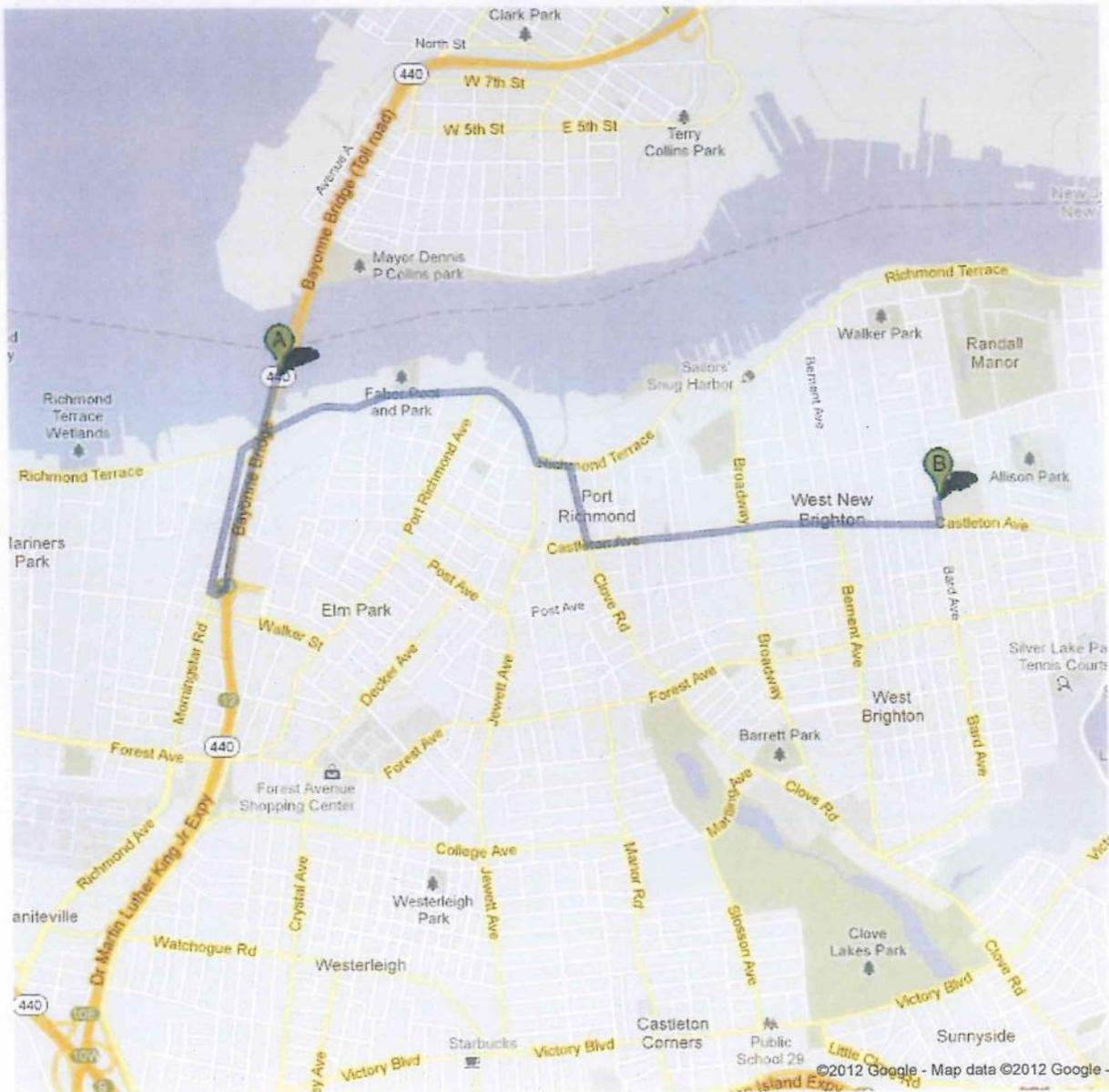


**Directions to Richmond University Medical Center**

355 Bard Avenue, Staten Island, New York 10310 -

(718) 818-1234

3.5 mi – about 9 mins





NY-440 S



1. Head south on NY-440 S

Toll road

Entering New York

go 0.6 mi

total 0.6 mi



2. Take exit 13 for Morningstar Rd toward Richmond Terrace

Toll road

go 276 ft

total 0.7 mi



3. Turn right onto Morningstar Rd

About 1 min

go 0.4 mi

total 1.1 mi



4. Turn right onto Richmond Terrace

About 2 mins

go 1.0 mi

total 2.1 mi



5. Turn left to stay on Richmond Terrace

go 495 ft

total 2.2 mi



6. Take the 2nd right onto Clove Rd

go 0.2 mi

total 2.5 mi



7. Take the 2nd left onto Castleton Ave

About 3 mins

go 1.0 mi

total 3.5 mi



8. Turn left onto Bard Ave

Destination will be on the right

go 381 ft

total 3.5 mi



**Richmond University Medical Center**

355 Bard Avenue, Staten Island, New York 10310 - (718) 818-1234

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on [maps.google.com](http://maps.google.com) and click "Report a problem" at the bottom left.



Directions to Bayonne Medical Center  
29 East 29th Street, Bayonne, NJ 07002  
3.0 mi – about 6 mins





New Jersey 440



1. Head north on NJ-440 N  
About 2 mins

go 2.2 mi  
total 2.2 mi



2. Turn left onto E 22nd St  
About 2 mins

go 0.3 mi  
total 2.5 mi



3. Take the 3rd right onto Avenue E  
About 1 min

go 0.4 mi  
total 2.9 mi



4. Turn left onto E 29th St  
Destination will be on the right

go 430 ft  
total 3.0 mi



**Bayonne Medical Center**  
29 East 29th Street, Bayonne, NJ 07002

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

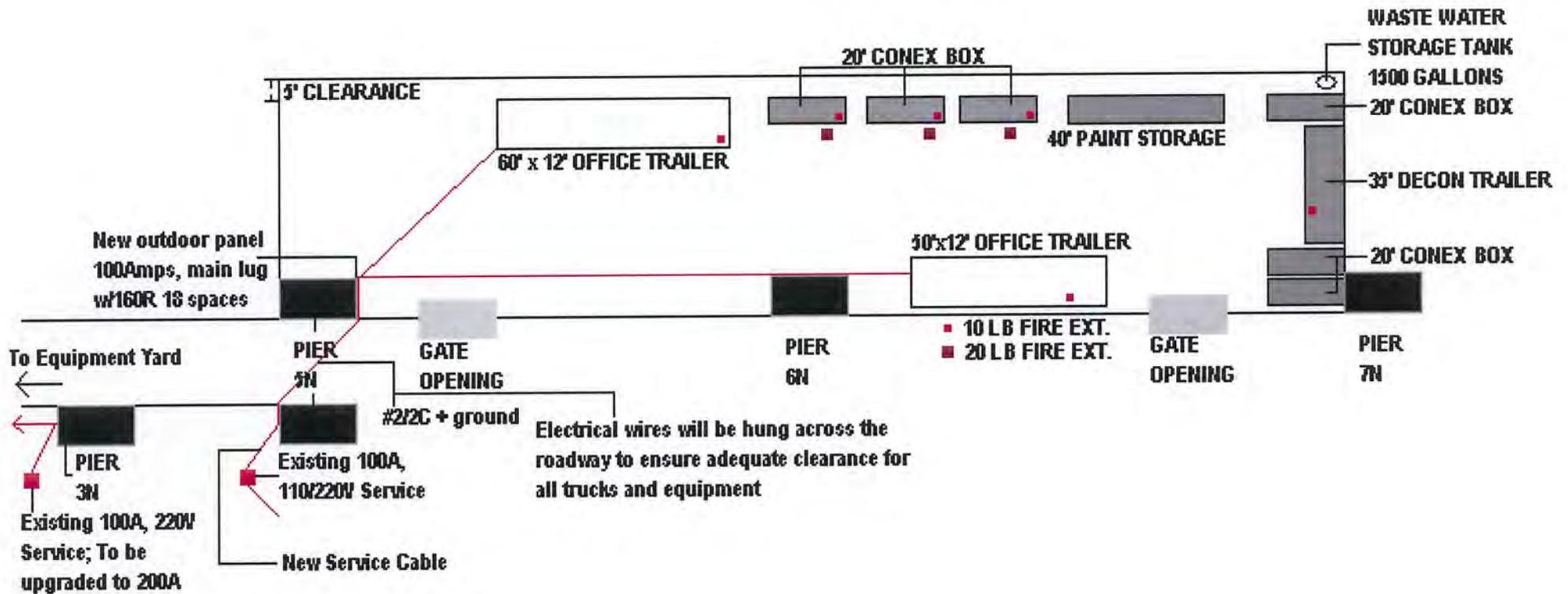
Directions weren't right? Please find your route on [maps.google.com](http://maps.google.com) and click "Report a problem" at the bottom left.

**APPENDIX F**  
**NOTIFICATION LETTERS**

**WILL BE SUBMITTED UNDER  
SEPARATE COVER**

**APPENDIX G**  
**SITE LAYOUT PLANS**

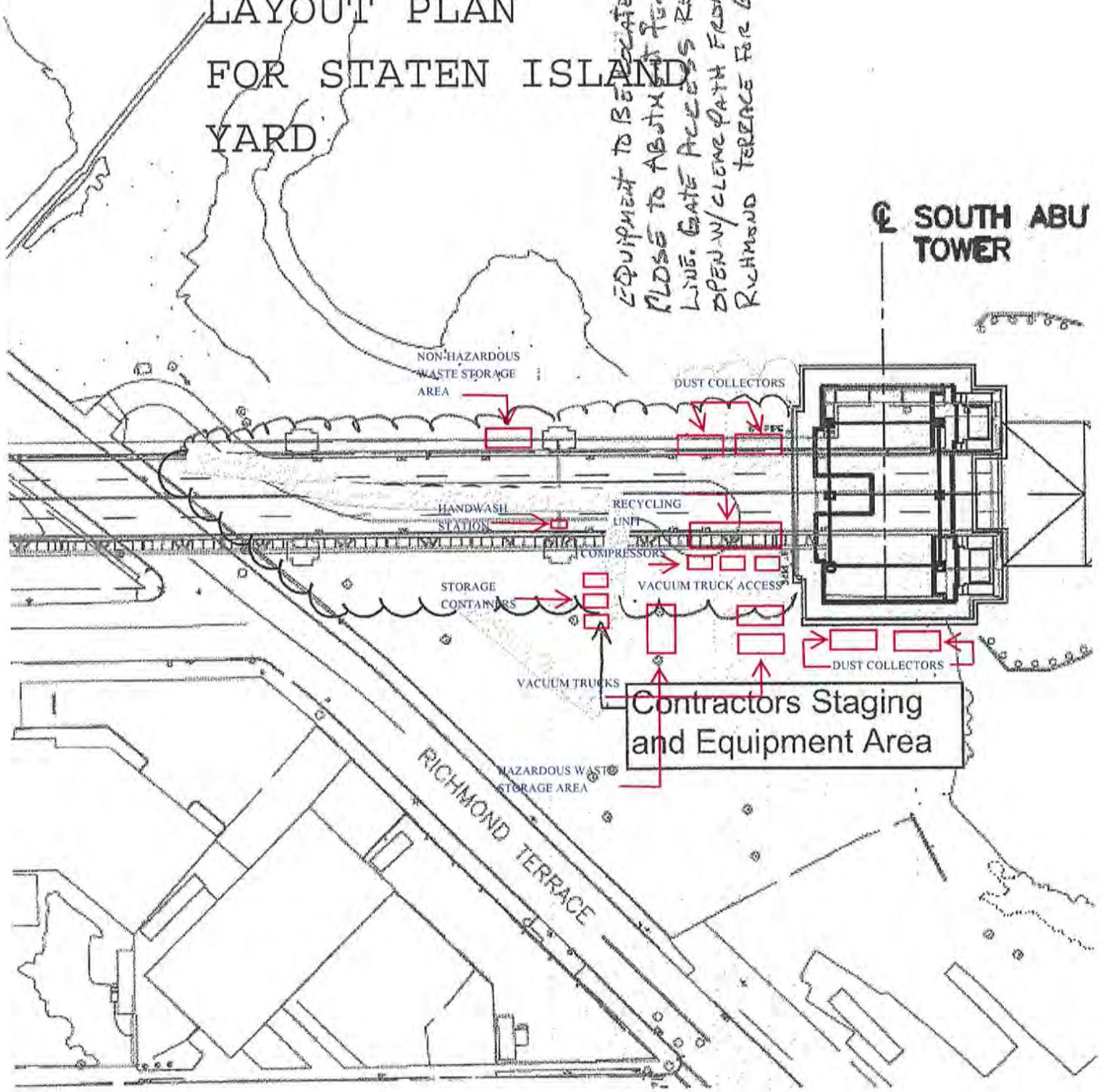
# CONTRACT: AKB 264.039: BAYONNE BRIDGE



# CONTRACT: AKB 264.039: BAYONNE BRIDGE

## PROPOSED SITE LAYOUT PLAN FOR STATEN ISLAND YARD

*EQUIPMENT TO BE LOCATED  
CLOSE TO ABOUT 1/2 MILE  
LINE. GATE ACCESS REMAINS  
OPEN/W/CLONE PATH FROM  
RICHMOND TERRACE FOR EMERGENCIES*

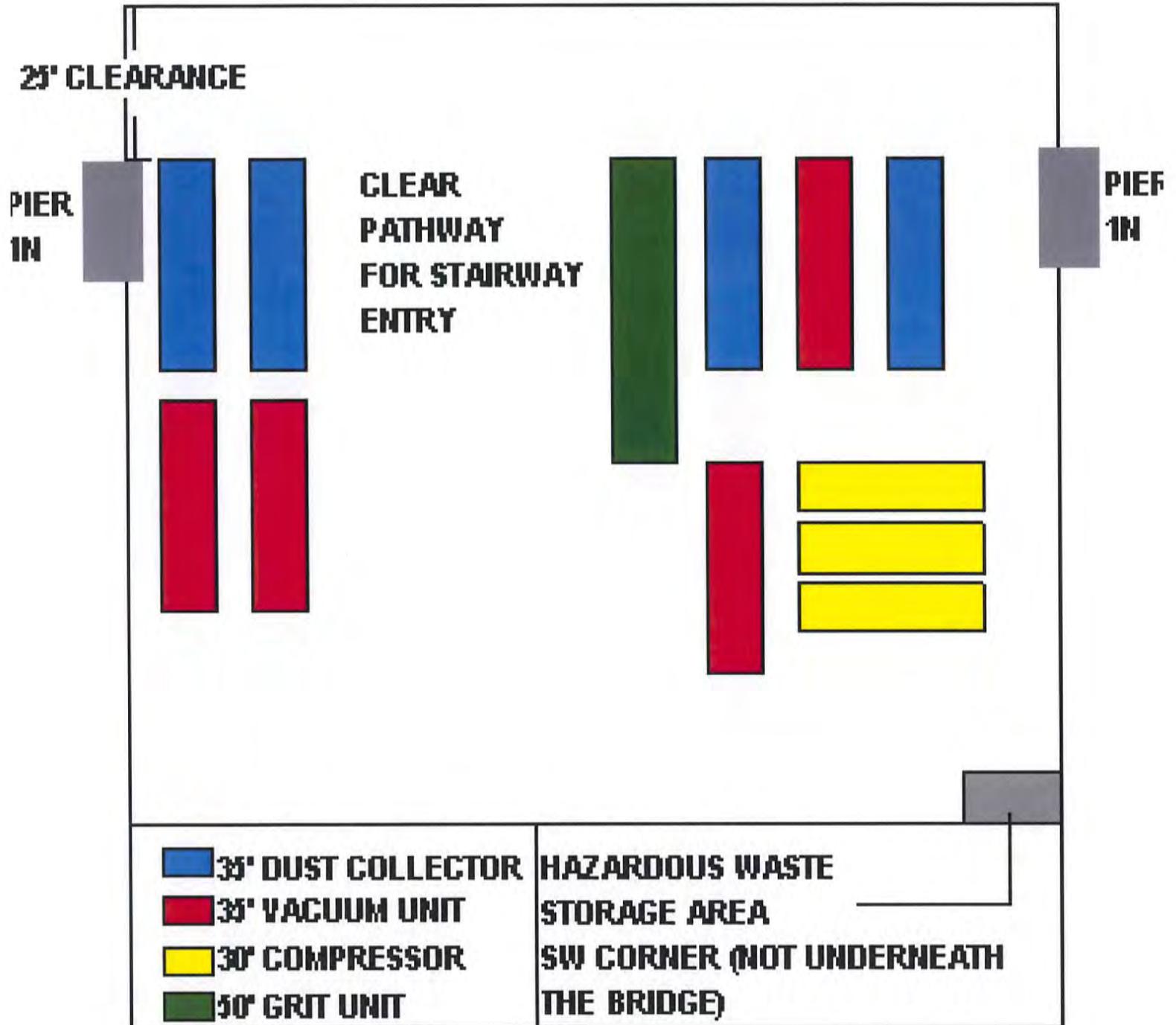


**SOUTH ABU  
TOWER**

**RICHMOND TERRACE**

**Contractors Staging  
and Equipment Area**

# CONTRACT: AKB 264.039: BAYONNE BRIDGE



**APPENDIX H**  
**PERSONNEL CERTIFICATIONS**

**WILL BE SUBMITTED UNDER  
SEPARATE COVER**

# **APPENDIX I**

## **HAZARDOUS WASTE MANAGEMENT TRAINING**

**HAZARDOUS WASTE MANAGEMENT TRAINING**  
40 CFR 265.16 and NYCRR 373.3.2 (g)

- I. Introduction**
- II. Federal EPA Regulations vs. NYS DEC Regulations**
  - a) Overview for Resource Conservation Recovery Act (RCRA)**
    - Goals
    - Non-Hazardous vs. Hazardous Waste
    - Responsible Parties (i.e. Cradle to Grave)
    - Generator Classifications
    - Generator Requirements
  - b) Contingency Plan & Training ( 40 CFR 265.15 & 262.34)**
    - Requirements for Communication Systems
    - Procedures for Preventing Environmental Releases
    - Worker Training Requirements
    - Preparedness Prevention & Contingency Plan (PPCP)
    - National Response Center (NRC) 800-424-8802
    - CERCLA
  - c) NYCRR 373.3.2 (g) Personnel Training**
    - Procedures for using, inspecting, repairing and replacing facility monitoring equipment
    - Parameters for automatic waste feed cut-off systems
    - Communication & Alarm Systems
    - Response to Fire or Explosions
    - Response to Groundwater contamination incidents
    - Shutdown of Operations
    - NYS DEC Spill Notification Number (518) 457-7362
- III RCRA Contingency Plan**
  - a) Review of Ahern Painting's Site Specific Plan
  - b) Handling Hazardous Waste
  - c) Labeling of Containers
  - d) Storage Requirements
  - e) Spills and Clean-up
  - f) Emergency Procedures and Notification Systems
  - g) Environmental Protection
  - h) Worker Responsibilities



## **APPENDIX J**

# **WORKER TRAINING SPREADSHEET**

**WILL BE SUBMITTED UNDER  
SEPARATE COVER**

## **APPENDIX K**

### **EMERGENCY EQUIPMENT CUT SHEETS**

1-800-511-8652  
M - F, 8:30AM-5:00PM EST  
[Contact Us](#) [Customer Service](#)

Live Help

Start Chat

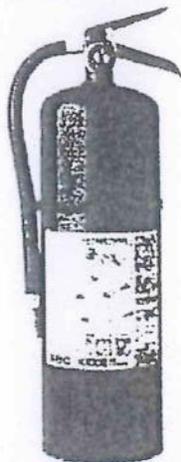
Welcome,

[Home](#) | [About Us](#) | [Terms & Conditions](#) | [Testimonials](#)

[Respirators](#)   [Gatorade & Sqwincher](#)   [Work Gloves](#)   [Eye Wash](#)   [Fire Extinguishers](#)   [Safety C](#)

[Home](#) : [Fire Extinguishers & Detectors](#) : [Kidde Fire Extinguishers](#) : [Kidde Pro Line 10 lb. ABC Fire Extinguisher - PRO 10 MP](#)

Spend over \$125.00 to qualify for free shipping!



click to enlarge

### Kidde Pro Line 10 lb. ABC Fire Extinguisher - PRO 10 MP

Item # 466204

Rating Rate this item

Regular Price \$76.99

Sale Price \$65.60

Unit: Single

Quantity

ADD TO CART

[Description](#)   [Product Specifications](#)   [MSDS Sheet](#)   [Product Reviews](#)

- 10 lb Multi Purpose Dry Chemical Fire Extinguisher
- Effective against Class A, B and C fires - 4A:60B:C Rating
- Uses a Monoammonium Phosphate Agent
- Please note - A \$25.00 hazmat fee will be charged at checkout for fire extinguishers. You pay only one Hazmat fee regardless of the quantity of fire extinguishers ordered. Although we pay for shipping on orders over \$125, the Hazmat fee cannot be waived.

Catch small fires before they become large blazes. These portable fire extinguishers complete with a wall hook can go from small fire to no fire! These Pro Line extinguishers feature metal valves and aluminum cylinders. They are designed for most commercial and industrial applications - Offices, Hotels, Schools or Warehouses. The mild steel cylinders feature a chip-resistant red paint. The handle and levers are made of pressed heavy-gauge metal for durability and strength. Checking the pressure is easy with the pressure gauge. The ABC Pro Line Fire Extinguishers use a 1/2 non-toxic Monoammonium Phosphate agent that effectively fights class A, B and C fires.

Discounts are available for large purchases through our Large Order Program. Please contact Customer Service or fill out a request for a [quote](#).

KIDDE FIRE EXTINGUISHERS

# WESTERN TOOL & SAFETY, INC.

## HOME

## PRODUCTS

- SAFETY
- FIRST AID & PROTECTION KITS
- GLOVES
- BLADES, BITS & TOOLS
- MISC. JOB SUPPLIES
- COMPANY LINESHEET

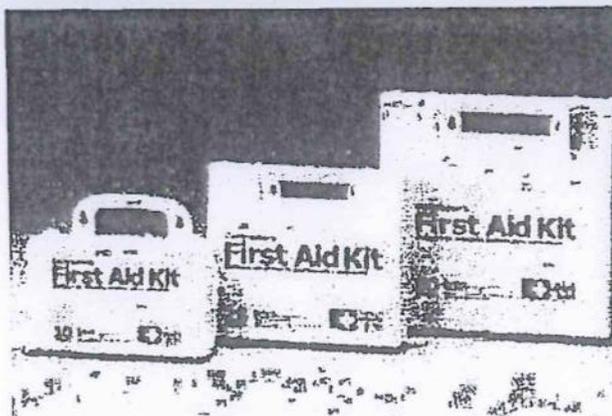
## CONTACT US

## Site Map

August 25, 2010

Site Search

Search



## ANSI / OSHA #25 FIRST AID

THIS INDUSTRIAL 25 MAN FIRE FEDERAL OSHA STANDARD 191 Z308.1-2003 REQUIREMENTS. A VARIETY OF ITEMS TOTALING 1 SLEEK, CONTOURED DESIGNED RESISTANT PLASTIC CASE WITH MOUNTING HOLES. THIS UNIQUE TRANSPORT AND STORAGE IN THE OFFICE, SHOP, OR ON JOB WORDS: MEETS FEDERAL OSHA/ ANSI Z308.1-2003 REQUIREME

AND BACK OF THE KIT. A COMPLETE LIST OF THE CONTENTS IS ALSO FEATURED THE KIT. THESE IMPACT RESISTANT CASES WILL NOT DENT OR RUST AS METAL 9" X 8 3/8" X 2 1/2".

## EACH KIT CONTAINS THE FOLLOWING:

QTY.	DESCRIPTION
1	Plastic case w/ dividers, 9" X 8 3/8" X 2 1/2"
100	1" X 3" Adhesive plastic bandages
3	Knuckle fabric bandages
3	Fingertip fabric bandages
1	40" X 40" X 56" Triangular sling/bandage w/2 safety pins
4	3" X 3" Gauze dressing pads, 2-2 packs
5	2" X 3" Non stick pads
1	5" X 9" Trauma pad
1	3" Conforming gauze roll bandage
1	2" Conforming gauze roll bandage
2	Sterile eye pads
15	Antiseptic cleansing wipes- sting free
3	Ammonia inhalant ampoules
6	First aid / burn cream packs, 0.9 gm
1	4" X 5" Instant cold compress
1	1/2" X 10 yd. First aid tape roll
1	4 1/2" scissors, nickel plated
1	4" Tweezers (plastic)
4	Exam quality vinyl gloves, 2 pairs
1	Eye wash, 1/2 oz.
1	37 Page first aid guide

# Personal Eye Washes

Personal eye washes can be positioned in place for quick and convenient flushing of eyes. These eye washes can be used to provide first aid relief for eyes in an emergency, but they do NOT meet the criteria established by the ANSI standard for plumbed or self-contained eye washes. They can be used to provide temporary relief for eyes, but are not intended to replace them.



Single-Bottle Station



Double-Bottle Station

## ESPERIAN Economy Wall Stations

When you get something in your eye, these Stations provide temporary first aid until you can reach a hospital for a full 15-min. flushing. Bottles have pop-off tops (no seals) and an expiration date to help guard against contamination. Directions are printed directly on the Station for quick reference. Stations have pre-drilled holes for wall mounting and come with mounting screws and double-sided adhesive tape.

Plastic Single-Bottle Stations come with 16- or 32-oz. Bottles. Double-Bottle Stations hold 32-oz. Bottles. Replacement Bottles sold separately. Compliance: ANSI Z358.1-2004 (as a personal eye wash only).

Description	Each
9789 16-oz. Single-Bottle Station	1-3 \$24.10
9790 32-oz. Single-Bottle Station	33.10
9791 32-oz. Double-Bottle Station	46.10
9788 16-oz. Replacement Bottle	9.50
9782 32-oz. Replacement Bottle	12.70

## Eye Wash Stations

High-Visibility Yellow for Easy-to-Find Emergency Relief

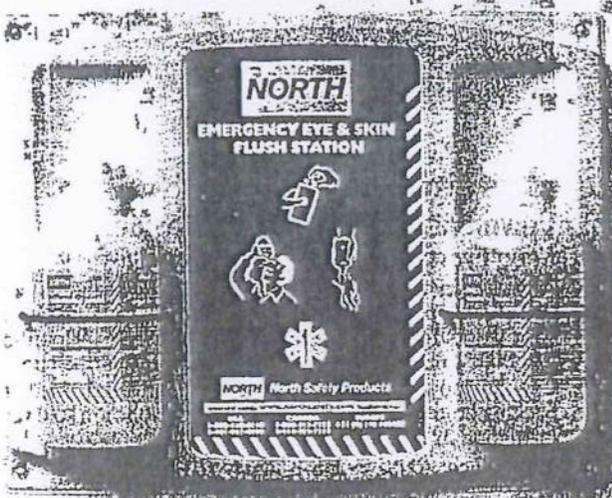
When chemical splashes threaten eyesight, quick response is critical. These functionally designed personal Eye Wash Stations work quickly because they are easy to use and easy to see. Strap holds bottles in a molded tray, keeping them firmly in place, even in vibration environments.

Single Stations hold one 16- or one 32-oz. Bottle of Eye-Lert® Portable Eye Wash and Skin Flush; Double Stations hold two Bottles. Soft, flexible LDPE Bottles are easier to handle in cold weather. Caps pop off easily with just 1/2 lb. of torque. A hanging loop makes hanging Bottles easier for emergency personnel. Order Replacement Bottles in both sizes.

Compliance: FDA cGMP guidelines.



16-oz. Single Eye Wash Station



16-oz. Double Eye Wash Station

Description	Each		
	1-5	6-11	12+
94425 16-oz. Single Eye Wash Station	\$21.80	\$20.20	\$19.30
94426 16-oz. Double Eye Wash Station	30.50	28.40	27.00
94427 32-oz. Single Eye Wash Station	27.70	25.80	24.60
94428 32-oz. Double Eye Wash Station	35.80	33.40	31.80
156443 16-oz. Replacement Bottle	9.00	8.40	8.00
156444 32-oz. Replacement Bottle	13.00	12.20	11.60

NEED HELP? Call our Technical Support Experts at 1-800-356-2501 from 6 a.m. to 9 p.m. CT, Mon.-Fri.



**APPENDIX L**  
**AHERN CERTIFICATIONS**



# Ahern Painting Contractors, Inc.

of Woodside, NY



*has met or exceeded the requirements set forth in the  
SSPC Painting Contractor Certification Program for*

## **FIELD APPLICATION OF COATINGS COMPLEX STRUCTURES SSPC-QP1**

*Stephen P. Collins*

.....  
President, SSPC

.....  
March 31, 2013 – March 31, 2014  
.....  
Validation Period

Owners are advised to contact SSPC at 412-281-2331 ext. 2235 or ext. 2209 to verify authenticity of certification.



# Ahern Painting Contractors, Inc.

of Woodside, NY

has met or exceeded the requirements set forth in the  
SSPC Painting Contractor Certification Program for



## INDUSTRIAL HAZARDOUS PAINT REMOVAL SSPC-QP2

"A"

Category

*Stephen P. Collins*  
President, SSPC

March 31, 2013 – March 31, 2014

Validation Period

Owners are advised to contact SSPC at 412-281-2331 ext. 2235 or ext. 2209 to verify authenticity of certification.



# **Bayonne Bridge Navigational Clearance Program**

## **Phase I Environmental Site Assessment**

**May 2013**

**Bayonne, New Jersey and Staten Island, New York**  
HMM 322874AA01



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## 1.0 EXECUTIVE SUMMARY

Hatch Mott MacDonald (HMM), on behalf of The Port Authority of New York and New Jersey (Port Authority), has conducted a Phase I Environmental Site Assessment (ESA) of 19 areas of land associated with the Bayonne Bridge Navigational Clearance Program located in Bayonne, New Jersey and Staten Island, New York which is subsequently referred to as “the project site”. This assessment was prepared in accordance with the American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I ESA Process ASTM E 1527-05. The Phase I ESA has been requested in an effort to determine potential environmental liability associated with the project site and to investigate the potential for the presence of areas of recognized environmental conditions.

The performance of this Phase I ESA revealed the following recognized environmental conditions (REC) within the vicinity of the project site:

- Historic Fill – The project site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. Additionally, known filling events occurred at Bayonne Block 391, Lots 3, 4 and 5 and Staten Island Block 1105, Lot 51/Block 1107, Lot 1 to extend the shoreline into the Kill Van Kull. A quarry was present on Block 1127, Lot 1 prior to 1931. The potential exists for the project site to have been historically filled.
- Polychlorinated biphenyls (PCBs) – PCBs have been detected in site soils at Bayonne Block 345, Lot 1 at concentrations above the current New Jersey Department of Environmental Protection (NJDEP) Soil Remediation Standards. The Port Authority conducted a remedial action from September through October 1993 that included the excavation of soil from Block 345, Lot 1 at areas underneath and adjacent to the bridge and outside the limit of the playground to depths ranging from 4 to 10 inches below the ground surface. No post-excavation soil samples were collected to confirm the soil removal efforts were successful. The environmental quality of the soil that remains at Block 345, Lot 1 is unknown. Therefore, the potential exists for soils impacted with PCBs to remain at Block 345, Lot 1 onsite. In addition, it should be noted that an active case remains open with the NJDEP for this incident which is identified under Program Interest (PI) #G000021830.

- Lead- In the 1990s lead was detected in shallow soils in the vicinity of the playground (Bayonne Block 345, Lot 1) at concentrations ranging from 5 milligrams/kilogram (mg/kg) to 606 mg/kg at 11 locations. Lead was detected at concentrations above the New Jersey Soil Remediation Standards in at least one location. Lead was detected in soil in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine unknown locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. Additionally, surface soil samples were collected at Bayonne Block 391, Lots 4 and 5 and Staten Island Block 1105, Lot 51 in 2012. Lead was detected at concentration above the regulatory standard at one or more locations. The Port Authority completed a successful remedial action to remove lead in surface soils at Block 391, Lots 3 and 5 in the vicinity of the ball field in 1994. However, lead may remain in soil. Given that lead has been detected in soil at concentrations above the applicable regulatory standards at these properties, the potential exists for the soil at the project site to be impacted with lead.
- Bridge drains - Several drains for the bridge roadway which discharge to the ground surface are present onsite. At one of the drain outfalls at Bayonne Block 345, Lot 1 HMM observed dark colored soil, gravel, and debris consisting of wood and plastic. The environmental quality of soil near the drains is unknown. The potential exists for impacts to be present in the vicinity of the bridge drains.
- Dumpster (Block 362, Lot 1) – Surficial staining was observed on the ground surface around a trash dumpster in 2011. The environmental quality of the soil in the vicinity of the dumpster is unknown.
- Soil stockpiles – Soil stockpiles were located at Block 1125, Lot 1, Block 1105, Lots 1 and 2, and Block 361, Lot 1. The Port Authority was not aware of the source of the soil. The environmental quality of the soil is unknown.
- Groundwater Monitoring Well- A groundwater monitoring well was located at Block 302, Lot 4, and Block 1123, Lot 51. The Port Authority was not aware of the wells, nor did they have any information on the wells. Groundwater samples were collected from the wells in April 2013. No target compounds were detected in the well at Block 1123, Lot 51. A sample from monitoring well at Block 302, Lot 4 contained VOCs above the New Jersey Groundwater Quality Standards attributed to an offsite release unrelated to Port Authority. The wells were abandoned by a licensed well driller in April 2013.

- Arsenic in soil and groundwater at Block 373, Lot 3 –Arsenic concentrations in soil range from 18.3 to 10,800 mg/kg. The concentrations of arsenic in groundwater range from 140 (micrograms/liter) ug/L to 144,000 ug/L. Two separate arsenic plumes have been identified. The presence of arsenic in soil and groundwater at Block 373, Lot 3 is a concern. The Port Authority intends to complete a Remedial Action
- Rail Spur – A rail spur was previously located on the southwestern portion of Block 362, Lot 1. It should be noted that the presence of polynuclear aromatic hydrocarbons (PAHs), metals, and constituents of oil or fuel (petroleum products) are commonly identified in soils along former railroad lines due to the placement of impacted bedding material (which is generally imported) and releases of petroleum products during load and unloading operations. The environmental quality of soil in the vicinity of the rail spur is unknown.
- Underground Storage Tank (UST) – Sanborn maps from 1917 identified an UST on the southwestern portion of Block 1105, Lot 51/Block 1107, Lot 1. The UST appeared to be associated with a former filling station. The presence of the UST at Block 1105, Lot 51/Block 1107, Lot 1 is unknown.
- Historic Land uses – Historically the project site was occupied by buildings associated with Texaco Oil Company including a filling station (Block 1105, Lots 1 and 51), Rhem Manufacturing Company (Block 362, Lot 1), and John Boyle Company (Block 346, Lot 11). The potential exists for the aforementioned block and lots located at the project site to have been impacted from the former land uses.
- Adjacent Properties – The potential exists for the project site to be adversely impacted by adjacent properties. One or more adjacent properties have an active regulatory status and are located potentially upgradient of the project site. Two Classification Exception Areas (CEAs) from adjacent properties are believed to extend onto the project site. Freedom of Information Act requests have been submitted for more information. Pertinent information received will be submitted as an addendum.
- Air Compressor Fire – A spill of diesel, #10 oil, and antifreeze as a result of an air compressor fire was reported at Bayonne Block 391, Lot 5 in 2007. The Port Authority conducted remedial activities that included the removal of liquids and soil excavation. However, no post-excavation soil samples were collected for analysis to document remedial activities were completed. The incident has an active regulatory status.

- Petroleum Pipelines – Mapping reviewed as part of this Phase I ESA identified petroleum pipelines owned by Tidewater Pipe Company/Standard Oil Company to be located on the portion of the project site at Map ID #1. It is unknown whether the pipelines remain onsite. Personnel interviewed were not aware of the pipelines or their condition.

## 2.0 INTRODUCTION

Hatch Mott MacDonald (HMM), on behalf of the Port Authority, has prepared this Phase I Environmental Site Assessment (ESA) of 19 areas of land that comprise the Bayonne Bridge and its approaches located in Staten Island New York and Bayonne New Jersey. Specifically, the project site corresponds to the work area identified on the Port Authority drawing titled Replacement of Main Span Roadway and Approach Structures and includes 16 Port Authority-owned parcels of land and three publically owned areas of land. A list of the properties included in the project site is provided in Table 1. The Bayonne Bridge spans across the Kill Van Kull between New York and New Jersey. The Port Authority proposes to raise the existing road deck approximately 65 feet in height to a mid-span height of 215 feet in order to accommodate large container ships. In addition to raising the bridge deck, the improvements would extend the overall length of the bridge approaches and disturb land north and south of the bridge for construction easements.

### 2.1 Purpose

The purpose of the Phase I ESA is to identify recognized environmental conditions, if any, in connection with real property (including improvements). For the purpose of the Phase I ESA, recognized environmental conditions are defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products, including natural gas, into structures on the property or into the ground, groundwater or surface water of the property. Please note that recognized environmental conditions include hazardous substances and petroleum products even under conditions that are in compliance with the law. The term is not intended to include *de minimis* conditions that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

### 2.2 Detailed Scope-of-Services

This Phase I ESA was performed in accordance with the standards set forth by the American Society for Testing and Materials (ASTM) for Phase I ESAs, as detailed in the document entitled “Standard Practice for Environmental Site Assessment E1527-05: Phase I Environmental Site Assessment Process.” This Phase I ESA includes completion of the following tasks: site reconnaissance at the project site including a visual review of the exterior portions of the project site and the interior of the onsite structure; a review of standard historical sources including historic aerial photographs and topographic maps; contact with officials of federal, state and local regulatory agencies; interviews with the current property owner, regarding the project site’s history and the surrounding vicinity; and a review of reasonably ascertainable standard Environmental Record Sources. Reasonably ascertainable means information that is publicly available, information that is obtainable from its source within reasonable time and cost constraints (information will be provided by the source within 20 calendar days of receiving a written, telephone or in-person request at no more than a nominal cost), and information that is practically reviewable.

### 2.3 Significant Assumptions

While this report provides an overview of potential environmental concerns, both past and present, the environmental assessment was completed with available information at the time of assessment. The conclusion and recommendations regarding environmental conditions that are presented in this report are based on the scope of work authorized by the Client.

### 2.4 Limitations and Exceptions

The information provided in this report is based on information provided through site reconnaissance activities initially conducted on June 14 through 16, 2011, July 6, 2011 and recently updated on March 28 and 29, 2013 and April 29, 2013, information provided by representatives of state and local regulatory agencies, interviews with the current property owners, review of standard historical sources (including aerial photographs and topographic maps), and review of reasonably ascertainable Environmental Record Sources.

Portion of Bayonne Block 391, Lots 4 and 5 and Staten Island Block 1105, Lots 1 and 51 are located in the Kill Van Kull. For the purpose of this Phase I ESA, the assessment was restricted to areas on land and no areas located underwater were evaluated.

This Phase I ESA did not include any sampling or testing of air, water or soil by HMM which is beyond the scope of a Phase I ESA. Please note that the identification of RECs was made possible by those identified through completion of the scope of services outlined in the ASTM Phase I ESA Process.

To be afforded one of the Landowner Liability Protections provided by the Small Business and Liability Relief and Brownfields Rehabilitation Act, the ASTM E 1527-05 Process requires the “User,” to provide certain information, as appropriate, to the Environmental Professional performing the Phase I ESA (HMM Representative). ASTM defines the User (i.e., the Client) as the party seeking to use Practice E1527-05 to complete an environmental site assessment of the property. Employees of the Port Authority, the User, provided HMM with information in response to the six informational aspects detailed in Form X.3 (*User Questionnaire*) of ASTM E1527-05. The responses from the Client did not identify any additional RECs at the project site. Responses to the User Questionnaire form are provided in Appendix A. Any information obtained from the interviews is provided in subsequent sections of this Phase I ESA.

### **2.5 Special Terms and Conditions**

There were no special terms or contractual conditions for this assessment.

### **2.6 User Reliance**

This investigation was conducted on behalf of and for the exclusive use of the Port Authority (Client), solely for use in an environmental evaluation of the project site. This report and findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party, in whole or in part without prior written consent of Hatch Mott MacDonald.

## **3.0 SITE DESCRIPTION**

### **3.1 Location and Legal Description**

The project site consists of 19 areas of land of which 16 are Port Authority owned properties and non-Port Authority publically owned areas of land located in the City of Bayonne, New Jersey and the Borough of Staten Island, New York. The properties included in the project area are listed in the following Table 1. The approximate location of the project site is presented on Figure 1 (Site Location Map) and a Site Layout showing the project site is presented on Figure 2 in Appendix B.

### **3.2 Site and Vicinity General Characteristics**

The project site is situated in an area which consists of a combination of residential, commercial, and industrial properties. In general the project site in New Jersey is surrounded by Route 440, Avenue A, and a railroad easement to the north; JFK Boulevard, residential, commercial, and industrial properties as well as the City of Bayonne community park to the east; the Kill Van Kull to the south; and a vacant lot, and commercial, residential, and industrial properties to the west. The commercial/industrial facilities in the site vicinity included a brass foundry, chemical storage and manufacturing companies, petroleum bulk storage facilities, gasoline service stations, auto repair facilities, a moving company, and a window manufacturing company.

The project site in New York is surrounded by the Kill Van Kull to the north; auto repair facilities, a manufacturer of awnings, a vacant site known as the Richmond Terrace Radiological Site (See Block 1105, Lots 51/Block 1107 and 1 in Appendix C), and residences to the east; a school, cemetery, Route 440, residences, and commercial businesses to the south; and auto repair businesses, a vacant property, residences, an apartment building, and commercial properties to the west.

In general the highest topographic elevations on the project site are at the northern and southern portions at the beginning of the bridge approaches and slope downward towards the Kill Van Kull. This observation was confirmed at the time of HMM's site reconnaissance activities. Topography in the vicinity of the project site generally slopes downward to the Kill Van Kull and Newark Bay. For details on site vicinity and general characteristics of a specific site property, see the Site Inspection Sheet for that property.

### **3.3 Current Use of the Property**

The project site is currently developed with approaches to the Bayonne Bridge, portions of the Bayonne Bridge, associated roadways including Route 440 and exit ramps, a toll plaza, administration building, a concrete slab associated with a building for an adjacent window manufacturer, a community park, little league baseball fields, yard areas associated with adjacent residences, and vacant vegetated areas underneath and adjacent to the bridge. For detailed information on specific uses of a particular site please refer to the Site Inspection Sheet for that property in Appendix C.

### **3.4 Descriptions of Structures, Roads, and Other Improvements on the Site**

For detailed information on specific uses of a particular site please refer to the Site Inspection Sheet for that property in Appendix C.

### **3.5 Current Uses of Adjoining Properties**

During the site reconnaissance activities the adjacent properties in New Jersey were identified to be used for industrial operations (Ideal Window Manufacturing, CasChemical, and Bergen Point Brass Foundry), commercial operations (retail establishments and a bank), recreational purposes and residential properties.

In general, adjacent properties in New York were identified to be used for industrial operations (Zorox Industries-awning manufacturer), commercial operations (retail establishments, restaurants, automotive repair facilities), cemeteries, a church, recreational purposes and properties used for residential and educational purposes.

For detailed descriptions of current land uses on adjoining properties please see the Site Inspection Sheets included in Appendix C.

## **4.0 USER PROVIDED INFORMATION**

### **4.1 Title Records**

A title search was completed by Port Authority for the project site. A copy of the title search was not provided for review as part of this assessment.

### **4.2 Environmental Lien or Activity and Use Limitations**

The Port Authority indicated that they were not aware of any activity and use limitations or land use restrictions that have been filed or recorded in association with the project site. Furthermore, the Port Authority indicated they were not aware of any environmental liens on the project site as a result of a title search.

### **4.3 Specialized Knowledge**

In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A list of personnel interviewed is in

Appendix F. Information provided during the interviews is provided, where appropriate, within the text of this report and within the Site Inspection Sheets.

#### **4.4 Commonly Known or Reasonable Ascertainable Information**

HMM contacted the Environmental Protection Agency, local agency officials at the City of Bayonne, as well as the City of New York and regional state agencies with jurisdiction over environmental issues, for any information relative to past or current potential RECs at the project site. Information provided by the aforementioned departments is included in Section 5.2 of this report.

#### **4.5 Owner, Property Manager, and Occupant Information**

An interview was conducted with various representative of the Port Authority (See Section 7.0) in order to obtain information regarding the project site's current and historical use. Pertinent information provided by this representative is incorporated where appropriate throughout the text of this report.

The following is based on information provided by the Port Authority related to environmental conditions at Bayonne Block 373, Lot 3. A Memorandum of Agreement (G000021830) has been established between the Port Authority and the NJDEP for all environmental sites adjacent to the Bayonne Bridge, including Block 373, Lot 3. The Port Authority leases the western 0.2 acres of Block 373, Lot 3 to Williams Industries, Inc., who in turn sublets to Abbey Enterprises, Inc. Previous environmental investigation has resulted in the identification of arsenic as the only contaminant of concern in soil and groundwater at the site. The arsenic is believed to be attributable to historic fill (placed by others than the Port Authority) and the operations and land use of Nitrate Agencies Co. Nitrate Agencies Co. is a subsidiary of W.R. Grace and Co., who owned and operated the site from 1920 through 1929. A total of 18 soil borings were drilled at the site and 38 soil samples were collected from depths ranging from 0 to 12 feet below surface grade. Arsenic concentrations in the soil range from 18.3 to 10,800 milligrams per kilogram (mg/kg).

A total of 17 flush mount groundwater monitoring wells are or have been located at the site. Groundwater monitoring events were conducted between 1992 and January 2012. During the most recent (January 2012) monitoring event, arsenic concentrations in groundwater ranged from 1,150 to 306,000 ug/L. Two separate arsenic plumes have been identified: one in the portion of the property leased to

Williams Industries, Inc. and the second near the center of the vacant portion of the site. The presence of arsenic in soil and groundwater at the site is a concern and the case associated with this property has an active regulatory status. A revised Remedial Investigation Report/Remedial Action Work Plan (RIR/RAWP) was prepared by ARCADIS U.S., Inc. (ARCADIS) in October 2012 on behalf of the Port Authority to address arsenic impacts in the soil and groundwater at 235 West First St. Bayonne, New Jersey, under the overall Bayonne Bridge PI#G000021830.

The Richmond Terrace Radiological Site (Block 1105 Lot 26) is located adjacent to the east of the project site (Staten Island Block 1105, Lot 51). This site along with the Port Authority's site, and a site currently occupied by Federal Express were originally one site and owned by the Belgian Union Minie're Du Haut-Katanga Company. They stored high-grade Belgian Congo uranium ore in warehouses formerly located on the site between 1939 and 1942. This ore was utilized in the Manhattan Engineering District in support of building the atomic bomb. The U.S. Department of Energy conducted a preliminary survey in 1980 and identified a radiological contaminated area at the Richmond Terrace Site located in the northwest corner of the property measuring approximately 66' by 132' in area. This area is close to the Arthur Kill and does not physically touch the Port Authority property to the west by land. Several others investigations have occurred at this site with the most recent one being conducted in February, 2008. The conclusions to date indicate:

- That the impacted area is located in the northwest corner of the property.
- The radioactive contamination is consistent with the residues of unprocessed uranium ore.
- The source of the material is possibly that debris from the former warehousing structures was utilized as fill in this portion of the site.
- The levels exceed the EPA acceptable risk range.
- Under current conditions the radiological contamination present at the site may not present an immediate health risk.
- Existing engineering controls should be maintained, and
- Disturbance of the contaminated area must be avoided.

Based upon a review of available information the Port Authority's site does not appear to be under any investigation for radiological contamination. Further the Richmond Terrace Radiological Site does not appear to pose a threat to the Port Authority's site or project conditioned on the Richmond Terrace Site's engineering controls being maintained and that no disturbance to the impacted area occur.

### 4.6 Reason for Performing Phase I

This Phase I ESA was prepared by HMM at the request of the Client. Performance of this Phase I ESA was conducted in an attempt to identify the presence or absence of potential recognized environmental conditions (RECs) at the project site prior to the proposed bridge construction activities.

### 4.7 Additional Information Provided

In addition to the above noted sources, HMM reviewed Remedial Action Reports which document soil sampling and soil excavation activities conducted at two Port Authority Properties included in the project site (Bayonne Block 391, Lot 3 and Bayonne Block 345, Lot 1). A summary of these reports is provided below.

#### Bayonne Block 391, Lot 3

HMM reviewed a report entitled *Remedial Action Report for the Bayonne Little League Baseball Fields*, dated December 1994. The report summarized the remedial efforts conducted by the Port Authority at the site. In 1992, the Port Authority initiated preliminary soil sampling for possible lead contaminations at locations on or adjacent to Port Authority property utilized by the general public. The Bayonne Little League Park, Fields 1 and 2 are on Port Authority property and were identified as a potential area of concern. Initial samples obtained from these fields indicated lead concentrations in soil from 146 mg/kg to 1270 mg/kg. The NJDEP approved a Remedial Action Workplan (RAWP) which included the remediation of the top 6 inches of soil to a concentration of lead below 100 mg/kg. At areas covered by sod or asphalt, lead concentrations below 500 mg/kg were considered to be acceptable. The RAWP further required that soils between 6 and 12 inches in depth be remediated to concentrations below 500 mg/kg. On April 26 (Field 1) and December 3, 1993 (Field 2), the Port Authority initiated voluntary cleanup of the lead contaminated areas of each field. For Field 1, the remediation included the removal of 12 inches of soil from an area along the right field line. Restoration included placement of 12 inches of clean soil and sod. Post-excavation soil samples were obtained and indicated compliance with less than 500 mg/kg of lead in the top 12 inches of soil. Excavation of Field 2 included removal of soil in the base paths, the pitcher's mound, and along the right foul line of the field to a depth of 12 inches below grade and to a depth of 3 inches below grade in the infield area. Post-excavation soil samples indicated that only one location contained a lead concentration greater than 500 mg/kg at a depth of 12 inches below grade. This location was within the right field area of Field 2 which was identified as historic fill material. No additional excavation was completed. Restoration of Field 2 included the placement of filter fabric, placement of 6 inches of clean

soil and sod above the filter fabric, and placement of clean soil from 6 inches to grade at all locations excavated. The presence of lead in soil remains a concern at the site.

In 2004 Paramount Pictures used the ball field at Block 391, Lots 3 and 5 to film a scene from the movie *War of the Worlds*. Approximately 2/3 of the ball field was removed and replaced with Densely Graded Aggregate (DGA) and concrete. After the film scene was completed the ball field was returned to its previous condition. The restoration of the cap was proposed in a Remedial Action Workplan prepared by Excel Environmental Resources dated March 8, 2005 and was submitted to the NJDEP. In a letter dated March 14, 2005 NJDEP indicated the actions to restore the cap were acceptable.

Specifically the tasks that were completed included:

- Excavation of grass and topsoil to depths of approximately four inches below grade. A total volume of 200 cubic yards of soil was removed and stockpiled for reuse during restoration.
- Excavation of potentially lead contaminated subgrade soil in the outfield with an approximate volume of 12 cubic yards.
- Placement of DGA and concrete on exposed soil.
- Reuse of potentially lead contaminated subgrade soil as fill below the cap. Reuse of 200 cubic yards of grass, top soil to restore the cap.
- Construction of a new ball field with certified clean fill above the cap.

The Port Authority indicated that the disturbed areas were properly restored with a cap before the existing ball field was constructed.

A Draft Deed Notice was submitted to the NJDEP in 2012, which summarizes the plan to establish various types of caps as engineering controls at the site. The total area included within the deed notice is equal to 23,700 square feet. The engineering controls consist of clay, pulverized rock, topsoil and asphalt. The purpose of the engineering controls is to prevent direct contact with the contaminated soil. It is believed that the Draft Deed Notice has not been approved. The Port Authority has indicated the construction of the cap will be completed as part of the Bayonne Bridge Navigational Clearance Program and the Deed Notice will be finalized after the cap is constructed. Lead remains a concern at the site.

### Bayonne Block 345, Lot 1

HMM reviewed a report entitled *Remedial Action Report (RAR) for Vacant Lot Block 345: Lot 1 at the Bayonne Bridge Viaduct*, dated July 1998. The RAR was prepared by Killiam Associates (now known as HMM). According to the RAR, decorative paint was removed from the bridge abutments located in the

playground areas. The Port Authority collected paint chip samples for analysis. The analytical results revealed the paint contained elevated concentrations of polychlorinated biphenyls (PCBs). Based on the analytical results, the potential presence of PCBs in soil was a concern. The Port Authority collected approximately 35 soil samples (0 to 3 inches below grade) and 7 soil samples (approximately 9 inches below grade) from vacant areas underneath and adjacent to the bridge. Concentrations of PCBs in soil from the 0 to 3-inch depth interval ranged from 1,850 mg/kg near the playground portion underneath the bridge to 1.1 mg/kg near the gate on West 4<sup>th</sup> Street. The deeper samples (at approximately 9 inches below grade) exhibited PCBs at concentrations ranging from 52.2 mg/kg near Juliette Street to 0.53 mg/kg near the central portion of the site. Soil was excavated to depths ranging from 4 to 10 inches below grade. PCB-impacted soil was transported offsite to CWM Chemical Services Inc. No post-excavation soil samples were collected for analysis. The previously detected concentrations of PCBs in soil prior to soil excavation are above the current NJEP Soil Remediation Standards. Given that no post-excavation soil samples were collected, the presence of PCBs remaining in soil is a concern. Maps showing the analytical results and the excavation area are attached to the Site Inspection Sheet for Block 345, Lot 1 in Appendix C.

## 5.0 RECORDS REVIEW

### 5.1 Standard Environmental Record Sources

According to the ASTM Phase I Environmental Site Assessment Process, certain Standard Environmental Record Sources, Federal and State, must be reviewed to identify the existence of recognized environmental conditions at or near the project site. It should be noted that ASTM has established approximate minimum search distances with regard to review of each of these Federal and State Standard Environmental Record Sources. A list of the federal and state Standard Environmental Record Sources reviewed are described below:

<b>Record/Source</b>	<b>Search Distances</b>
<b>FEDERAL SOURCES</b>	
• United States Environmental Protection Agency (USEPA), National Priorities List, (NPL).	1.00 mile
• USEPA, National Priorities List Delisted, (NPL Delisted).	0.50 mile
• USEPA, Comprehensive Environmental Response, Compensation and Liability Information System List, (CERCLIS).	0.50 mile
• USEPA, CERCLIS Archived Sites List, (NFRAP).	0.50 mile
• USEPA, Resource Conservation and Recovery Information System (RCRIS), Corrective Action Sites List, (RCRA COR ACT).	1.00 mile

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|--|-----------|
| • USEPA, RCRIS, Treatment, Storage and Disposal List, (RCRA TSD).  | 0.50 mile |
| • USEPA, RCRIS Facilities List, Small and Very Small Quantity Generators List, (RCRA GEN).                     | 0.25 mile |
| • USEPA, Brownfields Management System (BMS), Federal Engineering and Institutional Controls, (Federal IC/EC). | 0.50 mile |
| • USEPA and Nuclear Regulatory Commission (NRC), Emergency Response Notification System (ERNS).                | 0.25 mile |
| • Bureau of Indian Affairs, Indian Lands of the US, (Tribal Lands).  | 1.00 mile |

### Record/Source

### Search Distances

#### STATE SOURCES

- |   |           |
|---|-----------|
| • NJDEP, Known Contaminated Sites List, (State/Tribal Sites).   | 1.00 mile |
| • NJDEP, Emergency Response Actions and Spill Release Database, from 1990 until present (State Spills1990). | 0.25 mile |
| • NJDEP, Solid Waste Facilities/Landfills, (State/Tribal SWL).  | 0.50 mile |
| • NJDEP, Leaking Underground Storage Tanks, (State/Tribal LUST).  | 0.50 mile |
| • NJDEP, Registered Underground and Aboveground Storage Tanks, (State/Tribal UST/AST).                      | 0.25 mile |
| • NJDEP, Engineering Control Sites, (State/Tribal EC).  | 0.50 mile |
| • NJDEP, Institutional Control Sites, (State/Tribal IC).  | 0.25 mile |
| • NJDEP, Voluntary Cleanup Program, (State/Tribal VCP).   | 0.50 mile |
| • NJDEP, Known Contaminated Brownfields Sites   | 0.50 mile |
| • NY VAPOR REOPENED, Vapor Intrusion Legacy Site List   | 1.00 mile |
| • NY TANKS, Storage Tank Facility Listing   | 0.25 mile |
| • NY CBS UST, Chemical Bulk Storage Database  | 0.25 mile |
| • NY MOSF UST, Major Oil Storage Facilities Database  | 0.25 mile |
| • NY MOSF AST, Major Oil Storage Facilities Database  | 0.25 mile |
| • NY ENG CONTROLS, Registry of Engineering Controls   | 0.50 mile |
| • NY INST CONTROL, Registry of Engineering Controls   | 0.50 mile |
| • NY RES DECL, Registry of Institutional Controls   | 0.50 mile |
| • NYERP, Environmental Restoration Program Listing  | 0.50 mile |
| • NY BROWNFIELDS, Brownfield Site List  | 0.50 mile |

As previously stated, for the purpose of this report, adjacent properties are defined as any real property or properties, the border of which are contiguous or partially contiguous with that of the project site, or would be contiguous or partially contiguous with that of the project site but for a street, road, or other public thoroughfare separating them.

HMM retained EDR to conduct an electronic database search of federal and state Standard Environmental Record Sources required under the ASTM Phase I Environmental Assessment Process. The sources, including the dates of the sources searched by EDR, are provided within the text of the pertinent portion of the EDR report. Topographic gradients of surrounding properties relative to the project site were

determined through review of the USGS Topographic Map. A copy of the EDR Environmental Database Report is included in Appendix D of this report.

The EDR Report provided the following information:

### **Site**

For a listing of the EDR identified sites that appear to correspond to the project site please see the Site Inspection Sheets included in Appendix C.

### **Adjacent Properties**

For a listing of the EDR identified sites that appear to correspond to properties adjacent to the project site please see the Site Inspection Sheets included in Appendix C.

As summarized in the Site Inspection Sheets, several sites of concern appear to correspond to properties located adjacent to the project site. These properties have active regulatory statuses and/or are located upgradient of the site. Where appropriate HMM contacted Federal, State, City and local agencies for additional information. Please see the Site Inspection Sheets in Appendix C for additional information.

The EDR Report listed a number of “non-geocoded” sites, (also known as unmappable sites) with regard to the Standard Environmental Record Sources as required by the ASTM Phase I Environmental Site Assessment Process as well as the additional environmental resources reviewed. According to the EDR Report, insufficient information was provided in the address portion of the individual database listings to locate these sites. HMM attempted to determine if these “non-geocoded” sites were located within the respective minimum search distances specified for each Environmental Record Source through map review, reconnaissance, and use of the mapping tool. As a result of these efforts, where considered appropriate, HMM included this information in the Site Inspection Sheets in Appendix C.

### **Sites within the ASTM Minimum Search Distance**

HMM evaluated the likelihood of the project site being impacted by sites included in the state and federal environmental database cases (as identified in the EDR Report) and located within the minimum search distances established by the ASTM standard. Please refer to the EDR report located in Appendix D for details regarding these listings. A discussion of listings for properties identified on the environmental databases adjacent to the project site is included on the Site Inspection Sheets provided in Appendix D.

The Bayonne Bridge is located in an area of Bayonne and Staten Island with a long industrial history. The historic industrial uses have impaired the environmental quality of the site vicinity. The presence of several additional sites of potential environmental concern have been noted in the vicinity of the project site. Although it is beyond the scope of this report to determine if these sites are adversely impacting the project site, the following is offered for consideration. As these sites of concern have been identified by appropriate regulatory agencies it is reasonable to assume that if contaminants associated with these known sites of concern were identified as migrating to the project site, responsible parties for the contamination would be charged with implementing appropriate remedial actions to address the presence of contaminants.

### 5.2 Additional Environmental Record Sources

In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Additional Records Resources

Record Source	Department	Area Searched
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		

	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

Information obtained from these agencies where appropriate has been included in the Site Inspection Sheets included in Appendix C.

A review of records at the City of Bayonne Division of Health indicated a release was reported at Bayonne Block 391, Lot 5 in May 2007. The information indicated Incident #07-03-07-1500-54 was reported to the NJDEP as a result of an air compressor fire on the northern portion of the site on March 7, 2007. It was estimated that less than 10 gallons of fluids including diesel, #10 oil, and antifreeze were discharged to soil and a containment area. The fluids were recovered and impacted soil excavated. Approximately 16 drums of contaminated soil/water were generated which were disposed of offsite. According to the Port Authority, no post-excavation soil samples were collected to document the removal efforts were completed. Ms. Christine Blaney with the NJDEP Bureau of Water Compliance and Enforcement indicated the incident has an active status and has been referred to the Site Remediation Program but has not been assigned a preferred identification number. This incident is a REC.

### 5.3 Physical Setting Source

In accordance with the ASTM Phase I Environmental Site Assessment Process, HMM reviewed the current USGS 7.5 Minute Topographic Map (United States Department of the Interior, Geologic Survey, Elizabeth, New Jersey Quadrangle, 1967 and photo-revised in 1981). Review of the referenced map indicates that, based strictly on topography, regional groundwater generally would be expected to flow in southwest direction in Bayonne, New Jersey and to the north in Staten Island, New York. However, please note that groundwater flow direction at specific properties on the project site may vary from

regional groundwater flow direction. The nearest surface water bodies are the Kill Van Kull and Newark Bay. For specific physical setting source information please refer to the Site Inspection Sheets in Appendix C. Review of the referenced map did not reveal the presence of any RECs associated with the project site.

### **5.4 Historical Use Information on the Property**

To identify historical uses of the project site and adjoining properties, HMM reviewed historical aerial photographs, Sanborn Fire Insurance Maps, and United States Geologic Survey (U.S.G.S) maps. Information gained through review of these sources is incorporated where appropriate within this report. HMM conducted a review of reasonably available and practically reviewable historical aerial photographs obtained from the Historical Aerials Internet Website. Ten historic aerial photographs (1931, 1953, 1966, 1979, 1987, 1995, 2002, 2004, 2006, and 2008) were reviewed to establish past uses of the project site and adjacent properties. Please note the 2004 aerial photograph did not include coverage of the portion of the project site in Bayonne, New Jersey.

A request for Sanborn Fire Insurance Maps was made by HMM through EDR. EDR reported that Sanborn Map coverage was available for the Staten Island, New York portion of the project site for the following years: 1898, 1917, 1937, 1951, 1962, 1983, and 1986 through 1990. Coverage was available for the Bayonne, New Jersey portion of the site for the following years: 1898, 1912, 1937, 1950, 1979, 1983, 1988 and 1991. Copies of the Sanborn Fire Insurance Maps are provided in Appendix E.

A discussion of historical uses of adjoining properties is provided in Section 5.5.

In addition, the Elizabeth, New Jersey U.S.G.S. Topographic Quadrangle Map depicting the project site and the surrounding area was reviewed to obtain additional information with regard to current and past uses of the project site and adjoining properties. The Elizabeth, New Jersey U.S.G.S. map is based on surveys dated 1967 and photo-revised in 1981.

For a description of the historic land uses on the site, please see the Site Inspection Sheets included in Appendix C.

### **5.5 Historical Use Information on Adjoining Properties**

In general, historic land use on the adjoining properties for New Jersey consisted of industrial operations (cable manufacturing, awning manufacturing, chemical and ink manufacturing, petroleum bulk storage,

and brass foundry), commercial operations (retail establishments, gasoline filling stations, and automotive repair facilities), and residential and recreational land use.

Historic land use for adjoining properties in Staten Island consisted of industrial operations (general warehousing, bulk petroleum storage, and the Staten Island Railway), commercial operations (automotive repair facilities, automotive salvage yard, gasoline filling stations, automotive parts retailer, and restaurants) and properties utilized for residential and educational purposes.

For detailed descriptions of the historic land uses on adjoining properties, please see the Site Inspection Sheets included in Appendix C.

## 6.0 SITE RECONNAISSANCE

### 6.1 Methodology and Limiting Conditions

Site reconnaissance activities were initially conducted on June 14 through 16, 2011, July 6, 2011 and recently updated on March 28 and 29, 2013 and April 29, 2013. The project site was visually inspected for the purpose of identifying recognized environmental conditions. An interior and exterior inspection was conducted during the site visit. The interior inspection included rooms beneath the Bayonne Bridge abutments, the administration building, toll plaza, and an underground tunnel adjacent to the toll plaza. Please see the Site Inspection Sheets for Staten Island Block 1127, Lot 1 and Bayonne Block 334, Lot 5 for more information.

### 6.2 General Site Setting

The project site is currently developed with elevated approaches to the Bayonne Bridge, portions of the Bayonne Bridge, associated roadways including Route 440 and exit ramps, a toll plaza, administration building, a concrete slab associated with a building for an adjacent window manufacturer, a community park, yard areas associated with adjacent residences, little league baseball fields, and vacant vegetated areas underneath and adjacent to the bridge. For detailed information on specific uses of a particular site please refer to the Site Inspection Sheet for that property in Appendix C.

### **6.3 Exterior Observations**

HMM performed an inspection of the exterior of the project site including the perimeter of the project site and areas inside the perimeter of the project site. The current layout of the project site is depicted as Figures 2a and 2b in Appendix B.

In general, the exterior inspection included observation of vacant areas underneath and adjacent to the bridge and toll plaza, yard areas associated with adjacent residential properties which encroach upon Port Authority property, portions of Route 440 in the project site and the Bayonne Little League Fields.

The presence of groundwater monitoring wells was identified on Block 302, Lot 4 and Block 1123, Lot 51 on the project site. The wells were sampled and abandoned by a licensed driller in April 2013. The results are discussed in the Site Inspection Sheets in Appendix C. Please note several additional monitoring wells were installed as part of a geotechnical investigation completed in the project area in 2012. As these wells were not installed for environmental purposes they are not discussed in this report or the Site Inspection Sheets.

For detailed descriptions of the exterior observations on the project site, please refer to the Site Inspection Sheets included in Appendix C.

### **6.4 Interior Observations**

HMM performed an inspection of the interior of the project site on Bayonne Block 334, Lot 5 and Staten Island Block 1127, Lot 1. The interior inspection of Bayonne Block 334, Lot 5 included inspection of two storage rooms underneath the elevated Bayonne Bridge Approach. The rooms were observed to contain electrical equipment. Interior inspection of Staten Island Block 1127, Lot 1 included inspection of two storage rooms underneath the bridge on Innis Street, the administration building, and the tunnel beneath the toll plaza. The tunnel was observed to contain electrical equipment. The administration building contained a security office, garage, and employee locker rooms.

For detailed descriptions of the interior observations on the project site at Bayonne Block 334, Lot 5 and Staten Island Block 1127, Lot 1 please refer to the Site Inspection Sheets included in Appendix C.

## **7.0 INTERVIEWS**

### **7.1 Interview with Owner**

In April 2013, interviews were conducted with various personnel with the Port Authority in order to obtain information regarding the site's current and historical use. Pertinent information provided is incorporated where appropriate throughout the text of this report. A list of the Port Authority personnel interviewed is included in Appendix F.

Several attempts were made to contact Mr. Andrew Genn with the New York City Economic Development Corporation, who owns Staten Island Block 1125, Lot 1 (Staten Island Railway) between April 2 through 12, 2013; however, a response has not been received. Any pertinent information will be submitted as an addendum.

On April 3, 2013, an interview was conducted with Mr. Joe Sweger, with the New Jersey Department of Transportation who owns the portion of the project site that encompasses the Route 440 approach in New Jersey in order to obtain information regarding the site's current and historical use. Pertinent information provided by this party is incorporated where appropriate throughout the text of this report.

### **7.2 Interview with Site Manager**

The project site is currently managed by the property owner. An interview with employees of the property owners are provided above in Section 7.1.

### **7.3 Interview with Occupants**

As the project site only contains personnel associated with the Port Authority, interviews with occupants are provided in Section 7.1 above.

### **7.4 Interview with Local Government Officials**

Interviews were conducted with various local government officials and the information has been provided where necessary in the Site Inspection Sheets in Appendix C. A list of the government officials interviewed is included in Appendix F.

## 7.5 Interview with Others

Interviews were conducted with Others and the information has been provided where necessary in the Site Inspection Sheets in Appendix C. A list of the other personnel interviewed is included in Appendix F.

## 8.0 FINDINGS

The Phase I ESA has identified the following recognized environmental conditions within the vicinity of the site:

- **Historic Fill** – The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. Additionally, known filling events occurred at Bayonne Block 391, Lots 3, 4 and 5 and Staten Island Block 1105, Lots 1 and 51 to extend the shoreline into the Kill Van Kull. A quarry was present on Block 1127, Lot 1 prior to 1931. The potential exists for the project site to have been historically filled.
- **Polychlorinated biphenyls (PCBs)** – PCBs have been detected in site soils at Bayonne Block 345, Lot 1 at concentrations above the current NJDEP Soil Remediation Standards. The Port Authority conducted a remedial action that included the excavation of soil from Block 345, Lot 1 at areas underneath and adjacent to the bridge and outside the limit of the playground to depths ranging from 4 to 10 inches below grade. No post-excavation soil samples were collected to confirm the soil removal efforts were successful. The environmental quality of the soil that remains is unknown. Therefore, the potential exists for subsurface soils impacted with PCBs to be present at Bayonne Block 345, Lot 1. In addition, it should be noted that an active case remains open with the NJDEP for this incident which is identified under Program Interest (PI) #G000021830.
- **Lead**- In the 1990s lead was detected in shallow soils (Block 345, Lot 1) in the vicinity of the playground at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead was detected at concentrations above the NJDEP Soil Remediation Standards in at least one location. Lead was detected in soil in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. Additionally, surface soil samples were collected at Bayonne Block 391, Lots 4 and 5 and Staten Island Block 1105, Lot 51 in 2012. Lead was detected at concentration

above the regulatory standard at one or more locations. The Port Authority completed a successful remedial action to remove lead in surface soils at Block 391, Lots 3 and 5.

However, lead may remain in soil at Block 391, Lots 3 and 5. Given that lead has been detected in soil at concentrations above the applicable regulatory standards, the potential exists for the soil at the project site to be impacted with lead.

- Bridge drains - Several stormwater drains for the bridge roadway discharge to the ground surface are present onsite. At one of the drain outfalls HMM observed dark colored soil, gravel, and debris consisting of wood and plastic. The environmental quality of soil near the drains is unknown. The potential exists for discharges from the bridge drains to have impacted the site.
- Dumpster (Block 362, Lot 1) – Surficial staining was observed on the ground surface around a trash dumpster in 2011. Although the staining was not observed in 2013, the environmental quality of the soil in the vicinity of the dumpster is a concern.
- Soil stockpiles – Soil stockpiles were located at Block 1125, Lot 1, and Block 361, Lot 1. The Port Authority was not aware of the source of the soil. The environmental quality of the soil is unknown.
- Groundwater Monitoring Well- A groundwater monitoring well was located at Block 302, Lot 4, and Block 1123, Lot 51. The Port Authority was not aware of the wells. The wells were sampled for TCL+30/TAL metals in April 2013. No target compound were detected above regulatory standards at Block 1123, Lot 51. At Bayonne Block 302, Lot 4, VOCs were the only compounds of concerns detected in the well at this property. The VOCs are believed to be attributable to an offsite release not associated with the project site. The wells were properly abandoned by a licensed well driller in April 2013.
- Arsenic in soil and groundwater at Block 373, Lot 3 –Arsenic concentrations in soil range from 18.3 to 10,800 mg/kg. The concentrations of arsenic in groundwater range from 140 to 144,000 ug/L. Two separate arsenic plumes have been identified. The presence of arsenic in soil and groundwater at Block 373, Lot 3 is a concern. However, the Port Authority intends to complete a Remedial Action to address the arsenic impacted media.
- Rail Spur – A rail spur was previously located on the southwestern portion of Block 362, Lot 1. It should be noted that the presence of polynuclear aromatic hydrocarbons (PAHs), metals, and constituents of oil or fuel (petroleum products) are commonly identified in soils along former railroad lines due to the placement of impacted bedding material (which is generally imported) and releases of petroleum products during load

and unloading operations. The environmental quality of soil in the vicinity of the rail spur is unknown.

- UST – Sanborn maps from 1917 identified an underground storage tank on the southwestern portion of Block 1105, Lots 51 /Block 1107, Lot 1. The UST appeared to be associated with a former filling station. The presence of the UST at the site is unknown.
- Historic Land uses – Historically, the site was occupied by buildings associated with Texaco Oil Company including a filling station (Block 1105, Lots 1 and 51), Rhem Manufacturing Company (Block 362, Lot 1), and John Boyle Company (Block 346, Lot 11). The potential exists for the aforementioned block and lots located at the project site to have been impacted from the former land uses.
- Adjacent Properties – The potential exists for the site to be adversely impacts by adjacent properties. One or more adjacent properties have an active regulatory status and are located potentially upgradient of the site. Two Classification Exception Areas (CEAs) from adjacent properties are believed to extend onto the project site. Freedom of Information Act requests have been submitted for more information. Pertinent information received will be submitted as an addendum.
- Air Compressor Fire – A spill of diesel, #10 oil, and antifreeze as a result of an air compressor fire was reported at Bayonne Block 391, Lot 5 in 2007. The Port Authority conducted remedial activities that included the removal of liquids and soil excavation. However, no post-excavation soil samples were collected for analysis to document remedial activities were completed. The incident has an active regulatory status.

## 9.0 OPINIONS

Based on the findings of this assessment the following environmental professional's opinion is offered.

- Historic Fill –The site has been filled to raise the site grade. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- PCBs have been detected at concentrations above the New Jersey Soil Remediation Standards in soil at Bayonne Block 345, Lot 1 located under the bridge. The potential presence of PCBs at Block 345, Lot 1 should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

- Lead has been detected in soil at concentrations above one or more of the New York Soil Cleanup Objectives and the New Jersey Soil Remediation Standards at Port Authority properties located along the Bayonne Bridge within the project site. Lead impacted soil may be encountered at Port Authority properties located in the project site. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Bridge Drains – Several stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Dumpster (Block 362, Lot 1) – Surficial staining was observed on the ground surface around a trash dumpster in 2011 but was not observed in 2013. Soil impacts may potentially be present in the vicinity of the dumpster. The potential presence of environmental impacts in the vicinity of the dumpster at Bayonne Block 362, Lot 1 should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Soil Stockpiles – The environmental quality of soil stockpiles present onsite is unknown. The potential presence of impacts from soil stockpiles should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Groundwater Monitoring Well- A groundwater monitoring well was located at Block 302, Lot 4, and Block 1123, Lot 51. Contact with impacted groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Arsenic in soil and groundwater at Block 373, Lot 3 – The Port Authority Engineering Department is aware of the arsenic conditions at Block 373, Lot 3. A Remedial Action is planned during bridge construction activities. The remedial action will address soil and groundwater impacts at Bayonne Block 373, Lot 3.
- Rail Spur –The environmental quality of soil in the vicinity of the rail spur is unknown. The potential presence of impacts in the vicinity of the railroad spur should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

- UST- The presence of a former UST at the site is unknown. The potential presence of a UST should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Historic Land Uses –The project site may have been adversely impacted from historic land uses. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Adjacent Properties – Sites of potential environmental concern have been identified adjacent to the project site. FOIA requests have been submitted to regulatory agencies for more information. Pertinent information received will be submitted as an addendum. Consideration of environmental impacts from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Air Compressor Fire – A spill of diesel, #10 oil, and antifreeze as a result of an air compressor fire was reported at Bayonne Block 391, Lot 5 in 2007. The Port Authority conducted remedial activities but did not collect post-excavation soil samples to document remedial activities were completed. The potential presence of soil impacts resulting from this incident should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.
- Petroleum Pipelines –Petroleum pipelines were mapped on the project site and were indicated to be owned by Tidewater Pipe Company/Standard Oil Company. It is unknown whether the pipelines remain onsite. The Port Authority indicated this portion of the project site will not include deep excavations and will not encounter the pipelines should they exist or potential impacts from the former presence of the pipelines.

## 10.0 CONCLUSIONS

This assessment has revealed the presence of recognized environmental conditions (RECs) within the vicinity of the project site.

### **11.0 DEVIATIONS**

This Phase I ESA complies with the ASTM Standard E 1527-05.

### **12.0 ADDITIONAL SERVICES**

No additional services were performed as part this assessment.

**TABLES**

**TABLE 1**  
**SUMMARY OF PROJECT AREA**  
**PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)**  
**BAYONNE BRIDGE NAVIGATIONAL CLEARANCE PROGRAM**

<b>Map ID#</b>	<b>Location</b>	<b>Property</b>
1	Bayonne	Route 440 Roadway (NJ)
2	Bayonne	Block 302, Lot 3
3	Bayonne	Block 302, Lot 4
4	Bayonne	Block 312, Lot 16
5	Bayonne	Block 334, Lot 5
6	Bayonne	Block 345, Lot 1
7	Bayonne	Block 346, Lot 11
8	Bayonne	Block 361, Lot 1
9	Bayonne	Block 362, Lot 1
10	Bayonne	Block 373, Lot 3
11	Bayonne	Block 391, Lots 3, 4, and 5
12	Staten Island	Block 1105, Lot 51/Block 1107, Lot 1
13	Staten Island	Block 1123, Lot 51
14	Staten Island	Block 1125, Lot 75
15	Staten Island	Block 1125, Lot 17
16	Staten Island	Block 1125, Lot 1
17	Staten Island	Block 1127, Lot 47
18	Staten Island	Block 1127, Lot 1
19	Staten Island	Route 440 Roadway (NY)

Notes:

1. Map ID #1 and #19 are a portion of public roadway Route 440 and do not have Blocks/Lots associated with them.



### X3. USER QUESTIONNAIRE INTRODUCTION

In order to qualify for one of the Landowner Liability Protections (LLPs)<sup>35</sup> offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the “Brownfields Amendments”),<sup>36</sup> the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that “all appropriate inquiry” is not complete.

**(1.) Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).**

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

**(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).**

Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

**(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**

As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

**(4.) Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).**

Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

**(5.) Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).**

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

- (a.) Do you know the past uses of the property?
- (b.) Do you know of specific chemicals that are present or once were present at the property?
- (c.) Do you know of spills or other chemical releases that have taken place at the property?
- (d.) Do you know of any environmental cleanups that have taken place at the property?

**(6.) The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).**

As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal state or local law?

**We are not aware of any environmental cleanup liens against the property.**

2. Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and /or have been filed or recorded in a registry under federal, tribal, state or local law?

**Land Use Restrictions exist on Block 373, lot 3 (PI# G000021830), Block 345, lot 1 (Al Slootsky playground), Block 391, lot 3 (Little League Ball fields) .**

3. As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemical processes used by this type of business?

**No specialized knowledge**

4. Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference , have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

**Not applicable**

5. a) Do you know the past uses of the property?

**No.**

b) Do you know of specific chemicals that are present or once were present at the property?

**No.**

c) Do you know of spills or other chemical releases that have taken place at the property?

**No.**

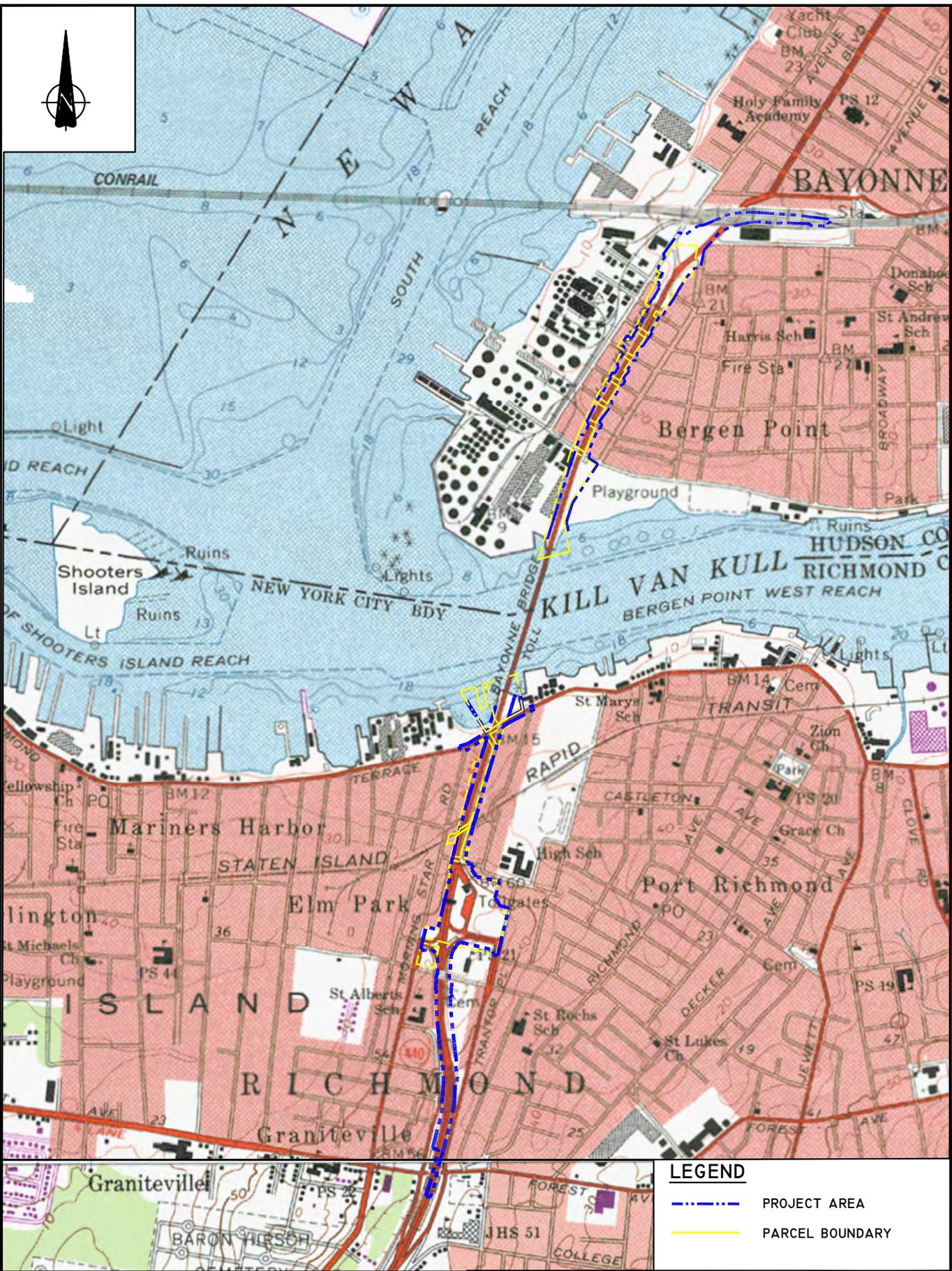
d) Do you know of any environmental cleanups that have taken place at the property?

**The Williams Site and the PA leasehold were remediated for arsenic contaminated soil by Williams properties. Information is documented on the BB- Arsenic Site RAWP.**

6. As the user of this ESA, based on your knowledge and experience related to the property are there obvious indicators that point to the presence or likely presence of contamination at the property?

**Potential for Lead paint from the bridge.**

## **APPENDIX B**



P:\293986 BAYONNE BRIDGE\2013 PHASE I ESA UPDATE\FIGURES\FIG 1 SITE LOCATION MAP.DWG 4/16/2013 3:46 PM

**LEGEND**

-  PROJECT AREA
-  PARCEL BOUNDARY

SOURCE:  
UNITED STATES GEOLOGICAL SURVEY  
7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLES  
ELIZABETH AND ARTHUR KILL, NY--NJ,  
1987, PHOTOREVISED 1991



Certificate No. 24GA28075000

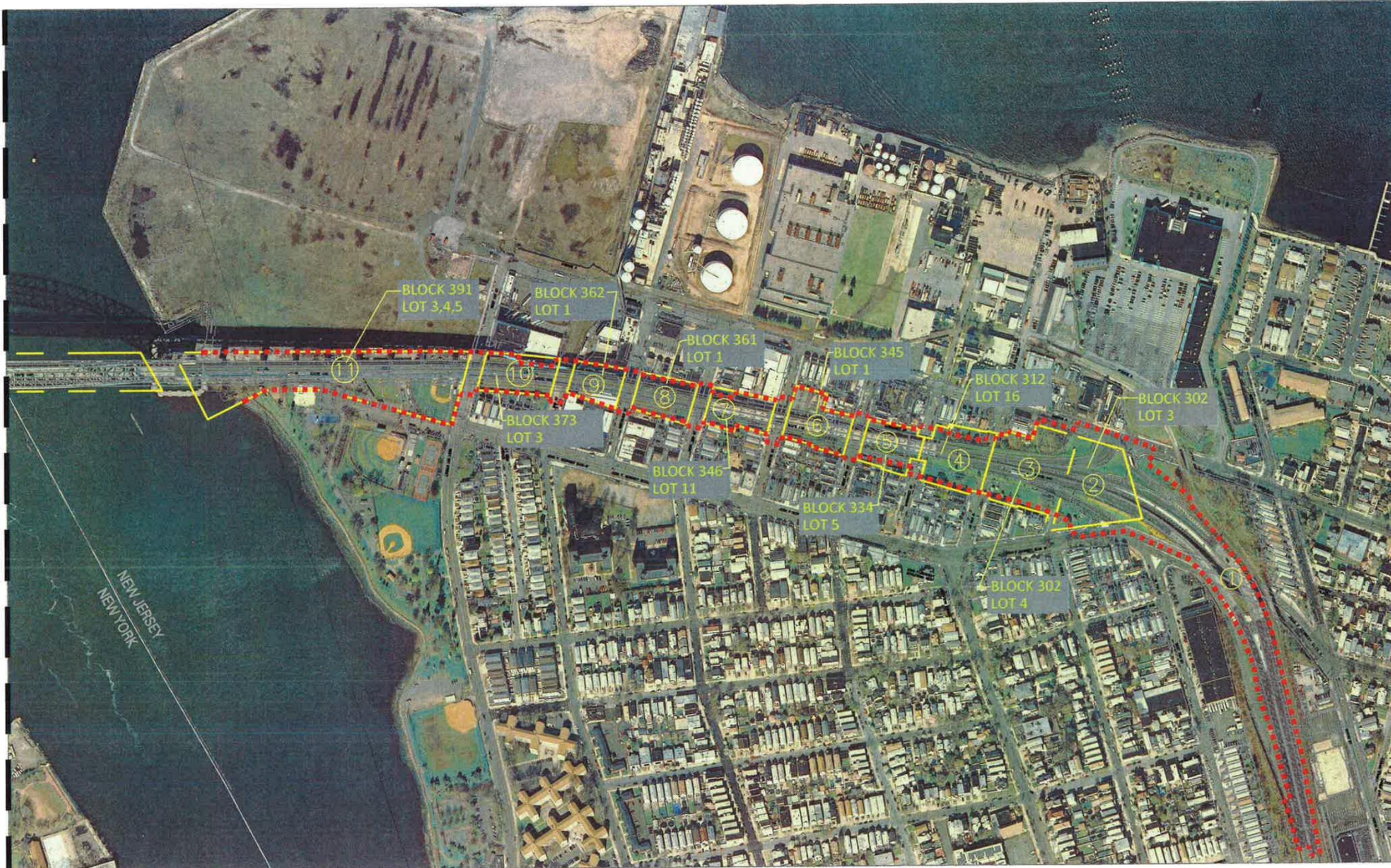
27 Bleeker Street  
Millburn, New Jersey 07041

FIGURE I  
SITE LOCATION MAP

BAYONNE BRIDGE  
NAVIGATIONAL CLEARANCE PROGRAM

Designed	Drawn	Checked	Approved	Date
				4/16/13

FIGURE 2B MATCHLINE



**NOTE:**

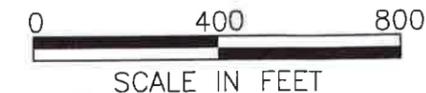
1. THE LIMITS OF THE PROJECT AREA ARE FROM THE PORT AUTHORITY DRAWINGS TITLED REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES.
2. THE PARCEL BOUNDARIES ARE TAKEN FROM THE CITY OF BAYONNE TAX MAP.
3. PARCELS 2 THROUGH 11 ARE OWNED BY PORT AUTHORITY.

**LEGEND**

PROJECT AREA - - - - -

PARCEL BOUNDARY \_ \_ \_ \_ \_

AREA IDENTIFICATION NUMBER 3



No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

BAYONNE BRIDGE  
NAVIGATIONAL  
CLEARANCE  
PROGRAM

**ENVIRONMENTAL**

Title  
REPLACEMENT OF MAIN SPAN ROADWAY  
AND APPROACH STRUCTURES

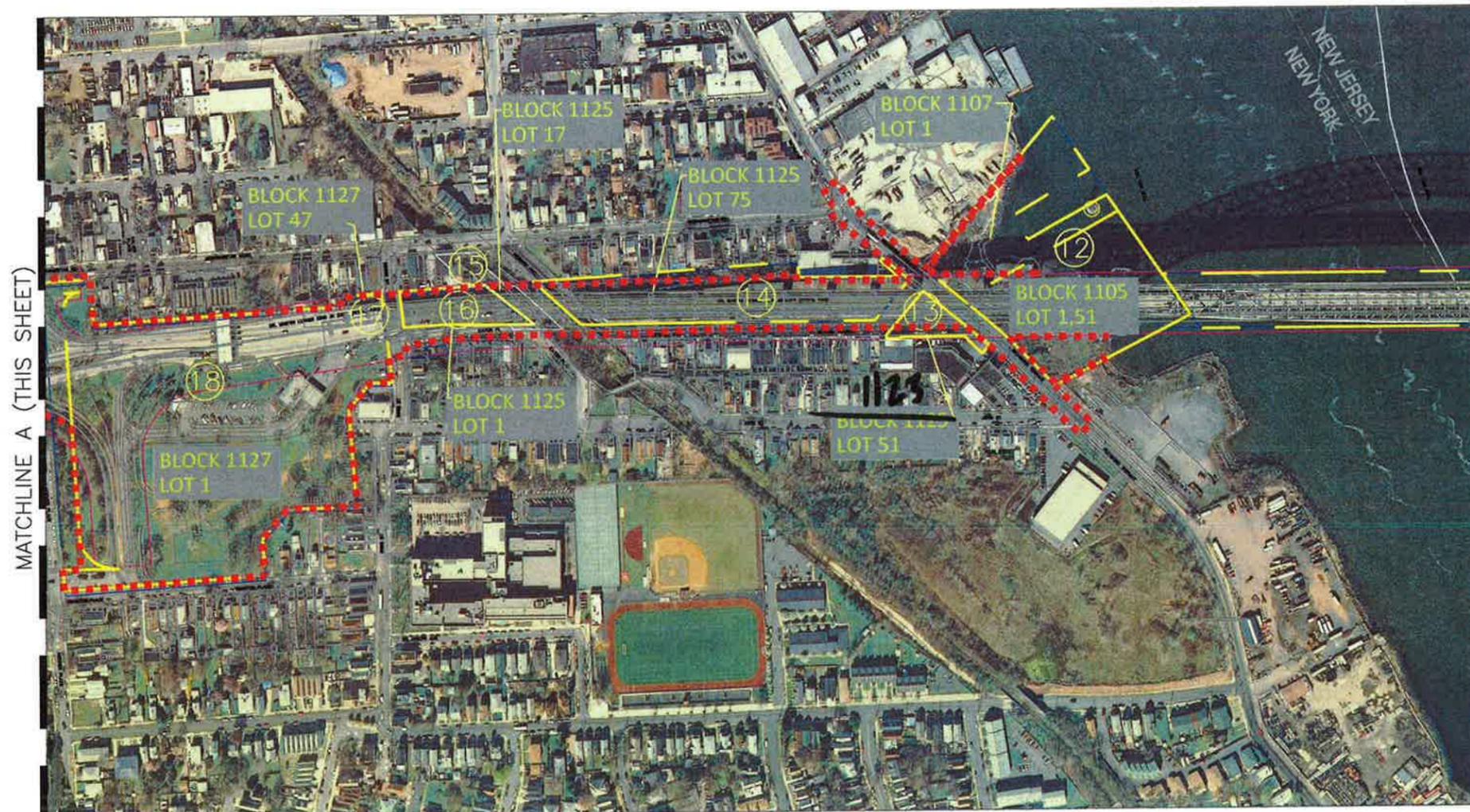
**SITE  
LOCATION  
MAP**

This drawing subject to conditions in contract. All dimensions, items, weights and materials herein are referred to Port Authority and may not be used without the written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or incineration with refuse handlers that ensure that third persons will not have access to the documents contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Room on the 1st Floor, 3 Gateway Center, Newark, NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 26th Floor, New York, NY 10017.

Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_  
Date \_\_\_\_\_ 4/15/2013

Contract Number \_\_\_\_\_

Drawing Number **FIGURE 2A**



MATCHLINE A (THIS SHEET)

MATCHLINE B (THIS SHEET)

FIGURE 1A

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

BAYONNE BRIDGE  
NAVIGATIONAL  
CLEARANCE  
PROGRAM

**ENVIRONMENTAL**

Title  
REPLACEMENT OF MAIN SPAN ROADWAY  
AND APPROACH STRUCTURES

**SITE  
LOCATION  
MAP**

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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_  
Date \_\_\_\_\_ 4/15/2013

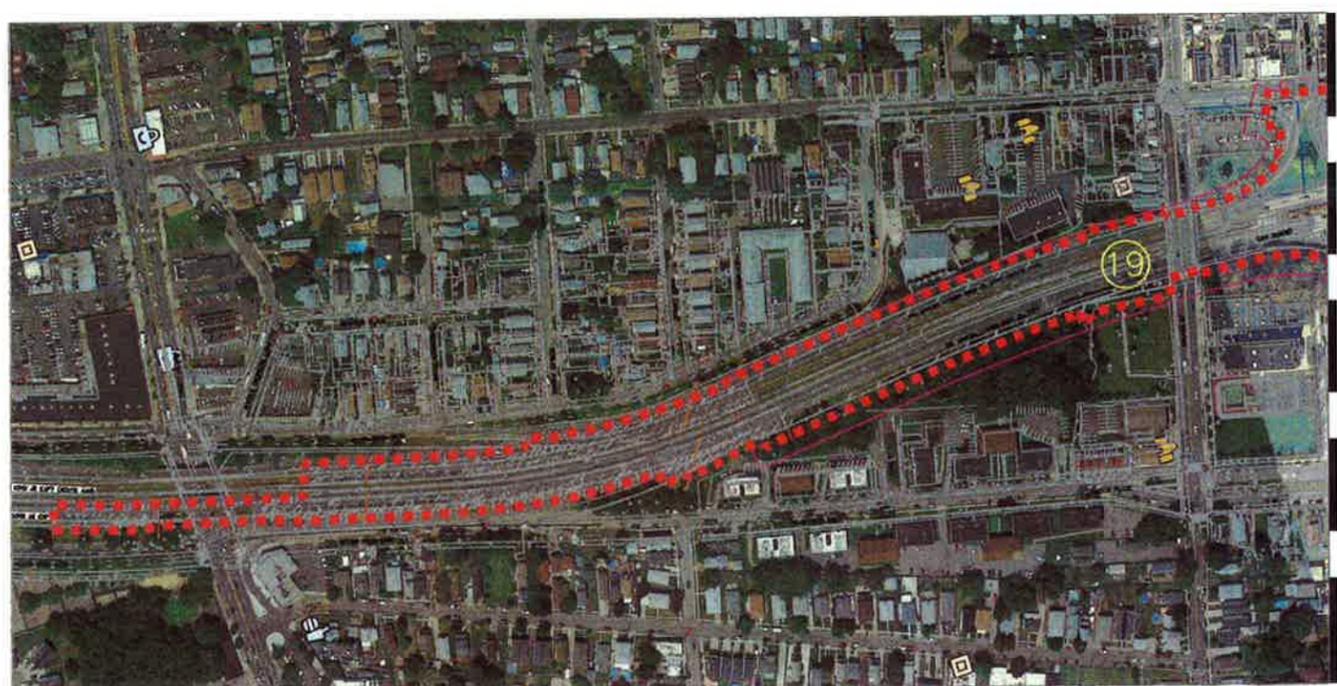
Contract Number \_\_\_\_\_

Drawing Number **FIGURE 2B**

- NOTE:
1. THE LIMITS OF THE PROJECT AREA ARE FROM THE PORT AUTHORITY DRAWINGS TITLED REPLACEMENT OF MAIN SPAN ROADWAY AND APPROACH STRUCTURES.
  2. THE PARCEL BOUNDARIES ARE TAKEN FROM THE NEW YORK CITY STATEN ISLAND BOROUGH TAX MAP.
  3. EXCEPT FOR AREAS 15 AND 19 THE PARCELS ARE OWNED BY PORT AUTHORITY.

**LEGEND**

- PROJECT AREA
- PARCEL BOUNDARY
- AREA IDENTIFICATION NUMBER



MATCHLINE A (THIS SHEET)

FIGURE 2B

## **APPENDIX C**

**Map ID:** 1**Owner:** New Jersey Department of Transportation**Site Address:** None**Site Location:** Route 440 from Avenue C south to the intersection of West 7th Street and JFK Boulevard in Bayonne, New Jersey.**Acreage:** 4.5 Acres**Block/Lot:** None**Facility Name:** None**Site Description**

**Current Uses of Property:** The site consists of Route 440 from approximately 300 feet south of Avenue C to the intersection of West 7th Street and Kennedy Boulevard in Bayonne, New Jersey.

**Description of Structures, Roads, and Other Improvements:** The site consists almost entirely of Route 440 however some grass vegetated areas are located adjacent to the roadway on the southern portion of the site. Route 440 becomes elevated as it extends north/northeast across the site. The roadway is elevated by concrete piers and structures. An overpass which allows JFK Boulevard to pass under Route 440 is present on the central portion of the site. Entrance/exit ramps are present on the southern portion of the site. The only improvements are Route 440 and the associated access ramps.

**Current Uses of Adjoining Properties:** The site is bordered by a Dunkin Donuts restaurant and New Jersey Transit 8<sup>th</sup> Street Hudson-Bergen Light Rail Station to the north; Route 440 to the northeast; Ideal Metal Door and Window Manufacturing Company (Ideal), Echo Auto Sales, a vacant lot (202 Kennedy Boulevard), residences to the east; Route 440 and Port Authority property Bayonne Block 302, Lot 3 to the south; Brass Foundry to the southwest; Bayonne Shopping Center, vacant land, and a Conrail railroad track to the west; and Shulman & Shulman Oil and a vacant lot (former industrial site) to the northwest.

**User Provided Information:** Information from the Port Authority, where provided to HMM, has been incorporated into this report.

**Records Review**

**Standard Environmental Record Sources:** A review of the EDR database report (EDR Report) did not identify any incidents associated with the site. However, seven properties with environmental concerns are identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR Report in Appendix C.

The EDR Report identified the following five properties adjacent to the site.

- 1) Bayonne Shopping Center, located at 163 Avenue A in Bayonne, is within proximity of the western portion of the site and is listed in the NJSHWS, NJ ENG CONTROLS, NJ INST CONTROL, NJ BROWNFIELDS, and NJ ISRA databases. There is a limited restricted Deed Notice with an asphalt cap and a CEA that was established in 2000 for benzene. The Bayonne Shopping Center has been assigned PI number is 004372. Based upon a review of the CEA and Deed Notice boundaries from information obtained from NJDEP, neither groundwater nor soil contamination from this property extends onto the site. Therefore this property is not a concern at this time.
- 2) Shulman Fuel, located at 256 Kennedy Boulevard, is listed in the RCRA NonGen/NLR, FINDS, NJ SHWS, NJ HIST HWS, NJ LUST, NJ UST, and NJ BROWNFIELDS databases. The property is located adjacent to the northern perimeter of the site (Kennedy Boulevard and North Street). No information

pertaining to the extent of contamination was detailed in the EDR Report.

- 3) Ideal Aluminum Products, located at 100 West 7th Street, is located near the southern boundary of the site and is listed in the NJ HIST LUST, RCRA NonGen/NLR, FINDS, NJ HIST HWS, NJ UST, NJ Release databases. The case number for the UST release is 91-8-29-1415-33. Two USTs were removed, one that contained leaded gasoline and one contained medium diesel fuel.
- 4) 86 West 7th Street is located near the southern boundary of the site adjacent to Ideal Aluminum Products and is listed in the NJ SHWS and NJ VCP databases. No other information was provided.
- 5) Lou's Service Station, located at 75 West 7th Street and is listed in US Historical Auto Station database. The property is located adjacent to the southern perimeter of the site. No other information about the property was provided in the EDR Report.
- 6) 210 Kennedy Boulevard, Amoco Service Station #357 (SRP ID of NJC876004128), is listed in the NJ HIST LUST database. The property is located at the intersection of West 7th Street and Kennedy Boulevard (adjacent to Ideal Window). Under the Amoco Service Station listing, the property is listed in the FINDS, NJ SHWS, NJ INST CONTROL, and NJ BROWNFIELDS databases. A CEA was established for the property in 1997 for benzene, ethylbenzene, methyl tert-butyl ether, Synthetic Organic Compounds, tertiary butyl alcohol (TBA), toluene, and xylenes. Based upon a review of the CEA, groundwater contamination from this property extends onto the site.
- 7) 202 Kennedy Boulevard, formerly Bergen Point Automotive (200 Kennedy Boulevard), is listed in the NJ SHWS, NJ Release, NJ LUST, and NJ UST databases. The property had seven underground storage tanks (USTs) that contained gasoline and were installed in 1944. The tanks were removed in 2007 and a release was assigned case number 07-09-17-1652-22.

The Bergen Point Automotive (202 Kennedy Boulevard) and Amoco Service Station (210 Kennedy Boulevard) properties are located up gradient of the site. Reportedly, known groundwater contamination associated with the former operations of the Amoco Service Station, extend onto the site. The extent of contamination from the former operations at 202 Kennedy Boulevard is unknown. These properties are a concern for the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

#### USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

#### NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

#### Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

#### City of Bayonne

##### City Clerk

- The City Clerk responded that it does not maintain any files for the site.

##### Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the project site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the project site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicates the ground surface elevation on the site is approximately 30 feet above mean sea level (AMSL). Groundwater in the vicinity of the site is expected to flow to the west. The nearest surface water body is Newark Bay located approximately 2000 feet to the west of the site.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph indicates several railroad tracks transect the site from southwest to northeast. The railroad tracks appeared elevated. A grass vegetated area was apparent on the southern portion of the site.

The 1954 aerial photograph indicated a structure similar to the signal house identified on Sanborn Maps was depicted land uses similar to the 1931 aerial photograph. The remaining land uses appeared similar to the 1931 aerial photograph.

The 1966 aerial photograph indicates the grass vegetated area on the southern portion of the site had become covered with dense vegetation. The remaining land uses appeared similar to the 1954 aerial photograph.

The 1979 and 1980 aerial photograph indicates the tracks and signal house had been removed from the site. The remaining land uses appeared similar to the 1966 aerial photograph.

The 1987 aerial photograph indicates one of the railroad bridges over JFK Boulevard had been removed and disturbed areas and soil piles are apparently associated with construction activities were located onsite near JFK Boulevard. The remaining land uses appeared similar to the 1980 aerial photograph.

The 1995 through 2008 aerial photographs depict the site as it is currently developed. Route 440 had been constructed as an elevated roadway on the site similar to existing conditions. Kennedy Boulevards extends in a north/south direction beneath Route 440.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for the site.

From 1898 through 1991 Sanborn Maps indicate the site is developed with railroad tracks identified as the Central Railroad of New Jersey. The vacant area on the southern portion of the site was identified as Plaza Park on the 1979 and subsequent Sanborn Maps.

A signal house located within the railroad right of way on the western portion of the site was depicted on the on the 1950, 1979, and 1988 Sanborn Maps and was no longer apparent on the 1991 Sanborn Map.

**Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties.

The 1931 aerial photograph indicated railroad tracks adjacent to the west of the site. Two commercial industrial building identified on the Sanborn maps was located on the north/northwestern portion of the site. A railroad spur and residences were apparent adjacent to the southeastern of the site. The 1954 aerial photograph indicates land uses similar to the 1931 aerial photograph.

The 1966 aerial photograph indicates a structure similar to the Idea window building was constructed to the southeast of the site. Another commercial structure was constructed to the northwest of the site. The remaining land uses appeared similar to the 1931 aerial photograph.

The 1979 and 1980 aerial photographs indicate a structure similar to the existing Echo Auto Sales building and former Amoco gasoline station had been constructed southeast of the site at 210 JFK Boulevard. The remaining land uses appeared similar to the 1966 aerial photograph.

The 1995 aerial photograph indicates Route 440 had been constructed south and northeast of the site. The remaining land uses appeared similar to the 1980 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for land uses on the adjacent properties.

The 1898 Sanborn map indicates that no development adjacent to the boundaries of the site except for the existing railroad track.

The 1912 Sanborn Map indicates structures associated with James Brady's Sons Co. (contractors) is located adjacent to the southeast of the site. The associated outbuildings are noted as Cement Storage, Cement and Brick Storage, and Stone Cutting. The remaining land uses appeared similar to the 1898 Sanborn Map.

The 1950 Sanborn Map indicates Shulman & Shulman Co. (Shulman), located at 756 Hudson Boulevard (currently Kennedy Boulevard), An office building, garage, two fuel oil tanks and six coal tanks were located adjacent to the northwest of the site. The James Brady's Sons Co. buildings were removed. A gasoline filling station was located adjacent to the east of the site at 200 JFK Boulevard. Two gas tanks were identified at this site. The remaining land uses appeared similar to the 1912 Sanborn Map.

The 1979 Sanborn Map indicates a gasoline filling station was located at the intersection of West 7<sup>th</sup> Street and JFK. Boulevard. A structure similar to the Ideal Window building and residences were constructed adjacent to the east of the site. A commercial building was constructed to the northwest of the site. The gasoline station located at 200 JFK. Boulevard was no longer apparent. The remaining land uses appeared similar to the 1950 Sanborn Map.

The 1988 and 1989 Sanborn Maps indicate land uses similar to the 1979 Sanborn Map

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site consists of northbound and southbound lanes of Route 440 and adjacent vegetated areas. Entrance and exit ramps to and from Route 440 are also present on the site.

Exterior Observations: Route 440, oriented north to south as it exits the Bayonne Bridge and then turns to the east, the site slopes downward toward maintained lawn areas adjacent to Avenue A and JFK Boulevard. Electric overhead lights and storm water drains, which appear to discharge to the municipal sewer system, are located along site roadways. No indication of staining or stressed vegetation was observed on the site. A monitoring well was observed on the southeastern portion of the site in a ramp leading onto Route 440 from Kennedy Boulevard.

The well is believed to be associated with groundwater monitoring for a contaminant plume associated with the Amoco service Station (202 Kennedy Boulevard) that extends onsite.

**Interior Observations:** No structures with interior portions are located on the site. Therefore, an inspection of interior structures was not applicable.

**Interviews:** On April 3, 2013, an interview was conducted with Mr. Joe Sweger, with the New Jersey Department of Transportation who owns the portion of the project site that encompasses the Route 440 approach in New Jersey in order to obtain information regarding the site's current and historical use. Mr. Sweger indicated he was not aware of any spills, underground storage tanks or environmental concerns associated with the site.

In April 2013 an interview was conducted with Rachael Shipkin who represents Conrail who owns the western adjacent railroad track. Ms. Shipkin indicated the adjacent rail line is active but is not currently being used. Ms. Shipkin provided a map showing the former tracks in the vicinity of the site. The map indicated petroleum pipelines associated with Tidewater Pipe Company and Standard Oil Company bisect the site from Avenue A and run along West 7<sup>th</sup> Street. The map is included with this site inspection sheet. Ms. Shipkin was not aware of the presence or absence of the pipelines on the site or in the vicinity.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of roadways and access ramps and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Petroleum Pipelines –** Mapping reviewed as part of this Phase I ESA identified petroleum pipelines owned by Tidewater Pipe Company/Standard Oil Company to be located onsite. It is unknown whether the pipelines remain onsite. Individuals interviewed were not aware of the pipelines or their condition.

**Adjacent Properties-** At least two sites the Amoco Service Station located at 210 Kennedy Boulevard and an abandoned gas station located 202 Kennedy Boulevard have been identified with environmental concerns and are located adjacent to the site. These properties have active regulatory statuses with known groundwater contamination. The CEA associated with the Amoco Service Station extends onto the site.

**Railroad tracks –** Railroad track were present on the site and were removed sometime before 1980. It is unknown whether the railroad bedding remains on the site. Construction activities may encounter former railroad bedding that is a concern.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

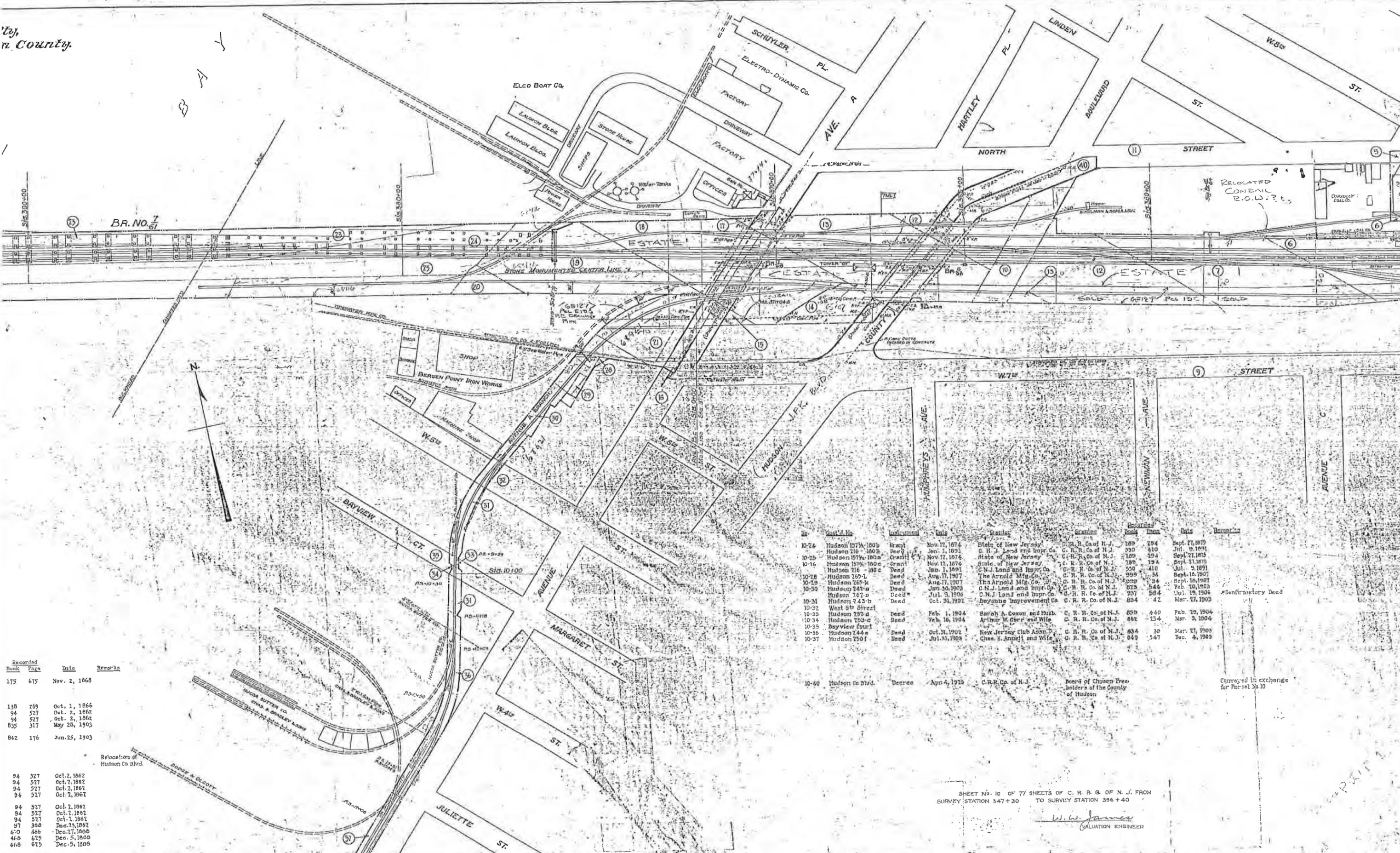
**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soil, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Petroleum Pipelines –**Petroleum pipelines were mapped on the site and were indicated to be owned by Tidewater Pipe Company/Standard Oil Company. It is unknown whether the pipelines remain onsite. The Port Authority indicated this portion of the project site will not include deep excavations and will not encounter the pipelines should they exist or potential impacts from the former presence of the pipelines.

Adjacent Properties – Groundwater impacts are known to be present on the site and the site vicinity. Consideration of contact with impacted groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Railroad tracks – Railroad track were present on the site and were removed sometime before 1980. Considerations for potentially encountering the former railroad bed should be addressed in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

City of Hudson County



Recorded Book Page	Date	Remarks
175 675	Nov. 2, 1868	
138 269	Oct. 1, 1866	
94 527	Oct. 2, 1862	
94 527	Oct. 2, 1862	
835 317	May 28, 1903	
842 176	Jun. 25, 1903	
Relocation of Hudson Co. Blvd.		
94 527	Oct. 2, 1862	
94 527	Oct. 2, 1862	
94 527	Oct. 2, 1862	
94 527	Oct. 2, 1862	
97 398	Dec. 17, 1862	
470 466	Dec. 17, 1862	
468 675	Dec. 5, 1868	
468 675	Dec. 5, 1868	

No.	Part'd No.	Instrument	Date	Grantee	Grantor	Recorded Book Page	Date	Remarks
10-24	Hudson 157A-180b	Grant	Nov. 12, 1874	State of New Jersey	C. R. R. Co. of N. J.	289 294	Sept. 27, 1875	
10-25	Hudson 157A-180B	Grant	Jan. 1, 1893	C. N. J. Land and Impr. Co.	C. R. R. Co. of N. J.	350 410	Jul. 9, 1891	
10-26	Hudson 157A-180c	Grant	Nov. 12, 1874	State of New Jersey	C. R. R. Co. of N. J.	289 294	Sept. 27, 1875	
10-27	Hudson 157A-180c	Grant	Nov. 12, 1874	State of New Jersey	C. R. R. Co. of N. J.	289 294	Sept. 27, 1875	
10-28	Hudson 265-L	Deed	Jan. 1, 1891	C. N. J. Land and Impr. Co.	C. R. R. Co. of N. J.	350 410	Jul. 9, 1891	
10-29	Hudson 265-k	Deed	Aug. 17, 1907	The Arnold Mfg. Co.	C. R. R. Co. of N. J.	399 34	Sept. 18, 1907	
10-30	Hudson 245-a	Deed	Aug. 17, 1907	The Arnold Mfg. Co.	C. R. R. Co. of N. J.	399 34	Sept. 18, 1907	
10-31	Hudson 245-b	Deed	Jan. 30, 1903	C. N. J. Land and Impr. Co.	C. R. R. Co. of N. J.	323 546	Feb. 10, 1903	
10-32	West 8th Street	Deed	Jul. 3, 1908	C. N. J. Land and Impr. Co.	C. R. R. Co. of N. J.	357 584	Jul. 19, 1908	Confirmatory Deed
10-33	Hudson 252-d	Deed	Oct. 31, 1902	Boyette Improvement Co.	C. R. R. Co. of N. J.	834 47	Mar. 17, 1903	
10-34	Hudson 253-c	Deed	Feb. 1, 1904	Sarah A. Coxon and Hub. Arthur W. Carr and Wife	C. R. R. Co. of N. J.	659 440	Feb. 19, 1904	
10-35	Bayview Court	Deed	Feb. 16, 1904	Sarah A. Coxon and Hub. Arthur W. Carr and Wife	C. R. R. Co. of N. J.	662 254	Mar. 3, 1904	
10-36	Hudson 244-a	Deed	Oct. 31, 1902	New Jersey Club Assn.	C. R. R. Co. of N. J.	834 32	Mar. 17, 1903	
10-37	Hudson 250-f	Deed	Jul. 31, 1903	Chas. S. Appel and Wife	C. R. R. Co. of N. J.	840 547	Dec. 4, 1903	
10-40	Hudson Co Blvd.	Decree	Apr. 4, 1925	C. R. R. Co. of N. J.	Board of Chosen Freeholders of the County of Hudson			Conveyed in exchange for Parcel No. 10

SHEET NO. 10 OF 77 SHEETS OF C. R. R. & OF N. J. FROM SURVEY STATION 347+30 TO SURVEY STATION 396+40

W. W. James  
VALUATION ENGINEER



Photograph 1: Photograph taken looking north. View of Route 440 facing north.

Photograph taken: March 29, 2013



Photograph 2: Photograph taken looking south. View of Route 440 facing south.

Photograph taken: March 29, 2013



Photograph 3: Photograph taken looking south. View of southwestern portion of property.

Photograph taken: March 29, 2013



Photograph 4: Photograph taken looking north. View of southern portion of property.

Photograph taken: March 29, 2013

**Map ID:** 2**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** West of the intersection of West 7th Street and JFK Boulevard in Bayonne, New Jersey.**Acreage:** 2.02**Block/Lot:** Block 302, Lot 3**Facility Name:** None**Site Description**

Current Uses of Property: The site consists of northbound and southbound lanes of Route 440 and adjacent vegetated areas. Entrance and exit ramps to and from Route 440 are also present on the site.

Description of Structures, Roads, and Other Improvements: No structures are currently located on the site. The only improvements are Route 440 and an entrance from Avenue A and an exit ramp onto JFK Boulevard.

Current Uses of Adjoining Properties: The site is bound by Route 440 to the north; residences and JFK Boulevard to the east; Port Authority property (Block 302, Lot 4) to the south; and Avenue A and the Bergen Point Brass Foundry and Bayonne Shopping Center to the west. At the corner of Kennedy Boulevard and West 7<sup>th</sup> Street is an abandoned gasoline station property (202 Kennedy Boulevard) and opposite of the vacant lot is Echo Auto Sales located at 210 Kennedy Boulevard and formerly Amoco Service Station #357.

**User Provided Information:** Information from the Port Authority, where provided to HMM, has been incorporated into this report.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, four sites of concern were identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

The EDR report identified the following properties adjacent to the site.

- 1) Bayonne Shopping Center, located at 163 Avenue A in Bayonne, is within proximity of the western portion of the site and is listed in the NJSHWS, NJ ENG CONTROLS, NJ INST CONTROL, NJ BROWNFIELDS, and NJ ISRA databases. There is a limited restricted deed notice with an asphalt cap and a CEA that was established in the year 2000 for Benzene. The PI number is 004372 and the PI name is Boat Works. Based upon a review of the CEA and Deed restriction boundaries on the NJDEP Geoweb program, neither groundwater or soil contamination from this property extends onto the site. Therefore this property is not a concern at this time.
- 2) 210 Kennedy Boulevard, Amoco Service Station #357 (SRP ID of NJC876004128), is listed in the NJ HIST LUST database. The property is located at the intersection of West 7th Street and Kennedy Boulevard (adjacent to Ideal Window). Under the Amoco Service Station listing, the property is listed in the FINDS, NJ SHWS, NJ INST CONTROL, and NJ BROWNFIELDS databases. A CEA was established for the property in the 1997 for benzene, ethylbenzene, methyl tert-butyl ether, Synthetic Organic Compounds, tert-butyl alcohol, toluene, and xylenes. Based upon a review of the CEA, groundwater contamination from this property extends onto the site. A map showing the CEA from the NJDEP Geoweb program is attached to this site inspection sheet.
- 3) 202 Kennedy Boulevard, formerly Bergen Point Automotive (200 Kennedy Boulevard), is listed in the NJ SHWS, NJ Release, NJ LUST, and NJ UST databases. The property had seven underground storage

tanks (USTs) that contained gasoline; they were installed in 1944 and removed in 2007 and was assigned case number 07-09-17-1652-22.

The 202 Kennedy Boulevard and Amoco Service Station (210 Kennedy Boulevard) properties are located up gradient of the site. Reportedly, known groundwater contamination associated with the former operations of the Amoco Service Station, extend onto the site. These properties are a concern for the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

City of BayonneCity Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). The site slopes downward from the elevated roadway on the central portion of the site toward Avenue A and JFK Boulevard. Groundwater in the vicinity of the site is expected to flow to the southwest. The nearest surface water body is Newark Bay located approximately 1,000 feet to the southwest of the site.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph depicts the site as undeveloped land.

The 1954 aerial photograph depicts the site with two roadways along the central portion of the site which split and provides access to Avenue A and John. F. Kennedy Boulevard. Three grassy islands are depicted adjacent to the two roadways. The central island appears to be utilized as a park. West 6<sup>th</sup> Street appears to dead end on the site along the southeastern perimeter.

The 1966 aerial photograph does not indicate any significant changes to the site since the 1954 aerial photograph.

The 1979 aerial photograph depicts the site with the previously noted roadways, however one of the roadways has been modified with a fork to access Avenue A both northbound and southbound. An additional grassy island is depicted within the fork in the ramp which provides access to Avenue A. A portion of the grassy island located along the western portion of the site is paved and appears to be utilized for parking of several cars.

The 1980 aerial photograph does not indicate any significant changes to the site since the 1979 aerial.

The 1987 aerial photograph depicts the site with the previously noted roadways. The previously noted grassy island within the fork in the roadway is no longer present. The grassy island along the western portion of the site is no longer noted to be utilized for parking and the entire island is noted to consist of grass.

The 1995 aerial photograph depicts the site with the previously noted roadways which provide access to Avenue A and JFK Boulevard. Several additional lanes have been constructed and run along the central portion of the site which are associated with Route 440.

The 2002, 2006 and 2008 aerial photographs do not indicate any significant changes to the site since the 1995 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for the site.

The 1898 map indicates the site as undeveloped land with West 7<sup>th</sup> Street intersecting the site in an east to west direction along the northern perimeter and West 6<sup>th</sup> Avenue intersecting the site in an east to west direction along the southern perimeter.

The 1912 Sanborn map indicates six residential structures with frontage along West 6<sup>th</sup> Street and three residential structures with frontage along JFK Boulevard located on the site. West 7<sup>th</sup> Street intersects the site in an east to west direction along the northern perimeter and West 6<sup>th</sup> Avenue intersects the site in an east to west direction along the southern perimeter.

The 1950 Sanborn map depicts the site as undeveloped land. All of the previously depicted residential structures on the site have been demolished. The roadways located on the site appear unchanged.

The 1979 Sanborn map depicts the site with two roadways along the central portion of the site which provide access to Avenue A and JFK Boulevard. Three undeveloped islands are depicted adjacent to the roadways. All of the islands are noted to be utilized as parks. West 6<sup>th</sup> Street intersects the site along the southeastern corner and dead ends. West 7<sup>th</sup> Street no longer intersects the site along the northern perimeter.

The 1988 and 1991 Sanborn maps do not indicate any changes to the site since the 1979 Sanborn map.

### Historical Use Information on Adjoining Properties

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties. A discussion Port Authority property (Block 302, Lot 4) adjacent property to the south has not been included. For historic land uses on that property, see the Site Inspection Sheet for that property.

The 1931 aerial photograph depicts the property to the north of the site as undeveloped land followed by a series of railroad lines and a signal building. JFK Boulevard is depicted to the east of the site followed by several residential structures. The property to the west of the site is depicted as undeveloped land followed by an industrial building associated with Bergen Point Brass Foundry.

The 1954 aerial photograph does not indicate any changes to the property to the north of the site since the 1931 aerial photograph. JFK Boulevard is depicted to the east of the site followed by the previously noted residences and an apparent gasoline station. Avenue A is depicted to the west of the site followed by the previously noted foundry building, however additions to the building have been constructed.

The 1966 aerial photograph does not indicate any changes to the adjacent properties to the north or west since the 1954 aerial photograph. JFK Boulevard is depicted to the east of the site followed by the previously noted residences, however the location of the former gasoline station is now depicted as an undeveloped lot.

The 1979, 1980, and 1987 aerial photographs do not indicate any changes to the adjacent properties to the north or east of the site since the 1966 aerial photograph. Avenue A is depicted to the west of the site followed by the previously noted foundry building, however additions to the building have been constructed.

The 1995 aerial photograph does not indicate any changes to the adjacent properties since the 1979, 1980, or 1987 aerial photographs.

The 2002, 2006, and 2008 aerial photographs do not indicate any changes to the adjacent properties since the 1995 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for land uses on the adjacent properties. A discussion Port Authority property (Block 302, Lot 4) adjacent property to the south has not been included. For historic land uses on that property, see the Site Inspection Sheet for that property.

The 1898 Sanborn map indicates the property to the north of the site as undeveloped followed by a series of railroad tracks which are noted to be operated by Central Railroad of New Jersey. JFK Boulevard is depicted to the east of the site followed by undeveloped land. Avenue A is depicted to the west of the site followed by undeveloped land.

The 1912 Sanborn map indicates the property to the north of the site with a series of railroad tracks operated by Central Railroad of New Jersey; JFK Boulevard to the east of the site followed by undeveloped land; and Avenue A to the west of the site followed by undeveloped land.

The 1950 Sanborn map indicates the property to the north of the site as undeveloped land followed by a series of railroad lines operated by Central Railroad of New Jersey and a structure noted to be a signal house. JFK Boulevard is depicted to the east of the site followed by seven residential structures, one associated automobile garage and a gasoline station. Avenue A is depicted to the west of the site followed by a large building with six additions which is noted to be utilized as a brass foundry operated by Bergen Point Brass Foundry.

The 1979 Sanborn map does not indicate any changes to the property to the north since the 1950 Sanborn map. JFK Boulevard is depicted to the east of the site followed by eight residential structures and one associated automobile garage. The location of the former gasoline station is now depicted as a vacant lot. Avenue A is depicted to the west of the site followed by a large building which is noted to be utilized as a brass foundry operated by Bergen Point Brass Foundry. An additional building has been constructed on this property which is noted to be utilized for tool manufacturing.

The 1988 Sanborn map does not indicate any changes to the property to the north, south, or west since the 1950 map. JFK Boulevard is depicted to the east of the site followed by the previously noted residential structures and one associated automobile garage. A parking area is depicted at the location of the former gasoline station.

The 1991 Sanborn map does not indicate any changes to the adjacent properties since the 1988 Sanborn map.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site consists of northbound and southbound lanes of Route 440 and adjacent vegetated areas. Entrance and exit ramps to and from Route 440 are also present on the site.

Exterior Observations: Route 440, oriented north to south is elevated on the central portion of the site as it meets the bridge approach. To the east and west of Route 440, the site slopes downward toward maintained lawn areas adjacent to Avenue A and JFK Boulevard. A Bayonne Bridge sign was noted on the northwestern portion of the site south of the entrance ramp. Electric overhead lights and stormwater drains, which appear to discharge to the municipal sewer system are located along site roadways. No indication of staining or stressed vegetation was observed on the site.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated. And site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: No structures are located on the site. Therefore, an inspection of interior structures was not applicable.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of roadways and access ramps and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Adjacent Properties-** Two sites the Amoco Service Station located at 210 Kennedy Boulevard and an abandoned gas station property located 202 Kennedy Boulevard have been identified with environmental concerns and are located adjacent to the site. These properties have active regulatory statuses with known groundwater contamination. According to the NJDEP Geoweb GIS mapping program, the CEA associated with the Amoco Service Station extends onto the site.

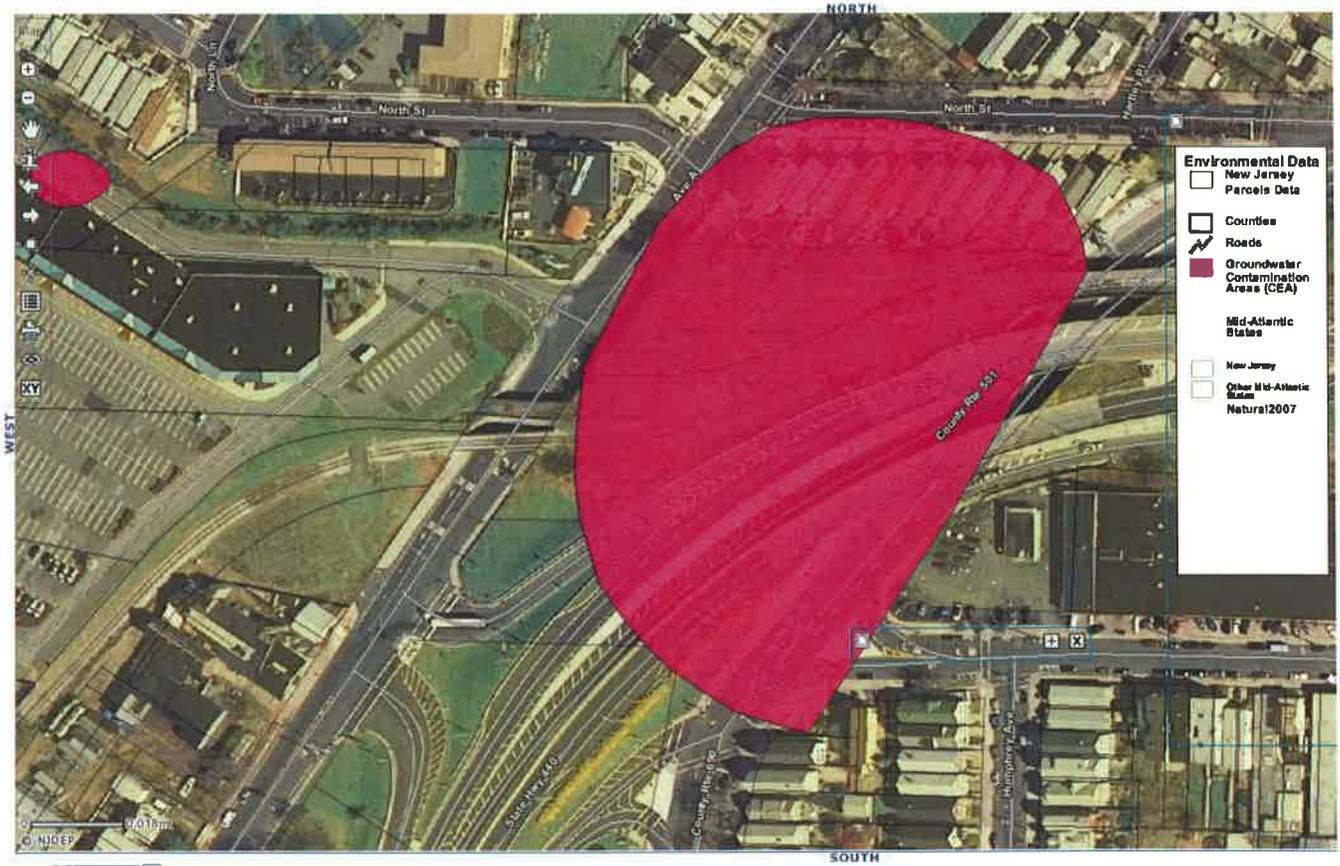
**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Adjacent Properties – Groundwater impacts are known to be present in the site vicinity and may extend onto the site. Consideration of contact with impacted groundwater from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized underground storage tanks (USTs). Given the time frame, there is possibility that USTs may be present. Consideration of environmental impacts from historic land uses should be addresses in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Map Search



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Photograph 1: Photograph taken facing north. View of western portion of the site.

Date Taken: March 29, 2013



Photograph 2: Photograph taken facing north. View of northwestern portion of the site.

Date Taken: March 29, 2013



Photograph 3: Photograph taken facing west. View of eastern portion of the site.

Date Taken: April 4, 2013



Photograph 4: Photograph taken facing north. View of northeastern portion of property.

Date Taken: April 4, 2013

**Map ID: 3**
**Owner:** The Port Authority of New York and New Jersey

**Site Address:** None

**Site Location:** North side of 5<sup>th</sup> Street, Approximately 60 feet east of the intersection of West 5th Street and Avenue A in Bayonne, New Jersey.

**Acreage:** 2.0 acres

**Block/Lot:** Block 302, Lot 4

**Facility Name:** None

**Site Description**

Current Uses of Property: The site consists of northbound and southbound lanes of Route 440 and adjacent vegetated areas. A yard area for the residence referenced by the address of 167 West 5<sup>th</sup> Street is located on the western portion of the site.

Description of Structures, Roads, and Other Improvements: With the exception of Route 440, which is located on the central portion of the site, no improvements are located on the site.

Current Uses of Adjoining Properties: The site is bound by Route 440 to the north; residences and JFK Boulevard to the east; Port Authority property (Block 312, Lot 16) to the south; and Avenue A and residences to the west.

**User Provided Information:** Information provided from The Port Authority where appropriate has been incorporated into this report.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. No sites of environmental concern were identified by EDR to be located adjacent to the site. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

Record Source	Department	Area Searched
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site

NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to Block 302, Lot 4.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the project site.

City of Bayonne

City Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). The site slopes downward from the elevated roadway on the central portion of the site toward Avenue A and JFK Boulevard. Groundwater in the vicinity of the site is expected to flow to the southwest. The nearest surface water body is Newark Bay located approximately 1,000 feet to the southwest of the site.

#### **Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph depicts the site as undeveloped land which appears to be disturbed as part of construction activities for the roadway for the Bayonne Bridge Approach.

The 1954 aerial photograph depicts the site with a roadway that runs in a north to south direction along the center of the site which leads to a forked roadway that provides access to Avenue A and JFK Boulevard. The remainder of this property consists of grassy undeveloped land with sparse trees along the eastern and western perimeters of the roadway.

The 1966, 1979, 1980, and 1987 aerial photographs do not indicate any changes to the site since the 1954 aerial photograph.

The 1995 aerial photograph depicts the site with the previously noted roadway, however, the roadway has been widened and several additional lanes are now present along the central portion of the property which are associated with Route 440. The remainder of this property appears unchanged since the 1966, 1979, 1980, and 1987 aerial photographs.

The 2002, 2006 and 2008 aerial photographs do not indicate any significant changes to the site since the 1995 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for the site.

The 1898 Sanborn map indicates the site as undeveloped land.

The 1912 Sanborn map depicts the site with five residential structures, two associated outbuildings and a stable along the northern perimeter of the site.

The 1950 Sanborn map depicts the site as undeveloped land. All of the previously depicted structures on the site have been demolished.

The 1979 Sanborn map depicts the site with a roadway that runs in a north to south direction along the central portion of the site which leads to a forked roadway that provides access to Avenue A and JFK Boulevard. The remainder of the site is undeveloped.

The 1988 and 1991 Sanborn maps do not indicate any changes to site since the 1979 Sanborn map.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 302, Lot 3) and to the south at Port Authority property (Block

312, Lot 16) has not been included. Please see the specific Site Inspection Sheets for historic land uses on those properties.

The 1931 aerial photograph notes the property to the east of the site is depicted with six apartment buildings, one residential structure, and two associated outbuildings. The property to the west of the site is depicted with two residential structures.

The 1954 aerial photograph indicates the property to the east of the site with six apartment buildings, one residential structure, and two associated outbuildings. The property to the west of the site is depicted with two apartment buildings.

The 1966 through 2008 aerial photographs do not indicate any changes to the adjacent properties since the 1954 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 302, Lot 3) and to the south at Port Authority property (Block 312, Lot 16) has not been included. Please see the specific Site Inspection Sheets for historic land uses on those properties.

The 1898 Sanborn map depicts the adjacent properties to the east and west of the site as undeveloped.

The 1912 map indicates the property to the east of the site with one residential structure with frontage along JFK Boulevard. The property to the west of the site is depicted as undeveloped land.

The 1950 Sanborn map indicates the property to the east of the site with six apartment buildings, one residential structure, and two associated outbuildings. The property to the west of the site is depicted with two apartment buildings.

The 1979 Sanborn map depicts the property to the east of the site with six apartment buildings, two residential structures, and two associated outbuildings. The property to the west of the site appears unchanged since the 1950 map.

The 1988 and 1991 Sanborn maps indicate land uses similar to the 1979 Sanborn map.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site consists of Route 440, adjacent vegetated areas, and a yard area for an adjacent residence (167 West 5<sup>th</sup> Street). Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: Route 440, oriented north to south is elevated on the central portion of the site. The ground surface slopes steeply downward to the east and west from Route 400. The vegetated areas at the base of the slope are relatively level but exhibited a slight slope. A yard area was present on the western portion of the site. The yard contained a fenced-in overgrown garden, a maintained lawn, and steps for accessing the adjacent residence.

A groundwater monitoring well was located at the terminus of 5<sup>th</sup> Street on the western portion of the site. The Port Authority was not aware of the well, nor did they have any information on the well. The Port Authority Material Group collected a groundwater sample from the well using a low-flow purge and sampling methodology on April 1, 2013. The groundwater sample was analyzed for Target Compound List with a 30-compound library search (TCL+30) and Target Analyte List (TAL) metals. The analytical results are attached at the end of this Site Inspection Sheet. Volatile Organic Compounds (VOCs) MTBE, TBA, TCE, and PCE as well as the metals,

sodium, iron, and manganese were detected above the Groundwater Quality Standards (GWQS). No other target compounds were detected above the GWQS. Sodium, iron, and manganese are earth metals, which may be naturally occurring and are secondary standards primarily for aesthetic purposes; therefore they are not considered a concern. TCE and PCE were also detected above the Vapor Intrusion Screening Levels (VISL), however, no buildings are located on the site and therefore vapor intrusion is not considered a concern. VOCs detected above the GWQS are assumed to be attributed to a release from an offsite source. The well was abandoned by a licensed well driller.

No indication of staining or stressed vegetation was observed on the site.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: No structures are located on the site. Therefore, an inspection of interior structures was not applicable.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Groundwater Monitoring Well –** A groundwater monitoring well was located on the western portion of the site. A groundwater sample was collected on April 1, 2013 and analyzed for the TCL+30/TAL metals. MTBE, TBA, TCE, and PCE were detected above the GWQS. VOCs detected above the GWQS are assumed to be attributed to a release from an offsite source. The well was subsequently abandoned by a licensed well driller.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Groundwater Monitoring Well –** A groundwater monitoring well was located onsite. Contact with impacted groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized USTs. Given the time frame, there is the possibility that USTs may be present. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Table 1  
 Summary of Groundwater Analytical Results  
 Block 302 Lot 4  
 Bayonne, New Jersey

CLIENT ID:		TB- 20130401000 AC71554-001 4/1/2013 Aqueous ug/L		FB- 201304011130 AC71554-003 4/1/2013 Aqueous ug/L		RW-15.111- 201304011021 AC71554-005 4/1/2013 Aqueous ug/L		DUP- 201304011021 AC71554-002 4/1/2013 Aqueous ug/L	
LAB ID:									
COLLECTION DATE:									
SAMPLE MATRIX:									
SAMPLE UNITS:									
Analyte	NJGWQS ug/L	Result	RL	Result	RL	Result	RL	Result	RL
<b>Metals</b>									
Mercury	2	NA		ND	0.2	ND	0.2	ND	0.2
Antimony	6	NA		ND	2.5	ND	2.5	ND	2.5
Arsenic	3	NA		ND	1	ND	1	1.1	1
Beryllium	1	NA		ND	0.75	ND	0.75	ND	0.75
Thallium	2	NA		ND	1.5	ND	1.5	ND	1.5
Aluminum	200	NA		ND	100	ND	100	ND	100
Antimony	6	NA		NA		NA		NA	
Arsenic	3	NA		NA		NA		NA	
Barium	6,000	NA		ND	25	130	25	130	25
Beryllium	1	NA		NA		NA		NA	
Cadmium	4	NA		ND	2	ND	2	ND	2
Calcium	NS	NA		ND	1000	290,000	1000	300,000	1000
Chromium	70	NA		ND	25	ND	25	ND	25
Cobalt	100f	NA		ND	10	ND	10	ND	10
Copper	1,300	NA		ND	25	ND	25	ND	25
Iron	300	NA		ND	150	<b>300</b>	150	<b>320</b>	150
Lead	5	NA		ND	5	ND	5	ND	5
Magnesium	NS	NA		ND	1000	100,000	1000	100,000	1000
Manganese	50	NA		ND	25	<b>1,300</b>	25	<b>1,300</b>	25
Nickel	100	NA		ND	10	ND	10	ND	10
Potassium	NS	NA		ND	2,500	11,000	2,500	11,000	2,500
Selenium	40	NA		ND	25	ND	25	ND	25
Silver	40	NA		ND	10	ND	10	ND	10
Sodium	50,000	NA		ND	2,500	<b>170,000</b>	2,500	<b>170,000</b>	2,500
Thallium	2	NA		NA		NA		NA	
Vanadium	60	NA		ND	25	ND	25	ND	25
Zinc	2,000	NA		ND	25	ND	25	ND	25
<b>PCBs</b>									
Aroclor (Total)	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1016	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1221	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1232	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1242	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1248	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1254	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1260	0.5	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1262	NS	NA		ND	0.25	ND	0.25	ND	0.25
Aroclor-1268	NS	NA		ND	0.25	ND	0.25	ND	0.25

Table 1  
 Summary of Groundwater Analytical Results  
 Block 302 Lot 4  
 Bayonne, New Jersey

CLIENT ID:		TB- 20130401000 AC71554-001 4/1/2013 Aqueous ug/L		FB- 201304011130 AC71554-003 4/1/2013 Aqueous ug/L		RW-15.111- 201304011021 AC71554-005 4/1/2013 Aqueous ug/L		DUP- 201304011021 AC71554-002 4/1/2013 Aqueous ug/L	
LAB ID:									
COLLECTION DATE:									
SAMPLE MATRIX:									
SAMPLE UNITS:									
Analyte	NJGWQS ug/L	Result	RL	Result	RL	Result	RL	Result	RL
<b>Pesticides/PCBs</b>									
Aldrin	0.04	NA		ND	0.01	ND	0.01	ND	0.01
Alpha-BHC	0.02	NA		ND	0.01	ND	0.01	ND	0.01
beta-BHC	0.04	NA		ND	0.01	ND	0.01	ND	0.01
Chlordane	0.5	NA		ND	0.1	ND	0.1	ND	0.1
delta-BHC	NS	NA		ND	0.01	ND	0.01	ND	0.01
Dieldrin	0.03	NA		ND	0.01	ND	0.01	ND	0.01
Endosulfan I	40	NA		ND	0.01	ND	0.01	ND	0.01
Endosulfan II	40	NA		ND	0.01	ND	0.01	ND	0.01
Endosulfan Sulfate	40	NA		ND	0.01	ND	0.01	ND	0.01
Endrin	2	NA		ND	0.01	ND	0.01	ND	0.01
Endrin Aldehyde	NS	NA		ND	0.01	ND	0.01	ND	0.01
Endrin Ketone	NS	NA		ND	0.01	ND	0.01	ND	0.01
gamma-BHC	0.03	NA		ND	0.01	ND	0.01	ND	0.01
Heptachlor	0.05	NA		ND	0.01	ND	0.01	ND	0.01
Heptachlor Epoxide	0.2	NA		ND	0.01	ND	0.01	ND	0.01
Methoxychlor	40	NA		ND	0.01	ND	0.01	ND	0.01
p,p'-DDD	0.1	NA		ND	0.01	ND	0.01	ND	0.01
p,p'-DDE	0.1	NA		ND	0.01	ND	0.01	ND	0.01
p,p'-DDT	0.1	NA		ND	0.01	ND	0.01	ND	0.01
Toxaphene	2	NA		ND	0.25	ND	0.25	ND	0.25
<b>SemiVolatiles</b>									
4,6-Dinitro-2-methylphenol	0.7	NA		ND	0.2	ND	0.21	ND	0.21
Benzo[a]anthracene	0.1	NA		ND	0.02	ND	0.02	ND	0.021
Benzo[a]pyrene	0.1	NA		ND	0.02	ND	0.02	ND	0.021
Benzo[b]fluoranthene	0.2	NA		ND	0.02	ND	0.02	ND	0.021
Benzo[k]fluoranthene	0.5	NA		ND	0.02	ND	0.02	ND	0.021
Dibenzo[a,h]anthracene	0.3	NA		ND	0.02	ND	0.02	ND	0.021
Hexachlorobenzene	0.02	NA		ND	0.02	ND	0.02	ND	0.021
Hexachlorobutadiene	1	NA		ND	0.02	ND	0.02	ND	0.021
Hexachloroethane	7	NA		ND	0.02	ND	0.02	ND	0.021
Indeno[1,2,3-cd]pyrene	0.2	NA		ND	0.02	ND	0.02	ND	0.021
Pentachlorophenol	0.3	NA		ND	0.2	ND	0.21	ND	0.21
<b>Volatiles</b>									
:TotalVolatileTic	NS	ND		ND		ND		ND	NA
1,1,1-Trichloroethane	30	ND	1	ND	1	ND	2	ND	2
1,1,2,2-Tetrachloroethane	1	ND	1	ND	1	ND	2	ND	2
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	ND	5	ND	5	ND	10	ND	10
1,1,2-Trichloroethane	3	ND	1	ND	1	ND	2	ND	2
1,1-Dichloroethane	50	ND	1	ND	1	ND	2	ND	2
1,1-Dichloroethene	1	ND	1	ND	1	ND	2	ND	2
1,2,3-Trichlorobenzene	NS	ND	1	ND	1	ND	2	ND	2
1,2,4-Trichlorobenzene	9	ND	1	ND	1	ND	2	ND	2

Table 1  
 Summary of Groundwater Analytical Results  
 Block 302 Lot 4  
 Bayonne, New Jersey

CLIENT ID:		TB- 20130401000		FB- 201304011130		RW-15.111- 201304011021		DUP- 201304011021	
LAB ID:		AC71554-001		AC71554-003		AC71554-005		AC71554-002	
COLLECTION DATE:		4/1/2013		4/1/2013		4/1/2013		4/1/2013	
SAMPLE MATRIX:		Aqueous		Aqueous		Aqueous		Aqueous	
SAMPLE UNITS:		ug/L		ug/L		ug/L		ug/L	
Analyte	NJGWQS ug/L	Result	RL	Result	RL	Result	RL	Result	RL
1,2-Dibromo-3-chloropropane	0.02	ND	1	ND	1	ND	2	ND	2
1,2-Dibromoethane	0.03	ND	1	ND	1	ND	2	ND	2
1,2-Dichlorobenzene	600	ND	1	ND	1	ND	2	ND	2
1,2-Dichloroethane	2	ND	0.5	ND	0.5	ND	1	ND	1
1,2-Dichloropropane	1	ND	1	ND	1	ND	2	ND	2
1,3-Dichlorobenzene	600	ND	1	ND	1	ND	2	ND	2
1,4-Dichlorobenzene	75	ND	1	ND	1	ND	2	ND	2
1,4-Dioxane	10f	ND	50	ND	50	ND	100	ND	100
2-Butanone	300	ND	1	ND	1	ND	2	ND	2
2-Chloroethylvinylether	NS	ND		ND	5	ND	10	ND	10
2-Hexanone	300	ND	1	ND	1	ND	2	ND	2
4-Methyl-2-pentanone	NS	ND	1	ND	1	ND	2	ND	2
Acetone	6,000	ND	10	ND	10	ND	20	ND	20
Acrolein	5	ND		ND	5	ND	10	ND	10
Acrylonitrile	2	ND		ND	2	ND	4	ND	4
Benzene	1	ND	0.5	ND	0.5	ND	1	ND	1
Bromochloromethane	NS	ND	1	ND	1	ND	2	ND	2
Bromodichloromethane	1	ND	1	ND	1	ND	2	ND	2
Bromoform	4	ND	1	ND	1	ND	2	ND	2
Bromomethane	10	ND	1	ND	1	ND	2	ND	2
Carbon disulfide	700	ND	1	ND	1	ND	2	ND	2
Carbon tetrachloride	1	ND	1	ND	1	ND	2	ND	2
Chlorobenzene	50	ND	1	ND	1	ND	2	ND	2
Chloroethane	5f	ND	1	ND	1	ND	2	ND	2
Chloroform	70	ND	1	ND	1	ND	2	ND	2
Chloromethane	NS	ND	1	ND	1	ND	2	ND	2
cis-1,2-Dichloroethene	70	ND	1	ND	1	30	2	30	2
cis-1,3-Dichloropropene	1	ND	1	ND	1	ND	2	ND	2
Cyclohexane	NS	ND	1	ND	1	ND	2	ND	2
Dibromochloromethane	1	ND	1	ND	1	ND	2	ND	2
Dichlorodifluoromethane	1,000	ND	1	ND	1	ND	2	ND	2
Ethylbenzene	700	ND	1	ND	1	ND	2	ND	2
Isopropylbenzene	700	ND	1	ND	1	ND	2	ND	2
m&p-Xylenes	1,000	ND	1	ND	1	ND	2	ND	2
Methyl Acetate	7,000	ND	1	ND	1	ND	2	ND	2
Methylcyclohexane	NS	ND	1	ND	1	ND	2	ND	2
Methylene chloride	3	ND	1	ND	1	ND	2	ND	2
Methyl-t-butyl ether	70	ND	0.5	ND	0.5	340	1	340	1
o-Xylene	1,000	ND	1	ND	1	ND	2	ND	2
Styrene	100	ND	1	ND	1	ND	2	ND	2
t-Butyl Alcohol	100	ND		ND	5	360	10	370	10
Tetrachloroethene	1	ND	1	ND	1	59	2	60	2
Toluene	600	ND	1	ND	1	ND	2	ND	2
trans-1,2-Dichloroethene	100	ND	1	ND	1	ND	2	ND	2
trans-1,3-Dichloropropene	1	ND	1	ND	1	ND	2	ND	2
Trichloroethene	1	ND	1	ND	1	40	2	40	2
Trichlorofluoromethane	2,000	ND	1	ND	1	ND	2	ND	2
Vinyl chloride	1	ND	1	ND	1	ND	2	ND	2
Xylenes (Total)	1,000	ND	1	ND	1	ND	2	ND	2

Table 1  
 Summary of Groundwater Analytical Results  
 Block 302 Lot 4  
 Bayonne, New Jersey

CLIENT ID:		TB- 20130401000		FB- 201304011130		RW-15.111- 201304011021		DUP- 201304011021	
LAB ID:		AC71554-001		AC71554-003		AC71554-005		AC71554-002	
COLLECTION DATE:		4/1/2013		4/1/2013		4/1/2013		4/1/2013	
SAMPLE MATRIX:		Aqueous		Aqueous		Aqueous		Aqueous	
SAMPLE UNITS:		ug/L		ug/L		ug/L		ug/L	
Analyte	NJGWQS ug/L	Result	RL	Result	RL	Result	RL	Result	RL
<b>Wet Chemistry</b>									
Cyanide	100	ND		ND	20	ND	20	ND	20
<b>Other Parameters</b>									
:TotalSemiVolatileTic	NS	ND		61.0		74.0		83	NA
1,1'-Biphenyl	400	ND		ND	2	ND	2.1	ND	2.1
1,2,4,5-Tetrachlorobenzene	NS	ND		ND	2	ND	2.1	ND	2.1
2,3,4,6-Tetrachlorophenol	200	ND		ND	2	ND	2.1	ND	2.1
2,4,5-Trichlorophenol	700	ND		ND	2	ND	2.1	ND	2.1
2,4,6-Trichlorophenol	20	ND		ND	2	ND	2.1	ND	2.1
2,4-Dichlorophenol	20	ND		ND	2	ND	2.1	ND	2.1
2,4-Dimethylphenol	100	ND		ND	0.5	ND	0.53	ND	0.53
2,4-Dinitrophenol	40	ND		ND	10	ND	11	ND	11
2,4-Dinitrotoluene	10	ND		ND	2	ND	2.1	ND	2.1
2,6-Dinitrotoluene	10	ND		ND	2	ND	2.1	ND	2.1
2-Chloronaphthalene	600	ND		ND	2	ND	2.1	ND	2.1
2-Chlorophenol	40	ND		ND	2	ND	2.1	ND	2.1
2-Methylnaphthalene	30	ND		ND	2	ND	2.1	ND	2.1
2-Methylphenol	NS	ND		ND	0.5	ND	0.53	ND	0.53
2-Nitroaniline	NS	ND		ND	2	ND	2.1	ND	2.1
2-Nitrophenol	NS	ND		ND	2	ND	2.1	ND	2.1
3&4-Methylphenol	NS	ND		ND	0.5	ND	0.53	ND	0.53
3,3'-Dichlorobenzidine	30	ND		ND	2	ND	2.1	ND	2.1
3-Nitroaniline	NS	ND		ND	2	ND	2.1	ND	2.1
4,6-Dinitro-2-methylphenol	0.7	ND		ND	2	ND	2.1	ND	2.1
4-Bromophenyl-phenylether	NS	ND		ND	2	ND	2.1	ND	2.1
4-Chloro-3-methylphenol	100	ND		ND	2	ND	2.1	ND	2.1
4-Chloroaniline	30	ND		ND	0.5	ND	0.53	ND	0.53
4-Chlorophenyl-phenylether	NS	ND		ND	2	ND	2.1	ND	2.1
4-Nitroaniline	NS	ND		ND	2	ND	2.1	ND	2.1
4-Nitrophenol	NS	ND		ND	2	ND	2.1	ND	2.1
Acenaphthene	400	ND		ND	2	ND	2.1	ND	2.1
Acenaphthylene	100	ND		ND	2	ND	2.1	ND	2.1
Acetophenone	700	ND		ND	2	ND	2.1	ND	2.1
Anthracene	2,000	ND		ND	2	ND	2.1	ND	2.1
Atrazine	3	ND		ND	2	ND	2.1	ND	2.1
Benzaldehyde	NS	ND		ND	2	ND	2.1	ND	2.1
Benzo[a]anthracene	0.1	ND		ND	2	ND	2.1	ND	2.1
Benzo[a]pyrene	0.1	ND		ND	2	ND	2.1	ND	2.1
Benzo[b]fluoranthene	0.2	ND		ND	2	ND	2.1	ND	2.1
Benzo[g,h,i]perylene	100	ND		ND	2	ND	2.1	ND	2.1
Benzo[k]fluoranthene	0.5	ND		ND	2	ND	2.1	ND	2.1

Table 1  
 Summary of Groundwater Analytical Results  
 Block 302 Lot 4  
 Bayonne, New Jersey

CLIENT ID:		TB- 20130401000		FB- 201304011130		RW-15.111- 201304011021		DUP- 201304011021	
LAB ID:		AC71554-001		AC71554-003		AC71554-005		AC71554-002	
COLLECTION DATE:		4/1/2013		4/1/2013		4/1/2013		4/1/2013	
SAMPLE MATRIX:		Aqueous		Aqueous		Aqueous		Aqueous	
SAMPLE UNITS:		ug/L		ug/L		ug/L		ug/L	
Analyte	NJGWQS ug/L	Result	RL	Result	RL	Result	RL	Result	RL
bis(2-Chloroethoxy)methane	NS	ND		ND	2	ND	2.1	ND	2.1
bis(2-Chloroethyl)ether	7	ND		ND	0.5	ND	0.53	ND	0.53
bis(2-Chloroisopropyl)ether	300	ND		ND	2	ND	2.1	ND	2.1
bis(2-Ethylhexyl)phthalate	3	ND		ND	2	ND	2.1	ND	2.1
Butylbenzylphthalate	100	ND		ND	2	ND	2.1	ND	2.1
Caprolactam	3500	NA		ND	2	ND	2.1	ND	2.1
Carbazole	NS	NA		ND	2	ND	2.1	ND	2.1
Chrysene	5	NA		ND	2	ND	2.1	ND	2.1
Dibenzo[a,h]anthracene	0.3	NA		ND	2	ND	2.1	ND	2.1
Dibenzofuran	NS	NA		ND	0.5	ND	0.53	ND	0.53
Diethylphthalate	6,000	NA		ND	2	ND	2.1	ND	2.1
Dimethylphthalate	100	NA		ND	2	ND	2.1	ND	2.1
Di-n-butylphthalate	700	NA		ND	0.5	ND	0.53	ND	0.53
Di-n-octylphthalate	100	NA		ND	2	ND	2.1	ND	2.1
Fluoranthene	300	NA		ND	2	ND	2.1	ND	2.1
Fluorene	300	NA		ND	2	ND	2.1	ND	2.1
Hexachlorobenzene	0.02	NA		ND	2	ND	2.1	ND	2.1
Hexachlorobutadiene	1	NA		ND	2	ND	2.1	ND	2.1
Hexachlorocyclopentadiene	40	NA		ND	2	ND	2.1	ND	2.1
Hexachloroethane	7	NA		ND	2	ND	2.1	ND	2.1
Indeno[1,2,3-cd]pyrene	0.2	NA		ND	2	ND	2.1	ND	2.1
Isophorone	40	NA		ND	2	ND	2.1	ND	2.1
Naphthalene	300	NA		ND	0.5	ND	0.53	ND	0.53
Nitrobenzene	6	NA		ND	2	ND	2.1	ND	2.1
N-Nitroso-di-n-propylamine	10	NA		ND	0.5	ND	0.53	ND	0.53
N-Nitrosodiphenylamine	10	NA		ND	2	ND	2.1	ND	2.1
Pentachlorophenol	0.3	NA		ND	10	ND	11	ND	11
Phenanthrene	100	NA		ND	2	ND	2.1	ND	2.1
Phenol	2,000	NA		ND	2	ND	2.1	ND	2.1
Pyrene	200	NA		ND	2	ND	2.1	ND	2.1

Notes and Abbreviations:

1.) Table was provided by analytical laboratory

NA: Not analyzed

RL: Reporting limit

ND: Not detected above the Reporting limit

NS: No standard



Photograph 1: Photograph taken facing north. View of eastern portion of site.

Date Taken: March 29, 2013

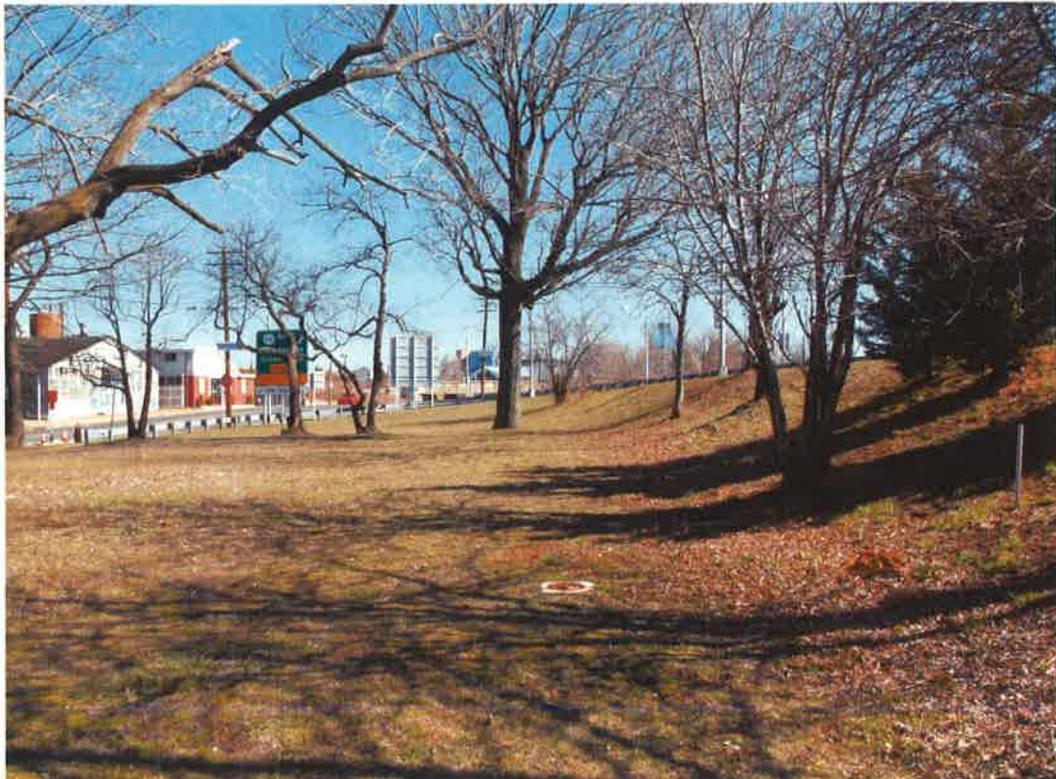


Photograph 2: Photograph taken facing south. View of western portion of the site.

Date Taken: March 29, 2013



Photograph 3: Photograph taken facing east. View of monitoring well on western portion of site adjacent to West 5<sup>th</sup> street.  
Date Taken: March 29, 2013



Photograph 4: Photograph taken facing north. View of western portion of the site.

Date Taken: March 29, 2013

**Map ID: 4**
**Owner:** The Port Authority of New York and New Jersey

**Site Address:** None

**Site Location:** South side of 5<sup>th</sup> Street, approximately 60 feet east of the intersection of West 5<sup>th</sup> Street and Avenue A in Bayonne, New Jersey.

**Acreage:** 1.37 acres

**Block/Lot:** Block 312, Lot 16

**Facility Name:** None

**Site Description**

Current Uses of Property: The site consists of northbound and southbound lanes of Route 440 and a foundation for the elevated Bayonne Bridge approach, which appears to begin at the southern property border. Additionally, the site contains yard areas for five adjacent residences located along the western perimeter of the site (114, 116, 120, 124, and 126 Avenue A). The yard areas are beyond the limits of the work area and are not included in the evaluation.

Description of Structures, Roads, and Other Improvements: Route 440 is located on the central portion of the site. As indicated above, a portion of the site consists of yard areas associated with the adjacent residences located along the western perimeter of the site.

Current Uses of Adjoining Properties: The site is bound by Route 440 to the north; residences and West 5<sup>th</sup> Street to the east; Port Authority property (Block 334, Lot 5), Margaret Street, and residences to the south; and residences to the west.

**User Provided Information:** Information from the Port Authority, where provided to HMM, has been incorporated into this report.

**Records Review**

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

Record Source	Department	Area Searched
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		

	Site Remediation Program	Project Site
	Enforcement Program	Project Site
<b>Hudson County Health Department</b>		
	Environmental Division	Project Site
<b>City of Bayonne</b>		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to Block 312, Lot 16.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

City of Bayonne

City Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). The site slopes downward from the elevated roadway on the central portion of the site toward Avenue A and JFK Boulevard. Groundwater in the vicinity of the site is expected to flow to the southwest. The nearest surface water body is Newark Bay located approximately 1,000 feet to the southwest of the site.

#### **Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses on the site.

The 1931 aerial photograph depicts the site as undeveloped land which appears to be disturbed due to construction activities for the Bayonne Bridge.

The 1954 aerial photograph depicts the site with a roadway which runs in a north to south direction through the central portion of this property. The remainder of this property is undeveloped and consists of grassy areas along the eastern and western perimeters of the roadway. It should be noted that the grassy areas consist of yard areas for several western adjacent residences.

The 1966, 1979, 1980, and 1987 aerial photographs do not indicate any changes to the site since the 1954 aerial photograph.

The 1995 aerial photograph depicts the site with the previously noted, roadway which has been widened for construction of several additional lanes along the central portion of the property.

The 2002, 2006 and 2008 aerial photographs do not indicate any significant changes to the site since the 1995 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for the site.

The 1898 map indicates West 5<sup>th</sup> Street intersecting in an east to west direction along the northern perimeter and Margaret Street intersecting in an east to west direction along the southern perimeter. Two residential structures are depicted along the southern perimeter of the site.

The 1912 map indicates eleven residential structures are located on the site.

The 1950 map indicates an outbuilding associated with an adjacent residence is located on the site.

The 1979 map depicts the site with a roadway which runs in a north to south direction through the central portion of the site. West 5<sup>th</sup> Street and Margaret Street no longer intersect the site along the northern and southern perimeter, as these roads now terminate at the site border. In addition, the former outbuilding is no longer present onsite.

The 1988 and 1991 maps do not indicate any changes to the properties to the south, east or west since the 1979 map.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 302, Lot 4) and to the south at Port Authority property (Block

334, Lot 5) has not been included. Please see the specific Site Inspection Sheets for historic land uses on those properties.

The 1931 aerial photograph depicts the property to the east of the site with eight residential structures. The property to the west of the site appears to be disturbed and therefore structures along this property are not clearly discernable.

The 1954 aerial photograph now depicts the property to the east of the site with ten residential structures and an associated automobile garage. The property to the west of the site is now depicted with four residential structures and two associated outbuildings.

The 1966 aerial photograph now depicts the property to the east of the site with thirteen residential structures and an associated outbuilding. The property to the west of the site is now depicted with four residential structures and an outbuilding. One of the former outbuildings is no longer present.

The 1979 and 1980 aerial photographs indicate the property to the east of the site with fifteen residential structures and an outbuilding. The property to the west of the site is now depicted with five residential structures and an outbuilding.

The 1987 and 1995 aerial photographs do not indicate any changes to the adjacent properties since the 1979 and 1980 aerial photographs.

The 2002 aerial photograph does not indicate any significant changes to the property to the east and west of the site. The 2006 and 2008 aerial photographs do not indicate any changes to the adjacent properties since the 2002 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 302, Lot 4) and to the south at Port Authority property (Block 334, Lot 5) has not been included. Please see the specific Site Inspection Sheets for historic land uses on those properties.

The 1898 map indicates a residential structure to the east of the site. The property to the west of the site is depicted with two residential structures.

The 1912 map depicts the property to the east of the site with eight residential structures and an associated single story structure which appears to be an outbuilding. The property to the west of the site is depicted with three residential structures.

The 1950 map now depicts the property to the east of the site with nine residential structures and an associated single story structure which appears to be an outbuilding. The property to the west of the site is depicted with the three residential structures and two outbuildings.

The 1979 map now depicts the property to the east of the site with nine residential structures and an outbuilding. The property to the west of the site is now depicted with the five residential structures and an outbuilding. One of the former outbuildings is no longer present on this property.

The 1988 map now depicts the property to the east of the site with fifteen residential structures and an associated outbuilding. The property to the west of the site does not indicate any changes since the 1979 map.

The 1991 map does not indicate any changes to the property to the east or west since the 1988 map.

### **Site Reconnaissance**

General Site Setting: Additionally, the site contains yard areas for five adjacent residences located along the western perimeter of the site (114, 116, 120, 124, and 126 Avenue A). The yard areas are beyond the limits of the work area and are not included in the evaluation. The remainder of the site contains vegetated areas.

Exterior Observations: Route 440, oriented north to south is elevated on the central portion of the site and appears to connect with the elevated bridge approach at the southern property border. The ground surface slopes steeply downward to the east and west from Route 440. Vegetated areas are located on the eastern portion of the site (east of Route 440). The western portion of the site contains vegetated area and yard areas associated with five residences (114, 116, 120, 124, and 126 Avenue A). At the request of The Port Authority, the yard areas were not accessed and inspected.

No indication of staining or stressed vegetation was observed on the site.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: No structures which contain interior areas are located in the work area and therefore no interior inspections were performed.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of roadways and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized USTs. Given the time frame, there is the possibility that USTs may be present. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken facing north. View of eastern portion of the site.

Date Taken: March 29, 2013



Photograph 2: Photograph taken facing north. View of eastern portion of the site.

Date Taken: March 29, 2013



Photograph 3: Photograph taken facing northwest. View of western portion of site.

Date Taken: April 4, 2013



**Map ID:** 5

**Owner:** The Port Authority of New York and New Jersey

**Site Address:** None

**Site Location:** South side of Margaret Street, Approximately 160 feet east of the intersection of Margaret Street and Avenue A in Bayonne, New Jersey.

**Acreage:** 0.89

**Block/Lot:** Block 334, Lot 5

**Facility Name:** None

**Site Description**

Current Uses of Property: The site contains the elevated Bayonne Bridge approach which appears to begin at the northern property border, a guard shack, and yard area within a secured fence.

The overall property contains a yard associated with an adjacent residence (16 Margaret Street) and a shed and yard area for the adjacent residences (165 West 4<sup>th</sup> Street). The yard areas and shed are located on the eastern portion of the site and are beyond the limits of the proposed work area. Therefore these areas are not included in the assessment.

Description of Structures, Roads, and Other Improvements: With the exception of the elevated Bayonne Bridge approach, the site contained a guard shack. Service roads are present on the eastern and western portion of the site which provides access between Margaret Street and West 4<sup>th</sup> Street.

Current Uses of Adjoining Properties: The site is bound by Port Authority property (Block 312, Lot 16) to the north; residences and Margaret Street to the east; Port Authority property (Block 345, Lot 1), West 4<sup>th</sup> Street, and residences to the south; and residences to the west.

**User Provided Information:** Information from the Port Authority where provided has been incorporated into this report.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. No sites of environmental concern were identified by EDR to be located adjacent to the site. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

#### USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

#### NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

#### Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

#### City of Bayonne

##### City Clerk

- The City Clerk responded that it does not maintain any files for the site.

##### Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). The site slopes gently downward to the southwest. Groundwater in the vicinity of the site is expected to flow to the southwest. The nearest water body is Newark Bay located approximately 1,000 feet to the southwest of the site.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph indicates the site as undeveloped land which appears to be disturbed due to construction activities for the Bayonne Bridge Approach.

The 1954 aerial photograph indicates an elevated roadway which is utilized for the Bayonne Bridge approach. Services roads between Margaret and West 4<sup>th</sup> Street are present on the eastern and western portion of the site.

The 1966 through 2008 aerial photographs do not note any changes to the site since the 1954 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for the site.

The 1898 map indicates the site with Margaret Street intersecting in an east to west direction along the northern perimeter and West 4<sup>th</sup> Street intersecting the site in an east to west direction along the southern perimeter. A residential structure is also present along the northern portion of the site with frontage along Margaret Street.

The 1912 map indicates 13 residential structures and a stable are now present on the site.

The 1950 map indicates that the prior residences had been removed and the Bayonnne Bridge approach had been constructed on the site.

The 1979, 1988, and 1991 maps indicate land uses similar to the 1950 map.

**Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 312, Lot 16) and to the south at Port Authority property (Block 345, Lot 1) has not been included. Please see the specific Site Inspection Sheets for historic land uses on those properties.

The 1931 aerial photograph depicts the property to the east of the site with five residential structures and a garage building. The property to the west of the site appears to be disturbed due to construction activities for the Bayonne Bridge and therefore structures along this property are not clearly discernable.

The 1954 aerial photograph depicts the property to the east with nine residential structures, three associated outbuildings, and a garage building. The property to the west of the site is depicted with ten residential structures and four associated outbuildings.

The 1966 aerial photograph now depicts the property to the east with twelve residential structures, and three associated outbuildings. The property to the west does not indicate any changes since the 1954 aerial photograph.

The 1979 through 2008 indicated land uses similar to those observed on the 1966 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 312, Lot 16) and to the south at Port Authority property (Block 345, Lot 1) has not been included. Please see the specific Site Inspection Sheets for historic land uses on those properties.

The 1898 Sanborn map indicates the property to the east of the site with three residential structures. The property to the west of the site is depicted with two residential structures and one unidentified structure.

The 1912 Sanborn map indicates land uses on the site similar to the 1898 Sanborn map.

The 1950 Sanborn map indicates seven residential structures, two associated automobile garages, two apartment buildings, and a garage building located to the east of the site. The property to the west of the site is depicted with ten residential properties and four outbuildings.

The 1979 Sanborn map does not indicate any changes to the property to the east of the site, with the exception of the location of the previously noted garage which is now noted to be utilized as a gasoline station and automotive repair facility. All of the remaining structures noted on this property appear unchanged.

The 1988 and 1991 Sanborn maps do not indicate any changes to the since the 1979 Sanborn map.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site contains the elevated Bayonne Bridge approach which starts at the northern property border, a guard shack, and yard area within a secured fence.

The overall property contains a yard and shed associated with an adjacent residence (16 Margaret Street) and a yard area for the residence (165 West 4<sup>th</sup> Street). The yards areas and shed are located on the eastern portion of the site and are beyond the limits of the proposed work area. Therefore, these areas are not included in the assessment.

Exterior Observations: The elevated bridge approach begins at the northern property border and extends south across the central portion of the site. The eastern portion of the site contains a vegetated yard area, a service road which connects West 4<sup>th</sup> Street to Margaret Street, and a yard area for an adjacent residence (16 Margaret Street). The vegetated yard area around the bridge was located within a locked secured fence. Gates on Margaret Street provided access to the site. A small guard shack was located adjacent to the access gate on the western portion of the site. A concrete pad was located on the southwestern portion of the site. The purpose of the concrete pad is unknown. Areas beneath the bridge approach were void of vegetation and were covered with soil.

Approximately 14 piers as well as two concrete foundations associated with the bridge are present onsite. Piping associated with stormwater drains located on the roadway of the bridge extend downward below the bridge deck

and discharge to the ground surface. Additionally drains were apparent in the concrete foundations. Underneath the bridge conduit for electrical wires as well as overhead lighting attached to the bridge was observed. No indication of staining or stressed vegetation was observed on the site.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above. No significant changes were noted.

**Interior Observations:** The interior inspection of the site included two locked rooms located underneath the elevated Bayonne Bridge approach. The northern most room appeared to be used for storage. HMM observed concrete blocks, signs, bags of cement, and 5-gallon containers of roofing cement in the room. A bridge drain was located in the southern portion of the room and was connected to a floor drain. Other floor drains which reportedly discharge to the municipal sewer system were apparent in the room.

The southern room contained electrical panels, switches, transformers, seven 55-gallon containers of asphalt patch, and eight boxes of electrical equipment. Additional electrical panel and overhead electrical equipment was observed in the room. At least two floor drains were observed which reportedly discharge to the municipal sewer system.

During the re-evaluation in March 2013 the interior of the rooms appeared similar except that the roofing cement and asphalt patch had been removed. No significant changes were noted.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils in the vicinity of the playground (Port Authority owned property Bayonne Block 345, Lot 1) at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead was detected at concentrations above the NJDEP Soil Remediation Standards in at least one location. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at another Port Authority owned property, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Surface drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Surface drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historic Land Uses – The potential exists for the site to have been impacted from former operation of the John Boyle Company. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken facing south.

Date Taken: March 28, 2013



Photograph 2: Photograph taken facing south.

Date Taken: March 28, 2013



Photograph 3: Photograph taken facing northeast.

Date Taken: March 28, 2013



Photograph 4: Photograph taken facing south.

Date Taken: March 28, 2013

**Map ID:** 7**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** South side of Juliette Street, approximately 180 feet east of the intersection of Juliette Street and Avenue A.**Acreage:** 0.89**Block/Lot:** Block 346, Lot 11**Facility Name:** None**Site Description**

Current Uses of Property: The site contains a portion of the Bayonne Bridge which transects the central portion of the site. The remaining areas consisted of asphalt/grassed areas underneath and immediately adjacent to the bridge, a parking area for the eastern adjacent building (70-76 Avenue A) currently occupied by the Bayonne Board of Education, a yard area for a western adjacent residence (195 West 3rd Street), and yard areas for the residences located at 50 Juliette Street and 180 West 3<sup>rd</sup> Street on the eastern portion of the site.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects a portion of the site from north to south, is the only apparent structure on the site.

Current Uses of Adjoining Properties: The site is bound by Juliette Street, the Bayonne Bridge (Port Authority property Block 345, Lot 1), and residences to the North; residences to the East; West 3<sup>rd</sup> Street and the Bayonne Bridge (Port Authority property Block 361, Lot 1) and residences to the South; and residences and two buildings (64 Avenue A and 74-76 Avenue A) to the West. At the time of the site reconnaissance, the buildings located adjacent to the west of the site are occupied by the Bayonne Board of Education.

**User Provided Information:** Information from the Port Authority where provided has been incorporated into this report.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, two sites of environmental concern were identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

The EDR report identified the following two properties adjacent to the site.

- 1) Reliance Chemical Products Co. (adjacent to west at 64 Avenue A, Bayonne, New Jersey) – This property is identified in the FINDS database under ID# NJD001475136. In addition the property is listed as a RCRA small quantity generator (ID#110004259025) and subsequently listed on the RCRA No Longer Regulated list (ID#NJR000020222). According to information obtained from the NJDEP Data Miner, this property has an ISRA case associated with it. Preliminary Assessments were issued in 1988, 1996, and 1998 and a No Further Action status was issued for the entire site in 1997 and 1998. The PI# for this property is G000001087.
- 2) Ultra Additives, Inc. (adjacent to west at 54 Juliette Street, Bayonne, New Jersey) – This property is identified as an RCRA NLR ID# NJ008019580 and 110037249368. EDR indicated Ultra Additives, Inc. is no longer generating hazardous waste.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were

obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
<b>USEPA - Region II Freedom of Information Office</b>		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
<b>NJDEP - Records Access Officer</b>		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
<b>Hudson County Health Department</b>		
	Environmental Division	Project Site
<b>City of Bayonne</b>		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

City of BayonneCity Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). The site slopes downward inward toward the interior portion of the site. Surficial drainage collected at this portion of the site is directed to the south, southwest toward storm drains on West 3<sup>rd</sup> Street. In general, the site is relatively level and slopes gently downward to the southwest. Groundwater in the vicinity of the site is expected to flow to the west and southwest. The nearest surface water bodies are Newark Bay located approximately 1,200 feet to the west of the site and the Kill Van Kull located approximately 1,700 feet to the southwest of the site.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses on the site.

The 1931 photograph indicates the Bayonne Bridge was apparent on the site. The eastern portion of the site appeared disturbed apparently associated with recent bridge construction activities.

The 1954 aerial photograph indicates portions of the site east and west of the bridge appeared vegetated. The remaining land uses appeared similar to the 1931 aerial photograph.

The 1966 aerial photograph indicates the southwestern portion of the site was a yard area for an adjacent residence.

The 1979 aerial photograph indicates structures similar to the existing aboveground pool and storage shed associated with the adjacent residence (195 West 3<sup>rd</sup> Street) was apparent on the southwestern portion of the site. A paved area that provides access to the adjacent building (70-76 Avenue A) was apparent on the northern portion of the site.

Review of the 1980, 1987, 1995, 2002, 2006, and 2008 aerial photographs indicate land uses similar to the 1979 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps dated 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed to evaluate historic land uses on the site.

The 1898 Sanborn map does not identify any structures on the site.

The 1912 Sanborn map indicates a Mushroom Plant was located on the southern portion of the site with frontage on West 3<sup>rd</sup> Street. The northwestern portion of the site contained two structures associated with the western adjacent John Boyle Company (58-76 Avenue A). John Boyle Company was described as a manufacturer of cotton duck and fabric awnings. The northern building was indicated to be used for printing, mixing, drying and a print storage room. The southern building was used for storage.

The 1950 Sanborn map indicates the two buildings of the John Boyle Company had been removed from the site and the Bayonne Bridge was now present.

Review of the 1979, 1988, and 1991 Sanborn maps indicated land uses similar to the 1950 Sanborn map.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses adjacent to the site. A discussion of the adjacent property to the north Port Authority property (Block 345, Lot 1) and to the south Port Authority property (Block 361, Lot 1) is not included. Please refer to the individual Site Inspection Sheets for a summary of the historic land uses associated with these properties.

The 1931 aerial photograph indicates undeveloped vacant land was present east of the site and three structures apparently associated with the John Boyle Company were located adjacent to the west of the site.

The 1954 aerial photograph indicates a residence had been constructed adjacent to the south of the site along West 3<sup>rd</sup> Street. In 1966, one of the John Boyle Company buildings had been removed and five residential structures were constructed in its former location along West 3<sup>rd</sup> Street. To the east of the site, three residential structures were constructed with frontage on West 3<sup>rd</sup> Street.

In 1979, two additional residential properties were constructed to the east of the site along West 3<sup>rd</sup> Street and four residential properties were constructed along Juliette Street.

Review of the 1980, 1987, 1995, 2002, 2006, and 2008 aerial photographs indicate land uses similar to the 1979 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps dated 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed to evaluate historic land uses adjacent to the site. A discussion of the adjacent property to the north Port Authority property (Block 345, Lot 1) and to the south Port Authority property (Block 361, Lot 1) is not included. Please refer to the individual Site Inspection Sheets for a summary of the historic land uses associated with these properties.

The 1898 Sanborn map does not identify any structures to the east and west of the site.

The 1912 Sanborn map indicates approximately five structures associated with the John Boyle Company (58-76 Avenue A) adjacent to the northwest of the site.

The 1950 Sanborn map indicates the John Boyle Company buildings had been enlarged and two buildings were removed and two buildings had been constructed. One of the buildings was used for waterproofing cotton dock.

The 1979 Sanborn map indicated the northern portion of the John Boyle and Company property was now occupied by Ace Box and Lumber Company (70 Avenue A). The southern portion (64 Avenue A) was occupied

by Reliable Chemical Company. Residences were constructed adjacent to the site. In 1988 Ace Box and Lumber Company was no longer indicated to be an occupant of the buildings at 70-76 Avenue A.

The 1991 Sanborn map indicated land uses on adjacent properties similar to existing conditions.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site contains a portion of the Bayonne Bridge which transects the central portion of the site. The remaining areas consisted of asphalt/grassed areas underneath and immediately adjacent to the bridge, a parking area for the eastern adjacent building (70-76 Avenue A) currently occupied by the Bayonne Board of Education and a yard area for a western adjacent residence (195 West 3rd Street). The yard area contained an aboveground pool and storage shed. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The northern portion of the site contained a parking area and access driveway for the building located at 70-76 Avenue A. The building is currently occupied by the Bayonne Board of Education. A yard area associated with an adjacent residence (195 West 3<sup>rd</sup> Street) is located on the western portion of the site. The yard contained an aboveground pool and storage shed. A wooden fence surrounds the yard which prevented observation of the pool and shed. Yard areas for the residences at 50 Juliette Street and 180 West 3<sup>rd</sup> Street were located on the eastern portion of the site.

The remaining portions of the site were located within a secured fence. A locked access gate from Juliette Street provides access to the site. The majority of the area beneath the bridge was void of vegetation and consisted of gravel and/or asphalt. HMM did not observe indications of stressed vegetation or petroleum staining on the site.

Approximately 16 piers as well as two concrete foundations associated with the bridge are present onsite. Piping associated with drains located on the roadway of the bridge extend downward below the bridge deck and discharge to the ground surface. Additionally drains were apparent in the concrete foundations. Underneath the bridge conduit for electrical wires as well as overhead lighting attached to the bridge was observed.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated. And site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: No structures which contain interior portions were present on the site. As such, no interior inspection was applicable.

Interviews: In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

Findings: The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils in the vicinity of the playground (Bayonne Block 345, Lot 1) at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead was detected at concentrations above the NJDEP Soil Remediation Standards in at least one location. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has

been detected in soil at concentrations above the NJDEP Soil Remediation Standards, the potential exists for the soil at the site to be impacted with lead.

Bridge Drains – Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

Historic Land Uses – Sanborn Maps indicated the northwestern portion of the site was occupied by two buildings associated with the adjacent John Boyle Company sometime before 1912 and were removed prior to the construction of the Bayonne Bridge in 1931. Historic data sources indicate the structures were used for storage, mixing, and printing. The potential exists for the site to be impacted from prior operations conducted by the John Boyle Company.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. Impacted soil may be encountered in the vicinity of the bridge drains during construction. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historic Land Uses – The potential exists for the site to have been impacted from formers operation of the John Boyle Company. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken looking north.

Date Taken: March 28, 2013



Photograph 2: Photograph taken looking north.

Date Taken: March 28, 2013



Photograph 3: Photograph taken facing west. View of northwestern portion of site.

Date Taken: March 28, 2013

**Map ID:** 6**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** South side of West 4<sup>th</sup> Street approximately 160 feet east of the intersection of Avenue A and West 4<sup>th</sup> Street, Bayonne, New Jersey.**Acreage:** 1.08**Block/Lot:** Block 345, Lot 1**Facility Name:** Al Slootsky Playground**Site Description**

Current Uses of Property: The site currently consists of a fenced-in playground and a maintained lawn area. Above a portion of the playground and lawn area is the Bayonne Bridge which transects the central portion of the site.

Description of Structures, Roads, and Other Improvements: With the exception of the Bayonne Bridge which transects the central portion of the site, no structures were apparent on the site.

Current Uses of Adjoining Properties: The site is bound by West 4<sup>th</sup> Street, residences, and the Bayonne Bridge (Port Authority property Block 334, Lot 5) to the north, West 4<sup>th</sup> Street and residences to the east, residences, Juliette Street and the Bayonne Bridge (Port Authority property Block 346, Lot 11) to the south, and residences to the west.

A garage associated with a residence (200 West 4<sup>th</sup> Street) was located adjacent to the west of the site. HMM personnel observed scrap metal and motor vehicle parts near the garage. No evidence of petroleum staining was observed by HMM personnel.

**User Provided Information:** HMM reviewed a report entitled *Remedial Action Report (RAR) for Vacant Lot Block 345: Lot 1 at the Bayonne Bridge Viaduct* dated July 1998. The RAR was prepared by Killiam Associates (now known as HMM). According to the RAR, decorative paint was removed from the bridge abutments located in the playground areas. The Port Authority collected paint chips samples for analysis. The analytical results revealed the paint contained elevated concentrations of polychlorinated biphenyls (PCBs). Based on the analytical results, the potential presence of PCBs in soil was a concern. The Port Authority collected approximately 35 soil samples (0 to 3 inches below grade) and 7 soil samples (approximately 9 inches below grade) from vacant areas underneath and adjacent to the bridge. The concentration of PCBs in soil from the 0 to 3-inch depth interval ranged from 1,850 mg/kg near the playground portion under the bridge to 1.1 mg/kg near the gate on West 4<sup>th</sup> Street. The deeper samples (at approximately 9 inches below grade) had PCBs at concentrations ranging from 52.2 mg/kg near Juliette Street to 0.53 mg/kg near the central portion of the site. Soil was excavated to depths ranging from 4 to 10 inches. The PCB-impacted soil was transported offsite to CWM Chemical Services Inc. No post-excavation soil samples were collected for analysis. Despite the remedial efforts, an active case remains open with the NJDEP for this incident under PI #G000021830.

The previously detected concentrations of PCBs in soil prior to soil excavation are above the current NJDEP Soil Remediation Standards. Given that no post-excavation soil samples were collected, the potential presence of PCBs remaining in soil is a REC. Maps showing the analytical results and the excavation area are attached to this Site Inspection Sheet.

It should be noted that documentation maintained in HMM's project file associated with the above incident indicated that lead was detected in soil ranging from 5 to 606 mg/kg from 11 samples collected in the vicinity of the playground. The locations and sampling depths are unknown. The detection of soil impacted with lead in the vicinity of the playground is a REC.

**Records Review**

Standard Environmental Record Sources: The review of the EDR report identified one listing associated with the site. According to EDR, PCB contamination was confirmed in soil at the site (identified as Juliette Park between West 4<sup>th</sup> & Juliette Street) on April 30, 1993. The incident was assigned case # 93-4-30-1812-45, but the EDR doesn't list 1998 PI #. The case has an active regulatory status.

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, two sites of environmental concern were identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

The EDR report identified the following property adjacent to the site.

- 1) Reliance Chemical Products Co. (adjacent to west at 64 Avenue A, Bayonne, New Jersey) – This property is identified in the FINDS database under ID# NJD001475136. In addition the property is listed as a RCRA small quantity generator (ID#110004259025) and subsequently listed on the RCRA NON GEN/NLR (ID#NJR000020222); and NJ ISRA. According to information obtained from the NJDEP Data Miner, this property has an ISRA case associated with it. Preliminary Assessments were issued in 1988, 1996, and 1998 and a No Further Action status was issued for the entire site in 1997 and 1998. The PI# for this property is G000001087.

Reliance Chemical Products Co. is located adjacent to the west of the site beyond Juliette Street and appears to be situated down gradient of the site. As such the site is not anticipated to have been adversely impacted by the Reliance Chemical Products Co. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

Record Source	Department	Area Searched
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site

Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to Block 345, Lot 1.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

City of Bayonne

City Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/Fire Prevention

- Fire Department/Fire Prevention responded that it does not maintain files for the site.

**Physical Setting Source(s)**

The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). In general, the site is

generally level with a gentle slope downward to the southwest and west. Groundwater in the vicinity of the site is expected to flow to the west toward Newark Bay and to the southwest toward the Kill Van Kull.

#### **Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph indicates the Bayonne Bridge oriented north to south transecting the central portion of the site. Two outbuildings associated with a northern adjacent residence were located on the western portion of the site. Disturbed areas, apparently from recent bridge construction activities, were noted on the eastern portion of the site.

The 1954 aerial photograph indicates the structures on the western portion of the site were removed and the site to the east and west of the bridge consisted of vacant undeveloped land.

The 1966 aerial photograph indicates a rectangular concrete area, which appears to be a playground, is located on the western side of the bridge on the central portion of the site.

The 1979 aerial photograph indicates the western portion of the site appears to have been paved and an apparent tennis court and a volley ball court had been constructed.

The 1980 aerial photograph indicates playground equipment had been constructed on the western portion of the site.

The 1987 aerial photograph indicates the tennis court was removed and replaced with a basketball court similar to existing conditions. The volley court was removed and replaced with playground equipment; additional playground equipment was apparent on the northern portion of the site.

The 1995 aerial photograph indicates some of the playground equipment had been changed and the layout of the playground slightly reconfigured which appears similar to existing conditions.

The 2002, 2006, and 2008 aerial photographs indicate land uses on the site similar to existing conditions. Please note the presence of the Bayonne Bridge prevented observations of land uses of the site beneath the bridge.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed for the site.

The 1898 Sanborn map shows a residence on the western portion of the site.

The 1912 Sanborn map indicates the site contained six residences on the northern portion along West 4<sup>th</sup> Street. A residence, shed, stable, and an outbuilding were located at 69 Juliette Street on the western portion of the site.

The 1950 Sanborn map indicates all prior structures had been removed and the Bayonne Bridge oriented generally north to south had been constructed on the central portion of the site.

The 1979 Sanborn map identifies the western portion of the site as a playground.

The 1988 and 1991 Sanborn maps indicate land uses similar to those observed on the 1979 Sanborn map.

### Historical Use Information on Adjoining Properties

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties.

The 1931 aerial photograph indicates the site is bordered by West 4th Street, residences and a portion of the Bayonne Bridge (Block 312, Lot 16) to the north; vacant land and residences to the east; Juliette Street, a portion of the Bayonne Bridge (Block 346, Lot 11), vacant land and residences to the south; and residences, Juliette Street, and three buildings associated with the former John Boyle and Company property (58-74 Avenue A) to the west.

The 1954 aerial photograph indicates a building had been enlarged at the John Boyle and Company property adjacent to the west of the site beyond Juliette Street. Land uses at adjacent properties on the 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 aerial photographs appeared similar to the 1954 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed for land uses on the adjacent properties.

The 1898 Sanborn map shows a store to the west of the site and three additional stores to the east and southeast.

The 1912 Sanborn map indicates approximately five structures associated with the John Boyle and Company (58-76 Avenue A) adjacent to the west of the site beyond Juliette Street. John Boyle and Company was described as a manufacturer of cotton duck and fabric awnings. Residences were constructed to the north and east of the site.

The 1950 Sanborn map indicates the Bayonne Bridge was apparent to the south of the site. A structure similar to the existing residence and garage (200 West 4<sup>th</sup> Street) were constructed on the northern portion of the site. Apartment buildings were constructed to the west of the site and residences were constructed to the east. The John Boyle and Company buildings had been enlarged and two buildings were removed and two buildings had been constructed. One of the buildings was used for waterproofing cotton dock.

The 1979 Sanborn map indicated the northern portion of the John Boyle and Company property was now occupied by Ace Box and Lumber Company (70 Avenue A). The southern portion (64 Avenue A) was occupied by Reliable Chemical Company. In 1988 Ace Box and Lumber Company was no longer indicated to be an occupant of the buildings at 70-76 Avenue A.

The 1979, 1988, and 1991 Sanborn maps indicated land uses on adjacent properties similar to existing conditions.

### Site Reconnaissance

General Site Setting: As previously mentioned, the site currently consists of a fenced-in playground and a maintained lawn area. Above a portion of the playground is the Bayonne Bridge which transects the central portion of the site. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The eastern portion of the site is occupied by a fenced-in lawn area with a few trees. Access was provided by a locked gate on West 4<sup>th</sup> Street. The lawn area extends under a portion of the Bayonne Bridge that transects the central portion of the site. Where present underneath the bridge, the area is void of vegetation and the ground surface is covered with soil.

The western portion of the site is occupied by a playground. Access was provided by a gate near West 4<sup>th</sup> Street. A driveway from West 4<sup>th</sup> Street provides access to the gate. The playground contains two composite play

structures, two basketball courts, swings, picnic tables, and two fountains. The swings, a smaller basketball court, and picnic tables are located underneath the bridge. The ground surface of the playground was covered with asphalt and concrete. A drain was located at the western portion of the playground. Additionally, a smaller drain was located near the two fountains. The drains are believed to discharge to the municipal storm drains. A small concrete vault with a metal cover was located near the fountains which was locked and could not be accessed. Apparently the vault contains valves to turn on municipal water to the two fountains. No wells were observed onsite.

The Bayonne Bridge is present above the playground and a portion of the lawn area. Approximately 14 piers as well as two concrete foundations associated with the bridge are present onsite. Pipes associated with storm water management located on the roadway of the bridge extend downward along the piers and discharge to the ground surface. Additionally drains were apparent in the concrete foundations. At the base of the northern piers, dark colored soil, gravel, and debris, consisting of glass, plastic and wood were observed near the drains. Underneath the bridge contains conduit for electrical wires as well as overhead lighting attached to the bridge.

A stairway is located adjacent to the bridge north of the playground. The stairs provide access to a walkway along the top of the bridge.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described in 2011.

Interior Observations: No structures which contain interior portions were present on the site. As such, no interior inspection was performed.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any additional environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Polychlorinated biphenyls (PCBs)** – PCBs have been detected in site soils at concentrations above the current New Jersey Soil Remediation Standards. The Port Authority conducted a remedial action that included the excavation of soil from areas underneath and adjacent to the bridge and outside the limit of the playground to depths ranging from 4 to 10 inches below the ground surface. No post-excavation soil samples were collected to confirm the soil removal efforts were successful. The environmental quality of the soil that remains is unknown.

**Lead-** In the 1990s lead was detected in shallow soils in the vicinity of the playground at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead was detected at concentrations above the NJDEP Soil Remediation Standards in at least one location. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentrations above the New Jersey Soil Remediation Standards, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains** – Stormwater drains for the bridge discharge to the ground surface near the concrete piers and foundations are present onsite. At the drain outfalls HMM observed dark colored soil, gravel, and debris

consisting of wood, glass, and plastic. The environmental quality of soil near the drains is unknown. The potential exists for discharges from the bridge drains to have impacted the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**PCBs-** PCBs have been detected in site soils at concentrations above the current NJ Soil Remediation Standards. The potential presence of PCBs should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Lead-** Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards Port Authority owned properties located in the project site including Bayonne Block 345, Lot 1. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Bridge Drains –** Surface drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Historic Land Uses –** The potential exists for the site to have been impacted from formers operation of the John Boyle Company. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



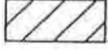
BB15 DEPTH 0"-3" TOTAL PCB's 1170	RG4 DEPTH 0"-3" TOTAL PCB's 49.1 RG4A DEPTH 9" TOTAL PCB's 1.47	BB16 DEPTH 0"-3" TOTAL PCB's 105	RG3 DEPTH 0"-3" TOTAL PCB's 32.7 RG3A DEPTH 9" TOTAL PCB's 1.35	BB17 DEPTH 0"-3" TOTAL PCB's 109	BB18 DEPTH 0"-3" TOTAL PCB's 147
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BB14 DEPTH 0"-3" TOTAL PCB's 1850
RG6 DEPTH 0"-3" TOTAL PCB's 20.3 RG6A DEPTH 9" TOTAL PCB's 1.18
RG13 DEPTH 0"-3" TOTAL PCB's 6.4
RG7 DEPTH 0"-3" TOTAL PCB's 68.6 RG7A DEPTH 9" TOTAL PCB's 52.2
RG14 DEPTH 0"-3" TOTAL PCB's 1.59
RG21 DEPTH 0"-3" TOTAL PCB's 11.3
RG5 DEPTH 0"-3" TOTAL PCB's 57.6 RG5A DEPTH 9" TOTAL PCB's 0.53
RG20 DEPTH 0"-3" TOTAL PCB's 0.98
RG12 DEPTH 0"-3" TOTAL PCB's 11.8

RG19 DEPTH 0"-3" TOTAL PCB's 9.46	RG11 DEPTH 0"-3" TOTAL PCB's 12.8	RG18 DEPTH 0"-3" TOTAL PCB's 15.8	RG10 DEPTH 0"-3" TOTAL PCB's 7.6	RG17 DEPTH 0"-3" TOTAL PCB's 7.2
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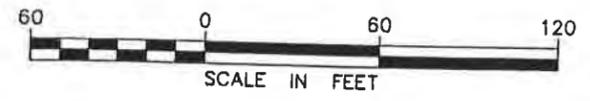
BB19 DEPTH 0"-3" TOTAL PCB's 153
BB20 DEPTH 0"-3" TOTAL PCB's 192
BB21 DEPTH 0"-3" TOTAL PCB's 64.8
RG2 DEPTH 0"-3" TOTAL PCB's 229.0 RG2A DEPTH 9" TOTAL PCB's 3.49
RG1 DEPTH 0"-3" TOTAL PCB's 0.39 RG1A DEPTH 9" TOTAL PCB's 0.92
RG8 DEPTH 0"-3" TOTAL PCB's 1.1
RG15 DEPTH 0"-3" TOTAL PCB's 18.4
RG9 DEPTH 0"-3" TOTAL PCB's 27.3
RG16 DEPTH 0"-3" TOTAL PCB's 8.9

**LEGEND**

-  STAIRS
-  FENCE
-  APPROXIMATE LOCATION OF GATE
-  APPROXIMATE LOCATION OF EXCAVATION TO A DEPTH OF 8'
-  LIMITS OF PAVED AREA
-  APPROXIMATE LOCATION OF SOIL SAMPLE

RG17 DEPTH 0"-3" TOTAL PCB's 7.2
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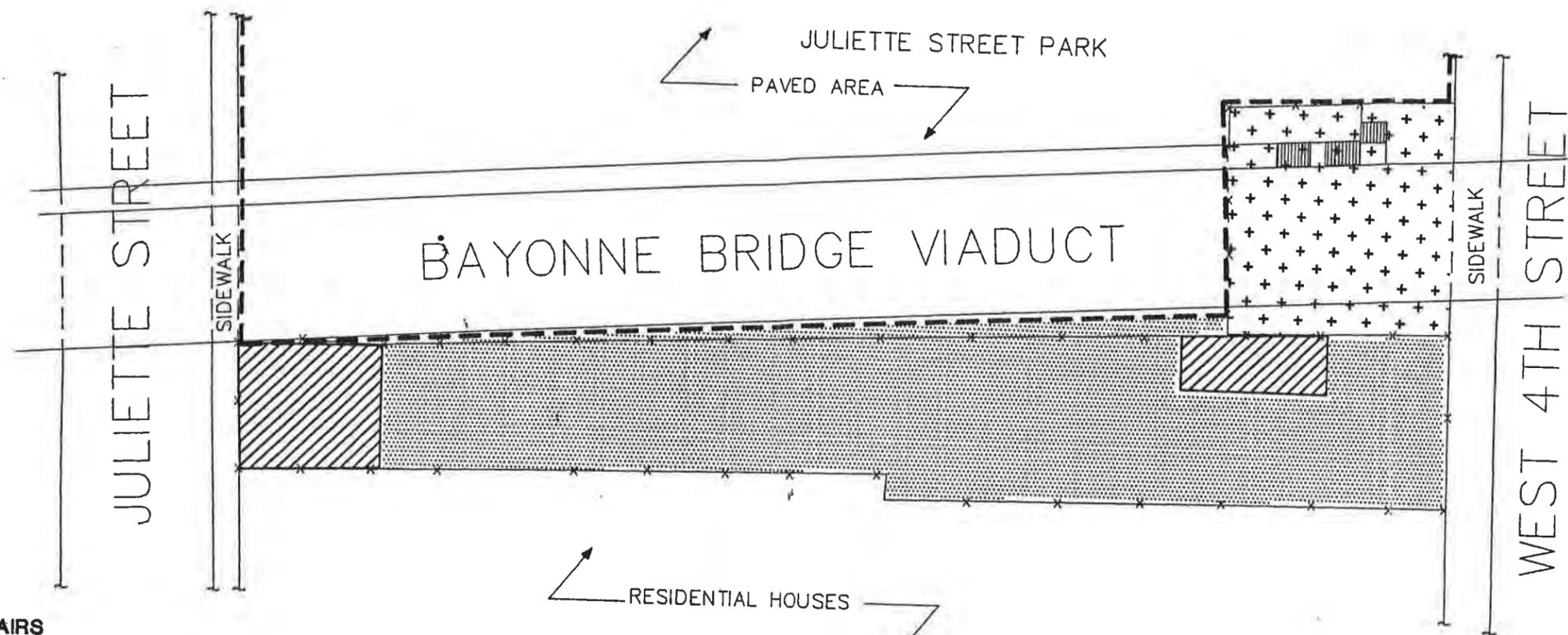
**ANALYTICAL DATA RESULTS OF SOIL SAMPLES (PPM)**



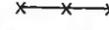
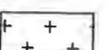
**SOIL SAMPLING  
ANALYTICAL RESULTS MAP**  
VACANT LOT (BLOCK 345, LOT 1)  
AT THE  
BAYONNE BRIDGE VIADUCT  
BAYONNE, NEW JERSEY

**FIGURE 3**





**LEGEND**

-  STAIRS
-  FENCE
-  APPROXIMATE LOCATION OF GATE
-  LIMITS OF PAVED AREA. THIS AREA WAS HEPA VACUUMED FOLLOWING EXCAVATION ACTIVITIES TO REMOVE ANY RESIDUAL PAINT CHIPS AND/OR POTENTIALLY CONTAMINATED SOIL.
-  APPROXIMATE LOCATION OF AREA EXCAVATED TO A DEPTH OF AT LEAST 3' AND REGRADED WITH 6" OF CLEAN TOP SOIL AND RESEEDDED.
-  APPROXIMATE LOCATION OF AREA EXCAVATED TO A DEPTH OF AT LEAST 9' AND REGRADED WITH 12" OF CLEAN TOP SOIL AND RESEEDDED.
-  APPROXIMATE LOCATION OF AREA EXCAVATED TO A DEPTH OF AT LEAST 3' AND BACKFILLED WITH CLEAN TOP SOIL AND COVERED WITH AN ASPHALT CAP.

**LIMITS OF SOIL EXCAVATION AND RESTORATION MAP**

VACANT LOT (BLOCK 345, LOT 1)  
AT THE  
BAYONNE BRIDGE VIADUCT  
BAYONNE, NEW JERSEY



FIGURE 4



Photograph 1: Photograph taken facing north. View of eastern portion of property.

Date Taken: March 28, 2013



Photograph 2: Photograph taken looking southwest.

Date Taken: March 28, 2013



Photograph 2: View of bridge drain outfall on northern portion of site.

Date Taken: March 28, 2013



Photograph 4: Photograph taking facing northeast. View of playground on western portion of site. Date Taken: March 29, 2013



Photograph 5: View of playground on western portion of site.

Date Taken: March 29, 2013



Photograph 5: Photograph facing north. View of western portion of site.

Date Taken: March 29, 2013

**Map ID:** 8**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** South side of West 3<sup>rd</sup> Street, approximately 200 feet east of the intersection of West 3<sup>rd</sup> Street and Avenue A.**Acreage:** 0.83**Block/Lot:** Block 361, Lot 1**Facility Name:** None**Site Description**

Current Uses of Property: The site contains a portion of the Bayonne Bridge which transects the central portion of the site and a fenced-in vegetated area.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects a portion of the site from north to south, is the only apparent structure on the site.

Current Uses of Adjoining Properties: The site is bound by West 3<sup>rd</sup> Street, the Bayonne Bridge (Port Authority property Block 346, Lot 11), and residences to the north; residences, Below the Bridge Indoor Skate Park, and Joseph Cannarozzo Inc. construction to the east; Gertrude Street, the Bayonne Bridge (Port Authority property Block 346, Lot 1), and Ideal Window Manufacturing to the south; and buildings associated with CasChem Inc. to the west.

**User Provided Information:** Information provided from the Port Authority where appropriate has been incorporated in this report.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, three sites of environmental concern were identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

The EDR report identified the following two properties adjacent to the site.

- 1) CasChem Inc./Vertellus Performance Materials Inc. (40 Avenue A) is located adjacent to the western perimeter of the site. The EDR identified this property in several of the databases searched including NJ BROWNFIELDS, NJ ISRA, NJ UST, NJ HIST LUST, NJ SPILLS, NJ HIST HWS, NJ HIST MAJOR FACILITIES, NJ Release, NJ NPDES, AND TSCA . Also identified as being located on the CasChem parcel is NL Industries (Rutherford Chemicals LLC). NL Industries is listed in the RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA-CESQG, FINDS, NJ Manifest, and US AIRS databases. According to NJDEP Data Miner, there are five Site Remediation Program (SRP) cases associated with CasChem Inc (PI #000447). Three are reportedly closed but two remain open. A known source of groundwater contamination has been identified. Several incidents of environmental concern have been reported for the CasChem property, which have an active regulatory status. Some of the buildings at the CasChem Inc. property are located on and near the western property border. As such, CasChem Inc. is considered to be a concern for the site.
- 2) Drogin Bus Company (53 Kennedy Blvd) was located adjacent to the southeast perimeter of the site. EDR identified the Drogin Bus Company on the NJ HIST LUST, and NJ UST, databases. According to the EDR report, a 5,000 gallon waste oil UST was previously located at this property and removed on 4/2/1998. Soil contamination was discovered during the tank removal and assigned case #98-04-02-1423-

55. The site was issued a determination of no further action on 8/31/98. Based on the closed regulatory status, the Drogin Bus Company is not considered an area of concern.

For a complete listing of properties identified in the site vicinity see the EDR report in Appendix C.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

City of BayonneCity Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 20 feet above mean sea level (AMSL). The site slopes downward to the southwest. Groundwater in the vicinity of the site is expected to flow to the southwest. The nearest surface water bodies are Newark Bay and the Kill Van Kull.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses on the site.

The 1931 aerial photograph indicates the Bayonne Bridge oriented north to south transecting the central portion of the site. Disturbed areas, apparently from recent bridge construction activities, are noted on the eastern and western portion of the site.

The 1954 aerial photograph indicated the disturbed areas had become vegetated and were no longer apparent.

The 1979 and 1980 aerial photographs indicate a parking area was apparent on the southern portion of the site.

By 1987 the parking lot was no longer apparent.

The 1995 through 2008 aerial photographs indicates the site is similar to current conditions.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed to evaluate historic land uses on the site.

The 1898 and 1912 Sanborn maps show the site as vacant land

The 1950 Sanborn map indicate the Bayonne Bridge Approach oriented generally north to south had been constructed on the central portion of the site.

The 1979, 1988 and 1991 Sanborn maps indicate land uses similar to those observed on the 1950 Sanborn map.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses on adjacent properties. A discussion of the adjacent property to the north Port Authority property (Block 346, Lot 11) and to the south Port Authority property (Block 362, Lot 1) is not included. Please refer to the individual Site Inspection Sheets for a summary of the historic land uses associated with these properties

The 1931 aerial photograph indicates the site is bordered by West 3<sup>rd</sup> Street vacant land and residences to the east and a large building similar to the Drogin Bus Company; Gertrude Street to the south, and vacant land and an apparent contractors yard and a residence to the west.

The 1954 aerial photograph indicates the buildings of the Baker Castor Oil Company have been constructed to the west.

The 1966 aerial photograph indicates additional buildings had been constructed at the Baker Oil Company property to the west. Residences have been constructed to the east.

Land uses at adjacent properties on the 1979, 1980, 1987, 1995, 2002, 2006, and 2008 aerial photographs appeared similar to the 1954 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed to evaluate historic land uses on the site. Port Authority property (Block 346, Lot 11) is located adjacent to north of the site and Port Authority property (Block 362, Lot 1) is located adjacent to the south of the site. Please see these Site Inspection Sheets for a description of land uses north and south of the site.

The 1898 Sanborn map shows a residential structure to the northwest along West 3<sup>rd</sup> Street and a small structure to the southeast on Gertrude Street. The remaining adjacent lots are vacant.

The 1912 Sanborn map indicates two additional residential dwellings to the north on West 3<sup>rd</sup> Street. The corner of West 3<sup>rd</sup> Street and Avenue A is being used by John O'Leary Contractor and includes a large yard and small building for the storage of building materials. The small structure on Gertrude is now noted as a stable associated with a dwelling on West 2<sup>nd</sup> Street. A store is located on the south side of Gertrude Street and the southeastern adjacent property has been developed as the Barclay & Co., Manufactures of Proprietary Medicines.

The 1950 Sanborn map indicates the former construction company yard and two dwellings had been removed and replaced with the Baker Castor Oil Company. Five new structures have been constructed including a machine shop and power shop which is near the site border. The Boulevard Transit Corp, Bus Garage is now present to the south of the site. To the southwest, the former Barclay & Co. site is now the F.W. Fitch Company, Manufacturer Chemists.

The 1979 Sanborn map indicates the former Baker Castor Oil site and F.W. Fitch Company (west of the Bridge Approach) are now occupied by N.L. (National Lead) Industries, Chemical Division. To the east additional dwellings are present along West 3<sup>rd</sup> Street. The 1988 and 1991 maps indicated land uses on adjacent properties

similar to existing conditions. N.L. Industries is no longer present and the property is now occupied by Cas Chemical Inc.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site contains a portion of the Bayonne Bridge which transects the central portion of the site. The remaining areas consisted of vegetated areas underneath and immediately adjacent to the bridge.

Exterior Observations: Access to the site was provided by a locked gate on West 3<sup>rd</sup> Street. A chain link fence surrounded the site. The majority of the ground surface covering the site consists of grass vegetated areas. A thick overgrown vegetated area was present along the western property border. Several concrete barriers appeared to be stored on the western portion of the site. On the northern portion of the site HMM observed a stockpile of soil, approximately 70 feet long by 10 feet wide by four feet high. Brick and concrete was noted in the soil stockpile. Adjacent to the concrete barriers, HMM observed wood debris a stockpile of asphalt, a smaller soil stockpile, and an abandoned rusted 55-gallon drum. The drum was open and appeared to be partially full of soil. No staining or stressed vegetation was observed on the ground surface around the drum.

Several piers associated with the bridge are present onsite. Piping associated with stormwater drains located on the roadway of the bridge extend downward below the bridge deck and discharge to the ground surface. Underneath the bridge conduit for electrical wires as well as overhead lighting attached to the bridge was observed.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated. And site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: No structures which contain interior portions were present on the site. As such, no interior inspection was applicable.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils in the vicinity of the playground (Bayonne Block 345, Lot 1) at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead was detected at concentrations above the NJDEP Soil Remediation Standards in at least one location. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Surface drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

Soil Stockpiles – Soil stockpiles were located on the northern portion of the site. The Port Authority was not aware of the source of the soil stockpiles. The environmental quality of the soil is unknown.

Adjacent Property– CasChem is located adjacent to west of the site at Avenue A. Groundwater contamination has been identified at the site and several incidents of environmental concern have been reported. CasChem has an active regulatory status. Some of the buildings at the CasChem property are located on and near the western property border. As such, CasChem is considered to be a concern for the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Surface drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Soil Stockpile- The environmental quality of soil stockpiles present onsite is unknown. The potential presence of impacts from soil stockpiles should be addressed in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Adjacent Properties – Groundwater impacts are known to be present in the site vicinity and may extent onto the site. Consideration of contact with impacted groundwater from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

A 55-gallon drum partially filled with soil is present onsite. The drum appeared intact and no staining or stressed vegetation was observed on the ground surface near the drum. The drum should be removed from the site.



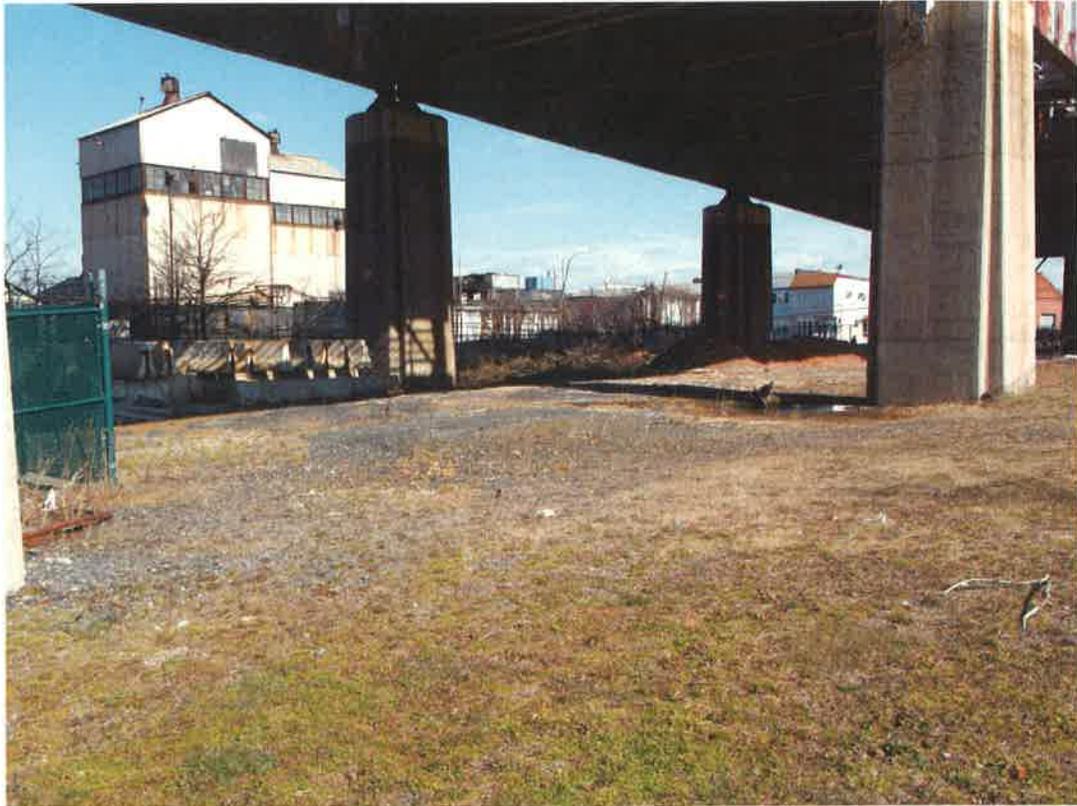
Photograph 1: Photograph taken looking south.

Date Taken: March 28, 2013



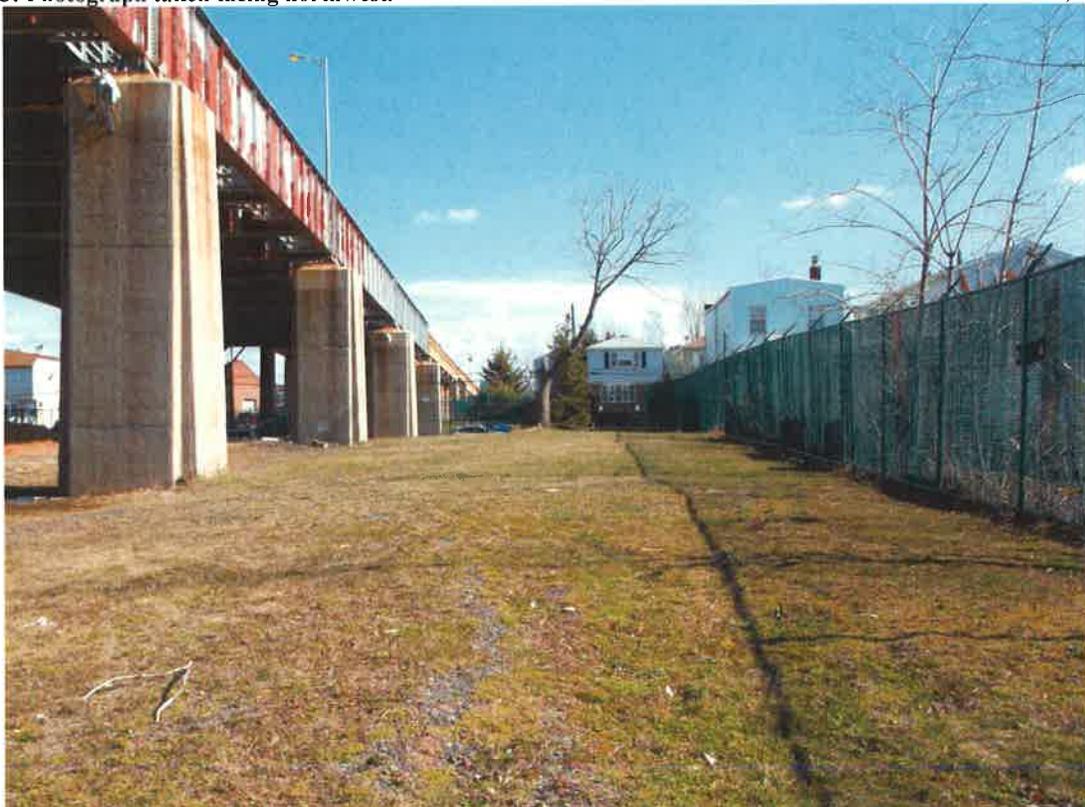
Photograph 2: Photograph taken looking north.

Date Taken: March 28, 2013



Photograph 3: Photograph taken facing northwest.

Date Taken: March 28, 2013



Photograph 4: Photograph taken facing north. View of northeastern portion of site.

Date Taken: March 28, 2013

**Map ID:** 9**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** South side of Gertrude Street, approximately 230 feet east of the intersection of Gertrude Street and Avenue A in Bayonne, New Jersey.**Acreage:** 0.66 acres**Block/Lot:** Block 362, Lot 1**Facility Name:** None**Site Description**

Current Uses of Property: The site contains a portion of the Bayonne Bridge and a loading/parking area for Ideal Window Manufacturing (27 Kennedy Boulevard) which is located adjacent to the eastern of the site.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects the central portion of the site is located from north to south on the site. A portion of the adjacent Ideal Window Manufacturing building is located on the eastern portion of the site. Only the foundation of this portion of the building remains.

Current Uses of Adjoining Properties: The site is bound by Gertrude Street, Bayonne Bridge (Port Authority property Block 361, Lot 1), and CasChem Inc. to the north; Ideal Window Manufacturing to the east; West 2<sup>nd</sup> Street and the Bayonne Bridge (Port Authority property Block 373, Lot 3) and residences to the south; and CasChem Inc. to the west.

**User Provided Information:** Information provided from The Port Authority where appropriate has been included in this report.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, two incidents were identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

- 1) CasChem Inc./Vertellus Performance Materials Inc. (40 Avenue A) is located adjacent to the western perimeter of the site. The EDR identified this property in several of the databases searched including NJ BROWNFIELDS, NJ ISRA, NJ UST, NJ HIST LUST, NJ SPILLS, NJ HIST HWS, NJ HIST MAJOR FACILITIES, NJ Release, NJ NPDES, AND TSCA . According to NJDEP Data Miner, there are five Site Remediation Program (SRP) cases associated with CasChem Inc (PI #000447). Three are reportedly closed but two remain open. A known source of groundwater contamination has been identified. Several incidents of environmental concern have been reported for the CasChem property, which have an active regulatory status. Some of the buildings at the CasChem Inc. property are located on and near the western property border. As such, CasChem Inc. is considered to be a concern for the site.
- 2) Drogin Bus Company (53 Kennedy Blvd) was located adjacent to the southeast perimeter of the site. EDR identified the Drogin Bus Company on the NJ HIST LUST, and NJ UST, databases. According to the EDR report, one 5,000 gallon waste oil UST was previously located at this property and removed on 4/2/1998. Soil contamination was discovered during the tank removal and assigned case #98-04-02-1423-55. The site was issued a determination of no further action on 8/31/98. Based on the closed regulatory status, the Drogin Bus Company is not considered an area of concern.

For a complete listing of properties identified in the site vicinity see the EDR report in Appendix C.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
<b>USEPA - Region II Freedom of Information Office</b>		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
<b>NJDEP - Records Access Officer</b>		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
<b>Hudson County Health Department</b>		
	Environmental Division	Project Site
<b>City of Bayonne</b>		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

City of BayonneCity Clerk

- The City Clerk responded that it does not maintain any files for the site.

Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department/ Fire Prevention

- Fire Department/ Fire Prevention responded that it does not maintain files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 10 feet above mean sea level (AMSL). The site slopes gently downward toward West 2<sup>nd</sup> Street. Groundwater in the vicinity of the site is expected to flow to the southwest toward the Kill Van Kull.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses on the site.

The 1931 aerial photograph indicates the Bayonne Bridge oriented north to south transecting the central portion of the site. Disturbed areas, apparently from recent bridge construction activities, were apparent. West 2<sup>nd</sup> Street appeared to be unpaved and a railroad spur was apparent on the southwestern portion of the site.

The 1954 through 2008 aerial photographs indicates the site is similar to current conditions.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed to evaluate historic land uses on the site.

The 1898 Sanborn map indicates the site is vacant.

The 1912 Sanborn map shows two stores used as a warehouse are located on the western portion of the site. A small portion of the site encompasses the western adjacent Barclay & Company, Manufactures of Proprietary Medicines property.

The 1950 Sanborn map indicates the Bayonne Bridge Approach is oriented generally north to south and had been constructed on the central portion of the site. The two previously noted stores are no longer present. The 1950 Sanborn map also shows a structure associated with the eastern adjacent Rhem Manufacturing Company, Steel Barrel Division building being on the site. The structure is noted to be utilized for warehousing and shipping.

The 1979 Sanborn map shows an additional building used for shipping associated with the Rhem Manufacturing was constructed on the northeastern portion of the site.

The 1988 and 1991 Sanborn maps indicate land uses similar to those observed on the 1979 Sanborn map.

### Historical Use Information on Adjoining Properties

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties. A discussion of the adjacent properties to the north and south of the site at Port Authority properties (Block 361, Lot 1 to the north and Block 379, Lot 3 to the south) have not been included. Please see the Site Inspection Sheet for historic land uses on those properties.

The 1931 aerial photograph indicates the site is bordered by Gertrude Street and a portion of the Bayonne Bridge (Block 361, Lot 1) to the north; a large structure associated with Rhem Manufacturing to the east; West 2<sup>nd</sup> Street and a portion of the Bayonne Bridge (Block 363, Lot 1) to the southeast and south west (Huber Inks and F. & A. Distributing Co., respectively), and commercial/industrial property to the west occupied by F. W. Fitch Company.

The 1954 aerial photograph indicates the buildings of the Baker Castor Oil Company have been constructed to the west. To the southwest, the lots adjacent to Avenue A and F. & A. Distributing appear to be used as a large parking lot.

Land uses at adjacent properties appear similar on the 1966 aerial photograph.

The 1976 aerial photograph indicates that the Huber Inks property has been demolished and residential dwellings constructed along Kennedy Blvd.

The 1980, 1987, 1995, 2002, 2006, and 2008 aerial photographs appeared similar to the 1976 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 and were reviewed to evaluate historic land uses on the adjacent properties. A discussion of the adjacent Port Authority properties Block 361, Lot 1 to the north and Block 379, Lot 3 to the south have not been included. Please see the Site Inspection Sheet for historic land uses on those properties.

The 1898 Sanborn map shows a small structure to the northeast on Gertrude Street and a residential structure to the southeast on West 2<sup>nd</sup> Street. The remaining adjacent lots are vacant.

The 1912 Sanborn map indicates the western adjacent property is occupied by the Barclay & Co., Manufactures of Proprietary Medicines. The site includes a four story building for the manufacturing of products and an adjacent single-story boiler house.

The 1950 Sanborn map indicates the western adjacent property, formerly Barclay & Co., is now F. W. Fitch Company, Manufacturer Chemists. A large structure noted as the Boulevard Transit Corp, Bus Garage is present to the northeast of the site. The Rhem Manufacturing Company, Atlas Steel Barrel Division is present adjacent to the east. A large sectionalized building which takes up almost the entire site. Sections of the building include a printing area and a machine shop.

The 1979 Sanborn map indicated the former F.W. Fitch Company adjacent to the west of the site is now occupied by N.L. (National Lead) Industries, Chemical Division. The Rhem Manufacturing Co. is now occupied by Garden State Container Corporation. A gasoline tank was identified adjacent to the Garden State Container Corporation building at the intersection of JFK Blvd. and Gertrude Street.

The 1988 Sanborn map indicates the gasoline tank adjacent to the Garden State Container Corporation building was no longer identified. The remaining land uses were similar to 1979 Sanborn map.

The 1991 Sanborn map indicated land uses on adjacent properties similar to existing conditions, note that Gas Chemical (CasChem Inc.) has taken the former N.L. Industries sites.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site contains a portion of the Bayonne Bridge which transects the central portion of the site as well as a portion of the Ideal Window Manufacturing Building on the eastern portion of the site. The remaining portion of the site consisted of loading/parking areas for the eastern adjacent Ideal Manufacturing building (27 Kennedy Boulevard). Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: Access to the site was provided by an open gate on Gertrude Street. An asphalt paved parking area, which comprised the majority of the western portion of the site provided access to the site. A loading area for the Ideal Window Manufacturing building is located on the northeastern portion of the site. Adjacent to the loading area was a metal storage cabinet and a storage rack. The storage rack held plastic items used in window manufacturing and the metal cabinet contained cylinders of liquid petroleum gas used to fuel fork lifts. A dumpster was observed near the loading area. Debris consisting of plastic and wood was observed around the dumpster. HMM observed staining on the ground surface around the dumpster. A drain was located in the concrete in the loading area. The drain is reported to discharge to the municipal sewer system. The eastern portion of the site was covered with concrete in and around the loading areas. Some patched grass areas were present on the southern portion of the site. HMM observed nuisance debris consisting of asphalt, roofing tar, and tile on the southern portion of the site. It is unknown whether any of the debris extends below the subsurface. A portion of the adjacent Ideal Window Manufacture buildings foundation is located on the eastern portion of the site.

Piers associated with the bridge are present onsite. Piping associated with stormwater drains located on the roadway of the bridge extend downward below the bridge deck and discharge to the ground surface. Underneath the bridge contains conduit for electrical wires as well as overhead lighting attached to the bridge.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March and April 2013 the property was re-evaluated and the site was similar to conditions noted in 2011 except as noted below. The nuisance debris, dumpster, storage rack and metal container, noted in 2011 have been removed.

A portion of the Ideal Window Manufacturing building that was located on the site was demolished between April 15, 2013 and April 29, 2013. Only the concrete slab foundation remains. No evidence of staining or cracks were observed on the concrete surface of the slab. The remaining site conditions appeared similar to conditions observed in 2011.

Interior Observations: No structures which contain interior portions were present on the site. As such, no interior inspection was applicable.

Interviews: In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

In April 2013, an interview was conducted with Richard Kohler of Bella Environmental. Mr. Kohler completed the demolition of the Ideal Window Manufacturing building that was located on Port Authority property. Mr. Kohler expressed that no evidence of above ground or underground storage tanks were encountered during demolition and that the building is currently heated with natural gas. Mr. Kohler said no environmental concerns were observed during the demolition.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils in the vicinity of the playground (Bayonne Block 345, Lot 1) at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead detected at concentrations above the New Jersey Soil Remediation Standards in at least one location. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentrations above the New Jersey Soil Remediation Standards, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Dumpster –** A trash dumpster is located on the northeastern portion of the site. Staining was observed on the ground surface around the dumpster in 2011. It is unknown whether former spills in the vicinity of the dumpster have impacted the site where the dumpster was previously located.

**Railroad Spur –** A railroad spur was located on the southwestern portion of the site. The environmental quality in the vicinity of the railroad spur is unknown.

**Historic Land Uses –** The eastern adjacent property is currently occupied by Ideal Window Manufacturing (27 Kennedy Boulevard) and previously contained the Rhem Manufacturing Company, Atlas Steel Barrel Division sometime prior to 1931. Sometime before 1950 and 1979 buildings associated with the Rhem Manufacturing Company were located on the site. The potential exists for the site to be impacted by former operations at the former Rhem Manufacturing Company.

**Adjacent Property–** CasChem is located adjacent to west of the site at Avenue A. Groundwater contamination has been identified at the site and several incidents of environmental concern have been reported. CasChem has an active regulatory status. Some of the buildings at the CasChem property are located on and near the western property border. As such, CasChem is considered to be a concern for the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Lead-** Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Bridge Drains –** Surface drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. Impacted soil may be encountered in the vicinity of the bridge drains during construction. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

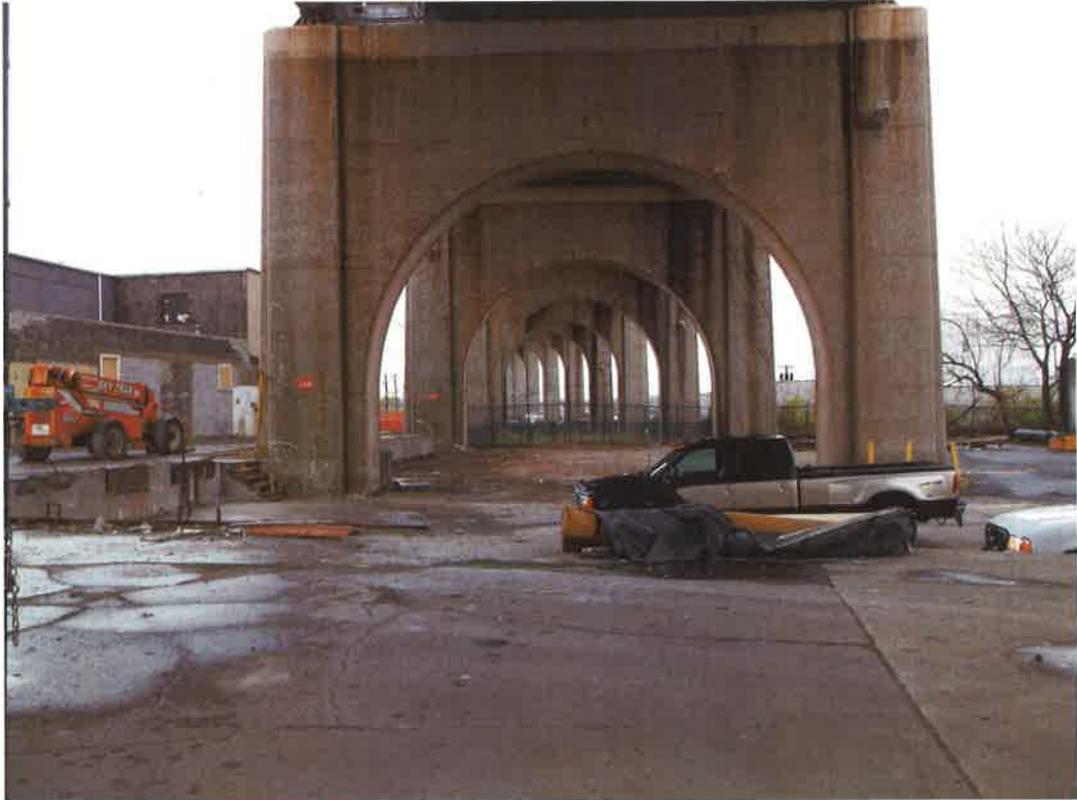
**Dumpster** – A trash dumpster was located on the northeastern portion of the site. Staining was observed on the ground surface around the dumpster in 2011. It is unknown whether former spills in the vicinity of the dumpster have impacted the site. Should the soil in the vicinity of where the dumpster was located be disturbed, potential impacts from staining in the vicinity of the dumpster should be addressed in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Railroad Spur** – The environmental quality of soil in the vicinity of the railroad spur is unknown. The potential presence of impacts in the vicinity of the railroad spur should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Historic Land Uses** – The potential exists for the site to be impacted from the former Rhem Manufacturing Company. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Adjacent Property**– The western adjacent CasChem property is a concern for the site. Consideration of contact with impacted groundwater from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

It should be noted that nuisance debris consisting of shingles, roofing tar, and ceramic tile were observed on the southern portion of the site. Additionally, former buildings associated with Rhem Manufacturing Company were historically located on the site. Should any buried debris be encountered during construction activities they should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken looking south. View of south portion of property.

Photograph taken: 4/29/2013



Photograph 2: Photograph taken looking southeast. View of northeast portion of property.

Photograph taken: 4/29/2013



Photograph 3: Photograph taken facing north. View of eastern portion of property.

Photograph taken: 4/29/2013



Photograph 4: Photograph taken facing south. View of southeastern portion of property.

Photograph taken: 4/29/2013



**Photograph 5: Photograph taken facing west. View of southwestern portion of property and debris from recent building demolition.  
Photograph taken: 4/29/2013**

**Map ID:** 10**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** South side of West 1<sup>st</sup> Street, approximately 260 feet east of the intersection of West 1<sup>st</sup> Street and Avenue A in Bayonne, New Jersey.**Acreage:** 1.01**Block/Lot:** Block 373, Lot 3**Facility Name:** None**Site Description**

Current Uses of Property: The site contains a portion of the Bayonne Bridge, a portion of a building and loading/parking area for the western adjacent White Glove Moving Company (235 West 1<sup>st</sup>), and a fenced-in vegetated area.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects a portion of the site from north to south, is located on the central portion of the site. A building associated with the adjacent White Glove Moving Company is located on the western portion of the site. The building is outside the proposed work area. Therefore, the building has not been included in the report. No other structures were apparent on the site.

Current Uses of Adjoining Properties: The site is bound by West 2<sup>nd</sup> Street, Bayonne Bridge (Port Authority property Block 362, Lot 1), and CasChem Inc. to the north; residences to the east; West 1<sup>st</sup> Street and the Bayonne Bridge (Port Authority property Block 391, Lots 3, 4, and 5) including the Bayonne Little League field to the south; and White Glove Moving Company to the west.

**User Provided Information:** HMM reviewed information provided by the Port Authority regarding the environmental quality of soil and groundwater at the site. The following information is based on the information provided by the Port Authority.

The Port Authority leases the western 0.2 acres of the site to Williams Industries, Inc., who in turn sublets to Abbey Enterprises, Inc. Previous environmental investigation has resulted in the identification of arsenic as a contaminant of concern in soil and groundwater at the site. The arsenic is believed to be attributable to historic fill (placed by others than the Port Authority) and the operations and land use of Nitrate Agencies Co. Nitrate Agencies Co., a subsidiary of W.R. Grace and Co., owned and operated the site from 1920 through 1929. A total of 18 soil borings were drilled at the site and 38 soil samples were collected from depths ranging from land surface to 12 feet below land surface. Arsenic concentrations in the soil range from 18.3 to 10,800 ug/kg.

A total of 17 flush mount monitoring wells are or have been located at the site. Groundwater monitoring events were conducted between 1992 and January 2012. During the most recent (January 2012) monitoring event, arsenic concentrations in groundwater ranged from 1,150 to 306,000 ug/L. Two separate arsenic plumes have been identified: one in the portion of the property leased to Williams Industries, Inc. and the second near the center of the vacant portion of the site. The presence of arsenic in soil and groundwater at the site is a concern and the case associated with this property has an active regulatory status. A revised Remedial Investigation Report/Remedial Action Work Plan (RIR/RAWP) was prepared by ARCADIS U.S., Inc. (ARCADIS) in October 2012 on behalf of the Port Authority to address arsenic impacts in the soil and groundwater at 235 West First St. Bayonne, New Jersey, under the overall Bayonne Bridge PI#G000021830.

**Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, four sites of regulatory concern were identified adjacent to the site as described below. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

The EDR report identified the following four properties adjacent to the site.

- 1) CasChem Inc./Vertellus Performance Materials Inc. (40 Avenue A) is located adjacent to the northern boundary of the site. EDR identified CasChem Inc. on several of the databases searched including SPILLS, NCDB, SPILLS80, STATE, TRIS, LUST, ERNS, DOCKET, RCRA TSD, RELEASES, FINDS, and UST. Definitions of abbreviations are listed in the Phase I ESA and EDR report. Multiple listings were identified on the SPILLS, NCDB, SPILLS80, ERNS, DOCKET, and RELEASES. According to NJDEP Data Miner, there are five Site Remediation Program (SRP) cases associated with CasChem Inc. Three of the cases are reportedly closed but two remain open. A known source of groundwater contamination has also been identified. Several incidents of environmental concern have been reported for the CasChem property, which have an active regulatory status. Some of the buildings at the Cas Chem Inc. property are located on and near the western property border.
- 2) Ideal Aluminum Products Company (27 Kennedy Blvd) is located adjacent to the northeast of the site beyond West 2nd Street. EDR identified Ideal Aluminum Products Company on the FINDS, STATE, RCANLR, LUST, and UST databases. According to NJDEP Data Miner, this property is identified by PI# 000873 and has an active regulatory status. The Ideal Aluminum Products Company is a concern for the site.
- 3) Williams Industries, Inc., located at 235 West 1<sup>st</sup> Street, is identified in the EDR Report and located adjacent to the west of the site. The property, also identified in the EDR Report as Discoveries Display Décor Inc. and Abbey Enterprises Inc., is listed on the FINDS, STATE, RCANLR, and UST databases. According to the EDR report, the site has an active SRP case number. As indicated above, the soil and groundwater at the site is impacted with arsenic and may be related to Williams Industries, Inc.
- 4) Pirelli Cable Corporation, located at 236 West 1<sup>st</sup> Street, is identified in the EDR Report and was located adjacent to the western boundary of the site. The property is listed in the NJ HIST HWS, NJ ISRA RCRA NonGen / NLR, FINDS, US AIRS databases. The Pirelli Cable Corporation property is located down gradient relative to the site and is not a concern for the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NJDEP - Records Access Officer		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
Hudson County Health Department		
	Environmental Division	Project Site
City of Bayonne		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

#### USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

#### NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

#### Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

#### City of Bayonne

##### City Clerk

- The City Clerk responded that it does not maintain any files for the site.

##### Division of Health

- The Division of Health responded that it does not maintain any files for the site.

Construction Department

- The Construction Department responded that it does not maintain any files for the site.

Fire Department / Fire Prevention

- The Fire Department / Fire Prevention responded that it does not maintain any files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 10 feet above mean sea level (AMSL). The site slopes gently downward toward West 1st Street. Groundwater at the site is expected to flow to the south. The nearest water body is the Kill Van Kull located approximately 800 feet to the south of the site.

**Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph indicates the Bayonne Bridge oriented north to south transecting the central portion of the site. Disturbed areas, apparently from recent bridge construction activities, were apparent on the site.

The 1954 through 2008 aerial photographs indicates land uses similar to current conditions.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991.

The 1898 and 1912 Sanborn maps show the site as vacant land.

The 1950 Sanborn map indicates the Bayonne Bridge Approach is oriented generally north to south and had been constructed on the central portion of the site.

The 1979 through 1991 Sanborn maps indicate land uses similar to those observed on the 1950 Sanborn map.

**Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed to evaluate historic land uses on the adjacent properties. A discussion of the adjacent property to the north of the site at Port Authority property (Block 362, Lot 1) and to the south at Port Authority property (Block 391, Lots 3,4 and 5) has not been included. Please see the specific Site Inspection Sheets for historic land uses on and adjacent to those properties.

The 1931 aerial photograph indicates structures similar to the former Huber Inks property were adjacent to the east. A structure similar to the existing White Glove Moving Company was apparent adjacent to the west of the site.

Land uses at adjacent properties on the 1954 and 1966 aerial photographs appear similar to the 1931 aerial photograph.

The 1979 aerial photograph indicates that the Huber Inks property is no longer present and residences have been constructed along Kennedy Blvd. (former Hudson Blvd).

The 1980, 1987, 1995, 2002, 2006, and 2008 aerial photographs appeared similar to the 1979 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed to evaluate historic land uses adjacent to the site. A discussion of the adjacent property to the north of the site at Port Authority property (Block 362, Lot 1) and to the south at Port Authority property (Block 391, Lots 3,4 and 5) has not been included. Please see the specific Site Inspection Sheets for historic land uses on and adjacent to those properties.

The 1898 Sanborn map shows the surrounding properties to the east and west as vacant land.

The 1912 Sanborn map indicates railroad tracks are present to the west of the site with a Saloon with a detached shed further west.

The 1950 Sanborn map indicates a structure occupied by F. & A. Distribution Company, Wholesale Liquors adjacent to the west of the site. Structures associated with J.M. Huber, Inc., Printing Inks (Huber Inks) were identified adjacent to the east of the site. One of the structures present near the southern property border with West 1<sup>st</sup> Street contained a solvent tank.

The 1979 Sanborn map indicates the Huber Inks property has been removed and nine residences were constructed.

The 1988 and 1991 Sanborn maps indicate land uses on adjacent properties similar to existing conditions.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site contains a portion of the Bayonne Bridge which transects the central portion of the site. A portion of a brick building and a parking/loading area for the western adjacent White Glove Moving Company is located on the overall western portion of the site but is outside the work area. The remaining portions of the site consist of vegetated areas to the east and west of the bridge surrounded by a secured fence. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: Access to the site was provided by locked gates on West 2<sup>nd</sup> Street. Access to the western portion of the site occupied by White Glove Moving Company was provided by an open gate on West 1<sup>st</sup> Street. The area of the site immediately east and west and underneath the bridge consists of vegetated land. Evidence of asphalt pavement beneath the vegetation was apparent on the southern portion of the site. Approximately nine groundwater monitoring wells were observed underneath the bridge. The wells are associated with ongoing monitoring of arsenic. HMM observed concrete and metal debris located adjacent to a bridge pier on the northern portion of the site. No staining was observed on the ground surface near the debris.

The northwestern portion of the site contains a single-story brick building used by the adjacent White Glove Moving Company. An asphalt paved and concrete sidewalk was located around the exterior of the building. However, thick vegetation was present which prevented observation of the ground surface in some areas. A monitoring well was located near the northeastern corner of the building and West 2<sup>nd</sup> Street. South of the building is a parking/loading area. Three monitoring wells and two dumpsters were located in the parking area. As previously indicated the monitoring wells are associated with the ongoing monitoring with the Williams property.

Piers associated with the bridge are present onsite. Stormwater pipes for surface drains located on the roadway of the bridge extend downward below the bridge deck and discharge to the ground surface. Underneath the bridge contains conduit for electrical wires as well as overhead lighting attached to the bridge was observed. A connection to the fire suppression system was located adjacent to West 1<sup>st</sup> Street.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011.

Recently in March 2013, except for the items mentioned below, concrete and metal debris adjacent to a bridge pier had been removed and vegetation had been cut down.

**Interior Observations:** A portion of the building occupied by White Glove Moving Company is located on the northwestern portion of the site. The proposed work area does not include this building. As such, no interior inspection was applicable.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. The personnel interviewed are listed in Appendix F of this report. The Port Authority indicated that a RAWP was submitted to the NJDEP in October 2012 and that a Remedial Action will be implemented during bridge improvements. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

**Lead-** In the 1990's lead was detected in shallow soils in the vicinity of the playground (Bayonne Block 345, Lot 1) at concentrations ranging from 5 mg/kg to 606 mg/kg at 11 locations. Lead was detected at concentrations above the NJDEP Soil Remediation Standards in at least one location. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentrations above the New Jersey Soil Remediation Standards, the potential exists for the soil at the site to be impacted with lead.

**Arsenic in soil and groundwater –** Soil and groundwater sampling was completed in 2012, and arsenic concentrations in soil range from 1.6 to 24,100 mg/kg. The concentrations of arsenic in groundwater range from 1,150 to 306,000 ug/L. Two separate arsenic plumes have been identified. The presence of arsenic in soil and groundwater is a concern.

**Bridge Drains –** Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Adjacent Properties –** Several sites of environmental concern have been identified adjacent to the site. One or more of these sites have active regulatory cases with the NJDEP and may have adversely impacted the site. Most notably the arsenic contamination present on the site may likely be related to the western adjacent William Industries, Inc. property.

**Historic Land Uses –** Sanborn Maps indicate the eastern adjacent property was previously occupied by Huber Inks from at least 1931 until sometime before 1979. A solvent tank associated with this property was located adjacent to the southern property border. The potential exists for the site to have been adversely impacted from the former operations at the Huber Inks property.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.



Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Arsenic in soil and groundwater - The Port Authority Engineering Department is aware of the arsenic conditions at the site. A Remedial Action is planned during bridge construction activities. The remedial action will address soil and groundwater impacts from arsenic.

Bridge Drains – Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. Impacted soil may be encountered in the vicinity of the bridge drains during construction. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Adjacent Properties – The site may have been adversely impacted by one or more adjacent properties. Consideration of environmental impacts from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historic Land Uses – The potential exists for the site to have been impacted from former operations at the Huber Inks property. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

The concrete and metal debris observed on the northern portion of the site should be removed.



Photograph 1: Photograph taken looking south.

Photograph taken: March 28, 2013



Photograph 2: Photograph taken looking north.

Photograph taken: March 28, 2013



Photograph 3: Photograph taken facing northeast. View of monitoring well and gravel area.

Photograph taken: March 28, 2013



Photograph 4: View of White Glove Moving building on northwestern portion of site.

Photograph taken: March 28, 2013

**Map ID:** 11**Owner:** The Port Authority of New York and New Jersey**Site Address:** None**Site Location:** South side of West 1<sup>st</sup> Street, approximately 150 feet west of the intersection of West 1<sup>st</sup> Street and JFK Boulevard in Bayonne, New Jersey.**Acreage:** 5.79**Block/Lot:** Block 391, Lots 3, 4 and 5**Facility Name:** None**Site Description**

Current Uses of Property: The site contains a portion of the Bayonne Bridge, a temporary shed, seven storage containers, a guard shack, and a fenced-in yard area. Two baseball fields and associated structures are present on the northeastern portion of the site. The remainder of the site is vacant and is used to store bridge maintenance equipment.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects a portion of the site from north to south, is located on the central portion of the site. Three storage containers and a temporary building used to store bridge maintenance items are located on the northern portion of the site. Two locked storage containers are located on the central portion of the site. Two empty storage containers are located on the southern portion of the site. Fenced-in areas are present onsite which appear to previously have been used for storage but are now vacant.

Two baseball fields, a bullpen for the home and visitor teams, and a main building were located on the northeastern portion of the site.

Current Uses of Adjoining Properties: The site is bound by West 1st Street, the Bayonne Bridge (Port Authority property Block 373, Lot 3), White Glove Moving Company, and residences to the north; the Bayonne Little League baseball fields and park to the east; the Kill Van Kull to the south; and a vacant property historically occupied by Pirelli Cable Corporation to the west.

It should be noted that the western adjacent Pirelli Cable Corporation property appeared to be covered with gravel and approximately 14 groundwater monitoring wells were observed on this property. The wells are believed to be part of ongoing monitoring at the site. Additional information is provided in the records review section below.

**User Provided Information:** HMM reviewed a report titled *Remedial Action Report for the Bayonne Little League Baseball Fields*, dated December 1994. The report summarized the remedial efforts conducted by the Port Authority at the site. In 1992, the Port Authority initiated preliminary soil sampling for possible lead contamination at locations on or adjacent to Port Authority property utilized by the general public. The Bayonne Little League Park, Fields 1 and 2 are on Port Authority property and were identified as a potential area of concern. Initial samples obtained from these fields indicated lead concentrations in soil from 146 milligrams per kilogram (mg/kg) to 1270 mg/kg. The NJDEP approved a Remedial Action Workplan (RAWP) which included the remediation of the top 6 inches of lead soils contamination to a concentration below 100 mg/kg. At areas covered by sod or asphalt, lead concentrations below 500 mg/kg were considered to be acceptable. The RAWP further required that soils between 6 and 12 inches in depth be remediated to concentrations below 500 mg/kg. On April 26 (Field 1) and December 3, 1993 (Field 2), the Port Authority initiated voluntary cleanup of the lead contaminated areas of each field. For Field 1, the remediation included the removal of 12 inches of soil from an area along the right field line. Restoration included placement of 12 inches of clean soil and sod. Post-excavation soil samples were obtained and indicated compliance with less than 500 mg/kg of lead in the top 12 inches of soil. Excavation of Field 2 included removal of soil in the base paths, the pitcher's mound, and along the right foul line of the field to a depth of 12 inches below grade and to a depth of 3 inches below grade in the infield area. Post-excavation soil

samples indicated that only one location contained a lead concentration greater than 500 mg/kg at a depth of 12 inches below grade. This location was within the right field area of Field 2 which was identified as historic fill material. No further excavation was completed. Restoration of Field 2 included the placement of filter fabric, placement of 6 inches of clean soil, and sod above clean soil from 6 inches to grade at all locations excavated. Although the remedial action was largely successful, this case appears to have an active regulatory status.

In 2004 Paramount Pictures used the ball field at Block 391, Lots 3 and 5 to film a scene from the movie War of the Worlds. Approximately 2/3 of the ball field was removed and replaced with Densely Graded Aggregate (DGA) and concrete. After the film scene was completed the ball field was returned to its previous condition. The restoration of the cap was proposed in a Remedial Action Workplan prepared by Excel Environmental Resources dated March 8, 2005 and was submitted to the NJDEP. In a letter dated March 14, 2005 NJDEP indicated the actions to restore the cap were acceptable.

Specifically the tasks that were completed included:

- Excavation of grass and topsoil to depths of approximately four inches below grade. A total volume of 200 cubic yards of soil was removed and stockpiled for reuse during restoration.
- Excavation of potentially lead contaminated subgrade soil in the outfield with an approximate volume of 12 cubic yards.
- Placement of DGA and concrete on exposed soil.
- Reuse of potentially lead contaminated subgrade soil as fill below the cap. Reuse of 200 cubic yards of grass, top soil to restore the cap.
- Construction of a new ball field with certified clean fill above the cap.

The Port Authority indicated that the disturbed areas were properly restored with a cap before the existing ball field was constructed

A Draft Deed Notice was submitted to the NJDEP in 2012, which summarizes the plan to establish various types of caps as engineering controls at the site. The total area included within the deed notice is equal to 23,700 square feet. The engineering controls consist of clay, pulverized rock, topsoil and asphalt. The purpose of the engineering controls is to prevent direct contact with the contaminated soil. It is believed that the Draft Deed Notice has not been approved. The Port Authority has indicated the construction of the cap will be completed as part of the Bayonne Bridge Navigational Clearance Program and the Deed Notice will be finalized after the cap is constructed.

The Port Authority provided laboratory analytical data for surface soil samples collected from the northern and western portions of the site on Bayonne Block 391, Lot 5 in March 2012. Based on a review of the analytical results, lead concentrations ranged from 13 mg/kg to 660 mg/kg across the site. With the exception of one location on the northern portion of the site, the remaining soil samples were below the Residential and Non-Residential Direction Contact Soil Remediation Standards. It should be noted that 17 samples had lead above the Impact to Groundwater Soil Remediation Standards. Lead in soil is considered to be a concern for the site.

Information from the Port Authority, where provided to HMM, has been incorporated into this report.

### **Records Review**

Standard Environmental Record Sources: A review of the EDR report did not identify any incidents associated with the site. However, four sites of regulatory concern were identified adjacent to the site as described below.

Abbreviations for the databases are listed in the Phase I ESA and EDR report. For a complete listing of the properties identified in the site vicinity see the EDR report in Appendix C.

The EDR report identified the following four properties adjacent to the site.

- 1) Pirelli Cable Corporation, located at 236 West 1<sup>st</sup> Street, is identified in the EDR Report and was located adjacent to the western boundary of the site. The property is listed in the NJ HIST HWS, NJ ISRA RCRA NonGen / NLR, FINDS, US AIRS databases. In April 2003, an interview was conducted with Karla Baker with Chevron Land Development department. Ms. Baker indicated the Pirelli Cable Corporation property which encompasses 14 acres is part of a larger property owned by Chevron. Chevron previously used the property as a petroleum terminal. Ms. Baker indicated a remedial action was completed at the Pirelli Cable Corporation in 2010. The remedial action consisted of hot spot excavation, soil stabilization, and placement of a geotextile filter fabric with 2 feet of soil cap. Groundwater impacts remained and are being monitored periodically. According to Ms. Baker the overall property known as Texaco property has not been remediated and a CEA that extends offsite is associated with this property. A map of the CEA from the NJDEP Geoweb Program is attached to this site inspection sheet.
- 2) Williams Industries, Inc., located at 235 West 1<sup>st</sup> Street, is identified in the EDR Report and located adjacent to the west of the site. The property, also identified in the EDR Report as Discoveries Display Décor Inc. and Abbey Enterprises Inc., is listed on the FINDS, STATE, RCRANLR, and UST databases. According to the EDR report, the site has an active SRP case number. As indicated above, the soil and groundwater at the site is impacted with arsenic and may be related to Williams Industries, Inc. This property is discussed in the Site Inspection Sheet for Block 373, Lot 3.
- 3) According to EDR, lead impacts are suspected at the intersection of West 1<sup>st</sup> Street and JFK Boulevard as a result of bridge maintenance and painting. No additional information was available in the First Search Report; however, additional information is in the user provided information above.
- 4) Point Builders (197 West 1<sup>st</sup> Street) is located adjacent to the northeast of the site. EDR identified the Point Builders property on the NJ Release and NJ VCP databases. This site has an active regulatory status with SRP PI number G000031164.

Several properties have been identified as sites of concern in the vicinity, most notably, the Pirelli Cable Corporation and the Texaco property which are a concern for the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
<b>USEPA - Region II Freedom of Information Office</b>		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
<b>NJDEP - Records Access Officer</b>		
	Site Remediation Program	Project Site
	Enforcement Program	Project Site
<b>Hudson County Health Department</b>		
	Environmental Division	Project Site
<b>City of Bayonne</b>		
	City Clerk	Project Site and Adjacent Properties
	Division of Health	Project Site and Adjacent Properties
	Construction Department	Project Site and Adjacent Properties
	Fire/Fire Prevention	Project Site and Adjacent Properties

The following summarizes statements made by representatives of these agencies.

#### USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Pertinent information received will be submitted as an addendum.

#### NJDEP

The NJDEP, Office of Records Custodian (ORC) was contacted regarding HMM's request for information available on the project site. The ORC directed HMM's requests to the Site Remediation Division and Enforcement Division of the NJDEP. Site Remediation responded that it does not maintain any files related to the site.

#### Hudson County Health Department

The Hudson County Health Department responded that it does not maintain any files related to the site.

#### City of Bayonne

##### City Clerk

- The City Clerk responded that it does not maintain any files for the site.

##### Division of Health

- A review of available files was completed at the City of Bayonne Division of Health on April 10, 2013. The information indicated Incident #07-03-07-1500-54 was reported to the NJDEP as a result of an air compressor fire on the northern portion of the site on March 7, 2007. It was estimated that less than 10 gallons of fluids including diesel, #10 oil, and antifreeze were discharged to soil and a containment area. The fluids were recovered and impacted soil excavated. Approximately 16 drums of contaminated soil/water were generated which were disposed of offsite. According to the Port Authority, no post-excavation soil samples were collected to document the removal efforts were completed. Ms. Christine Blaney with the NJDEP Bureau of Water Compliance and Enforcement indicated the incident has an active status and has been referred to the Site Remediation Program but has not been assigned a preferred identification number. This incident is a REC. Information related to this incident is attached to this Site Inspection Sheet.

#### Construction Department

- The Construction Department responded that it does not maintain any files for the site.

#### Fire Department / Fire Prevention

- The Fire Department / Fire Prevention responded that it does not maintain any files for the site.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 10 feet above mean sea level (AMSL). The site slopes gently downward toward the Kill Van Kull, which borders the site to the south. Groundwater at the site is anticipated to be directed to the Kill Van Kull.

### **Historical Use Information on the Property**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for the site.

The 1931 aerial photograph indicates the Bayonne Bridge oriented northwest to southeast transecting the site. Disturbed areas, apparently from recent bridge construction activities, were apparent. An apparent commercial structure was located on the northeastern portion of the site at the intersection of JFK Boulevard and West 1<sup>st</sup> Street.

The 1954 aerial photograph indicates the site is similar to the 1931 photograph. However the southern portion of site appears to have been filled.

The 1966 aerial photograph indicates that part of the area underneath the bridge from West 1<sup>st</sup> Street to the south has been paved and vehicles and equipment are parked/stored onsite.

The 1979, 1980, and 1987 aerial photographs indicate land uses similar to the 1966 photograph.

The 1995 aerial photograph indicates the two existing little league fields had been constructed on the northeastern portion of the site.

The 2002, 2006, and 2008 aerial photographs are similar to the 1996 aerial photograph and current observations.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991.

The 1898 Sanborn map shows the site as vacant.

The 1912 Sanborn map shows one structure, possible a shed associated with a dwelling on the northeastern portion of the site.

The 1950 Sanborn map indicates the Bayonne Bridge Approach is oriented generally diagonally from northwest to southeast on the site. The southern portion of the site appears to have been filled into the Kill Van Kull. The structures noted in the 1912 map are no longer present and a structure identified as a Life Guard Station is present.

The 1979 through 1991 Sanborn maps indicate land uses similar to those observed on the 1950 map.

### **Historical Use Information on Adjoining Properties**

Historic Aerial Photographs: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2002, 2006, and 2008 were reviewed for land uses on the adjacent properties. A discussion of historic land uses adjacent to the north of the site is not discussed. Please see the Site Inspection Sheet for Port Authority property (Block 373, Lot 3).

The 1931 aerial photograph indicates vacant land to the east, the Kill Van Kull to the south and structures similar to the Safety Insulated Wire & Cable Company site (Pirelli Cable Corporation) to the west.

The 1954 and 1966 aerial photographs indicate the adjacent Bayonne Little League Park is under construction.

The 1979 through 1980 aerial photographs are similar to the 1966 photograph with the noted completion of the Little League Park.

The 1987 aerial photograph shows that a large portion of the Pirelli Cable Corporation site to the west has been demolished and is vacant.

The 1995 aerial photograph shows the entire Pirelli Cable Corporation site to the west as vacant. The other noted change, to the east, is construction of additional ball fields on the Port Authority Lot 3.

The 2002 through 2008 aerial photographs are similar to the 1995 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1912, 1950, 1979, 1988, and 1991 were reviewed to evaluate historic land uses adjacent to the site. A discussion of historic land uses adjacent to the north of the site is not discussed. Please see the Site Inspection Sheet for Port Authority property (Block 373, Lot 3).

The 1898 Sanborn map shows the majority of the surrounding lots as vacant, with the exception of a commercial structure on the south side of West 1st Street and a large structure with docks to the east on the Kill Van Kull. The Sanborn map notes this structure with several open sheds and a portion as a Shore House. This may have been a marina and beach facility.

The 1912 Sanborn map indicates the property to the west is operated by the Safety Insulated Wire & Cable Company. This property includes a large facility extending south from West 1<sup>st</sup> street to the bay. The facility is comprised of 10 major buildings and numerous small structures and sheds and incorporates the structure that was

present on the 1898 map. There is a large dock extending into the Kill Van Kull from the Safety Insulated Wire and Cable site (Pirelli Cable Corporation). To the east of the bridge site, the dock structure, previously noted, is noted as ruins from fire. Several of the structures remain (open sheds). A new dock to the southwest has been extended in the Kill Van Kull and is attached to a structure on shore identified as a club. The map notes a gasoline tank on the dock. Several other structures east of Hudson Blvd. (JFK Boulevard) are present and noted as a dwelling, a hall and a saloon. The remaining area is unchanged from the 1898 map.

The 1950 Sanborn map indicates the Safety Insulated Wire and Cable Co. site is now identified as General Cable Corporation. The site remains similar to the 1912 map with the exception of an area in the vicinity of the dock which has been filled in.

The 1979 map indicates the General Cable site appears unchanged. The area of the club and other s are shown as vacant in the 1950 map, but is listed as Bayonne Little League Park with one structure from 1979 to 1991.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site contains a portion of the Bayonne Bridge which transects the central portion, seven storage containers, a guard shack, and a temporary shed. Two baseball fields and associated structures are present on the northeastern portion of the site. With the exception of the ball fields, the entire property is surrounded by a chain-linked fence. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: Access to the site was provided by a locked gate on West 1st Street. A guard shack was immediately apparent upon entering the site. An asphalt paved driveway underneath the bridge provided access to the interior portions of the site. The ground surface of the site was predominantly covered with asphalt and gravel; however, some localized grassy areas were present east and west of the bridge.

The northern portion of the site contains three storage containers and a temporary shed. One storage container contained bridge maintenance equipment; the other two were locked and not accessed by HMM. The temporary shed contained spraying equipment, a compressor, a paint mixer, and bridge maintenance equipment.

On the central portion of the site were two locked storage containers and a fenced-in area on the west side of the bridge. The fenced-in area appeared to have previously been used for storage, but was now vacant. The southern portion of the site contained two storage containers and the main bridge footing. An electric control panel was located adjacent to the containers. No evidence of staining or stressed vegetation was observed around the containers. The main bridge footing was surrounded by a locked chain linked fence. Access was not provided to the footing. Drainage pipes, which appear to collect surface drainage from the bridge discharge to the ground surface near the footing.

Piers associated with the bridge are present onsite. Drainage pipes for surface drains located on the roadway of the bridge extend downward below the bridge deck and discharge to the ground surface. Underneath the bridge conduit for electrical wires as well as overhead lighting attached to the bridge was observed.

The northeastern portion of the site is developed with two baseball fields. Bleachers are located past the outfield in the northern field (Field 1). Overhead electric lights are scattered around the field. Bullpens for home and visitor teams as well as a main building are present past home plate. The main building is used by event staff to monitor game activities. A smaller baseball field (Field 2) is located to the south of Field 1. Between the two fields is a fenced-in area with stockpiles of sand and topsoil. The stockpiles are used for field maintenance. Four pole-mounted transformers are located on the eastern property border. The transformers were labeled non-PCB containing.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013, the property was re-evaluated and site conditions appeared similar to those previously observed in 2011.

During the 2013 property evaluation the fenced-in yard area on the central-western portion of the site was occupied by Ahern Painting Contractors Inc. (Ahern). Ahern is conducting paint removal and resurfacing the New York portion of the bridge adjacent to the Arthur Kill. Two office trailers, a trailer used as locker room, a roll-off container that is used to collect discard items, and four storage containers were located in this area. The containers were used for storage and contained tools, various quantities of paint and paint thinner, and various equipment associated with paint operations. Four empty 55-gallon drums were located near one of the storage containers. Three flammable storage cabinets were also present. The cabinets contained gas cylinders, gasoline containers.

**Interior Observations:** The storage container on the northern portion of the site contained spraying equipment, a compressor, a paint mixer, and bridge maintenance equipment. The storage containers on the southern portion of the site were in poor condition and with the exception of three empty 55-gallon drums in one container, were empty. No other structures are located on the site.

The bullpens are constructed of concrete block, were open on one side and contained a bench for sitting. The main building also constructed of concrete block was locked and could not be accessed for inspection.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. A listing of the personnel interviewed is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was filled sometime between 1931 and 1950 and may contain historic fill.

**Lead-** In the 1990s lead was detected in shallow soils in the vicinity of the baseball fields at concentrations ranging from 147 mg/kg to 1270 mg/kg, above the NJDEP Soil Remediation Standards. The Port Authority conducted a remedial action that included soil excavation at areas in the playing fields. Engineering controls are planned for this area in the future. Lead was detected above the RDCSRS at one location on the northern portion of the site. The potential exists for lead to be present in site soils at locations not investigated or remediated.

**Bridge Drains –** Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Historic Land Uses –** The Pirelli Cable Corporation property was located adjacent to the west of the site since at least 1912 and was removed before 1995. Approximately 14 monitoring wells were observed at the site and the current environmental conditions are unknown. The adjacent Pirelli Cable Corporation property is a concern.

**Adjacent Properties –** EDR identified sites of environmental concern adjacent to and near the site. The current regulatory statuses of these sites are unknown and appear to be a concern for Block 391 Lots 3, 4, and 5.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the NJDEP Soil Remediation Standards at the site. Potential contact with lead impacted soil should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historic Land Uses – The potential exists for the site to have been impacted from the former Pirelli Cable Corporation property. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Adjacent Properties – The site may have been adversely impacted from adjacent properties. Consideration of contact with impacted groundwater from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

# New Jersey Map



**Hudson Regional Health Commission**  
**Meadowview Complex**  
**595 County Avenue, Building 1, Secaucus, New Jersey 07094**

**Investigation**

<b>HRHC Site ID:</b>	<input type="text"/>	<b>HRHC Log:</b>	<input type="text" value="2007-3293"/>
<b>DEP Site ID:</b>	<input type="text"/>	<b>Type of Complaint:</b>	<b>DEP Log:</b>
		<input type="text" value="Haz Sub."/>	<input type="text" value="07-03-07-1500-54 223232"/>
<b>Location Name:</b>	<input type="text" value="Under bridge in pond"/>		
<b>Address:</b>	<input type="text" value="First Street"/>	<b>City:</b>	<input type="text" value="Bayonne"/>
<b>Contact Person:</b>	<input type="text" value="Ron Borup"/>	<b>Tel:</b>	<input type="text"/>
<b>Nature of Incident:</b>	<input type="text" value="Diesel spill from compressor that caught on fire and was contained in the pond."/>		
<b>Complaint Name:</b>	<input type="text" value="Ron Borup Port Authority NY"/>	<b>Tel:</b>	<input type="text" value="917 662-6466"/>
<b>Complaint Address:</b>	<input type="text" value="2777 Goethals Road North"/>	<b>City:</b>	<input type="text" value="Staten Island"/>
<b>Receipt Date:</b>	<input type="text" value="3/8/2007"/>	<b>Time:</b>	<input type="text" value="11:45 AM"/>
		<b>Received From:</b>	<input type="text" value="Citizen"/>
<b>Investigation Date:</b>	<input type="text" value="3/7/2007"/>	<b>Time at Site:</b>	<input type="text" value="14:10"/>
<b>Other Agencies:</b>	<input type="text"/>		

**Findings:**

The Bayonne Fire Department had extinguished an air compressor fire, at the base of the Bayonne Bridge on 3/7/2007. Due to the fire, and subsequent water run off, it is estimated that less than 10 gallons of fluids including diesel, # 10 oil, and antifreeze were discharged to the soil and a to a metal-walled containment area at the base of the bridge. The water in the containment area was mostly frozen, spill pads and absorbent boom were applied. There was minor staining on the ground and ice, I advised soil be removed and tested and boom disposed of when the ice thawed. The Port Authority of New York and New Jersey will begin the cleanup with their own HazMat trained crew. The DEP Hotline was called and USCG notified.

15:35 I spoke to Peter Weeks DEP/BER to update him that this was not a spill directly to water but to a contained area and that the PA of NY&NJ was cleaning up the 10 gallon spill.

**Results:**

**Signature:**

**Investigator:**



**File:**

## **Don Beesley**

---

**From:** Borup, Ron [rborup@panynj.gov]  
**Sent:** Wednesday, March 14, 2007 3:47 PM  
**To:** Christine Blaney; Donald Beesley  
**Cc:** Carozza, Michele; Deltufo, Jerry; Kerney, Richard; Kovach, Kathy; Massett, James; Napolitano, Steve; Radics, Frank  
**Subject:** RE: Incident # 07-03-07-1500-54

Christine and Donald,

Please be advised, the Port Authority has completed the clean-up of the subject spill on Tuesday, March 13, 2007 which was reported on Wednesday, March 7, 2007 under the Bayonne Bridge in Bayonne, New Jersey.

The Port Authority called our Contractor, Clean Earth of North Jersey, Inc. for assistance who provides Hazardous Waste Disposal Services to our Facility. Clean Earth called in their subcontractor Atlantic Response, Inc. who assisted the Port Authority staff with the clean-up.

On Wednesday, March 7th our staff collected two drums of liquid waste and Atlantic Response collected seven drums of contaminated soil from the area beneath the compressor that was on fire and the path leading to the frozen body of water where the water and oils had flowed. Atlantic Response also placed on the frozen body of water absorbent booms and absorbent pads.

Atlantic Response returned on Friday, March 9th and collected an additional two drums of soil at the fire location that exhibited staining from the compressor oil and fuels. The body of water remained frozen.

Atlantic Response returned on Tuesday, March 13th now that the body of water had thawed and completed the collection of contaminants and generated five additional drums of waste. These drums consisted mostly of absorbent pads and booms.

All sixteen drums have been placed in our hazardous waste storage building and will be tested prior to disposal which the Port Authority will handle.

The compressor was the responsibility of Vista Engineering Corp. who was performing work under Contract AKB-162 for the Port Authority. Their address is 1030 Pleasantview Terrace, Ridgefield, NJ, 07657. The President is Ghusalal Patel and he can be reached at (201) 945-9434 if you have any questions for Vista Engineering.

If either of you have any questions for me, please email or call me on my cell phone at (917) 662-6466.

Rich, when you total our expenses please forward them to Michele Carozza so they can be submitted to recover our costs.

Thanks,  
Ron Borup

-----Original Message-----

**From:** Christine Blaney [mailto:Christine.Blaney@dep.state.nj.us]  
**Sent:** Wednesday, March 07, 2007 3:53 PM  
**To:** Borup, Ron  
**Subject:** Incident # 07-03-07-1500-54

Hi Ron,

Thank you for calling in the compressor incident in Bayonne to the DEP hotline. Please notify the Department of any clean up activities that will occur onsite in the future. A letter summarizing the incident and clean up actions will suffice. The letter can be

emailed, mailed or faxed to my attention. If I can be of further assistance, please let me know.

Thank you in advance, Christine

Christine Blaney  
Senior Environmental Specialist  
Northern Bureau of Water Compliance and Enforcement  
7 Ridgedale Ave.  
Cedar Knolls, NJ 07927  
P: 973-656-4099  
F: 973-656-4400  
1-877-WARN-DEP

NOTICE: THIS E-MAIL AND ANY ATTACHMENTS CONTAIN INFORMATION FROM THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY AND AFFILIATES. IF YOU BELIEVE YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE NOTIFY THE SENDER IMMEDIATELY, PERMANENTLY DELETE THIS E-MAIL (ALONG WITH ANY ATTACHMENTS), AND DESTROY ANY PRINTOUTS.



Photograph 1: Photograph taken looking north. View of northeastern portion of property.

Photograph taken: March 29, 2013

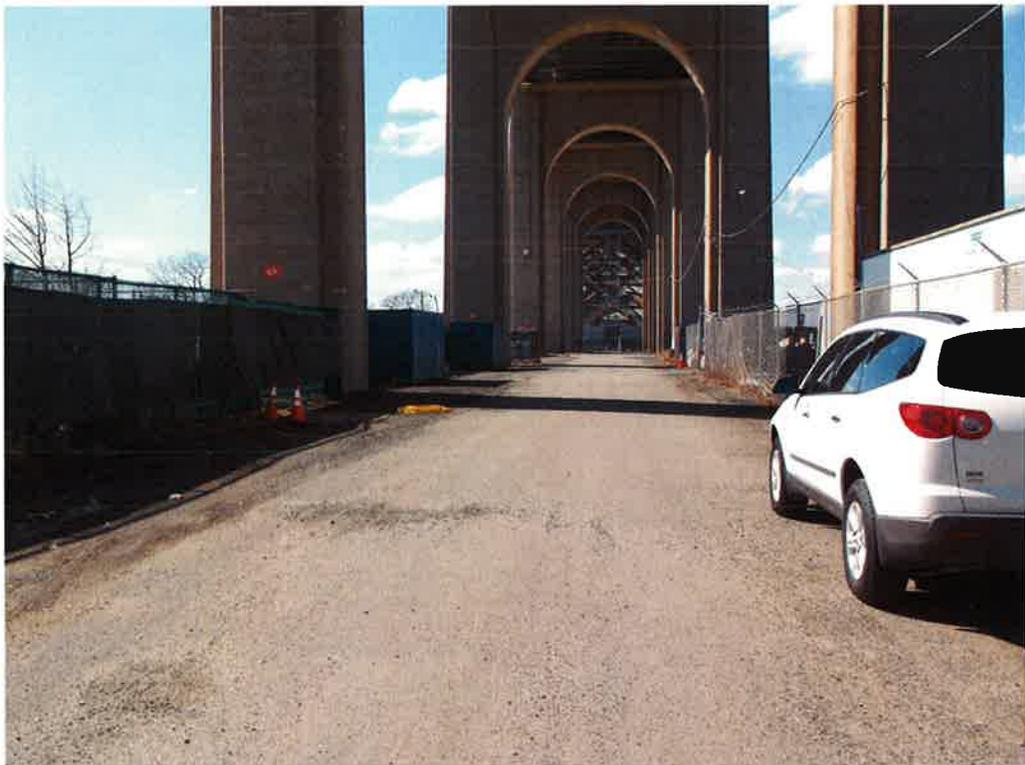


Photograph 2: Photograph taken looking north. View of northern portion of site.

Photograph taken: March 28, 2013



Photograph 3: Photograph taken looking south. View of contractor storage area on western portion of site.  
Photograph taken: March 28, 2013



Photograph 4: Photograph taken looking south.

Photograph taken: March 28, 2013



Photograph 5: Photograph taken looking north.

Photograph taken: March 28, 2013



Photograph 6: Photograph taken looking south.

Photograph taken: March 28, 2013



Photograph 7: Photograph taken looking south. View of southeastern portion of property.

Photograph taken: March 29, 2013

**Map ID:** 12

**Site Address:** None

**Owner:** The Port Authority of New York and New Jersey

**Site Location:** North of Richmond Terrace between Newark Avenue and Morningstar Road, Staten Island, New York

**Acreage:** 6.06

**Block/Lot:** Block 1105, Lot 51; Block 1107, Lot 1

**Facility Name:** None

### Site Description

Current Uses of Property: The site currently contains a guard shack, a former pier, an observation tower, and a portion of the Bayonne Bridge. The remaining portions of the site consist of undeveloped vegetated land along the shore of the Kill Van Kull. The site is secured by a fence to the south and east and barricaded with concrete block to the west.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge (which transects the central portion of the site), a guard shack on the southwestern portion of the site, and an observation tower on the western portion of the site were the only structures apparent on the site. An asphalt paved driveway provides access to the site from Richmond Terrace.

Current Uses of Adjoining Properties: The site is bound by the Kill Van Kull and other portions of the Bayonne Bridge to the north; a vacant lot used to store equipment, Richmond Terrace, John Street and Federal Express building to the east; Deville II Auto Collision (2432 Richmond Terrace), Polishing Pad (5 Newark Avenue), Hertz Rental car, Newark Avenue, the Bayonne Bridge (Port Authority property Block 1125, Lot 75), and Mena Auto Repair to the south; and a vacant lot to the west.

**User Provided Information:** The Port Authority provided laboratory analytical data for surface soil samples collected from Block 1105, Lot 51 in March 2012. Based on a review of the analytical results, lead concentrations ranged from 9.5 mg/kg to 11,000 mg/kg across the site. Soil containing lead above one or more of the Soil Cleanup Objectives was detected on the northern, eastern, and central portions of the site at 14 locations. Lead in soil is considered to be a concern for the site.

Information provided by the Port Authority where appropriate has been incorporated into this report.

### Records Review

Standard Environmental Record Sources: Review of the EDR report did not identify sites that appear to correspond to the site. However, four adjacent sites of concern were identified in the EDR report as summarized below. For a complete listing of the sites of concern identified in the site vicinity see the EDR report included in Appendix C.

- 1) The Richmond Terrace Radiological Site (2531 Richmond Terrace) is located adjacent to the east of the site. EDR identified this site in the CERCLIS database. This site has an identification number #NYC200400190. Regulatory enforcement apparently commenced in 2008. No additional information was reported.

The Port Authority provided documents from the EPA regarding the Richmond Terrace Radiological site. Based on the review of the documentation the Richmond Terrace Site (Block 1105 Lot 26) is located to the east of the Port Authority site. This site along with a site currently occupied by Federal Express were originally one site and owned by the Belgian Union Miniere Du Haut-Katanga Company. They stored high-grade Belgian Congo uranium ore in warehouses formerly located on the site between 1939 and

1942. This ore was utilized in the Manhattan Engineering District in support of building the atomic bomb. The U.S. Department of Energy conducted a limited preliminary survey in 1980 and identified a radiological contaminated area at the Richmond Terrace Site located in the northwest corner of the property measuring approximately 66' by 132' in area. This area is close to the Arthur Kill and does not physically touch the Port Authority property to the west by land. Several others investigations have occurred at this site with the most recent one being conducted in February, 2008. The conclusions from the information to date indicate:

- That the impacted area is limited to the area located in the northwest corner of the property.
- The radioactive contamination is consistent with the residues of unprocessed uranium ore.
- The source of the material is possibly that debris from the former warehousing structures was utilized as fill in this portion of the site.
- The levels exceed the EPA acceptable risk range.
- Under current conditions the radiological contamination present at the site may not present an immediate health risk.
- Existing engineering controls (i.e., cap) should be maintained. and
- Disturbance of the contaminated area must be avoided.

Based upon a review of available information the Port Authority site does not appear to be under any investigation for radiological contamination. Further the Richmond Terrace Site does not appear to pose a threat to the Port Authority's site or project conditioned on the Richmond Terrace Site's engineering controls being maintained and that no disturbance to the impacted area occur.

- 2) Scara-Mix Inc., (2537 Richmond Terrace) is located adjacent to the west of the site. EDR identified this property on the LTANKS, HIST LTANKS, UST, and HIST UST databases. Abbreviations for the databases are listed in the Phase I ESA and EDR report. According to the information in the EDR Report, on 4/21/98 incident #9800926 was reported due to a tank test failure. The tank was reportedly repaired and the case was closed on 12/1/03. Two diesel fuel USTs installed in 1979 were removed in 2003. No additional information was reported.
- 3) The Denville Auto Collision (2432 Richmond Terrace, Staten Island, New York) is located adjacent to the east of the subject site. The EDR report identified the site on the RCRA NonGen/NLR, FINDS, NY MANIFEST, and AIRS (AFS) database lists. The Denville Auto Collision was identified as a small quantity generator of hazardous waste. The FINDS and HWMANIFEST identification for this site is NYD986935393 and the AIRS identification number is 3608590020 with a compliance plant number of 110004458202. No additional information was reported.
- 4) Federal Express Corporation (2400 Richmond Terrace) is located adjacent to the east of the site, but south of Richmond Terrace. EDR identified this site on the FINDS, AST, and RCANLR, databases. The facility is a conditionally exempt small quantity generator of hazardous waste. Minor releases (less than 3 gallons or 50 lbs) of hazardous materials were reported at this facility. The materials included caustic alkali liquids, combustible liquids, and other regulated materials. Reportedly a 280-gallon aboveground tank is located at this facility. No additional information was reported.

EDR identified four sites of concern adjacent to the site. Based on the regulatory statuses, these sites are not anticipated to have impacted the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

Record Source	Department	Area Searched
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- According to the Department of Building's Building Information System no building information is on file.

Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicates the ground surface elevation on the site is approximately 10 feet above mean sea level (AMSL). In general, the site slopes gently downward to the north towards the Kill Van Kull, which borders the site to the north. Groundwater in the vicinity of the site is expected to flow toward the Kill Van Kull.

**Historical Use Information on the Property**

Historical Aerial Review: Aerial photographs dated 1931, 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed to determine land use at the site.

The 1931 aerial photograph indicates the Bayonne Bridge was apparent on the site. However land uses were not apparent on the remaining portions of the site.

The 1954 aerial photograph indicates a structure similar to the existing concrete pier on the southwestern portion of the site. No other structures were apparent.

The 1966 aerial photograph indicates the eastern portion of the site (east of the bridge) was used for storage by the eastern adjacent Gulf Oil Corporation. Approximately five structures similar in appearance to aboveground storage tanks were apparent on the eastern portion of the site adjacent to a Gulf Oil Corporation building.

The 1979 aerial photograph shows the portion of the property to the east of the bridge appears to have been filled and is vacant.

The 1980 aerial photograph does not show any changes to the site.

In 1987, the western portion of the site had been filled and the shoreline disturbed.

The 1995 aerial photograph does not show any changes to the site.

The 2004 aerial photograph indicates the existing observation tower was apparent in the Kill Van Kull on the northwestern portion of the site. The remaining land uses were unchanged.

The 2006 and 2008 aerial photographs do not show any changes to the site from the 2004 photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, and 1986 through 1990 to review historic land uses adjacent to the site.

The 1898 Sanborn map indicates seven structures were apparent on the southern portion of the site near Richmond Terrace. The structures consisted of two offices, a lime and cement shed, blacksmith shop, and three outbuildings. The remaining portions of the site were occupied by the Kill Van Kill. A dock was located in the Kill Van Kill adjacent to the two outbuildings.

In 1917 the site was occupied by the Texas Oil Company and Schneider Coal on the southwestern portion of the site. The Texas Oil Company contained two structures that were present in 1898. They were indicated to be used as a filling station and an office. A 10,500 gallon gasoline tank believed to be located in ground was indicated to be located north of the filling station. A pier extended north from the Texas Oil Company into the Kill Van Kill. The Schneider Coal Company consisted of one building used as an office and a coal yard. Land uses on the remainder of the property appeared similar to 1898.

Review of the 1937 Sanborn map shows the Texaco Oil Company and Schneider Coal Company and all associated structures had been removed from the site. The Bayonne Bridge oriented north to south was apparent on the central portion of the site. The site appeared to have been filled and had been enlarged so that the shoreline appeared different compared to 1917.

The 1951, 1962, 1983, and 1986 through 1990 Sanborn maps indicated land uses similar to the 1937 Sanborn map.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the land use in the immediate site vicinity.

The 1954 aerial photograph indicates the site was bordered to the north by the Kill Van Kull, to the east by Richmond Terrace and several structures and apparent aboveground storage tanks associated with the former Gulf Oil Corporation, by Richmond Terrace, a structure similar to the Polishing Pad/Denville II Auto facilities and other portion of the Bayonne Bridge (Block 1125, Lot 75) to the south. The property adjacent to the west was undeveloped vacant land but further to the west were structures similar to the former Gulf Oil Corporation property.

The 1966 aerial photograph does not indicate a change to any of the adjacent land uses.

In the 1979 aerial photograph, the adjacent property to the east is completely razed with only a couple of vehicles parked on the site. A building similar to the Mena auto repair facility was constructed to the south of the site beyond Richmond Terrace. Several motor vehicles were apparent around the building. An apparent auto salvage yard and a concrete plant were located on the western adjacent property.

The 1980 aerial photograph indicates a portion of the concrete plant on the northwestern adjacent property had been filled. The concrete plant was enlarged and now encompasses the area previous occupied by the automobile salvage yard.

In the 1987 aerial photograph, the western property appears to have been filled and enlarged to existing conditions and the concrete plant had been expanded.

In 1995, two buildings were constructed along the eastern property boundary and the remainder of the site is used for truck parking.

The 2004 aerial photograph indicates land uses similar to the 1995 aerial photograph.

In 2006, the two buildings on the eastern adjacent property had been removed.

The 2008 aerial photograph did not indicate any changes to the adjacent land uses.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, and 1986 through 1990.

The 1898 Sanborn map indicates the J.A. Dean & Co. Linseed Oil Mill operated at the property adjacent to the east of the site. This property contained multiple structures, including approximately 9 oil tanks, a coal bin, and a copper shop. To the south are residences and stores across Richmond Terrace. Adjacent to the west are two stores and further to the west is Standard Varnish Works. This property has approximately 15 buildings including furnace rooms, offices, a copper shop, cooling shop, and storage.

The 1917 Sanborn map identifies the property adjacent to the east as now being occupied as American Linseed Co. The Sicilian Asphalt Paving Co., contains approximately 5 structures and was constructed adjacent to the west of the site before Standard Varnish Works.

In 1937, the property to the east is identified as being occupied by Archer Daniels Midland Co. with multiple structures used for storage and multiple oil tanks identified across the site. To the west, the former Sicilian Asphalt Paving Co. was removed and replaced with structures associated with the Gulf Oil Corp. & FD Koehler Bulk Oil Station. Multiple oil storing locations are identified, including aboveground and underground storage tanks. Residences were constructed along Richmond Terrace and in the site vicinity.

In 1951, the property to the east is identified as International Engineering and Chemical Company. The building closest to the site was used to manufacture glass vials.

In 1962, the property to the east is identified as Gulf Oil Corporation. To the south, a structure similar to Denville Auto Collision had been constructed and was identified as being used for Tool and Die Manufacturing.

In 1983, the property to the west is identified as Sipco Oil Corp. and a concrete plant. No structures were identified on the eastern adjacent property. Two structures similar to the existing Mena Auto Repair were constructed to the southwest of the site beyond Richmond Terrace.

The 1986 through 1990 Sanborn maps indicate land uses in the site vicinity similar to the 1983 aerial photograph.

#### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site currently contains a guard shack, a former concrete pier, an observation tower, a portion of the Bayonne Bridge and an undeveloped vegetated area. Please note a portion

of the site extends northward into the Kill Van Kull. For the purpose of this assessment only portions of the site located upland were evaluated. Portions of the site that encompass the Kill Van Kill were not evaluated. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The site is surrounded by a chain linked fence to the south and east and a concrete block wall to the west. Access was provided by a gate along Richmond Terrace. An asphalt paved driveway provided access to the interior portions of the site. The driveway extends from Richmond Terrace underneath the bridge to the bridge foundation in the Kill Van Kull on the northern portion of the site. The bridge foundation is protected by a concrete/metal barrier situated in the Kill Van Kull within 20 feet of the bridge structure. An observation tower constructed of wood was observed in the Kill Van Kull on the northwestern portion of the site. Where the site meets the Kill Van Kull, a shoreline is present from east to west along the northern portion of the site. Debris consisting of wood, metal, plastic containers, tires, and paper were observed along the shore. Empty 5-gallon and 1-quart containers of motor oil were located in the debris. HMM personnel did not observe evidence of petroleum staining, medical waste, or hazardous chemicals along the shore.

The eastern portion of the site consisted of vegetated overgrown areas. A stockpile of soil, concrete and metal was observed near the central portion of the site. No soil staining was observed around the stockpile. An area of stressed vegetation (approximately 25 feet by 30 feet) was observed on the southern portion of the site. According to the Port Authority, the area of stressed vegetation is unknown. HMM personnel observed the remnants of a concrete pier (approximately 12 feet by 12 feet) on the southwestern portion of the site. Approximately 20 tires were observed around the concrete pier.

Four concrete piers associated with the overhead Bayonne Bridge are present onsite. The steel trusses of the bridge are attached to the piers. Piping associated with stormwater drains on the bridge extend downward along the piers and discharge to the ground surface. Other surface drains are present between the piers and extend approximately 10 feet below the bridge and discharge to the ground surface. Underneath the bridge conduit for electrical wires as well as overhead lighting attached to the bridge was observed.

A small guard shack was located on the southwestern portion of the site near the entrance gate. The guard shack was constructed of steel and aluminum. Electric utilities were provided to the guard shack from an overhead electrical line from Richmond Terrace.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011 except for the items mentioned below.

A portable in-use guard shack was located adjacent to the out of service guard shack observed in 2011. The new guard shack was serviced electricity from an adjacent electrical pole. The debris pile observed in 2011 was no longer apparent onsite. Paint removal and painting activities were being completed on the bridge structure by Ahern Painting Contractors Inc. (Ahern). A Cyclone 30DC dust collector #41721 and a storage container containing tools was located on the southern portion of the site. Two roll-off containers were located within a fenced in area labeled "Hazardous Waste." The ground surface of the hazardous waste area was covered with a protective cover. The containers were filled with 55-gallon drums with paint chips and dust from removal operations. No staining was observed on the ground surface outside the hazardous waste storage area. Adjacent to the north of the hazardous waste storage area, a drum storage area was observed. The drums were stored on wood pallets within a covered enclosure. A total of five drums were observed. A drum was labeled black resin, another linseed oil, and the remaining three drums were unlabeled. Two empty drums were located adjacent to the storage area. No ground surface staining was noted outside the drum storage area.

Three storage containers were located on the central portion of the site. The containers were filled with tools for painting operations. A portable water tank was located adjacent to the storage containers. Adjacent to the north of

the containers was approximately 50 empty 55-gallon drums. The drums will be filled with dust/paint chips from the dust collector as it is removed from the bridge. Just north of the drums and at the base of the bridge support is approximately three dust collectors. Several collection hoses from the bridge are connected to the dust collectors. Protective covering was located on the ground surface underneath the dust collectors. No surface staining was noted on the ground surface near the dust collectors.

Interior Observations: The interior portion of the guard shacks contained a chair and a desk. A small exterior door provided access to the structures.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority are listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site borders the Kill Van Kill. Historic data sources (Sanborn Fire Insurance Maps and aerial photographs) indicate portions of the site were historically filled. The first known fill event occurred between 1917 and 1937, second known event occurred between 1966 and 1979, and the last known fill event occurred between 1980 and 1987, when the shoreline appeared similar to existing conditions. The potential exists for the site to contain historic fill.

**Historic Land Uses Onsite-** Sanborn maps indicate the site was occupied by a filling station and several structures associated with Texaco Oil Company as well as a coal yard prior to 1937. Additionally, several circular structures that appear to be aboveground storage tanks associated with the eastern Gulf Oil Corporation property were located on the site sometime before 1966 and were removed before 1979.

**Underground Storage Tank-**The 1917 Sanborn map indicated a 10,500-gallon UST containing gasoline was located at the former Texaco Oil Company filling station on the southwestern portion of the site. The presence of the UST at the site is unknown.

**Lead-** In March 2012 lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge at New York Block 1105, Lot 51 at concentrations ranging from 9.5 mg/kg to 11,000 mg/kg. Lead was detected at concentrations above one or more of the New York Soil Cleanup Objectives at 14 locations. Lead is a concern at the site.

**Bridge Drains –** Several stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges from the bridge drains to have impacted the site.

**Adjacent Properties –**Historically several sites of environmental concern were identified adjacent to the site. These sites included petroleum bulk storage facilities, an automobile salvage yard, an asphalt plant, and a Tool and Die company. Currently automobile repair facilities are located upgradient of the site. The potential exists for the site to have been adversely impacted from one or more of the adjacent properties.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historic Land Uses Onsite- The site was previously used by Texaco Oil Corporation as a filling station and Schneider Coal as a coal yard. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

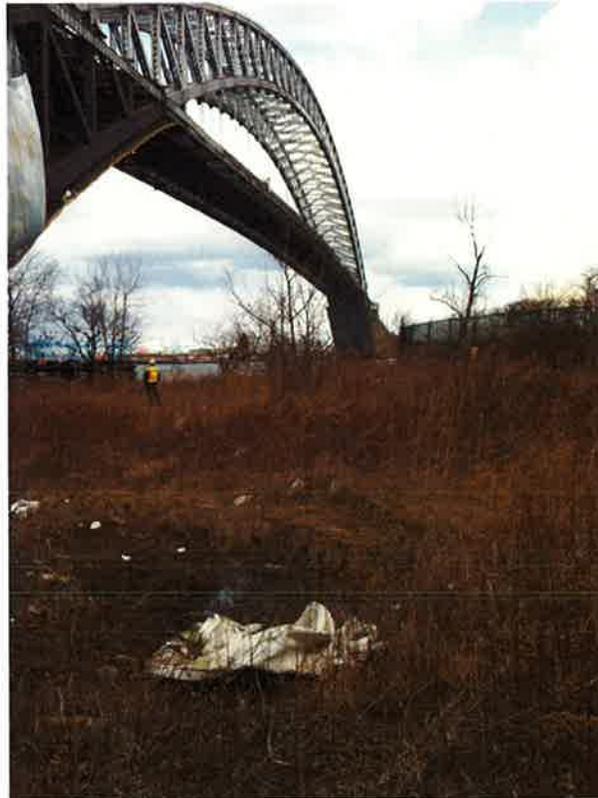
UST- The presence of a former UST at the site is unknown. The potential presence of a UST should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at Port Authority properties located in the project site. Soil at the site is impacted with lead. The presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Surface drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Adjacent Properties- The site may have been adversely impacted from one of more adjacent properties. Soil contamination has been confirmed at the eastern adjacent Richmond Terrace Radiological site. Consideration of environmental impacts from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Debris consisting of wood, metal, plastic containers, tires, and paper was noted along the shore and should be removed from site.



Photograph 1: Photograph taken looking north. View of eastern portion of site.

Photograph taken: March 29, 2013



Photograph 2: Photograph taken looking south. View of eastern portion of site.

Photograph taken: March 29, 2013



Photograph 3: Photograph taken looking north. View of western portion of site.

Photograph taken: March 29, 2013



Photograph 4: Photograph taken looking east. View of hazardous materials storage area. Photograph taken: March 29, 2013



Photograph 5: Photograph taken looking east. View of drum storage located on the eastern portion of the site  
Photograph taken: March 29, 2013



Photograph 6: Photograph taken looking north. View of ongoing bridge restoration activity. Photograph taken: March 29, 2013



Photograph 7: Photograph taken looking west. View of western portion of site.

Photograph taken: March 29, 2013



Photograph 8: Photograph taken looking north. View of northern portion of site.

Photograph taken: March 29, 2013

**Map ID:** 13

**Site Address:** None

**Owner:** The Port Authority of New York and New Jersey

**Site Location:** South of Richmond Terrace, east and west of Newark Avenue, Staten Island, New York

**Acreage:** 0.40

**Block/Lot:** Block 1123, Lot 51

**Facility Name:** None

### **Site Description**

Current Uses of Property: The site currently contains a portion of Newark Avenue, a portion of the Bayonne Bridge, and a portion of a parking area used by the eastern adjacent building (5-11 Newark Avenue).

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects a portion of the site from north to south, is the only apparent structure on the site.

Current Uses of Adjoining Properties: The site is bound by Richmond Terrace and the Bayonne Bridge (Port Authority properties Block 1105, Lots 1 and 51) to the north, The Polishing Pad (5 Newark Avenue), Ray's Auto Collision (9 Newark Avenue), Hertz Rental Car, Zorox Industries a distributor of awnings and doors (15 Newark Avenue), Denville Auto Collision (2432 Richmond Terrace) to the east, residential properties and a Port Authority property (Block 1125, Lot 75) to the south, and Richmond Terrace and Port Authority properties (Block 1105, Lots 1 & 51 and Block 1125, Lot 75) to the west.

**User Provided Information:** Information provided from the Port Authority where appropriate has been included in this report.

### **Records Review**

Standard Environmental Record Sources: Review of the EDR report did not identify sites that appear to correspond to the site. However, two adjacent sites of regulatory concern were identified in the EDR report as summarized below. For a complete listing of sites located in the vicinity see the EDR report in Appendix C.

- 1) Ray's Auto Collision (9 Newark Avenue) is located adjacent to the east of the site. The EDR report identified the property to be listed on the RCRA-CESQG, FINDS, and NY MANIFEST databases. Abbreviations for the databases are listed in the Phase I ESA and the EDR Report. The site is listed as a small generator of hazardous waste with FINDS identification of #110014366925 and #NYR000113829.
- 2) The Denville Auto Collision (2432 Richmond Terrace, Staten Island, New York) is located adjacent to the east of the subject site. The EDR report identified the site on the RCRA NonGen/NLR, FINDS, NY MANIFEST, and AIRS (AFS) database lists. The Denville Auto Collision was identified as a small quantity generator of hazardous waste. The FINDS and HWMANIFEST identification for this site is NYD986935393 and the AIRS identification number is 3608590020 with a compliance plant number of 110004458202. No additional information was reported.

Based on the information provided by EDR, the above identified sites do not appear to be a concern for the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources

were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date, a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC, however a response has not been received to date. Any pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)

Department of Health

- A Freedom of Information Act request was submitted to the Department of Health; however a response has not been received to date. Any pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- According to the Department of Building's Building Information System, no building information is on file.

Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 10 feet above mean sea level (AMSL). In general, the site is relatively level. Groundwater in the vicinity of the site is expected to flow to the north. The nearest water body is the Kill Van Kull located 150 feet to the north.

**Historical Use Information on the Property**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, and 2006 were reviewed for the site.

The 1954 aerial photograph indicated the Bayonne Bridge is present on the western portion of the site. The remaining portion of the site appeared to consist of vegetated land. Please note the presence of the Bayonne Bridge prevented observations of Newark Avenue.

The 1966 aerial photograph indicates a small portion of the northeastern portion of the site is an apparent parking area for the eastern adjacent building (2432 Richmond Terrace). Two motor vehicles are apparent in the parking area.

The 1979 and 1980 aerial photographs indicate Newark Avenue was apparent on the eastern portion of the site. The remaining land uses appeared similar to the 1966 aerial photograph.

In 1987 the area of the site east of Newark Avenue had been paved and was being used as a parking area for the eastern adjacent building (5-11 Newark Avenue).

The 1995, 2004, 2006, and 2008 aerial photographs indicate land uses similar to the 1987 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1987, 1988, and 1990.

The 1898 Sanborn map indicates two residences and one outbuilding are located on the site.

The 1917 Sanborn map indicates a large shed identified as being used for the private storage of oil is located on the eastern portion of the site. The shed appears to be associated with the onsite residence at the intersection of Newark Avenue and Richmond Terrace.

The 1937 Sanborn map indicates all structures had been removed from the site and Newark Avenue was extended to the north across the eastern portion of the site and intersects with Richmond Terrace. Please note the Sanborn Map indicates the portions of Newark Avenue that previously bordered the southwestern portion of the site remained. The Bayonne Bridge is present on the western portion of the site.

The 1951, 1962, 1983, 1987, and 1988 Sanborn maps indicates land uses on the site similar to the 1937 Sanborn map.

The 1990 Sanborn map indicates the site is a portion of the property currently occupied by the building referenced by the address 5-11 Newark Avenue. The remaining land uses appeared similar to the 1989 Sanborn map.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, and 2006 were reviewed to evaluate historic land uses adjacent to the site. A discussion of the adjacent property to the north and west of the site at Port Authority properties (Block 1105, Lots 1 and 51 to the north and Block 1125, Lot 75 to the west) has not been included. Please see the Site Inspection Sheet for historic land uses on those properties.

The 1954 aerial photograph indicates the existing Denville Auto Collision building located at 2432 Richmond Terrace was present to the east of the site. No structures were apparent immediately to the south of the site.

In 1966, one residence was constructed to the south of the property along Newark Avenue and a couple of residences were constructed to the southeast along John Street.

In 1979 and 1980, no changes were apparent to the adjacent properties.

In 1987, several vehicles were parked outside the building at 2432 Richmond Terrace. There were no changes to the adjacent southern properties.

In 1995, the eastern adjacent building (5-11 Newark Avenue) was constructed and additional residences were constructed to the south of the site.

In 2004 through 2008, there were no changes to the adjacent properties.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1987, 1988, and 1990 and were reviewed for the immediate site vicinity. A discussion of the adjacent property to the north and west of the site at Port Authority properties (Block 1105, Lots 1 and 51 to the north and Block 1125, Lot 75 to the west) has not been included. Please see the Site Inspection Sheet for historic land uses on those properties.

In 1898, two residences, a store and an outbuilding were located to the east of the site. Newark Avenue, but no structures were identified to the south of the site. A saloon was located adjacent to the west of the site beyond Newark Avenue.

In 1917, additional residences were constructed to the east. Three outbuildings were constructed to the west of the site and the saloon was identified as a residence.

In 1937, a residence adjacent to the east was removed and a residence was constructed to the south of the site. A structure used for paper storage was constructed to the south of the site. The structures to the west of the site had been removed for the construction of the Bayonne Bridge.

The 1951 Sanborn Map indicates land uses similar to the 1937 map.

In 1962, a structure similar to the existing Denville Auto Collision (2452 Richmond Terrace) was identified as Tool and Die manufacturer and by 1983 the building was indicated to be used for commercial purposes.

In 1986 and 1987, the property adjacent to the south was identified as being used for truck parking and in 1988, a structure similar to the Zorox Industries building was constructed.

The 1990 map indicates a structure similar to the existing building (5-11 Newark Avenue) was constructed to the east of the site.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site currently contains a portion of Newark Avenue, the Bayonne Bridge, a portion of the parking area used by the eastern adjacent building (5-11 Newark Avenue) as well as undeveloped vegetated areas surrounding the bridge. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The site is surrounded by a chain linked fence and a locked gate for the portion of the site beneath and adjacent to the Bayonne Bridge. Newark Avenue is present on the eastern portion of the site. Sidewalks associated with Newark Avenue are believed to be located on the site. On the eastern portion of the site is a parking area for the eastern adjacent Polishing Pad property, an automotive detailing business and an automotive collision repair shop. The asphalt in the parking area appeared to be in good condition with no major indications of damage. No indications of petroleum spills or staining were observed on the pavement.

The western portion of the site consists of vegetated areas underneath the Bayonne Bridge. One monitoring well was observed near one of the bridge piers and was labeled MW-3S. The well was sampled by Port Authority Materials Group on April 1, 2013. The sample was analyzed for Target Compound List (TCL) +30 and Target Analyte List (TAL) Metals. No target compounds were detected above the Ambient Water Quality Standards and Guidance Values. The monitoring well is not considered to be a concern for the Site.

Surface drainage from the northern portion of the site appears to be collected into underground drains. The drains are believed to discharge to the municipal storm drains. Concrete piers associated with the overhead bridge are present on the northern portion of the site. The steel trusses of the bridge are attached to the piers. Drainage pipes for stormwater drains on the bridge extend downward along the piers and discharge to the ground surface. Other surface drains are present between the piers and extend approximately 10 feet below the bridge and discharge to the ground surface. A connection to the fire suppression system is located onsite near Richmond Terrace and adjacent to the bridge. Another connection is located at the base of one of the bridge piers. Piping for both connections are connected and are routed to the bridge deck. At its length under the bridge the piping is located below grade.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently, in March 2013, the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: The Bayonne Bridge is the only structure present onsite and does not contain any interior portions. Therefore, an interior inspection of site structures was not applicable.

**Interviews:** In April 2013, HMM conducted interviews with agents of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority are listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. The potential exists for the site to have been historically filled.

Lead- In the 1990s lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentration above the New York Soil Cleanup Objectives, the potential exists for the soil at the site to be impacted with lead.

Bridge Drains – Several stormwater surface drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges from the bridge drains to have impacted the site.

Historic Land Uses Onsite- Sanborn Maps indicate a structure used for the storage of oil was located on the site in 1917 and was removed sometime before 1937. The former oil storage operations at the site are unknown. The potential exists for the site to have been adversely impacted from the former storage of oil on the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at unknown properties located along the Bayonne Bridge. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Surface drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. Impacted soil may be encountered in the vicinity of the bridge drains during construction. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historic Land Uses Onsite- The potential exists for the site to have been adversely impacted from the former storage of oil. Considerations of environmental impacts from historic land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized underground storage tanks (USTs). Given the time frame, there is possibility that USTs may be present. Consideration of environmental impacts from historic land uses should be addresses in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Picture taken looking east. View of eastern portion of site.

Photograph taken: March 28, 2013

**Map ID:** 14

**Site Address:** None

**Owner:** The Port Authority of New York and New Jersey

**Site Location:** South of Richmond Terrace between Morningstar Road and Newark Avenue, Staten Island, New York

**Acreage:** 2.93

**Block/Lot:** Block 1125, Lot 75

**Facility Name:** None

### **Site Description**

Current Uses of Property: The site currently consists of a maintained lawn area and a portion of the Bayonne Bridge, which transects the site north to south.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects the site from the north to the south, is the only apparent structure on the site. A driveway from Newark Avenue provided access to the site.

Current Uses of Adjoining Properties: The site is bound by Richmond Terrace and the Bayonne Bridge (Port Authority properties Block 1105, Lots 1 and 52 and Block 1123, Lot 51) to the north; Newark Avenue, Zorox Industries (15 Newark Avenue), Ray's Collision (9 Newark Avenue), and residences to the east; Newark Avenue and overgrown vegetated land of the former Staten Island Railway to the south; and residences and Mena Auto Repair (2480 Richmond Terrace) to the west.

**User Provided Information:** Information from the Port Authority where provided has been incorporated into this report.

### **Records Review**

Standard Environmental Record Sources: Review of the EDR report did not identify sites that appear to correspond to the site. However, three adjacent sites of regulatory concern were identified in the EDR report as summarized below. For a complete listing of sites located in the vicinity see the EDR report in Appendix C.

- 1) Rays Auto Collision (9 Newark Avenue) is located adjacent to the east of the site. The EDR report identified the property on the RCRA-CESQG, FINDS, and NY MANIFEST database lists. This property is listed as a small generator of hazardous waste as FINDS identification of #110014366925 and #NYR000113829.
- 2) Mena Auto Repairs (2480 Richmond Terrace) is located adjacent to the west of the site. The EDR report identified the property on the EDR Historical Auto Stations database list. No further information was provided.
- 3) A spill was reported at an unknown location near the corner of Newark Avenue and Richmond Terrace. The EDR report identified the property on the SPILLS, and NY Hist Spills database lists. The spill occurred on 11/16/1996 and the case was subsequently closed. A 55-gallon drum which, was reported to contain paint lacquer thinner, was found. The identification numbers for this case are #9610251 and #187189. No other information was provided.

Based on the information reported by EDR, the site is not suspected to have been adversely impacted by adjacent properties identified by EDR.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)

Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- According to the Department of Building's Building Information System no building information is on file.

Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site ranges from approximately 30 feet above mean sea level (AMSL) on the southern portion of the site to approximately 10 feet AMSL on the northern portion of the site. In general, the site slopes downward from south to north. Groundwater in the vicinity of the site is expected to flow to the north. The nearest water body is the Kill Van Kull located approximately 250 feet to the north.

**Historical Use Information on the Property**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, and 2006 were reviewed for the site.

Review of the 1954 aerial photograph depicts the Bayonne Bridge covering the majority of the site. The portion of the site to the west of the Bayonne Bridge appeared to consist of vacant vegetated land. Observations beneath the bridge and east of the bridge were not visible on the aerial photograph reviewed.

A review of the 1966, 1979, 1980, 1987, 1995, 2004, and 2006 aerial photographs indicated similar land uses and conditions as the 1954 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were reviewed for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1986, 1987, 1988, and 1990 to evaluate historic land uses on the site.

Review of the 1898 Sanborn map indicates eight residences, two outbuildings and a store located on the central and southern portion of the site. The residences and store have frontage on Newark Avenue. A residence, a structure used for storage, a saloon, a shed/stable and five outbuildings were located on the northern portion of the site along Richmond Terrace and Newark Avenue. A residence was located on the northwestern portion of the site.

In 1917, one of the outbuildings associated with a residence on the central portion of the site was identified as a mason shed. Additional outbuildings were present on the central and southern portions of the site. The saloon on the northern portion of the site was now a residence and the shed/stable had been removed and two new outbuildings had been constructed.

Review of the 1937 Sanborn map reveals the Bayonne Bridge was constructed and all prior structures had been removed from the site.

Review of the 1951, 1962, 1983, 1986, 1987, 1988, and 1990 Sanborn maps indicate similar land uses to the 1937 Sanborn map.

### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, and 2006 were reviewed for the immediate site vicinity. A discussion of the adjacent properties to north of the site at Port Authority properties (Block 1105, Lots 1 and 51 and Block 1123, Lot 51) have not been included. Please see the Site Inspection Sheet for historic land uses on those properties.

The 1954 aerial photograph indicates apparent residential and commercial properties adjacent to the east and west of the site. Cleared areas of the former Staten Island Railway were apparent to the south.

The 1966 aerial photograph appeared similar to the 1954 aerial photograph.

The 1979 aerial photograph indicates a structure similar to the Mena Auto Repair had been constructed adjacent to the west of the site. No other changes to adjacent properties were apparent on the 1979 aerial photograph and land uses on the 1980 aerial photograph appeared similar to the 1979 aerial photograph.

The 1987 aerial photograph indicated a commercial structure had been removed from 15 Newark Avenue.

In 1995, a structure similar to the existing Zorox Industries (a distributor of awnings and doors) was constructed adjacent to the east of the site at 15 Newark Avenue.

Land uses appeared similar on the 1995, 2004, and 2006 aerial photographs.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, , 1986, 1987, 1988, and 1990. A discussion of the adjacent properties to north of the site at Port Authority properties (Block 1105, Lots 1 and 51 and Block 1123, Lot 51) have not been included. Please see the Site Inspection Sheet for historic land uses on those properties.

Review of the 1898 Sanborn map indicates a pond and a residence located on the eastern adjacent property next to Newark Avenue. To the south were railroad tracks of the former Staten Island Railway. To the west of the site were residential properties along Morningstar Road. A saloon was indicated to be located at the intersection of Richmond Terrace and Morningstar Road.

In 1917, the pond is no longer present and a garage/outbuilding has been constructed in its place. The Sanborn Map indicates empty barrels were piled 15 feet high around the garage. The saloon adjacent to the west is identified as the Elm Park Hotel. Residences were constructed adjacent to the site along Morningstar Road.

The 1937 Sanborn map indicates the Elm Park Hotel had been removed and the property was occupied by a residence. The garage adjacent to the east of the site is identified as being used for barrel repair and storage. A building was present at 15 Newark Avenue and was used for paper storage.

The 1951 and 1962 Sanborn maps do not reveal any changes to the adjacent properties from the 1937 Sanborn map.

The 1983 Sanborn map indicates a building similar to the existing Mena Auto Repair was constructed adjacent to the west of the site. A building that was used for barrel and metal drum repair (47-49 Newark Avenue) located adjacent to the east of the site had been removed and was replaced with a building used for auto repair.

The 1986 and 1987 Sanborn maps indicate the building that was located east of the site used for auto repair (47-49 Newark Avenue) had been removed. The building used for paper storage (15 Newark Avenue) had been removed.

The 1988 Sanborn map indicated that the existing Zorox Industries building had been constructed at 15 Newark Avenue.

The 1990 Sanborn map indicated that a building used for contractor storage was constructed at the 47-49 Newark Avenue property.

Except where noted above, the 1986, 1987, 1988, 1989, and 1990 Sanborn maps indicated land uses on adjacent properties similar to the 1983 Sanborn map.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site currently consists of a maintained lawn area and a portion of the Bayonne Bridge, which transects the site north to south. Photographs of the site are attached to this site inspection sheet.

Exterior Observations: The site is surrounded by a chain linked fence and a locked gate. Access was provided by a gate on Newark Avenue. A driveway extends the length of the property from north to south underneath the bridge. The remaining ground surface of the site was covered with a maintained lawn.

Concrete piers associated with the overhead bridge are present onsite. The steel trusses of the bridge are attached to the piers. Piping associated with stormwater drains on the bridge extend downward along the piers and discharge to the ground surface. Other stormwater drains are present between the piers and extend approximately 10 feet below the bridge and discharge to the ground surface.

Concrete and metal were observed to be partially buried at an area on the central and southern portions of the site. The potential exists for buried debris to be located on the site.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011 with the exception of the items noted below.

A portable Cyclone 30DC dust collector, a portable diesel backup generator, two flammable storage cabinets, a locked storage container, and a trash dumpster were located on the northern portion of the site. The dumpster contained empty paint cans, paper and plastic. The storage cabinets contained used paint brushed stored in paint thinner and 5-gallon containers of gasoline. Around the storage cabinets were various items included traffic cones, tools, 5-gallon containers full of paint chips, and various items associated with painting operations. No staining was noted on the asphalt/vegetated ground surface. The diesel generator is fueled by a diesel AST. No staining was observed on the ground surface below the generator. The equipment and this portion of the site is used for storage by the Port Authority SEMAC Group which performs paint maintenance activities on the bridge.

Interior Observations: The Bayonne Bridge is the only structure present onsite, and does not contain any interior portions. Therefore, an interior inspection of site structures was not applicable.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. As such, the potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentration above the New York Soil Cleanup Objectives, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Several stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Buried Debris –** Concrete and metal were observed partially buried at the site. The potential exists for buried debris to be located at the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Lead-** Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Bridge Drains –** Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Buried Debris –** The potential exists for buried debris to be located at the site. Consideration of buried debris should be addressed in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized underground storage tanks (USTs). Given the time frame, there is possibility that USTs may be present. Consideration of environmental impacts from historic land uses should be addresses in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken looking south. View of central and southern portions of site. Photograph taken: March 28, 2013



Photograph 2: Photograph taken looking south. View of southern portion of site. Photograph taken: March 28, 2013



Photograph 3: Photograph taken looking north. View of central and northern portions of site. Photograph taken: March 28, 2013



Photograph 4: Photograph of taken facing southeast. View of equipment storage on northern portion of site. Photograph taken: March 28, 2013

**Map ID:** 15

**Site Address:** None

**Owner:** City of New York

**Site Location:** Approximately 100 feet east of the intersection of Newark Avenue and Morningstar Road

**Acreage:** 0.42

**Block/Lot:** Block 1125 Lot 17

**Facility Name:** None

**Site Description**

Current Uses of Property: The site currently is vacant and contains a railroad track and platforms of the former Staten Island Railway.

Description of Structures, Roads, and Other Improvements: Concrete platforms located on either sides of the railway are located onsite. The tracks run from east to west across the site. The Bayonne Bridge is present from north to south on the central portion of the site.

Current Uses of Adjoining Properties: The property is bordered by Port Authority property (Block 1125, Lot 75) Newark Ave. to the north, the former Staten Island Railway to the east and west, and Port Authority property (Block 1125, Lot 1) to the south.

**User Provided Information:** Information from the Port Authority where provided has been incorporated into this report.

**Records Review**

Standard Environmental Record Sources: Review of the EDR report did not identify sites that appear to correspond to the site or adjoining properties.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent

		Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM’s request for information available on the project site. The FIO directed HMM’s request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)

Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- According to the Department of Building’s Building Information System no building information is on file.

Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 30 feet above mean sea level (AMSL). Groundwater in the vicinity of the site is expected to flow to the north. The nearest water body is the Kill Van Kull located approximately 1,000 feet to the north.

**Historical Use Information on the Property**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the site.

The review of the 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 aerial photographs depicts the Bayonne Bridge covering the majority of the site. Railroad tracks which transect the site from east to west are located on the central portion of the site. Structures similar to existing concrete platforms were apparent adjacent to the north and south of the track.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1986, 1987, and 1989.

The 1898 Sanborn Map indicates the site contained two railroad tracks. Platforms appear to be located on both sides of the tracks. No other structures were present.

The 1917 Sanborn map indicates land uses similar to the 1898 Sanborn Map.

The 1937 Sanborn Map shows dashed lines outlining the Bayonne Bridge which covers the majority of the site. The railroad tracks and associated platforms are still present.

Land uses on the 1951, 1962, 1983, 1986, 1987, and 1989 Sanborn maps appeared similar to the 1937 Sanborn map.

**Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the immediate site vicinity.

In 1954 the site was bordered by residential properties to the north; residential properties to the east; the Bayonne Bridge (Port Authority property Block 1127, Lot 1) to the south; residential properties to the west; and structures similar to the existing Island Tech Auto Repairs, a residential dwelling and associated garage were present adjacent to the southwest.

The 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 aerial photographs indicate land uses similar to the 1954 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, and 1986 through 1990.

The 1898 Sanborn map shows several dwellings beyond Eaton Place (formerly Newark Avenue) east of the site; a single dwelling to the south of the site; a two-story dwelling to the west of the site; and a single dwelling to the north of the site. The tracks associated with the former Staten Island Railway transect the site.

The 1917 Sanborn map identifies a platform and structure identified as the Elm Park Station to the west of the site. Residential dwellings surround the site to the north, east, and west.

The 1937 Sanborn map shows the Elm Park Station is no longer present to the west of the site. Residential dwellings surround the site on the north, east, and south. The Bayonne Bridge was constructed and transects the site from the north to the south.

The 1951 Sanborn map indicates two stores were constructed to the west of the site. Newark Avenue is now called Eaton Place.

The 1962, 1983, 1986, 1987, 1988, and 1989 through to 1990 Sanborn maps indicate land use similar to the 1951 Sanborn Map.

### **Site Reconnaissance**

General Site Setting: The site consists of the former Staten Island Railway with one railroad track present and dilapidated concrete platforms adjacent to the north and south of the track. The Bayonne Bridge transects the site from the north to the south. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The site is surrounded by a chain linked fence. Access was provided through a locked gate on Newark Avenue. The ground surface was covered with vegetation and in other areas void of vegetation. The site has steep embankment on the north and southern property boundaries the slope toward the interior portion of the site near the railroad track. Nuisance debris consisting of automobile parts, several tires, a propane tank, plastic, and paper were located across the site. No evidence of surface staining was noted around the debris.

Six concrete piers associated with the overhead bridge are present onsite. The steel trusses of the bridge are attached to the piers. The ground surface of the south bank of the rail track has rock anchors with a metal mesh over the slope. Piping associated with stormwater drains on the bridge extend downward along the piers and discharge to the ground surface. Other surface drains are present between the piers and extend approximately 10 feet below the bridge and discharge to the ground surface. Underneath the bridge conduit for electrical wires was observed overhead.

Interior Observations: No interior observations were made since the property had no structures present onsite when site reconnaissance

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. As such, the potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentration above the New York Soil Cleanup Objectives, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Railroad Tracks –** One or more railroad tracks have been located on the site since at least 1898. The environmental quality in the vicinity of the tracks is unknown.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Lead-** Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Bridge Drains –** Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Railroad Tracks –** One or more railroad tracks have been located on the site since at least 1898. Consideration of contact with the former railroad bedding should be considered in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken facing northeast. View of eastern portion of property.

Date Taken: March 29, 2013



Photograph 2: Photograph taken looking southwest. View of western portion of property.

Date Taken: March 29, 2013



Photograph 3: Photograph taken facing south. View of south portion of property.

Date Taken: March 29, 2013

**Map ID:** 16

**Site Address:** None

**Owner:** The Port Authority of New York and New Jersey

**Site Location:** Northwestern corner of the intersection of Innis Street and Eaton Place, Staten Island, New York

**Acreage:** 0.71

**Block/Lot:** Block 1125, Lot 1

**Facility Name:** None

### **Site Description**

Current Uses of Property: The site currently contains a guard shack, a portion of the Bayonne Bridge and an undeveloped vegetated area.

Description of Structures, Roads, and Other Improvements: The Bayonne Bridge, which transects the eastern portion of the site, and a guard shack on the southwestern portion of the site were the only improvements on the site.

Current Uses of Adjoining Properties: The site is bound by overgrown vegetated land of the former Staten Island Railway to the north; Eaton Place and residences to the east; Innis Street and the Bayonne Bridge (Port Authority property Block 1127, Lot 1) to the south; and Island Tech Auto Repairs (135 Morningstar Road) and a residence with a detached garage to the west.

**User Provided Information:** Information provided from The Port Authority to HMM has been incorporated where appropriate into this report.

### **Records Review**

Standard Environmental Record Sources: Review of the EDR report did not identify sites that appear to correspond to the site. However, one adjacent site of regulatory concern was identified in the EDR report as summarized below. For a complete listing of sites located in the vicinity see the EDR report located in Appendix C.

- 1) Island Tech Auto Repairs (135 Morningstar Road) is located adjacent to the west of the site. Incident #9612074 was reported on January 7, 1997 when gasoline impacted soil was encountered at this facility. Three monitoring wells were subsequently installed at the Island Tech Auto Repairs property in April 2000. Benzene, toluene, ethylbenzene, and total xylenes were detected in groundwater samples. According to EDR, no additional investigations have been conducted at the site since 2009 and this case has an active regulatory status.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

Record Source	Department	Search Distance
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)

Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- According to the Department of Building's Building Information System no building information is on file.

### Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site ranges from approximately 40 feet above mean sea level (AMSL) on the southern portion of the site to approximately 30 feet AMSL on the northern portion of the site. In general, the site slopes gently downward to the east and north. Groundwater in the vicinity of the site is expected to flow to the north. The nearest water body is the Kill Van Kull located 1,000 feet to the north.

### **Historical Use Information on the Property**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the site.

The review of the 1954 and 1966 aerial photographs depicts the Bayonne Bridge covering the majority of the site. Land uses were not apparent on the remainder of the site.

In 1979, the western portion of the site was visible and appeared undeveloped. A small area on the northwestern portion of the site appears to be used for the storage of equipment.

With the exception of the Bayonne Bridge, land uses on the site were not visible on the 1980, 1987, 1995, 2004, 2006, and 2008 aerial photographs. The Bayonne Bridge appeared similar to conditions observed in 1979.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, and 1986 through 1990.

In 1898, the site contained two residences on the southern portion of the site, a residence on the central portion of the site, and a residence and an outbuilding on the northern portion of the site.

In 1917, the residence at the central portion of the site had been removed and four residences and an outbuilding were constructed. Additionally, the residences on the southern portion of the site were removed and replaced with another residence.

The 1937 Sanborn Map shows dashed lines outlining the Bayonne Bridge which covers the majority of the site. All prior structures had been removed and the remaining portions of the site were vacant.

Land uses on the 1951, 1962, 1983, and 1986 through 1990 Sanborn maps appeared similar to the 1937 Sanborn map.

### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the immediate site vicinity.

In 1954 the site was bordered by railroad tracks to the north; residential properties across Eaton Place to the east; the Bayonne Bridge (Port Authority property Block 1127, Lot 1) to the south; and structures similar to the existing Island Tech Auto Repairs, a residential dwelling and associated garage were present adjacent to the west.

The 1966 aerial photograph indicates land uses similar to those observed on the 1954 aerial photograph.

In 1979, adjacent properties appeared similar to the 1966 aerial photograph, except a garage was constructed to the west.

The 1980, 1987, 1995, 2004, 2006, and 2008 aerial photographs indicate land uses similar to the 1966 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, and 1986 through 1990.

The 1898 Sanborn map shows residences to the east of the site beyond Eaton Place (formerly Newark Avenue) and to the south beyond Innis Street. Railroad tracks are shown to the north.

The 1917 Sanborn map identifies a platform and structure identified as the Elm Park Station to the north of the site adjacent to the railroad tracks. Two stores and a residence were constructed adjacent to the west of the site. Additional residences were constructed in the immediate site vicinity.

The 1937 Sanborn map shows the Elm Park Station is no longer present. The structures previously located to the west had been removed and were replaced with a residence and a structure similar in appearance to the existing Island Tech Auto Repairs. Two gasoline tanks were identified at the Island Tech Auto Repairs property (between the building and Innis Street) which was identified as a filling station. A residence had been constructed adjacent to the west of the bridge footing on the south side of Innis Street.

The 1951 Sanborn map indicates two stores were constructed to the west of the site. Newark Avenue is now called Eaton Place. Land uses in 1962 appeared similar to 1951.

In 1983, the residence adjacent to the bridge footing is no longer present.

Review of the 1986 through 1990 Sanborn maps did not reveal any changes to land uses on adjacent properties.

### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site currently contains a guard shack, a portion of the Bayonne Bridge and an undeveloped vegetated area. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The site is surrounded by a chain linked fence. Access was provided through a locked gate on Innis Street. The ground surface outside the limits of the bridge was vegetated. Overgrown vegetation was apparent on the northwestern portion of the site. The area underneath the bridge was void of vegetation and the ground surface consisted of asphalt, gravel and soil. A manhole for the sanitary sewer system was observed on the northern portion of the site. Several concrete barriers were stored on the northeastern portion of the site. A 55-gallon drum, several plastic drainage pipes and a soil stockpile were located on the northern portion of the site. The 55-gallon drum appeared empty and did not appear to have been ruptured. Additionally, no staining or stressed vegetation was observed around the drum, debris, or soil stockpile. The soil stockpile was approximately 10 feet long by six feet wide by four feet high. The origin of the soil is unknown.

Eight concrete piers associated with the overhead bridge are present onsite. The steel trusses of the bridge are attached to the piers. Piping associated with the storm water drains on the bridge extend downward along the piers and discharge to the ground surface. Other surface drains are present between the piers and extend approximately 10 feet below the bridge and discharge to the ground surface. Underneath the bridge conduit for electrical wires as well as overhead lighting attached to the bridge was observed.

A small guard shack was located on the southwestern portion of the site near the entrance gate. The guard shack was constructed of steel and aluminum. Electric utilities were provided to the guard shack from an overhead electrical line from the bridge.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: The interior portion of the guard shack contained a chair and a desk. A small exterior door provided access to the structure.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge prior to 1931 and may have been filled to raise the site grade. As such, the potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentration above the New York Soil Cleanup Objectives, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges (roadway runoff) from the bridge drains to have impacted the site.

**Soil Stockpile –** A soil stockpile of approximately 10 cubic yards is present onsite. The Port Authority was not aware of the source of the soil stockpile. The environmental quality of the soil is unknown.

**Adjacent Property –** Island Tech Auto Repairs is located adjacent to the west of the site at 135 Morningstar Road. The site is currently an auto repair facility but was previously a gasoline station since at least 1937. The Sanborn maps identified two gasoline tanks at this property. The site was identified as a site of concern in the EDR report indicating groundwater is impacted with volatile organic compounds. The Island Tech Auto Repairs has an active regulatory status, is located potentially upgradient of the site, and may have adversely impacted the environmental quality of the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Bridge Drains – Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Soil Stockpile- A soil stockpile of approximately 10 cubic yards is present onsite. The source of the soil stockpile is unknown. The environmental quality of soil stockpiles present onsite is unknown. The potential presence of impacts from soil stockpiles should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Adjacent Property- Island Tech Auto Repairs is located adjacent to the west of the site at 135 Morningstar Road. The site is currently an auto repair facility but was previously a gasoline station since at least 1937. The Sanborn maps identified two gasoline tanks at this property. The site was identified as a site of concern in the EDR report indicating groundwater is impacted with volatile organic compounds with an active regulatory status. Consideration of environmental impacts from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized underground storage tanks (USTs). Given the time frame, there is possibility that USTs may be present. Consideration of environmental impacts from historic land uses should be addresses in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Although not a REC, the empty 55-gallon drum should be removed from the northern portion of the site.



Photograph 1: Photograph taken looking north.

Photograph taken: March 28, 2013



Photograph 2: Photograph taken looking south.

Photograph taken: March 28, 2013



Photograph 3: Photograph taken looking south. View of bridge storm water drainage pipe.

Photograph taken: March 28, 2013

**Map ID:** 17

**Site Address:** None

**Owner:** The Port Authority of New York and New Jersey

**Site Location:** Approximately 100' east of intersection of Innis Street and Morningstar Road in Staten Island, New York.

**Acreage:** Approximately 0.07

**Block/Lot:** Block 1127, Lot 47

**Facility Name:** Vacant Lot

### Site Description

Current Uses of Property: The site currently contains a vegetated yard area and an asphalt paved driveway.

Description of Structures, Roads, and Other Improvements: An asphalt paved driveway provides access to the site from Innis Street.

Current Uses of Adjoining Properties: The site is bound by Innis Street, a portion of the Bayonne Bridge (Port Authority property Block 1125, Lot 1) and Island Tech Auto Repairs to the north; Bayonne Bridge to the east; and residences to the south and west.

**User Provided Information:** Information provided from the Port Authority where appropriate has been incorporated in this report.

### Records Review

Standard Environmental Record Sources: Review of the EDR report did not identify any sites that appear to correspond to the site.

However, one site of environmental concern was identified adjacent to the site as summarized below. For a complete listing of sites located in the vicinity see the EDR report in Appendix C.

- 1) Island Tech Auto Repairs (135 Morningstar Road) is located adjacent to the west of the site. Incident #9612074 was reported on January 7, 1997 when gasoline impacted soil was encountered at this facility. Three monitoring wells were subsequently installed at the Island Tech Auto Repairs property in April 2000. Benzene, toluene, ethyl benzene, and total xylenes were detected in groundwater samples. According to EDR, no additional investigations have been conducted at the site since 2009 and this case has an active regulatory status.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

#### USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

#### NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

#### New York City (Staten Island Borough, Richmond County)

##### Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

##### Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

##### Department of Buildings

- According to the Department of Building's Building Information System no building information is on file.

### Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site is approximately 40 feet above mean sea level (AMSL). In general, the site slopes downward to the north and northwest. In general groundwater in the vicinity of the site is expected to flow to the north. The nearest surface water body is the Kill Van Kull located approximately 1,500 feet to the north of the site.

### **Historical Use Information on the Property**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the site.

The 1954 aerial photograph indicates the site had a residence located on the northern portion of the site and the remaining areas of the site appeared vegetated.

The 1966 aerial photograph indicates that the residence that was present on the northern portion of the site had been removed and the rest of the site remains vegetated.

Land uses on the 1979, 1980, 1987, 1995, 2004, 2006, and 2008 aerial photographs appeared similar to conditions observed in 1966.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1986, 1987, 1989, and 1990.

The 1898 Sanborn Map indicates the site was vacant and no structures were identified on the site.

The 1917 Sanborn Map indicates a residence was constructed on the northern portion of the property. The remaining property was vacant.

The 1937, 1951, and 1962 Sanborn Maps indicate land uses similar to the 1917 Sanborn map.

In 1983, the residence on the northern portion of the site had been removed and the site was vacant.

Land uses on the 1986, 1987, 1989 and 1990 Sanborn maps appear similar to the 1983 Sanborn map.

### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed for the immediate site vicinity.

The 1954 aerial photograph indicates the site is bordered by a building similar to the existing Island Tech Auto Repairs to the north beyond Innis Street, the Bayonne Bridge to the east, and residences to the south and west.

The 1966, 1979, 1980, and 1987 aerial photographs indicate similar land uses to those observed on the 1954 aerial photograph.

The 1995 aerial photograph indicates a residence and garage have been constructed to the west of the site. All other areas surrounding the site appeared similar to the 1987 aerial photograph.

The 2004, 2006, and 2008 aerial photographs indicate land uses similar to those observed on the 1995 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1986, 1987, 1989 and 1990.

The 1898 Sanborn map shows a residence to the north; vacant lot to the east; a residence to south; and vacant lot to the west.

The 1917 Sanborn map shows another residence was constructed to the east of the site; the surrounding area had similar land uses that were shown on the 1898 Sanborn map.

The 1937 Sanborn map indicates the residences were removed to the west of the site. A garage was constructed to the south of the site. An auto shop, a filling station, and two gas tanks were located to the northwest of the site at the present location of the Island Tech Auto Repairs. The remaining land uses appeared similar to the 1917 Sanborn map.

The 1951, 1962, 1983, 1986, 1987, 1989, and 1990 Sanborn maps show no changes in the land uses of the surrounding properties as shown on the 1937 Sanborn map.

#### **Site Reconnaissance**

General Site Setting: The site currently contains a vegetated yard area and an asphalt paved driveway. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The site currently contains an asphalt paved driveway on the eastern portion of the site while the remainder of the site is covered by vegetation. A chain-linked fence borders the north, south and eastern portions of the site to restrict access. The only point of access to the site is by a locked chain-linked gate on the northern boundary. No indications of stressed vegetation were apparent or observed.

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted.

Interior Observations: No structures are presently located on the site. Therefore, an interior inspection of site structures was not applicable.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge and associated toll plaza prior to 1937. Construction activities may have included the placement of fill to raise the site grade. The potential exists for the site to have been historically filled.

**Lead-** In the 1990s lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are

above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentration above the New York Soil Cleanup Objectives, the potential exists for the soil at the site to be impacted with lead.

Adjacent Property – Island Tech Auto Repairs is located adjacent to the northwest of the site at 135 Morningstar Road. The site is currently an auto repair facility but was previously a gasoline station since at least 1937. The Sanborn maps identified two gasoline tanks at this property. The site was identified as a site of concern in the EDR report indicating groundwater is impacted with volatile organic compounds. The Island Tech Auto Repairs has an active regulatory status, is located potentially upgradient of the site, and may have adversely impacted the environmental quality of the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

Historic Fill- The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Lead- Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program

Adjacent Property- Island Tech Auto Repairs is located adjacent to the west of the site at 135 Morningstar Road. The site is currently an auto repair facility but was previously a gasoline station since at least 1937. The Sanborn maps identified two gasoline tanks at this property. The site was identified as a site of concern in the EDR report indicating groundwater is impacted with volatile organic compounds with an active regulatory status. Consideration of environmental impacts from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized underground storage tanks (USTs). Given the time frame, there is possibility that USTs may be present. Consideration of environmental impacts from historic land uses should be addresses in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Buried Debris – The potential exists for buried debris to be located at the site. Should planned construction activities include the disturbance of soil it should be addressed in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken facing north. View of northern portion of the site. Photograph taken: March 28, 2013



Photograph 2: Photograph taken facing south. View of southern portion of the site. Photograph taken: March 28, 2013

**Map ID:** 18

**Site Address:** None

**Owner:** The Port Authority of New York and New Jersey

**Site Location:** Northwest of intersection of Hooker Place and Trantor Place, Staten Island, New York.

**Acreage:** 13.59

**Block/Lot:** Block 1127, Lot 1

**Facility Name:** Administration Building/Toll Plaza

### Site Description

Current Uses of Property: The site currently contains a portion of the Bayonne Bridge/Route 440, a toll plaza, salt shed, and an administration building with an associated parking lot and lawn area.

Description of Structures, Roads, and Other Improvements: Present on the site is a portion of the Bayonne Bridge, associated roadways, a toll plaza, an administration building, and a salt shed. The associated roadways include a southbound exit ramp onto Morningstar Road, a northbound entrance ramp from Trantor Place, a Route 440 exit ramp onto Trantor Place and a portion of Route 440 that leads to the toll plaza and the bridge. An unnamed roadway provides access to the administration building and associated parking area. The toll plaza contains four toll booths, and associated infrastructure. The administration building houses bridge security, locker rooms for toll plaza employees, and a garage for maintenance vehicles. The salt shed is used to store and cover stockpiles of salt. A detailed description of the site structures is discussed in the Site Reconnaissance section below.

Current Uses of Adjoining Properties: The site is bound by Innis Street, a portion of the Bayonne Bridge (Port Authority property Block 1125, Lot 1), Henry and Stanley Chicon Post 1578, Remembrance Park and residences to the north; Trantor Place and residences to the east; Hooker Place, Public School 21, Route 440, and a Port Authority owned parking lot to the south; and Morningstar Road, Morningstar Auto Parts, Bella Manor restaurant, a hair salon, and other commercial business and residences to the west.

**User Provided Information:** Information from the Port Authority where provided has been incorporated into this report.

### Records Review

Standard Environmental Record Sources: Review of the EDR report identified four sites that appear to correspond to the site as summarized below.

- 1) Ahern Painting Contractors – Bayonne Bridge, located at 70 Trantor Place, is listed on the NY MANIFEST and RCRA-SQG database lists. According to the EDR report, the property is a small quantity generator of hazardous waste, including waste codes D001 (Ignitable Hazardous Wastes) and F003 (Spent Non-Halogenated Solvents). The database identifies the listing under EPA ID #NYR000195362. No reported spills of the waste were identified in the EDR report, or from information provided by the Port Authority. As such, the property is not anticipated to be a concern. Please note this listing appear to correspond to the bridge painting operations currently taking place at Block 1105, Lot 51. Please see that Site Inspection Sheet for more information.
- 2) Toll Booth Lane 6- On 5/24/02 a small quantity of diesel fuel was spilled from a commercial vehicle. Reportedly, the spill occurred on the street and was cleaned up with absorbent materials. The incident designated under case #0202213 was closed on 12/2/03. Due to the closed regulatory status and the small quantity of petroleum spilled, this incident is not considered to be a concern for the site.

- 3) Bayonne Bridge Toll Plaza - On 4/7/03 a tractor trailer jack knifed causing the release of approximately 50 gallons of diesel fuel from a commercial vehicle onto the ground and catch basins. Reportedly, the roadway spill identified as case #0300227 was remediated and the incident was closed on 4/8/03. The catch basins reportedly discharged to the municipal sewer system. Based on the closed regulatory status, this incident does not appear to be a concern for the site.
- 4) Bayonne Bridge - On 1/2/96 approximately two gallons of motor oil was released due to equipment failure from a commercial vehicle. Reportedly, the incident identified under case #9512317 was closed on 1/2/96. Due to the closed regulatory status and the small quantity of petroleum spilled, the incident is not considered to be a concern for the site.

Three sites of environmental concern were identified adjacent to the site as summarized below. For a complete listing of sites located in the vicinity see the EDR report in Appendix C.

- 1) Island Tech Auto Repairs (135 Morningstar Road) is located adjacent to the west of the site. Incident #9612074 was reported on January 7, 1997 when gasoline impacted soil was encountered at this facility. Three monitoring wells were subsequently installed at the Island Tech Auto Repairs property in April 2000. Benzene, toluene, ethylbenzene, and total xylenes were detected in groundwater samples. According to EDR, no additional investigations have been conducted at the site since 2009 and this case has an active regulatory status.
- 2) Public School 21 is located adjacent to the south of the site at 168 Hooker Place. EDR identified Public School 21 on the AST, RCRA NonGen/NLR, FINDS, and NY MANIFEST database lists. According to EDR, the site is listed as a non-generator of hazardous waste. A 1700-gallon AST installed on 8/1/01 is located on the Public School 21 property. Based on the location of Public School 21 relative to the site and its current regulatory status, Public School 21 does not appear to be a concern for the site.
- 3) Morningstar Auto Parts is located adjacent to the west of the subject site at 218 Morningstar Road. EDR identified this site on the UST, HIST UST, and SPILLS database lists. Apparently, the site previously operated as a gasoline station. According to EDR, contaminated soil was encountered on 8/2/01 while completing a Phase II ESA and the incident was assigned #01104857. Six 550-gallon USTs were removed and associated contaminated soil was excavated from the site on 6/30/05. The NYSDEC closed the case on 10/13/06. Based on the location of Morningstar Auto Parts relative to the site and its current regulatory status, Morningstar Auto Parts does not appear to be a concern for the site.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

**Table 1: Additional Records Resources**

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
<b>USEPA - Region II Freedom of Information Office</b>		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
<b>NYSDEC - Records Access Officer</b>		
	Various Departments	Project Site and Adjacent Properties
<b>New York City</b>		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM’s request for information available on the project site. The FIO directed HMM’s request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)

Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- According to the Department of Building’s Building Information System no building information is on file.

### Fire Department

- A Freedom of Information Act request was submitted to the Fire Department however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Physical Setting Source(s): The Elizabeth, NJ USGS Topographical Quadrangle Map (dated 1967 and photo-revised in 1981) indicated the ground surface elevation on the site ranges from approximately 40 feet above mean sea level (AMSL) on the northern portion of the site to approximately 60 feet AMSL on the central portion of the site. In general, the site slopes downward to the north and northwest. In general groundwater in the vicinity of the site is expected to flow to the north. The nearest surface water body is the Kill Van Kull located 1,500 feet to the north of the site.

### **Historical Use Information on the Property**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed to evaluate historic land uses on the site.

The 1954 aerial photograph indicates two bridge access roads are present onsite. The first access road provides a northbound approach from Trantor Place, the second road provides a bridge exit onto Morningstar Road. A toll plaza is present at the exit and entrance of the access roads and the configuration of the access roads are different from existing conditions. A smaller administration building is located in the vicinity of the current administration building. A portion of the Bayonne Bridge is present on the western portion of the site and the remaining areas of the site not paved appear to be vegetated areas.

The 1966 aerial photograph indicates Route 440 had been constructed and the Bayonne Bridge access roads appeared similar to existing conditions. The former administration building was replaced with a larger building near its former location and an associated parking lot. The toll plazas were removed and a new toll plaza was apparent along Route 440. New exit/entrance ramps had been constructed from Trantor Place and Morningstar Road. Additionally, entrance/exit ramps for Route 440 were also present. Disturbed areas were located on the eastern portion of the site in the area of the former bridge entrance.

The 1979, 1980, and 1987 aerial photographs indicate land uses similar to the 1966 aerial photograph.

The 1995 aerial photograph indicates a structure similar to the existing salt shed had been constructed on the southern portion of the site. The remaining land uses remained similar to the 1966 aerial photograph.

The 2004 aerial photograph indicated the existing driveway and generator were apparent on the northern portion of the site near Innis Street.

The 2008 aerial photograph indicates an additional generator was apparent on the northern portion of the site.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1986, 1987, 1988, 1989, and 1990 and were reviewed to evaluate historic land uses on the site.

In 1898, the center portion of the site was identified as a stone crusher with five associated structures. Along the southern property boundary there were four residences, approximately four outbuildings, a saloon, and a school. Four residences and two outbuildings are present on the northern portion of the site along Innis Street. Three residences and three outbuildings are present on the southeastern portion of the site.

The 1917 map identified the center portion of the site as a quarry. One residence and three outbuildings were removed from the southeastern portion of the site. The southern portion of the site contained four residences, a store, and two outbuildings. A residence had been constructed on the western portion of the site. At the northern portion of the site, two residences, a store, and three outbuildings were present. A residence had been constructed on the northwestern portion of the site at 136 Innis Street.

The 1937 map indicated all prior structures had been removed from the site. The Bayonne Bridge had been constructed on the western portion of the site and the quarry was no longer present. The site is identified as the Bayonne Bridge Plaza, which contains two separate bridge approaches, a smaller administration building and three toll gates. Conditions on the 1937 Sanborn Map appeared similar to the 1954 aerial photograph described above. A police station was identified on the eastern portion of the site adjacent to Trantor Place and the bridge approach.

Land uses on the 1951 and 1962 Sanborn maps appeared similar to the 1937 Sanborn map.

The 1983 map indicates Route 440 had been constructed on the western portion of the site and the bridge access roads appeared similar to existing conditions. The existing administration building (identified as being constructed in 1960), parking area, and driveway were constructed on the site; the old administration building was no longer present. The residence on the northwestern portion of the site at 136 Innis Street had been removed and the police station on the eastern portion of the site was no longer present.

Review of the 1986, 1987, 1988, 1989, and 1990 maps did not reveal any changes to the site.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs dated 1954, 1966, 1979, 1980, 1987, 1995, 2004, 2006, and 2008 were reviewed to evaluate historic land uses adjacent to the site.

The 1954 aerial photograph indicates the site was bordered by the Bayonne Bridge (Port Authority property Block 1125, Lot 1), residences, a building similar to the Henry and Stanley Chicon Post 1578, Innis Street, Eaton Place to the north; residential properties and Trantor Place to the east; Public School 21 and residential and commercial buildings to the south; and, residential and commercial properties to the west.

In 1966, residences had been removed to the south for the construction of Route 440 and its associated ramps.

Review of the 1979, 1980, 1987, and 1995 aerial photographs did not reveal any changes to the adjacent properties. In 2004, commercial and residential buildings were constructed to the west of the site and Remembrance Park was apparent to the north.

Review of the 2006 and 2008 aerial photographs did not reveal any changes to the adjacent properties.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps were available for the following years: 1898, 1917, 1937, 1951, 1962, 1983, 1986, 1987, 1988, 1989, and 1990 to evaluate historic land uses adjacent to the site.

The 1898 Sanborn map indicated the site is bordered by residences and Innis Street to the north; Trantor Place (formerly Sand St.) and residences to the east; residences, Public School 21, and Hooker Place (formerly Sherman Avenue) to the south; and residences and Morningstar Road to the west.

The 1917 Sanborn map indicates commercial residences had been constructed to the north; additional residences were constructed to the east. Public School 21 had been enlarged. Commercial businesses were apparent to the west of the site that included a drug store, liquor store, and a saloon.

The 1937 Sanborn map indicates the Bayonne Bridge had been constructed to the north of the site on Port Authority property (Block 1125, Lot 1). A structure similar to the Henry and Stanley Chicon Post 1578 was apparent adjacent to the north of the site and was indicated to be used for miscellaneous storage. A structure similar to the existing Island Tech Auto Repairs had been constructed adjacent to the northwest of the site. This property was identified as a gasoline station with two underground storage tanks. A gasoline station was identified at the existing Morningstar Auto Parts adjacent to the west of the site at 218 Morningstar Road. One of the commercial buildings on the western portion of the site was indicated to be used as an ice cream factory.

The 1951 Sanborn map indicates the ice cream factory was no longer present. All other land uses appeared similar to the 1937 Sanborn map.

The 1962 Sanborn map indicates the Henry and Stanley Chicon Post 1578 was used as a club. The remaining land uses appeared similar to the 1951 Sanborn map.

The 1983 Sanborn map identifies a park at the location of the existing Remembrance Park on the northern portion of the site. Route 440 had been constructed adjacent to the south of the site. The remaining land uses appeared similar to the 1962 Sanborn map.

Land uses on the 1986, 1987, 1988, 1989, and 1990 Sanborn maps appeared similar to the 1983 Sanborn map.

#### **Site Reconnaissance**

General Site Setting: As previously mentioned, the site currently contains a portion of the Bayonne Bridge/Route 440, a toll plaza, salt shed, and an administration building, and an associated parking lot. A maintained lawn with some trees is located to the east of the administration building and associated parking lot and a wooded area is present on the southern portion of the site adjacent to the Route 440 exit ramps. Photographs of the site are attached to this Site Inspection Sheet.

Exterior Observations: The site is discussed as three separate areas which include the following: a fenced-in and locked gated area on the northwestern portion of the site (west side of bridge), fenced-in and locked gated area on the northern portion of the site (east side of bridge), and the remaining areas that include the administration building, parking lot, toll plaza, and associated roadways and vegetated areas. Each area is discussed separately below.

*West side of Bridge* - Access was provided by a locked gate on Innis Street. An asphalt paved driveway provided access to the interior portion of this area and underneath the bridge structure. Underneath the bridge the ground surface was covered with soil and some gravel. The remaining areas were covered with gravel and asphalt with a small amount of vegetation. Steel beams which support the bridge structure above were present. A pad mounted transformer was located adjacent to the driveway and partially underneath the bridge structure. The transformer's concrete pad was elevated approximately three feet above grade and was constructed on a concrete foundation. Gravel covered the area around the transformer. Based on information contained on the transformer the date of construction is believed to be in the year 2000. Therefore, the transformer is not suspected to contain polychlorinated biphenyls (PCBs). Electric utility lines and control boxes were attached to the wall of the bridge structure and stormwater drains were observed in concrete underneath the bridge that discharge to the ground surface.

*East Side of Bridge*-Access was provided by a locked gate on Innis Street. An asphalt paved driveway provided access to this area. With the exception of the driveway, the remaining ground surface was covered with vegetation and an overgrown vegetated area was located on the southern portion of this area. This area contained two diesel back-up generators. The first generator was constructed on a concrete pad and was labeled GENSET #86990. A

placard on the exterior indicated the generator was situated above a 1,000-gallon diesel fuel AST. The second generator was a Kohler Power Systems 250 portable unit labeled PANYNJ #6755 supplied by diesel fuel stored in an AST located underneath the generator. The size of the AST associated with the portable generator is unknown. The generator appeared to be plugged into the electrical grid by an exterior connection located adjacent to the unit. HMM personnel did not observe evidence of petroleum staining or stressed vegetation adjacent to the generators.

*Administration Building/Toll Plaza* - The administration building is located to the south of the back-up generators and to the east of Route 440 (the Bayonne Bridge approach). The administration building was constructed on a concrete block foundation. The exterior of the administration building was finished in stone. Adjacent to south of the administration building is an associated parking lot. At the terminus of the southern edge of the parking lot is a salt shed. The salt shed was constructed on a concrete foundation with corrugated metal siding and roof. At the time of the site inspection the salt shed was empty. Wood debris was located adjacent to the salt shed. Adjacent to the southeast of the administration building were two metal storage containers. Electric utility service was provided to the containers. The smaller container was constructed on a concrete pad and contained unused sorbent booms, bags of Oil-Dri, tools, and three empty 55-gallon drums. The larger container was surrounded by secondary containment of concrete and contained two 55-gallon drums. The drums were labeled and contained petroleum debris. According to a Port Authority representative, the smaller container stores equipment to clean up chemical spills from accidents on the bridge and the large container stores drums of debris generated from the cleanup. The Port Authority representative stated that the two drums in the larger container were from recent cleanup activities.

Adjacent and to the southwest of the administration building is the toll plaza. The toll plaza contains four metal booths. Above the toll booths is a metal overhead canopy. The canopy contains signage directing motorists about lane conditions. Adjacent to the toll plaza is a metal manhole cover that provides access to an underground tunnel. The tunnel contains electric conduit, wires and electrical equipment that are routed to various areas of the toll plaza from the administration building. In the vicinity of the tunnel access, two connections to the water suppression system are present from two pipes extending a few feet above ground. Various metal covers that provide access to underground vaults that contain electrical wires were located across the site..

The observations from site reconnaissance activities described above were from the initial site inspection in 2011. Recently in March 2013 the property was re-evaluated and site conditions appeared similar to those described above that were observed in 2011. No significant changes were noted except as noted below.

The overgrown vegetation on the eastern portion of the property near the back-up generators was removed. An office trailer was located adjacent the administration building and is associated with a recent construction project. The salt shed now contained salt and lawnmowers.

Interior Observations: An interior inspection of site structures was completed on July 5, 2011. A Port Authority representative escorted HMM personnel. The interior inspection of the site consisted of two locked areas underneath the Bayonne Bridge on Innis Street, the administration building, and the tunnel beneath the toll plaza. Two areas were located underneath the Bayonne Bridge on the south side of Innis Street. These areas had concrete floors, walls, and ceilings. Electric service was provided by light fixtures throughout the areas. A locked door provided access to each area. The west area included two rooms that contain electrical panels, switches, conduit, and approximately four transformers. The type and age of the transformers are unknown. The concrete floor appeared intact and no staining was observed on the concrete floor. Evidence of disturbance to the concrete was noted which suggests that additional electrical equipment was previously located in the area. A floor drain was present in each room and is reported to discharge to the municipal sewer system.

The east side area contained two rooms. The rooms contained electric lighting and a fire suppression system. The 1<sup>st</sup> larger room was divided in half by fencing and a gate. The room contained metal signs and stored other bridge related items. A smaller room was located further to the east and contained water pipes and valves for the fire suppression system as well as electrical panels and conduit associated with bridge controls.

The administration building consisted of a main floor, basement and garage. The main floor contained an area for bridge security, and locker rooms for male and female employees. The security area contained desks with computer equipment and general office equipment and supplies. A small room adjacent to the security office contained a safe. The safe contains money collected from the toll booths. A door was located near the safe that allows for security personnel to easily retrieve the money. The male and female locker rooms were similar with a break area, toilets facilities and lockers. The basement contained a mechanical room, boiler room, electrical room, and a meter room. Additionally, a natural gas meter was located in a small closet in the southern corner of the building. The mechanical room contained HVAC equipment including chillers, a water condenser, water circulation pipes, condenser pumps, exhausts fans and associated electrical panels and switches. Adjacent to the mechanical room is the boiler room. The boiler room contains two natural gas fired boilers. Near the boilers was a compressor, which services the garage and a sump with two pumps. Electrical control panels and switches were located on the wall of the boiler room. The electrical room contained electrical control panels, switches, two transformers, and cable equipment. Controls for the fire alarm were also located in the electrical room.

The meter room contained the data management center and included computers, network controls, and the storage of computer data. The garage contained two bays with electrical overhead doors. A forced air natural gas heating unit was observed near the ceiling. The concrete floor of the garage was clean and appeared intact. Connections to the compressed air system were observed along the wall. A small break room was located along the southwest portion of the garage. A drain consisting of an oil/water separator was located in the concrete floor near the break room. The oil/water separator reportedly discharges to the municipal sewer system. According to the Port Authority representative, the oil water separator is periodically cleaned out. No petroleum staining was observed in or around the oil/water separator or on the concrete floor of the garage. A flammable materials cabinet was located near the garage wall. According to the Port Authority representative, the cabinet contains chemicals and paints. The cabinet was locked and was not accessed by HMM. Two floor drains were observed in the garage and are reported to discharge to the municipal sewer system. The garage bays provide storage for snow removal trucks. At the time of the site inspection, two trucks were located in the garage.

Stairs provided access to an underground tunnel below the toll plaza. Electrical conduit containing wires, electrical panels and switches were observed in the tunnel. The tunnel allows for electrical wires in conduit from the administration building to be connected to the toll plaza. Electrical equipment in the tunnel services the toll booths and electrical signs in the toll plaza. A floor drain was located near the stairs at the entrance and is reported to discharge to the municipal sewer system.

An interior inspection of site structures was re-evaluated on March 29, 2013. Interior conditions appeared similar to those described in 2011. No significant changes were noted.

**Interviews:** In April 2013, HMM conducted interviews with various employees of the Port Authority in order to obtain pertinent information in association with the project site. Personnel interviewed from the Port Authority is listed in Appendix F. The individuals interviewed were not aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following RECs at the site.

**Historic Fill-** The site was disturbed for the construction of the Bayonne Bridge and associated toll plaza prior to 1937. In the early 1960s, Route 440 was constructed and the toll plaza was improved with the existing

administration building, toll plaza, and exit ramps. Construction activities may have included the placement of fill to raise the site grade. The potential exists for the site to have been historically filled.

Sanborn maps indicate a quarry was present on the central portion of the site sometime before 1917 and was removed sometime before 1937. Operations at the former quarry are unknown. Given that the quarry is no longer present onsite and the area was filled to restore the site grade, the potential exists for the former quarry to have been historically filled and may contain buried debris.

**Lead-** In the 1990s lead was detected in shallow soils underneath and adjacent to the Bayonne Bridge in New York at concentrations ranging from 166 mg/kg to 5,810 mg/kg at nine locations. The detected concentrations are above one or more of the New York Soil Cleanup Objectives. The sampling locations and depths are unknown. No documentation was available in association with the previous sampling efforts. Given that lead has been detected in soil at concentration above the New York Soil Cleanup Objectives, the potential exists for the soil at the site to be impacted with lead.

**Bridge Drains –** Stormwater drains for the bridge which discharge to the ground surface are present onsite. The soil quality in the vicinity of the outfall for the drains is unknown. The potential exists for discharges from the bridge drains to have impacted the site.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soils, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Lead-** Lead has been detected in soil at concentrations above the New York Soil Cleanup Objectives at Port Authority properties located in the project site. The potential exists for soil at the site to be impacted with lead. The potential presence of lead in soil and groundwater should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program

**Bridge Drains –** Stormwater drains for the bridge discharge to the ground surface on the site. The soil quality at the outfall for the drains is unknown. The potential presence of impacts in the vicinity of the bridge drains should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Adjacent Property-** Island Tech Auto Repairs is located adjacent to the west of the site at 135 Morningstar Road. The site is currently an auto repair facility but was previously a gasoline station since at least 1937. The Sanborn maps identified two gasoline tanks at this property. The site was identified as a site of concern in the EDR report indicating groundwater is impacted with volatile organic compounds with an active regulatory status. Consideration of environmental impacts from adjacent properties should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of the existing roadways. It is unknown whether these residences utilized underground storage tanks (USTs). Given the time frame, there is possibility that USTs may be present. Consideration of environmental impacts from historic land uses should be addresses in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



The existing toll plaza and administration building infrastructure was constructed in the early 1960s. From the time the Bayonne Bridge was constructed (circa 1931) to the early 1960s, three toll plazas and a smaller administration building were located on the site. The presence of a former UST at the site is unknown. The potential presence of a UST should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Buried Debris – The potential exists for buried debris to be located at the site. Should planned construction activities include the disturbance of soil it should be addressed in the Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.



Photograph 1: Photograph taken looking south. View of back-up generators.

Photograph taken: March 29, 2013



Photograph 2: Photograph taken looking north. View of administration building and construction trailer.  
Photograph taken: March 29, 2013



Photograph 3: Photograph taken looking northeast. View of eastern portion of site.

Photograph taken: March 29, 2013



Photograph 4: Photograph taken looking west. View of salt shed and toll plaza.

Photograph taken: March 29, 2013



Photograph 5: Photograph taken looking north. View of hazardous waste storage and administration building  
Photograph taken: March 29, 2013



Photograph 6: Photograph taken looking south.

Photograph taken: March 29, 2013

**Map ID:** 19

**Site Address:** None

**Owner:** New York State Department of Transportation

**Site Location:** Portion of New York State Route 440, from approximately 350 feet north of Walker Street to 300 feet south of Forest Avenue, Staten Island, New York

**Approximate Acreage:** 10 Acres

**Block/Lot:** None

**Facility Name:** NYS Route 440 Roadway (Dr. Martin Luther King Jr. Expressway)

**Site Description:**

Current Uses of Property: The site consists of a portion of the New York State (NYS) Route 440 roadway, from approximately 350 feet north of Walker Street to 300 feet south of Forest Avenue, in Staten Island, New York. This portion of NYS Route 440 is also known as the Dr. Martin Luther King Expressway and was formerly known as the Willowbrook Expressway.

Description of Structures, Roads, and Other Improvements: NYS Route 440 is an asphalt paved roadway that is comprised of northbound and southbound lanes. The lanes of the roadway are divided by an undeveloped grassy median and concrete barrier wall. Access to NYS Route 440 is limited to exit and on ramps at Forest Avenue and Walker Street. No residential, commercial or industrial type structures are located within the site boundaries.

Current Uses of Adjoining Properties: The site is bordered by Public School (PS) No. 21 and residential dwellings along Hooker Place and Walker Street, and Route 440 to the north/northeast; St. Mary's Roman Catholic Cemetery, residential dwellings, Trantor Place, a Subway restaurant, PS No. 51 and Markham Playground to the east; Forest Avenue, Route 440, commercial properties including a shopping center and a Perkins Restaurant and Bakery is located at 1745 Forest Avenue to the south; and residences, an apartment complex (Peak Mont Apartments.) and St. Adalbert School to the west.

**User Provided Information:** Information provided from the Port Authority where appropriate has been included in this report.

**Records Review**

Standard Environmental Record Sources:

Review of the Environmental Data Resources Inc. (EDR) Summary Radius Map Report (EDR Report) did not identify sites that appear to correspond to the site. However, three adjacent sites of regulatory concern were identified in the EDR report as summarized below. For a complete listing of properties identified in the site vicinity see the EDR Report attached in Appendix C. The following is a description of the properties located adjacent to the site boundary that were listed in the EDR Report.

- 1) PS No. 21, also known as Margaret P. Emery Elm Park School, is located adjacent to the northeast at 168 Hooker Place. The school is listed on the NY AST, RCRA NonGen/NLR, FINDS, and NY Manifest databases. The school has a regulated above ground storage tank (AST) with a capacity of 1,700 gallons, which was installed in 2001.
- 2) St. Adalbert School is located adjacent to the west at 355 Morningstar Road. St. Adalbert School is listed in the NY UST and NY HIST UST databases. One 10,000 gallon underground storage tank (UST) is registered to the property as in-service and contains heating oil. The UST was installed on 8/1/1959 and is constructed of steel.

- 3) Peak Mont Corporation (Peak Mont Apartments.) is located adjacent to the west at 54 Willow Road West and is listed in the NY AST database. One 2,000 gallon steel AST is registered to the property. No other pertinent information was provided by the EDR about this AST.

Additional Environmental Record Sources: In addition to the Standard Environmental Records Sources required under ASTM Phase I Environmental Site Assessment Process, HMM requested additional environmental records sources for further assessment of the project site and the adjacent properties. These environmental records were obtained through EDR as well as through Freedom of Information Act requests and/or Open Public Records Act requests submitted to federal, state, and local agencies. The additional non-ASTM environmental record sources were provided by EDR. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The ASTM Phase I ESA Process also states that additional state and/or local records and resources may be contacted to supplement information obtained through review of the Federal and State Standard Environmental Record Sources. Review of the non-ASTM Federal and State database record sources did not identify any additional properties which may cause a concern for the project site.

The additional record sources from federal, state, local agencies are listed below.

Table 1: Additional Records Resources

<b>Record Source</b>	<b>Department</b>	<b>Area Searched</b>
USEPA - Region II Freedom of Information Office		
	RCRA Program Branch	Project Site
	CERCLA/Superfund Program Branch	Project Site
NYSDEC - Records Access Officer		
	Various Departments	Project Site and Adjacent Properties
New York City		
	Department of Health	Project Site
	Department of Environmental Protection	Project Site
	Department of Buildings	Project Site
	Fire Department	Project Site

The following summarizes statements made by representatives of these agencies.

USEPA

The USEPA, Region II Freedom of Information Officer (FIO) was contacted regarding HMM's request for information available on the project site. The FIO directed HMM's request to the Resource Conservation and Recovery Act (RCRA) and CERCLA/SUPERFUND Program Branches of the EPA. To date a response has not been received. Any pertinent information received will be submitted as an addendum.

NYSDEC

A Freedom of Information Act request was submitted to the NYSDEC however a response has not been received to date. Pertinent information received will be submitted as an addendum.

New York City (Staten Island Borough, Richmond County)Department of Health

- A Freedom of Information Act request was submitted to the Department of Health however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Environmental Protection

- A Freedom of Information Act request was submitted to the Department of Environmental Protection however a response has not been received to date. Pertinent information received will be submitted as an addendum.

Department of Buildings

- A search of the Department of Building's Building Information System was undertaken. However, some of the property does not have a block/lot, a search of building information could not be completed

Fire Department

- The Fire Department was contacted regarding underground storage tanks and spills on the site. The Fire Department indicated that their records are only kept by block/lot and a search of files could not be completed.

Physical Setting Source(s): The Elizabeth (dated 1967, photo-revised 1981) and Arthur Kill (dated 1966, photo-revised 1981), USGS Topographical Quadrangle Map indicates the ground surface elevation range from approximately 60 feet above mean sea level (AMSL) on the northern portion of the site and gently slopes to approximately 30 feet AMSL on the southern portion of the site.

In general groundwater at the site is anticipated to flow to the north toward the Arthur Kill located approximately 2,000 feet north of the site.

**Historical Use Information on the Property**

Historical Aerial Review: Aerial photographs dated 1954, 1966, 1980, 1987, 1995, 2004, and 2006 were reviewed for the site.

The 1954 aerial photograph indicates residential structures were located on the northern portion of the site along Hooker Place and Walker Street. The site south of Walker Street to Forest Avenue was vacant and a small portion appeared to be used for agricultural purposes. This area was identified as being used for "used auto sales" on the 1962 Sanborn Map. A brook similar to that observed on the Sanborn Map was depicted within the southern portion of the site, extending south from Forest Avenue. Residences were apparent on the southern portion of the site.

The 1966 aerial photograph indicated Route 440 had been constructed on the site and appeared similar to existing conditions. All prior structures were not apparent on the site.

The 1980 through 2006 aerial photographs indicate land uses similar to the 1966 aerial photograph.

Sanborn Fire Insurance Map: Sanborn Fire Insurance Maps (Sanborn Maps) dated 1898, 1910, 1917, 1937, 1951, 1962, 1983, 1986, 1987, 1988, and 1989 were reviewed for the site.

The 1898 and 1910 Sanborn Maps did not include the coverage of the site.

The 1917 Sanborn Map indicates a small brook was located on the southern portion of the site. Residential structures were located on the northern and southern portion of the site.

The 1937 Sanborn Map depicts the current Trantor Place and Dixon Avenue transects the site. The project area, south of Walker Street to Dixon Avenue was vacant, except for a chicken coop joined with an automobile garage. Near the intersection of Trantor Place and Dixon Avenue residential structures are present. From Dixon to Forest Avenues are undeveloped land with the exception of a building used as a “store.” The brook was no longer depicted on the site.

The 1951 Sanborn map indicates the former residential structures and store are no longer apparent. The chicken coop/automobile garage and residential structures along Hooker Place, Walker Street, and south of Forest Avenue are depicted on the 1951 Sanborn Map.

The 1962 Sanborn Map indicates a small building noted as being used for auto sales at Richmond Avenue and Trantor Place is located on the southern portion of the site. This is similar to the auto sales lot apparent on the 1954 aerial photograph. Residential structures along Hooker Place, Walker Street and south of Forest Avenue are depicted on the 1962 Sanborn Map.

Review of the 1983 through 1989 Sanborn Maps, depicts the site similar to existing conditions.

#### **Historical Use Information on Adjoining Properties**

Historic Aerial Review: Aerial photographs (1954, 1966, 1980, 1987, 1995, 2004, and 2006) were reviewed for information on the adjoining properties and the vicinity of the site.

The 1954 aerial photographs depict PS No. 21, Walker Street, Trantor Place residences to the north; residences and vacant land to the east; residences and a brook to the south; St. Adalbert Parish Church, residences, a cemetery to the west; Several structures were located at the location of the existing Subway restaurant. According to the 1950 Sanborn Map the structures were associated with a filling station and commercial use.

The 1966 aerial photograph indicates multi-family residential units were constructed along Trantor Place and PS No. 51 and associated playgrounds were located adjacent to the southeast. The existing building partially occupied by Subway restaurant at the intersection of Richmond Avenue and Trantor place appears to have been renovated and appeared similar to existing conditions. Route 440 had been constructed north and south of the site. The remaining land uses appeared similar to the 1954 aerial photograph.

The 1980 aerial photograph indicates an apartment complex similar to the existing Peak Mont Apartments adjacent to the west of the site. The remaining land uses appeared similar to the 1966 aerial photograph.

1987, 1995, 2004, and 2006 aerial photographs indicate land uses similar to the 1980 aerial photograph.

Sanborn Fire Insurance Maps: Sanborn Fire Insurance Maps dated 1898, 1917, 1937, 1951, 1962, 1983, 1986, and 1987 were reviewed for information on the adjoining properties.

The 1898 Sanborn Map indicates PS No. 21, also known as Margaret P. Emery Elm Park School, adjacent to the northeast of the site between Hooker Place and Walker Street. A few residential dwellings were located adjacent

to the north, east south, and west of the site. A cemetery was located along the south side of Richmond Avenue southeast of the site.

The 1917 Sanborn Map indicates land uses similar to the 1898 map. A brook was indicated to be located south of the site beyond Richmond Avenue.

The 1937 Sanborn Map indicates St. Adalbert Parish Church and School located at 355 Morningstar Road is located adjacent to the northwest side of the site, just south of Walker Street. St. Mary's Roman Catholic Cemetery is depicted along the western perimeter of the site, along Walker Street. On the south side of Dixon Avenue to Richmond Avenue, the area is sparsely residential. South of Richmond Avenue is sparse residential development along the eastern boundary of the site and a cemetery (identified as Lake Cemetery) along the western vicinity of the site. An auto repair and filling station is noted adjacent to the site's eastern boundary at Richmond Avenue and Trantor Place. This is the location of the existing Subway Restaurant.

The 1951 Sanborn Map indicates land uses similar to the 1937 Sanborn Map.

The 1962 Sanborn Map indicates the E. Markham Junior High School (PS No. 51) was constructed and is located adjacent to the eastern of the site south of Forest Avenue. The remaining land uses remained similar to the 1951 Sanborn Map.

The 1983 Sanborn Map indicates the Peak Mont Apartments complex was constructed adjacent to the west side of the site just north of Dixon Avenue. Along the east side of the site between Walker Street and Richmond Avenue is undeveloped and then multifamily type residential properties, accessed from Trantor Place were constructed; At the intersection of Richmond Avenue and Willow Road is a commercial type property and an adjacent parking lot, which are located along the southwest boundary of the site. At the intersection of Richmond Avenue and Forest Avenue, formerly the filling station is now indicated as a commercial property. Route 440 was apparent north and south of the site.

No significant changes are depicted between 1983, 1986, and 1987 within the vicinity of the site.

#### **Site Reconnaissance**

General Site Setting: The site consists of a portion of the New York State (NYS) Route 440 roadway, from approximately 350 feet north of Walker Street to 300 feet south of Forest Avenue, in Staten Island, New York.

Exterior Observations: An asphalt paved roadway that comprises the northbound and southbound lanes of Route 440 comprise the majority of the site. Entrance and exit ramps are located on the northern and southern portions and of the site. NYS Route 440 is asphalt paved roadway with storm drains located along the roadway. Some maintained grass areas are located around the ramps and median.

Interior Observations: No structures are currently located on the site. As such no interior inspection was performed.

**Interviews:** Several attempts were made to contact a representative of the New York State Department of Transportation, the current property owner; however a response has not been received. Any pertinent information provided will be provided as an addendum.

Interviews were conducted with various employees of the Port Authority in April 2013. Personnel interviewed from the Port Authority is listed in Appendix F. No one interviewed was aware of any environmental concerns associated with the site.

**Findings:** The Phase I ESA has identified the following REC at the site.

**Adjacent Property:** A gasoline filling station was located at the intersection of Richmond Avenue and Forest Avenue from at least 1937 until sometime before 1966. The property is currently being used as a commercial building with a Subway Restaurant. The environmental quality of soil and groundwater at the former gas station property is unknown.

**Historical site land use –** A used car lot was present on the southern portion of the site at the intersection of Richmond Avenue and Trantor Place and was removed before the construction of NYS Route 440. No additional information pertaining to the used car lot is known.

**Historic Fill-** The site was disturbed for the construction of New York State Route 440 and may have been filled to raise the site grade. Additionally, a brook was located on the southern portion of the site before 1917 and was no longer present sometime before 1966. As such, the potential exists for the site to have been historically filled.

**Opinion:** Based on the results of the Phase I ESA and the identified RECs, the following summary documents the opinion of the environmental professional for the site.

**Historic Fill-** The potential exists for the site to have been historically filled. Should planned construction activities include the disturbance of subsurface soil, historic fill may be encountered and should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Adjacent Property:** A gasoline filling station was located adjacent to the site from at least 1937 until sometime before 1966. Consideration of contact with environmental impacts from the gasoline station should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

**Historical site land use –** A used car lot was previously located on the southern portion of the site at the intersection of Richmond Avenue and Trantor Place and was removed before the construction of NYS Route 440. The potential presence of impacts associated with historic site land uses should be addressed in Port Authority's Environmental Assessment for the Bayonne Bridge Navigational Clearance Program.

Historically, the site was used for residential purposes prior to the construction of Route 440 in approximately 1966. It is unknown whether these residences utilized USTs. Given the time frame of the residences on the site, there is the possibility that USTs may be present.



Photograph 1: Photograph taken looking south. View of Route 440 facing south.

Photograph taken: March 29, 2013



Photograph 2: Photograph taken looking north. View of Route 440 facing north.

Photograph taken: March 29, 2013



Photograph 3: Photograph taken looking south. View of southern portion of property.

Photograph taken: March 29, 2013



Photograph 4: Photograph taken looking south. View of portion of property located adjacent to St. Agnes of the Assumption.  
Photograph taken: March 29, 2013



Photograph 5: Photograph taken looking west. View of northwestern portion of property.

Photograph taken: March 29, 2013



Photograph 6: Photograph taken looking east. View of southeastern portion of property.

Photograph taken: March 29, 2013

## **APPENDIX D**

**Bayonne Bridge - New Jersey**

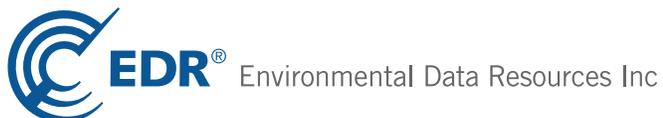
Route 440

Bayonne, NJ 07002

Inquiry Number: 3549061.1s

March 20, 2013

## The EDR Radius Map™ Report



440 Wheelers Farms Road  
Milford, CT 06461  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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## GEOCHECK ADDENDUM

GeoCheck - Not Requested

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### TARGET PROPERTY INFORMATION

#### ADDRESS

ROUTE 440  
BAYONNE, NJ 07002

#### COORDINATES

Latitude (North): 40.6424000 - 40° 38' 32.64"  
Longitude (West): 74.1419000 - 74° 8' 30.84"  
Universal Transverse Mercator: Zone 18  
UTM X (Meters): 572558.5  
UTM Y (Meters): 4499204.0  
State Plane X (Feet): 591495.1  
State Plane Y (Feet): 659124.5  
Elevation: 0 ft. above sea level

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 40074-F2 ELIZABETH, NJ NY  
Most Recent Revision: 1995  
  
East Map: 40074-F1 JERSEY CITY, NJ NY  
Most Recent Revision: 1981

### AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 2010, 2011  
Source: USDA

### TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

<u>Site</u>	<u>Database(s)</u>	<u>EPA ID</u>
NEAR BAYONNE BRIDGE RT 440 BAYONNE, NJ	NJ SPILLS	N/A
NJDOT BRIDGE BLASTING PAINTING STRUCTURE 0921-150 0913-155 BAYONNE, NJ 07002	RCRA NonGen / NLR FINDS	NJR000000182
EAST OF BAYONNE BRIDGE ALONG SHORLINE BAYONNE, NJ	NJ SPILLS	N/A

## EXECUTIVE SUMMARY

BAYONNE BRIDGE NJ ABATEMENT BAYONNE BRIDGE BAYONNE, NJ 07002	RCRA-SQG NY MANIFEST NJ MANIFEST	NJD986645216
BAYONNE BRIDGE NJ ABATEMENT BAYONNE BRIDGE BAYONNE, NJ 07002	FINDS	N/A
BAYONNE BRIDGE/NEAR VIA DUCT RT 440 BAYONNE, NJ	NJ Release	N/A
BAYONNE BRIDGE NEW YORK APPROACH STATEN ISLAND, NY 10303	FINDS	N/A
BAYONNE CITY BRIDGE RT 440 BAYONNE CITY, NJ 07002	FINDS	N/A
AREA OF BY BAYONNE BRIDGE RT 169/RT 440 BAYONNE, NJ	NJ Release	N/A
NJDOT BRIDGE BLASTING PAINTING STRUCTURE 0915-150 RTE 440 BAYONNE, NJ 07002	RCRA NonGen / NLR FINDS	NJR000020032
PORT AUTH NY/NJ @ BAYONNE BRIDGE BAYONNE BRIDGE BAYONNE, NJ 07002	FINDS	N/A

### **DATABASES WITH NO MAPPED SITES**

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

### **STANDARD ENVIRONMENTAL RECORDS**

#### ***Federal NPL site list***

Proposed NPL ..... Proposed National Priority List Sites

## EXECUTIVE SUMMARY

NPL LIENS..... Federal Superfund Liens

### ***Federal Delisted NPL site list***

Delisted NPL..... National Priority List Deletions

### ***Federal CERCLIS list***

FEDERAL FACILITY..... Federal Facility Site Information listing

### ***Federal institutional controls / engineering controls registries***

US INST CONTROL..... Sites with Institutional Controls

LUCIS..... Land Use Control Information System

### ***Federal ERNS list***

ERNS..... Emergency Response Notification System

### ***State- and tribal - equivalent CERCLIS***

NY SHWS..... Inactive Hazardous Waste Disposal Sites in New York State

NJ HWS RE-EVAL..... Site Re-Evaluation Report

### ***State and tribal landfill and/or solid waste disposal site lists***

NJ SWF/LF..... Solid Waste Facility Directory

### ***State and tribal leaking storage tank lists***

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

### ***State and tribal registered storage tank lists***

NY UST..... Petroleum Bulk Storage (PBS) Database

NJ MAJOR FACILITIES..... List of Major Facilities

INDIAN UST..... Underground Storage Tanks on Indian Land

FEMA UST..... Underground Storage Tank Listing

### ***State and tribal institutional control / engineering control registries***

NY ENG CONTROLS..... Registry of Engineering Controls

NY INST CONTROL..... Registry of Institutional Controls

### ***State and tribal voluntary cleanup sites***

NJ PF..... Publicly Funded Cleanups Site Status Report

INDIAN VCP..... Voluntary Cleanup Priority Listing

NY VCP..... Voluntary Cleanup Agreements

### ***State and tribal Brownfields sites***

NY BROWNFIELDS..... Brownfields Site List

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### ***Local Brownfield lists***

US BROWNFIELDS..... A Listing of Brownfields Sites

## EXECUTIVE SUMMARY

### **Local Lists of Landfill / Solid Waste Disposal Sites**

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations  
ODI..... Open Dump Inventory  
NJ SWRCY..... Approved Class B Recycling Facilities  
NY SWRCY..... Registered Recycling Facility List  
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

### **Local Lists of Hazardous waste / Contaminated Sites**

US CDL..... Clandestine Drug Labs  
US HIST CDL..... National Clandestine Laboratory Register

### **Local Land Records**

LIENS 2..... CERCLA Lien Information  
NJ LIENS..... Environmental LIENS  
NY LIENS..... Spill Liens Information

### **Records of Emergency Release Reports**

HMIRS..... Hazardous Materials Information Reporting System

### **Other Ascertainable Records**

DOT OPS..... Incident and Accident Data  
DOD..... Department of Defense Sites  
FUDS..... Formerly Used Defense Sites  
UMTRA..... Uranium Mill Tailings Sites  
US MINES..... Mines Master Index File  
TRIS..... Toxic Chemical Release Inventory System  
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)  
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing  
SSTS..... Section 7 Tracking Systems  
ICIS..... Integrated Compliance Information System  
PADS..... PCB Activity Database System  
MLTS..... Material Licensing Tracking System  
RADINFO..... Radiation Information Database  
RAATS..... RCRA Administrative Action Tracking System  
RMP..... Risk Management Plans  
NJ CHROME..... Chromate Chemical Production Waste Sites  
NJ UIC..... Underground Injection Wells Database  
NY UIC..... Underground Injection Control Wells  
NJ DRYCLEANERS..... Drycleaner List  
NY DRYCLEANERS..... Registered Drycleaners  
NY SPDES..... State Pollutant Discharge Elimination System  
INDIAN RESERV..... Indian Reservations  
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing  
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List  
COAL ASH DOE..... Steam-Electric Plant Operation Data  
PCB TRANSFORMER..... PCB Transformer Registration Database  
US FIN ASSUR..... Financial Assurance Information  
EPA WATCH LIST..... EPA WATCH LIST

## EXECUTIVE SUMMARY

2020 COR ACTION..... 2020 Corrective Action Program List  
NY Financial Assurance..... Financial Assurance Information Listing

### EDR HIGH RISK HISTORICAL RECORDS

#### ***EDR Exclusive Records***

EDR MGP..... EDR Proprietary Manufactured Gas Plants

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### STANDARD ENVIRONMENTAL RECORDS

#### ***Federal NPL site list***

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 02/01/2013 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b><i>DIAMOND ALKALI CO.</i></b>	<b><i>80 LISTER AVE</i></b>	<b><i>0 - 1/8 (0.000 mi.)</i></b>	<b><i>0</i></b>	<b><i>50</i></b>

#### ***Federal CERCLIS list***

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 02/04/2013 has revealed that there are 3 CERCLIS sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b><i>DIAMOND ALKALI CO.</i></b>	<b><i>80 LISTER AVE</i></b>	<b><i>0 - 1/8 (0.000 mi.)</i></b>	<b><i>0</i></b>	<b><i>50</i></b>

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RICHMOND TERRACE RADIOLOGICAL	2351 RICHMOND TERRACE	SE 1/8 - 1/4 (0.209 mi.)	W104	378
EDKIN'S AUTO SCRAPS	2319 RICHMOND TERRACE	SE 1/8 - 1/4 (0.218 mi.)	W106	380

### ***Federal CERCLIS NFRAP site List***

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 02/05/2013 has revealed that there are 5 CERC-NFRAP sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b><i>EFKA PLASTICS CORP</i></b>	<b><i>163 AVENUE A</i></b>	<b><i>NNE 0 - 1/8 (0.010 mi.)</i></b>	<b><i>D30</i></b>	<b><i>105</i></b>
<b><i>TEXACO USA /A DIV OF TEXACO IN</i></b>	<b><i>AVE A &amp; WEST FIRST ST</i></b>	<b><i>N 0 - 1/8 (0.031 mi.)</i></b>	<b><i>F36</i></b>	<b><i>118</i></b>
<b><i>BEST FOODS</i></b>	<b><i>99 AVE A</i></b>	<b><i>NNE 0 - 1/8 (0.043 mi.)</i></b>	<b><i>H44</i></b>	<b><i>149</i></b>
<b><i>NL INDUSTRIES INC</i></b>	<b><i>35-40 AVENUE A</i></b>	<b><i>N 0 - 1/8 (0.058 mi.)</i></b>	<b><i>N62</i></b>	<b><i>202</i></b>
<b><i>STANDARD T CHEMICAL</i></b>	<b><i>2600 RICHMOND TER</i></b>	<b><i>SW 1/4 - 1/2 (0.440 mi.)</i></b>	<b><i>AG138</i></b>	<b><i>437</i></b>

### ***Federal RCRA CORRACTS facilities list***

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 02/12/2013 has revealed that there are 4 CORRACTS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b><i>NL INDUSTRIES INC</i></b>	<b><i>35-40 AVENUE A</i></b>	<b><i>N 0 - 1/8 (0.058 mi.)</i></b>	<b><i>N62</i></b>	<b><i>202</i></b>
<b><i>STANDARD T CHEMICAL</i></b>	<b><i>2600 RICHMOND TER</i></b>	<b><i>SW 1/4 - 1/2 (0.440 mi.)</i></b>	<b><i>AG138</i></b>	<b><i>437</i></b>
<b><i>NORTON &amp; SON INC</i></b>	<b><i>E 2ND ST &amp; HOBART AVE</i></b>	<b><i>ENE 1/2 - 1 (0.735 mi.)</i></b>	<b><i>AN170</i></b>	<b><i>494</i></b>
<b><i>NORTON &amp; SON INC</i></b>	<b><i>148 E 5TH ST</i></b>	<b><i>ENE 1/2 - 1 (0.735 mi.)</i></b>	<b><i>AN171</i></b>	<b><i>501</i></b>

### ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1

## EXECUTIVE SUMMARY

RCRA-TSDF site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>NL INDUSTRIES INC</b>	<b>35-40 AVENUE A</b>	<b>N 0 - 1/8 (0.058 mi.)</b>	<b>N62</b>	<b>202</b>

### ***Federal RCRA generators list***

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>MIMOSA CONSTRUCTION CO INC</b>	<b>213 W FIRST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B24</b>	<b>94</b>

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 02/12/2013 has revealed that there are 3 RCRA-SQG sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>TEXACO USA /A DIV OF TEXACO IN</b>	<b>AVE A &amp; WEST FIRST ST</b>	<b>N 0 - 1/8 (0.031 mi.)</b>	<b>F36</b>	<b>118</b>
<b>SPECTRA ENERGY NJ-NY EXPANSION</b>	<b>35 AVE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O75</b>	<b>318</b>
<b>EDKINS SCRAP</b>	<b>2265 RICHMOND TER</b>	<b>SE 1/8 - 1/4 (0.240 mi.)</b>	<b>AA115</b>	<b>398</b>

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 02/12/2013 has revealed that there are 4 RCRA-CESQG sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>EXXON SERVICE STATION #34341</b>	<b>121 KENNEDY BOULEVARD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I48</b>	<b>179</b>
<b>SWAN MICHIGAN OIL CO</b>	<b>180 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.055 mi.)</b>	<b>L60</b>	<b>196</b>
<b>NL INDUSTRIES INC</b>	<b>35-40 AVENUE A</b>	<b>N 0 - 1/8 (0.058 mi.)</b>	<b>N62</b>	<b>202</b>
<b>COASTAL BERGEN POINT</b>	<b>37 AVE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O72</b>	<b>254</b>

## EXECUTIVE SUMMARY

### **Federal institutional controls / engineering controls registries**

US ENG CONTROLS: A listing of sites with engineering controls in place.

A review of the US ENG CONTROLS list, as provided by EDR, and dated 12/19/2012 has revealed that there is 1 US ENG CONTROLS site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>DIAMOND ALKALI CO.</b>	<b>80 LISTER AVE</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>0</b>	<b>50</b>

### **State- and tribal - equivalent CERCLIS**

NJ SHWS: Known contaminated sites in New Jersey except those associated with Bureau of Underground Storage Sites (BUST)

A review of the NJ SHWS list, as provided by EDR, and dated 04/17/2012 has revealed that there are 72 NJ SHWS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>DISCOVERIES INCORPORATED</b> Status: ACTIVE	<b>235 W 1ST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B21</b>	<b>91</b>
<b>PIRELLI CABLE COMPANY</b> Status: ACTIVE	<b>236 W 1ST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B23</b>	<b>93</b>
<b>BAYONNE BRIDGE</b> Status: ACTIVE	<b>W 1ST ST &amp; KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.008 mi.)</b>	<b>B26</b>	<b>96</b>
<b>BAYONNE SHOPPING CENTER</b> Status: ACTIVE	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D31</b>	<b>109</b>
<b>202 KENNEDY BOULEVARD</b> Status: ACTIVE	<b>202 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.015 mi.)</b>	<b>C33</b>	<b>114</b>
<b>BEST FOODS</b> Status: ACTIVE	<b>99 AVE A</b>	<b>NNE 0 - 1/8 (0.043 mi.)</b>	<b>H44</b>	<b>149</b>
<b>90 AVENUE A</b> Status: CLOSED	<b>90 AVE A</b>	<b>NNE 0 - 1/8 (0.043 mi.)</b>	<b>H46</b>	<b>175</b>
<b>EXXON R/S 3-4341</b> Status: ACTIVE	<b>121 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I50</b>	<b>184</b>
<b>78 AVENUE A</b> Status: PENDING	<b>78 AVE A</b>	<b>NNE 0 - 1/8 (0.047 mi.)</b>	<b>53</b>	<b>188</b>
<b>VERTELLUS PERFORMANCE MATERIAL</b> Status: ACTIVE	<b>40 AVENUE A</b>	<b>N 0 - 1/8 (0.058 mi.)</b>	<b>N65</b>	<b>240</b>
<b>163 KENNEDY BOULEVARD</b> Status: ACTIVE	<b>163 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.061 mi.)</b>	<b>J69</b>	<b>251</b>
<b>COASTAL OIL NY INC @ BERGEN PO</b> Status: ACTIVE	<b>35 AVE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O74</b>	<b>298</b>
<b>PALMER ASPHALT CO</b> Status: CLOSED	<b>196 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.075 mi.)</b>	<b>L77</b>	<b>320</b>
<b>135 HUMPHREY AVENUE</b> Status: CLOSED	<b>135 HUMPHREY AVE</b>	<b>NNE 0 - 1/8 (0.102 mi.)</b>	<b>83</b>	<b>345</b>
<b>Not reported</b> Status: CLOSED	<b>89 TRASK AVE</b>	<b>NNE 0 - 1/8 (0.116 mi.)</b>	<b>84</b>	<b>347</b>

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>AMOCO SERVICE STATION #357</b> Status: ACTIVE	210 KENNEDY BLVD	NNE 1/8 - 1/4 (0.126 mi.)	P85	349
<b>86 SEVENTH STREET</b> Status: PENDING	86 7TH ST	NE 1/8 - 1/4 (0.173 mi.)	R92	363
<b>SHULMAN FUEL CO INC</b> Status: ACTIVE	256 KENNEDY BLVD	NNE 1/8 - 1/4 (0.182 mi.)	S94	365
<b>Not reported</b> Status: CLOSED	220 AVE A	NNE 1/8 - 1/4 (0.185 mi.)	95	370
<b>Not reported</b> Status: CLOSED	66 HUMPHREY AVE	NE 1/8 - 1/4 (0.191 mi.)	U97	372
<b>Not reported</b> Status: CLOSED	53 HUMPHREY AVE	NE 1/8 - 1/4 (0.202 mi.)	U100	375
<b>104 GARRETSON AVENUE</b> Status: CLOSED	104 GARRETSON AVE	NE 1/8 - 1/4 (0.208 mi.)	V103	377
<b>HUMPHREY AVE PROPERTY</b> Status: ACTIVE	HUMPHREY AVE & W 1ST ST	NE 1/8 - 1/4 (0.223 mi.)	Y108	382
<b>86 NEWMAN AVENUE</b> Status: CLOSED	86 NEWMAN AVE	NE 1/4 - 1/2 (0.284 mi.)	AB117	407
<b>Not reported</b> Status: CLOSED	79 W. 3RD ST	NE 1/4 - 1/2 (0.299 mi.)	122	413
<b>88 WEST 9TH STREET</b> Status: PENDING	88 W 9TH ST	NNE 1/4 - 1/2 (0.341 mi.)	123	415
<b>Not reported</b> Status: CLOSED	248 AVE C	NE 1/4 - 1/2 (0.380 mi.)	AD125	416
<b>Not reported</b> Status: CLOSED	25 LATOURETTE PL	NE 1/4 - 1/2 (0.389 mi.)	AE128	419
<b>Not reported</b> Status: CLOSED	10 LATOURETTE PL	NE 1/4 - 1/2 (0.399 mi.)	AE129	420
<b>258 AVENUE C</b> Status: CLOSED	258 AVE C	NE 1/4 - 1/2 (0.403 mi.)	130	422
<b>10 E 5TH STREET</b> Status: PENDING	10 E 5TH ST	NE 1/4 - 1/2 (0.411 mi.)	133	425
<b>120 WEST 11TH STREET</b> Status: CLOSED	120 W 11TH ST	NNE 1/4 - 1/2 (0.431 mi.)	136	430
<b>RICHIE DALE</b> Status: ACTIVE	39 AVE C	ENE 1/4 - 1/2 (0.434 mi.)	137	430
<b>100 WEST 12TH STREET</b> Status: ACTIVE	100 W 12TH ST	NNE 1/4 - 1/2 (0.484 mi.)	142	445
<b>289 AVE C</b> Status: CLOSED	289 AVE C	NE 1/4 - 1/2 (0.484 mi.)	AI144	446
<b>39 WEST 11TH STREET</b> Status: CLOSED	39 W 11TH ST	NE 1/4 - 1/2 (0.497 mi.)	AI146	449
<b>174 ORIENT STREET</b> Status: CLOSED	174 ORIENT ST	NE 1/4 - 1/2 (0.498 mi.)	147	449
<b>Not reported</b> Status: CLOSED	13 EDWARDS COURT	NNE 1/2 - 1 (0.506 mi.)	AH148	450

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>Not reported</b> Status: CLOSED	<b>96 LORD AVE</b>	<b>ENE 1/2 - 1 (0.523 mi.)</b>	<b>149</b>	<b>452</b>
<b>118 WEST 13TH STREET</b> Status: CLOSED	<b>118 W 13TH ST</b>	<b>NNE 1/2 - 1 (0.527 mi.)</b>	<b>150</b>	<b>453</b>
<b>Not reported</b> Status: CLOSED	<b>306 AVE C</b>	<b>NE 1/2 - 1 (0.527 mi.)</b>	<b>AI151</b>	<b>454</b>
<b>Not reported</b> Status: CLOSED	<b>21 GEORGE ST</b>	<b>ENE 1/2 - 1 (0.548 mi.)</b>	<b>152</b>	<b>456</b>
<b>S&amp;W PRECISION TOOL CORP</b> Status: CLOSED	<b>43 EVERGREEN ST</b>	<b>NE 1/2 - 1 (0.560 mi.)</b>	<b>153</b>	<b>458</b>
<b>Not reported</b> Status: CLOSED	<b>351 AVE A</b>	<b>NNE 1/2 - 1 (0.562 mi.)</b>	<b>AJ154</b>	<b>463</b>
<b>PETRO SERVICE</b> Status: CLOSED	<b>17 AVE E</b>	<b>NE 1/2 - 1 (0.581 mi.)</b>	<b>155</b>	<b>465</b>
<b>Not reported</b> Status: CLOSED	<b>10 BROADWAY</b>	<b>ENE 1/2 - 1 (0.596 mi.)</b>	<b>156</b>	<b>471</b>
<b>50 LORD AVENUE</b> Status: CLOSED	<b>50 LORD AVE</b>	<b>ENE 1/2 - 1 (0.597 mi.)</b>	<b>157</b>	<b>473</b>
<b>10 OBRIEN CT</b> Status: PENDING	<b>10 OBRIEN CT</b>	<b>NNE 1/2 - 1 (0.607 mi.)</b>	<b>AJ158</b>	<b>475</b>
<b>137 WEST 15TH STREET</b> Status: CLOSED	<b>137 W 15TH ST</b>	<b>NNE 1/2 - 1 (0.626 mi.)</b>	<b>AK159</b>	<b>477</b>
<b>135 WEST 15TH AVENUE</b> Status: CLOSED	<b>135 W 15TH AVE</b>	<b>NNE 1/2 - 1 (0.626 mi.)</b>	<b>AK160</b>	<b>478</b>
<b>119 WEST 15TH ST</b> Status: CLOSED	<b>119 W 15TH ST</b>	<b>NNE 1/2 - 1 (0.627 mi.)</b>	<b>AK161</b>	<b>478</b>
<b>PREFERRED INC</b> Status: ACTIVE	<b>184 HOBART AVE</b>	<b>NE 1/2 - 1 (0.650 mi.)</b>	<b>162</b>	<b>479</b>
<b>MATLACK INC BAYONNE</b> Status: ACTIVE	<b>70 HOBART AVE</b>	<b>ENE 1/2 - 1 (0.656 mi.)</b>	<b>163</b>	<b>481</b>
<b>TINO ACE AUTO SERVICE INC</b> Status: ACTIVE	<b>354 AVE C</b>	<b>NE 1/2 - 1 (0.659 mi.)</b>	<b>164</b>	<b>483</b>
<b>PUBLIC SERVICE FURNITURE COMPA</b> Status: CLOSED	<b>300 BROADWAY</b>	<b>NE 1/2 - 1 (0.672 mi.)</b>	<b>AL165</b>	<b>488</b>
<b>317 BROADWAY</b> Status: CLOSED	<b>317 BROADWAY</b>	<b>NE 1/2 - 1 (0.685 mi.)</b>	<b>AL166</b>	<b>489</b>
<b>Not reported</b> Status: CLOSED	<b>318 BROADWAY</b>	<b>NE 1/2 - 1 (0.708 mi.)</b>	<b>AL167</b>	<b>489</b>
<b>Not reported</b> Status: CLOSED	<b>9 E 15TH ST</b>	<b>NE 1/2 - 1 (0.729 mi.)</b>	<b>AM168</b>	<b>491</b>
<b>PRODIGY LEARNING &amp; DAY CARE CE</b> Status: ACTIVE	<b>333 BROADWAY</b>	<b>NE 1/2 - 1 (0.734 mi.)</b>	<b>AM169</b>	<b>493</b>
<b>PENGAD COMPANY INCORPORATED</b> Status: CLOSED	<b>55 OAK STREET</b>	<b>NE 1/2 - 1 (0.740 mi.)</b>	<b>172</b>	<b>536</b>
<b>LEISURE TIME SERVICES INC</b> Status: CLOSED	<b>119 LINNETT ST</b>	<b>ENE 1/2 - 1 (0.753 mi.)</b>	<b>173</b>	<b>537</b>

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>HART MUFFLER BRAKE CTR</b> Status: CLOSED	<b>348 BROADWAY</b>	<b>NE 1/2 - 1 (0.780 mi.)</b>	<b>174</b>	<b>539</b>
<b>Not reported</b> Status: ACTIVE	<b>403 AVE C</b>	<b>NE 1/2 - 1 (0.791 mi.)</b>	<b>175</b>	<b>542</b>
<b>25 EAST 16TH STREET</b> Status: CLOSED	<b>25 E 16TH ST</b>	<b>NE 1/2 - 1 (0.811 mi.)</b>	<b>176</b>	<b>544</b>
<b>59 PARKSIDE LANE</b> Status: CLOSED	<b>59 PARKSIDE LN</b>	<b>NNE 1/2 - 1 (0.824 mi.)</b>	<b>177</b>	<b>545</b>
<b>368 BROADWAY APARTMENT BUILDIN</b> Status: CLOSED	<b>368 BROADWAY</b>	<b>NE 1/2 - 1 (0.826 mi.)</b>	<b>178</b>	<b>545</b>
<b>Not reported</b> Status: CLOSED	<b>35 ANDREW ST</b>	<b>NE 1/2 - 1 (0.836 mi.)</b>	<b>AO179</b>	<b>547</b>
<b>33 ANDREW STREET</b> Status: CLOSED	<b>33 ANDREW ST</b>	<b>NE 1/2 - 1 (0.837 mi.)</b>	<b>AO180</b>	<b>549</b>
<b>78 WEST 18TH STREET</b> Status: PENDING Status: CLOSED	<b>78 W 18TH ST</b>	<b>NNE 1/2 - 1 (0.852 mi.)</b>	<b>181</b>	<b>550</b>
FORMER GROSSMAN FURNITURE STOR Status: CLOSED	462 AVE C	NE 1/2 - 1 (0.961 mi.)	182	551
<b>Not reported</b> Status: CLOSED	<b>422 BROADWAY</b>	<b>NE 1/2 - 1 (0.964 mi.)</b>	<b>183</b>	<b>551</b>
<b>497 AVENUE A</b> Status: CLOSED	<b>497 AVE A</b>	<b>NNE 1/2 - 1 (0.986 mi.)</b>	<b>184</b>	<b>553</b>

### **State and tribal landfill and/or solid waste disposal site lists**

NY SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the list.

A review of the NY SWF/LF list, as provided by EDR, and dated 10/01/2012 has revealed that there are 5 NY SWF/LF sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
DAC'S TRUCKING CORP.	2319 RICHMOND TERRACE	SSE 1/8 - 1/4 (0.188 mi.)	T96	371
EDKINS YARD	2265 RICHMOND TERRACE	SE 1/8 - 1/4 (0.240 mi.)	AA114	397
EDKIN'S AUTO SALES INC	2239 RICHMOND TERRACE	SE 1/4 - 1/2 (0.263 mi.)	116	406
THREE J'S SERVICE CORP	2560A RICHMOND TERRACE	SW 1/4 - 1/2 (0.387 mi.)	127	418
AMERICAN WRECKING INTERNATIONA	2625 RICHMOND TERRACE	SW 1/4 - 1/2 (0.460 mi.)	AG141	444

### **State and tribal leaking storage tank lists**

NJ LUST: A listing of regulated Underground Storage Tanks that have a cleanup underway.

A review of the NJ LUST list, as provided by EDR, and dated 11/28/2012 has revealed that there are 6

## EXECUTIVE SUMMARY

NJ LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>202 KENNEDY BOULEVARD</b>	<b>202 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.015 mi.)</b>	<b>C32</b>	<b>111</b>
<b>EXXON R/S 3-4341</b>	<b>121 JOHN F KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I47</b>	<b>176</b>
<b>SHULMAN FUEL CO INC</b>	<b>256 KENNEDY BLVD</b>	<b>NNE 1/8 - 1/4 (0.182 mi.)</b>	<b>S94</b>	<b>365</b>
<b>HENRYE HARRIS NO1 SCHOOL</b>	<b>AVE C &amp; 5TH ST</b>	<b>NE 1/4 - 1/2 (0.293 mi.)</b>	<b>AC120</b>	<b>412</b>
<b>ST ANDREWS CHURCH</b>	<b>125 BROADWAY</b>	<b>NE 1/4 - 1/2 (0.429 mi.)</b>	<b>AF135</b>	<b>426</b>
<b>RICHIE DALE</b>	<b>39 AVE C</b>	<b>ENE 1/4 - 1/2 (0.434 mi.)</b>	<b>137</b>	<b>430</b>

NJ HIST LUST: This listing is no longer updated or maintained by the DEP.

A review of the NJ HIST LUST list, as provided by EDR, and dated 09/17/2002 has revealed that there are 17 NJ HIST LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
AMOCO S/S #357 Facility Status: Assigned to a Program	210 KENNEDY BLVD & 7TH	NNE 0 - 1/8 (0.002 mi.)	C25	96
ELCO MARINA Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	163 AVENUE A	NNE 0 - 1/8 (0.010 mi.)	D29	104
<b>DROGIN BUS TERMINAL</b> Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	<b>53 JF KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.032 mi.)</b>	<b>G38</b>	<b>138</b>
DROGIN BUS TERMINAL (CLOSED) Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	64 JFK BLVD	NNE 0 - 1/8 (0.037 mi.)	G40	142
<b>EXXON SERVICE STATION BAYONNE</b> Facility Status: Assigned to a Program	<b>121 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I51</b>	<b>187</b>
<b>CASCHEM INC</b> Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	<b>40 AVE A</b>	<b>N 0 - 1/8 (0.058 mi.)</b>	<b>N63</b>	<b>238</b>
<b>PALMER ASPHALT CO</b> Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	<b>196 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.075 mi.)</b>	<b>L77</b>	<b>320</b>
<b>PALMER ASPHALT</b> Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	<b>196 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.075 mi.)</b>	<b>L78</b>	<b>325</b>
DEMOLITION SITE Facility Status: Case Awaiting Assignment	NORTH ST & AVE A	NNE 0 - 1/8 (0.087 mi.)	82	344
IDEAL ALUMINUM PRODUCTS, INC. Facility Status: Assigned to a Program	100 W 7TH ST	NE 1/8 - 1/4 (0.160 mi.)	R90	358
HENERY E HARRIS #1 SCHOOL Facility Status: Administrative Deficiencies Exist	C AVE & 5TH ST	NE 1/4 - 1/2 (0.297 mi.)	121	412
LOU'S S/S Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	248 AVE C	NE 1/4 - 1/2 (0.381 mi.)	AD126	418
JOHN M BAILEY #12 SCHOOL Facility Status: Administrative Deficiencies Exist	W 10TH & 11TH STS	NNE 1/4 - 1/2 (0.409 mi.)	131	423
<b>Not reported</b> Facility Status: Assigned to a Program	<b>63 AVE C</b>	<b>ENE 1/4 - 1/2 (0.410 mi.)</b>	<b>132</b>	<b>423</b>
SAINT ANDREWS RC CHURCH Facility Status: Administrative Deficiencies Exist	125 BROADWAY	NE 1/4 - 1/2 (0.429 mi.)	AF134	426
<b>RICHIE DALE</b> Facility Status: Assigned to a Program	<b>39 AVE C</b>	<b>ENE 1/4 - 1/2 (0.434 mi.)</b>	<b>137</b>	<b>430</b>
<b>ROBINS REEF YACHT CLUB</b> Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	<b>21 PAVONIA CT</b>	<b>NNE 1/4 - 1/2 (0.457 mi.)</b>	<b>AH140</b>	<b>440</b>

## EXECUTIVE SUMMARY

### **State and tribal registered storage tank lists**

NJ UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection & Energy's UST Data.

A review of the NJ UST list, as provided by EDR, and dated 10/17/2012 has revealed that there are 14 NJ UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
BAYONNE SHOPPING CENTER	163 AVENUE A	NNE 0 - 1/8 (0.010 mi.)	D28	97
<b>202 KENNEDY BOULEVARD</b>	<b>202 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.015 mi.)</b>	<b>C32</b>	<b>111</b>
<b>TEXACO USA A DIVISION OF TEXA</b>	<b>AVENUE A AND WEST 1ST S</b>	<b>N 0 - 1/8 (0.031 mi.)</b>	<b>F37</b>	<b>123</b>
<b>DROGIN BUS TERMINAL</b>	<b>53 JF KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.032 mi.)</b>	<b>G38</b>	<b>138</b>
<b>DROGIN BUS TERMINAL</b>	<b>64 JOHN F KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.037 mi.)</b>	<b>G41</b>	<b>142</b>
<b>EXXON R/S 3-4341</b>	<b>121 JOHN F KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I47</b>	<b>176</b>
<b>CASCHEM, INCORPORATED</b>	<b>40 AVENUE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O73</b>	<b>274</b>
<b>PALMER ASPHALT CO</b>	<b>196 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.075 mi.)</b>	<b>L77</b>	<b>320</b>
THE BOATWORKS	NORTH LN & SCHUYLER PL	NNE 1/8 - 1/4 (0.135 mi.)	Q86	351
<b>THE BOAT WORKS</b>	<b>NORTH LN &amp; SCHUYLER PL</b>	<b>NNE 1/8 - 1/4 (0.135 mi.)</b>	<b>Q87</b>	<b>352</b>
KENNEDY GARDENS CONDO ASSO INC	261J KENNEDY BLVD	NNE 1/8 - 1/4 (0.152 mi.)	P89	357
<b>IDEAL ALUMINUM PRODUCTS CO</b>	<b>100 W 7TH ST</b>	<b>NE 1/8 - 1/4 (0.160 mi.)</b>	<b>R91</b>	<b>359</b>
<b>SHULMAN FUEL CO INC</b>	<b>256 KENNEDY BLVD</b>	<b>NNE 1/8 - 1/4 (0.182 mi.)</b>	<b>S94</b>	<b>365</b>
HOLY FAMILY ACADEMY	239 AVE A	NNE 1/8 - 1/4 (0.234 mi.)	Z113	396

### **State and tribal institutional control / engineering control registries**

NJ ENG CONTROLS: Legal Document that restricts the use of contaminated property; holds owner(s) to the regulatory/statutory requirements for cleanup.

A review of the NJ ENG CONTROLS list, as provided by EDR, and dated 12/04/2012 has revealed that there is 1 NJ ENG CONTROLS site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>BAYONNE SHOPPING CENTER</b>	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D31</b>	<b>109</b>

NJ INST CONTROL: Sites where engineering and/or institutional controls remain in place as part of a remedial action to address soil and/or groundwater contamination. These restrictions ensure protection of human health and the environment as long as they are maintained.

A review of the NJ INST CONTROL list, as provided by EDR, and dated 12/04/2012 has revealed that there are 5 NJ INST CONTROL sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>BAYONNE SHOPPING CENTER</b>	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D31</b>	<b>109</b>
<b>EXXON R/S 3-4341</b>	<b>121 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I50</b>	<b>184</b>
<b>COASTAL OIL NY INC @ BERGEN PO</b>	<b>35 AVE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O74</b>	<b>298</b>
<b>AMOCO SERVICE STATION #357</b>	<b>210 KENNEDY BLVD</b>	<b>NNE 1/8 - 1/4 (0.126 mi.)</b>	<b>P85</b>	<b>349</b>
<b>HUMPHREY AVE PROPERTY</b>	<b>HUMPHREY AVE &amp; W 1ST ST</b>	<b>NE 1/8 - 1/4 (0.223 mi.)</b>	<b>Y108</b>	<b>382</b>

## EXECUTIVE SUMMARY

### State and tribal voluntary cleanup sites

NJ VCP: Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment.

A review of the NJ VCP list, as provided by EDR, and dated 10/18/2010 has revealed that there are 23 NJ VCP sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TEXACO REFINING AND MARKETING	236 W 1ST ST	0 - 1/8 (0.000 mi.)	B20	91
<b>BAYONNE SHOPPING CENTER</b>	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D27</b>	<b>97</b>
<b>POINT BUILDERS INCORPORATED</b>	<b>197-199 W 1ST ST;14 &amp; 1</b>	<b>NNE 0 - 1/8 (0.018 mi.)</b>	<b>E35</b>	<b>116</b>
<i>Not reported</i>	<b>28-34 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.036 mi.)</b>	<b>E39</b>	<b>139</b>
<b>BEST FOODS</b>	<b>99 AVE A</b>	<b>NNE 0 - 1/8 (0.043 mi.)</b>	<b>H44</b>	<b>149</b>
90 AVENUE A	90 AVENUE A	NNE 0 - 1/8 (0.043 mi.)	H45	175
<b>EXXON SERVICE STATION BAYONNE</b>	<b>121 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I51</b>	<b>187</b>
131 WEST 5TH STREET	131 W 5TH ST	NNE 0 - 1/8 (0.046 mi.)	J52	188
129 WEST 5TH STREET	129 W 5TH ST	NNE 0 - 1/8 (0.051 mi.)	J57	195
163 KENNEDY BOULEVARD	163 KENNEDY BLVD	NNE 0 - 1/8 (0.061 mi.)	J68	251
<b>PALMER ASPHALT COMPANY</b>	<b>196 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.075 mi.)</b>	<b>L79</b>	<b>338</b>
<b>135 HUMPHREY AVENUE</b>	<b>135 HUMPHREY AVE</b>	<b>NNE 0 - 1/8 (0.102 mi.)</b>	<b>83</b>	<b>345</b>
<b>86 SEVENTH STREET</b>	<b>86 7TH ST</b>	<b>NE 1/8 - 1/4 (0.173 mi.)</b>	<b>R92</b>	<b>363</b>
53 HUMPHREY AVENUE	53 HUMPHREY AVE	NE 1/8 - 1/4 (0.202 mi.)	U101	376
96 WEST 4TH STREET	96 W 4TH ST	NE 1/8 - 1/4 (0.206 mi.)	V102	377
<b>HUMPHREY AVE PROPERTY</b>	<b>HUMPHREY AVE &amp; W 1ST ST</b>	<b>NE 1/8 - 1/4 (0.223 mi.)</b>	<b>Y108</b>	<b>382</b>
HUMPHREY AVENUE PROPERTY	HUMPHREY AVE @ W 1ST ST	NE 1/8 - 1/4 (0.223 mi.)	Y109	383
<i>Not reported</i>	<b>86 NEWMAN AVE</b>	<b>NE 1/4 - 1/2 (0.284 mi.)</b>	<b>AB118</b>	<b>407</b>
<b>HESSELFINGER PROPERTY</b>	<b>160 AVENUE C</b>	<b>NE 1/4 - 1/2 (0.286 mi.)</b>	<b>AC119</b>	<b>409</b>
17 WEST 9TH STREET	17 W 9TH ST	NE 1/4 - 1/2 (0.445 mi.)	139	440
<b>100 WEST 12TH STREET</b>	<b>100 W 12TH ST</b>	<b>NNE 1/4 - 1/2 (0.484 mi.)</b>	<b>142</b>	<b>445</b>
289 AVE C	289 AVE C	NE 1/4 - 1/2 (0.484 mi.)	AI143	446
39 WEST 11TH STREET	39 W 11TH ST	NE 1/4 - 1/2 (0.497 mi.)	AI145	448

### State and tribal Brownfields sites

NJ BROWNFIELDS: Brownfields are identified as former or current commercial or industrial use sites that are presently vacant or underutilized, on which there is suspected to have been a discharge of a contamination to the soil or groundwater at concentrations greater than applicable cleanup criteria.

A review of the NJ BROWNFIELDS list, as provided by EDR, and dated 09/19/2012 has revealed that there are 17 NJ BROWNFIELDS sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TEXACO PROPERTY	FIRST STREET	0 - 1/8 (0.000 mi.)	B16	80
TEXACO	AVENUE A & W 1ST ST	0 - 1/8 (0.000 mi.)	B17	80
<b>DISCOVERIES INCORPORATED</b>	<b>235 W 1ST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B21</b>	<b>91</b>
<b>PIRELLI CABLE COMPANY</b>	<b>236 W 1ST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B23</b>	<b>93</b>
<b>BAYONNE BRIDGE</b>	<b>W 1ST ST &amp; KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.008 mi.)</b>	<b>B26</b>	<b>96</b>
<b>BAYONNE SHOPPING CENTER</b>	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D27</b>	<b>97</b>
<b>BAYONNE SHOPPING CENTER</b>	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D31</b>	<b>109</b>
<b>BEST FOODS</b>	<b>99 AVE A</b>	<b>NNE 0 - 1/8 (0.043 mi.)</b>	<b>H44</b>	<b>149</b>
<b>EXXON R/S 3-4341</b>	<b>121 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.044 mi.)</b>	<b>I50</b>	<b>184</b>
<b>CASCHEM INC</b>	<b>40 AVE A</b>	<b>N 0 - 1/8 (0.058 mi.)</b>	<b>N64</b>	<b>238</b>

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>COASTAL OIL NY INC @ BERGEN PO</b>	<b>35 AVE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O74</b>	<b>298</b>
<b>AMOCO SERVICE STATION #357</b>	<b>210 KENNEDY BLVD</b>	<b>NNE 1/8 - 1/4 (0.126 mi.)</b>	<b>P85</b>	<b>349</b>
<b>SHULMAN FUEL CO INC</b>	<b>256 KENNEDY BLVD</b>	<b>NNE 1/8 - 1/4 (0.182 mi.)</b>	<b>S94</b>	<b>365</b>
<b>HUMPHREY AVE PROPERTY</b>	<b>HUMPHREY AVE &amp; W 1ST ST</b>	<b>NE 1/8 - 1/4 (0.223 mi.)</b>	<b>Y108</b>	<b>382</b>
HOLY FAMILY ACADEMY	239 AVE A	NNE 1/8 - 1/4 (0.234 mi.)	Z112	395
APEX DRY CLEANERS	231 AVE C	NE 1/4 - 1/2 (0.341 mi.)	AD124	415
<b>RICHIE DALE</b>	<b>39 AVE C</b>	<b>ENE 1/4 - 1/2 (0.434 mi.)</b>	<b>137</b>	<b>430</b>

### ADDITIONAL ENVIRONMENTAL RECORDS

#### **Local Lists of Landfill / Solid Waste Disposal Sites**

NJ HIST LF: Old or non-permitted solid waste facilities/landfills that are not included in the current solid waste facilities/landfills database.

A review of the NJ HIST LF list, as provided by EDR, and dated 06/10/2003 has revealed that there is 1 NJ HIST LF site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>NACIREMA INDUSTRIES TS/MRF</b>	<b>211 WEST 5TH STREET</b>	<b>NNE 0 - 1/8 (0.082 mi.)</b>	<b>L80</b>	<b>341</b>

#### **Other Ascertainable Records**

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 02/12/2013 has revealed that there are 15 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ULTRA ADDITIVES INC	54 JULIETTE ST	0 - 1/8 (0.000 mi.)	14	76
<b>PIRELLI CABLE CORP</b>	<b>236 W 1ST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B15</b>	<b>77</b>
<b>ABBEY ENTERPRISES INC</b>	<b>235 W 1ST ST</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B22</b>	<b>92</b>
<b>EFKA PLASTICS CORP</b>	<b>163 AVENUE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D30</b>	<b>105</b>
<b>BEST FOODS</b>	<b>99 AVE A</b>	<b>NNE 0 - 1/8 (0.043 mi.)</b>	<b>H44</b>	<b>149</b>
EXXON CO USA 34341	121 KENNEDY BLVD	NNE 0 - 1/8 (0.044 mi.)	I49	183
<b>DROGIN BUS CO</b>	<b>53 KENNEDY BLVD</b>	<b>NNE 0 - 1/8 (0.047 mi.)</b>	<b>G54</b>	<b>189</b>
<b>RELIANCE CHEMICAL PRODUCTS CO</b>	<b>64 AVE A</b>	<b>NNE 0 - 1/8 (0.051 mi.)</b>	<b>K56</b>	<b>193</b>
<b>COASTAL OIL OF NEW YORK</b>	<b>37 AVENUE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O71</b>	<b>252</b>
<b>PALMER ASPHALT</b>	<b>196 W 5TH ST</b>	<b>NNE 0 - 1/8 (0.075 mi.)</b>	<b>L78</b>	<b>325</b>
NACIREMA INDUSTRIES	211 W 5TH ST	NNE 0 - 1/8 (0.082 mi.)	L81	342
<b>IDEAL ALUMINUM PRODUCTS CO</b>	<b>100 W 7TH ST</b>	<b>NE 1/8 - 1/4 (0.160 mi.)</b>	<b>R91</b>	<b>359</b>
<b>SHULMAN FUEL CO INC</b>	<b>256 KENNEDY BLVD</b>	<b>NNE 1/8 - 1/4 (0.182 mi.)</b>	<b>S94</b>	<b>365</b>
<b>FEDERAL EXPRESS CORP</b>	<b>2400 RICHMOND TER</b>	<b>S 1/8 - 1/4 (0.216 mi.)</b>	<b>X105</b>	<b>379</b>
<b>DEVILLE II AUTO COLLISION</b>	<b>2432 RICHMOND TER</b>	<b>S 1/8 - 1/4 (0.230 mi.)</b>	<b>X111</b>	<b>385</b>

## EXECUTIVE SUMMARY

CONSENT: Major Legal settlements that establish responsibility and standards for cleanup at NPL (superfund) sites. Released periodically by U.S. District Courts after settlement by parties to litigation matters.

A review of the CONSENT list, as provided by EDR, and dated 12/31/2011 has revealed that there is 1 CONSENT site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>DIAMOND ALKALI CO.</i>	<i>80 LISTER AVE</i>	<i>0 - 1/8 (0.000 mi.)</i>	<i>0</i>	<i>50</i>

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 11/02/2012 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>DIAMOND ALKALI CO.</i>	<i>80 LISTER AVE</i>	<i>0 - 1/8 (0.000 mi.)</i>	<i>0</i>	<i>50</i>

NJ HIST MAJOR FACILITIES: 'Major Facility' means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of: 1) 20,000 gallons or more for hazardous substances other than Petroleum or petroleum products; 2) 200,000 gallons or more for hazardous substances of all kinds. This file contains detail information that is no longer available by the Department of Environmental Protection due to security concerns.

A review of the NJ HIST MAJOR FACILITIES list, as provided by EDR, and dated 01/02/2002 has revealed that there is 1 NJ HIST MAJOR FACILITIES site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CASCHEM INC</i>	<i>40 AVENUE A</i>	<i>N 0 - 1/8 (0.058 mi.)</i>	<i>N66</i>	<i>245</i>

NJ MANIFEST: Hazardous waste manifest information.

A review of the NJ MANIFEST list, as provided by EDR, and dated 12/31/2011 has revealed that there are 4 NJ MANIFEST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>TEXACO USA A DIVISION OF TEXA</i>	<i>AVENUE A AND WEST 1ST S</i>	<i>N 0 - 1/8 (0.031 mi.)</i>	<i>F37</i>	<i>123</i>
<i>EXXON SERVICE STATION #34341</i>	<i>121 KENNEDY BOULEVARD</i>	<i>NNE 0 - 1/8 (0.044 mi.)</i>	<i>I48</i>	<i>179</i>
<i>NL INDUSTRIES INC</i>	<i>35-40 AVENUE A</i>	<i>N 0 - 1/8 (0.058 mi.)</i>	<i>N62</i>	<i>202</i>
<i>EDKINS SCRAP</i>	<i>2265 RICHMOND TER</i>	<i>SE 1/8 - 1/4 (0.240 mi.)</i>	<i>AA115</i>	<i>398</i>

NY MANIFEST: Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

A review of the NY MANIFEST list, as provided by EDR, and dated 12/31/2011 has revealed that there are 5 NY MANIFEST sites within approximately 0.25 miles of the target property.

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
WILLIAMS INDUSTRIES	235 WEST 1ST ST	0 - 1/8 (0.000 mi.)	B19	82
<b>TEXACO USA A DIVISION OF TEXA</b>	<b>AVENUE A AND WEST 1ST S</b>	<b>N 0 - 1/8 (0.031 mi.)</b>	<b>F37</b>	<b>123</b>
<b>BEST FOODS</b>	<b>99 AVE A</b>	<b>NNE 0 - 1/8 (0.043 mi.)</b>	<b>H44</b>	<b>149</b>
<b>DEVILLE II AUTO COLLISION</b>	<b>2432 RICHMOND TER</b>	<b>S 1/8 - 1/4 (0.230 mi.)</b>	<b>X111</b>	<b>385</b>
<b>EDKINS SCRAP</b>	<b>2265 RICHMOND TER</b>	<b>SE 1/8 - 1/4 (0.240 mi.)</b>	<b>AA115</b>	<b>398</b>

NJ ISRA: The ISRA process begins with determining if the Act applies to your type of business and transaction. The provisions of ISRA only apply to industrial establishments. What is an industrial establishment? The term "industrial establishment" refers to the type of business operations and transactions that would subject a facility to review under ISRA. An industrial establishment must meet each of the following three criteria: The place of business or real property at which such business is conducted, having a North American Industry Classification System (NAICS) code listed in N.J.A.C. 7:26 B - Appendix C subject to the specified exceptions and limitations. The place of business must have been engaged in operations on or after December 31, 1983; and The place of business must involve the generation, manufacture, refining, transportation, treatment, storage, handling, or disposal of hazardous substances or hazardous wastes.

A review of the NJ ISRA list, as provided by EDR, and dated 10/02/2012 has revealed that there are 8 NJ ISRA sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
DISCOVERIES INCORPORATED	235 WEST 1ST STREET	0 - 1/8 (0.000 mi.)	B12	74
<b>PIRELLI CABLE COMPANY</b>	<b>236 1ST ST W</b>	<b>0 - 1/8 (0.000 mi.)</b>	<b>B18</b>	<b>81</b>
<b>BAYONNE SHOPPING CENTER</b>	<b>163 AVE A</b>	<b>NNE 0 - 1/8 (0.010 mi.)</b>	<b>D31</b>	<b>109</b>
RELIANCE CHEMICAL PRODUCTS COM	64 AVENUE A	NNE 0 - 1/8 (0.051 mi.)	K55	192
TEXAS PIPE LINE CO HARBOR SYST	AVENUE A AND THIRD STRE	NNE 0 - 1/8 (0.052 mi.)	K58	195
<b>CASCHEM INC</b>	<b>40 AVE A</b>	<b>N 0 - 1/8 (0.058 mi.)</b>	<b>N64</b>	<b>238</b>
<b>COASTAL OIL NY INC @ BERGEN PO</b>	<b>35 AVE A</b>	<b>N 0 - 1/8 (0.063 mi.)</b>	<b>O74</b>	<b>298</b>
<b>RICHIE DALE</b>	<b>39 AVE C</b>	<b>ENE 1/4 - 1/2 (0.434 mi.)</b>	<b>137</b>	<b>430</b>

### EDR HIGH RISK HISTORICAL RECORDS

#### **EDR Exclusive Records**

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 12 EDR US Hist Auto Stat sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	200 KENNEDY BLVD	NNE 0 - 1/8 (0.016 mi.)	C34	116
Not reported	42 KENNEDY BLVD	NNE 0 - 1/8 (0.039 mi.)	42	148
Not reported	180 W 5TH ST	NNE 0 - 1/8 (0.055 mi.)	L59	196

## EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	79 KENNEDY BLVD	NNE 0 - 1/8 (0.055 mi.)	M61	201
Not reported	94 KENNEDY BLVD	NNE 0 - 1/8 (0.060 mi.)	M67	250
Not reported	121 KENNEDY BLVD	NNE 0 - 1/8 (0.062 mi.)	I70	252
Not reported	137 KENNEDY BLVD	NNE 0 - 1/8 (0.065 mi.)	I76	320
Not reported	101 NORTH ST	NNE 1/8 - 1/4 (0.143 mi.)	P88	357
Not reported	2342 RICHMOND TER	SSE 1/8 - 1/4 (0.193 mi.)	T98	374
Not reported	2342 RICHMOND TER	SSE 1/8 - 1/4 (0.193 mi.)	T99	374
Not reported	75 W 7TH ST	NE 1/8 - 1/4 (0.221 mi.)	107	382
Not reported	2432 RICHMOND TER	S 1/8 - 1/4 (0.230 mi.)	X110	384

EDR US Hist Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Cleaners list, as provided by EDR, has revealed that there is 1 EDR US Hist Cleaners site within approximately 0.25 miles of the target property.

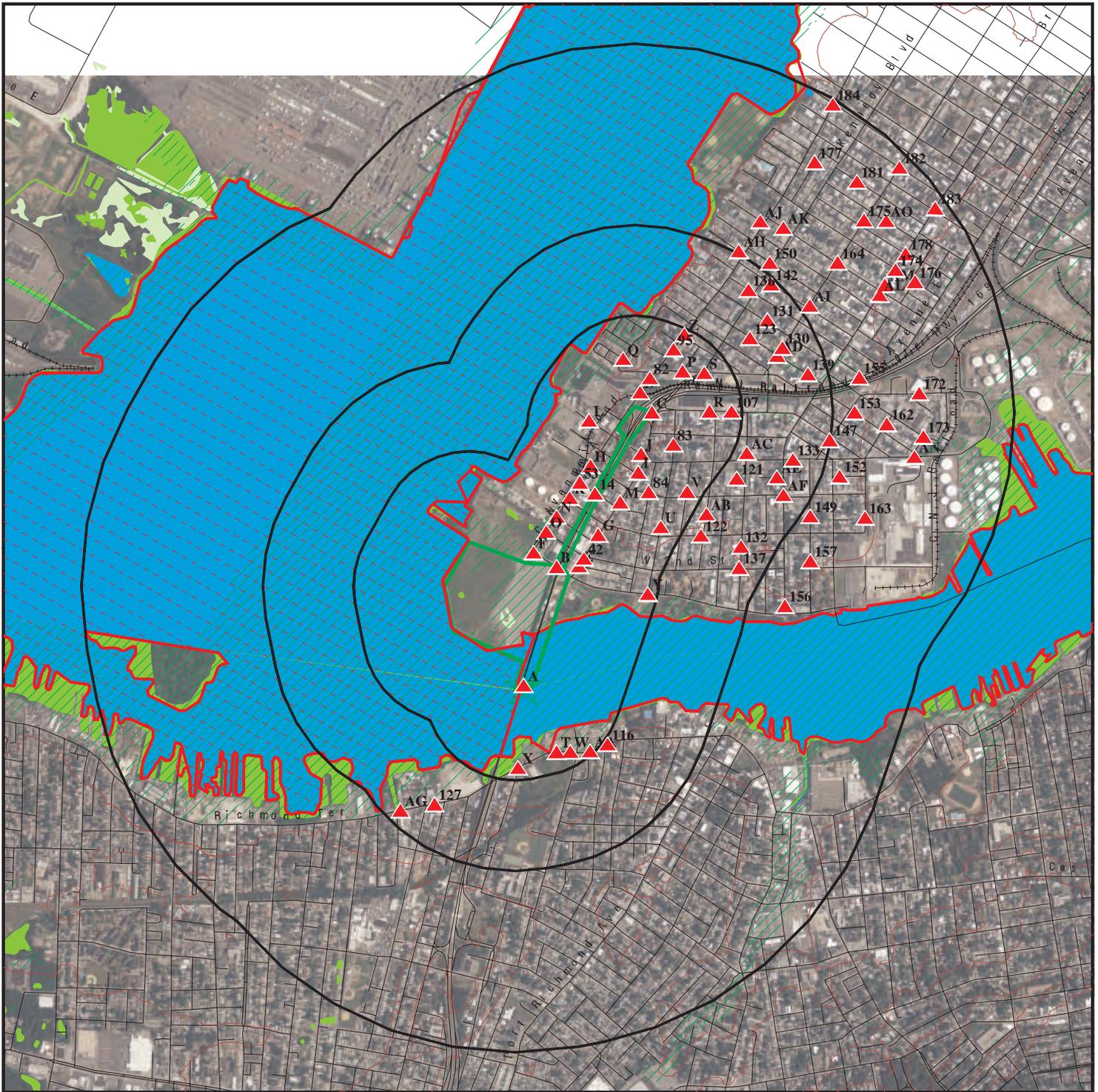
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	177 AVENUE A	NNE 0 - 1/8 (0.042 mi.)	D43	149

## EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 20 records.

<u>Site Name</u>	<u>Database(s)</u>
BAYONNE BLOCK COMPANY INC.	FINDS,AIRS (AFS)
	HWS,SPILLS
NORTH HOOK ASSOCIATES PROPERTY	VCP
MARVIN KLEIN PROPERTY	VCP
CONSOLIDATED RAIL CORPORATION	VCP
1124 ROUTE 94 SOUTH	VCP
MEADOWLANDS BAYONNE OFF-TRACK WAGE	NJPDES
BELCHER COMPANY OF NEW YORK INCORP	CORRACTS,MANIFEST,CERCLIS-NFRAP,MANIFEST,RCRA-LQG
CROWN BAYONNE	RCRA-LQG
TEXACO SERVICE STATION	RCRA-NLR
USCGC WESTWIND - WAGB-281	FINDS,RCRA-NLR
PSE&G BAYONNE GENERATING STATION	FINDS,RCRA-NLR
NEW JERSEY DEPT OF TRANSPORTATION	FINDS,RCRA-NLR,MANIFEST
ROUTE 169 & NEW HOOK ACCESS ROAD	BROWNFIELDS
KLEIN PROPERTY	BROWNFIELDS
CONSOLIDATED RAIL CORPORATION	BROWNFIELDS
CLAYTON BLOCK SITE	BROWNFIELDS,FINDS
NJDOT - ROUTE 440 EXTENSION	FINDS
CROWN BAYONNE	FINDS
NYSDOT BIN 1067631	FINDS

# OVERVIEW MAP - 3549061.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

County Boundary

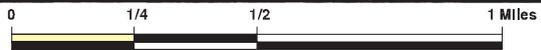
Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Bayonne Bridge - New Jersey  
 ADDRESS: Route 440  
 Bayonne NJ 07002  
 LAT/LONG: 40.6424 / 74.1419

CLIENT: Hatch Mott MacDonald  
 CONTACT: Christine Chapman  
 INQUIRY #: 3549061.1s  
 DATE: March 20, 2013 10:23 am



## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b>STANDARD ENVIRONMENTAL RECORDS</b>								
<b><i>Federal NPL site list</i></b>								
NPL	1.000		1	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<b><i>Federal Delisted NPL site list</i></b>								
Delisted NPL	1.000		0	0	0	0	NR	0
<b><i>Federal CERCLIS list</i></b>								
CERCLIS	0.500		1	2	0	NR	NR	3
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
<b><i>Federal CERCLIS NFRAP site List</i></b>								
CERC-NFRAP	0.500		4	0	1	NR	NR	5
<b><i>Federal RCRA CORRACTS facilities list</i></b>								
CORRACTS	1.000		1	0	1	2	NR	4
<b><i>Federal RCRA non-CORRACTS TSD facilities list</i></b>								
RCRA-TSDF	0.500		1	0	0	NR	NR	1
<b><i>Federal RCRA generators list</i></b>								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250	1	2	1	NR	NR	NR	4
RCRA-CESQG	0.250		4	0	NR	NR	NR	4
<b><i>Federal institutional controls / engineering controls registries</i></b>								
US ENG CONTROLS	0.500		1	0	0	NR	NR	1
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
<b><i>Federal ERNS list</i></b>								
ERNS	TP		NR	NR	NR	NR	NR	0
<b><i>State- and tribal - equivalent CERCLIS</i></b>								
NJ SHWS	1.000		15	8	14	35	NR	72
NY SHWS	1.000		0	0	0	0	NR	0
NJ HWS RE-EVAL	1.000		0	0	0	0	NR	0
NJ HIST HWS	TP		NR	NR	NR	NR	NR	0
<b><i>State and tribal landfill and/or solid waste disposal site lists</i></b>								
NJ SWF/LF	0.500		0	0	0	NR	NR	0
NY SWF/LF	0.500		0	2	3	NR	NR	5
<b><i>State and tribal leaking storage tank lists</i></b>								
NJ LUST	0.500		2	1	3	NR	NR	6

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NJ HIST LUST	0.500		9	1	7	NR	NR	17
INDIAN LUST	0.500		0	0	0	NR	NR	0
<b><i>State and tribal registered storage tank lists</i></b>								
NJ UST	0.250		8	6	NR	NR	NR	14
NY UST	0.250		0	0	NR	NR	NR	0
NJ MAJOR FACILITIES	0.500		0	0	0	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
<b><i>State and tribal institutional control / engineering control registries</i></b>								
NJ ENG CONTROLS	0.500		1	0	0	NR	NR	1
NY ENG CONTROLS	0.500		0	0	0	NR	NR	0
NJ INST CONTROL	0.500		3	2	0	NR	NR	5
NY INST CONTROL	0.500		0	0	0	NR	NR	0
<b><i>State and tribal voluntary cleanup sites</i></b>								
NJ PF	1.000		0	0	0	0	NR	0
NJ VCP	0.500		12	5	6	NR	NR	23
INDIAN VCP	0.500		0	0	0	NR	NR	0
NY VCP	0.500		0	0	0	NR	NR	0
<b><i>State and tribal Brownfields sites</i></b>								
NJ BROWNFIELDS	0.500		11	4	2	NR	NR	17
NY BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b><u>ADDITIONAL ENVIRONMENTAL RECORDS</u></b>								
<b><i>Local Brownfield lists</i></b>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b><i>Local Lists of Landfill / Solid Waste Disposal Sites</i></b>								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
NJ HIST LF	0.500		1	0	0	NR	NR	1
NJ SWRCY	0.500		0	0	0	NR	NR	0
NY SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
<b><i>Local Lists of Hazardous waste / Contaminated Sites</i></b>								
US CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
<b><i>Local Land Records</i></b>								
LIENS 2	TP		NR	NR	NR	NR	NR	0
NJ LIENS	TP		NR	NR	NR	NR	NR	0
NY LIENS	TP		NR	NR	NR	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b>Records of Emergency Release Reports</b>								
HMIRS	TP		NR	NR	NR	NR	NR	0
NJ Release	TP	2	NR	NR	NR	NR	NR	2
NJ SPILLS	TP	2	NR	NR	NR	NR	NR	2
<b>Other Ascertainable Records</b>								
RCRA NonGen / NLR	0.250	2	11	4	NR	NR	NR	17
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		1	0	0	0	NR	1
ROD	1.000		1	0	0	0	NR	1
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP	6	NR	NR	NR	NR	NR	6
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
NJ CHROME	0.500		0	0	0	NR	NR	0
NJ UIC	TP		NR	NR	NR	NR	NR	0
NY UIC	TP		NR	NR	NR	NR	NR	0
NJ HIST MAJOR FACILITIES	0.500		1	0	0	NR	NR	1
NJ MANIFEST	0.250	1	3	1	NR	NR	NR	5
NY MANIFEST	0.250	1	3	2	NR	NR	NR	6
NJ DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NY DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NJ ISRA	0.500		7	0	1	NR	NR	8
NJ NPDES	TP		NR	NR	NR	NR	NR	0
NY SPDES	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
NJ Financial Assurance	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
NY Financial Assurance	TP		NR	NR	NR	NR	NR	0

### **EDR HIGH RISK HISTORICAL RECORDS**

#### ***EDR Exclusive Records***

EDR MGP	1.000		0	0	0	0	NR	0
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## MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>&lt; 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>&gt; 1</u>	<u>Total Plotted</u>
EDR US Hist Auto Stat	0.250		7	5	NR	NR	NR	12
EDR US Hist Cleaners	0.250		1	0	NR	NR	NR	1

**NOTES:**

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**A1** **NEAR BAYONNE BRIDGE**  
**Target** **RT 440**  
**Property** **BAYONNE, NJ**

**NJ SPILLS** **S104725994**  
**N/A**

**Site 1 of 11 in cluster A**

**Actual:**  
**0 ft.**

**NJ SPILL:**

Facility ID: 16828  
Case Number: 92-10-16-0854-05  
Notify Type: Not reported  
Date Received: 10/16/1992  
Location: Other  
Other Location: Not reported  
Incident Date: 10/16/1992  
Incident Time: 0845  
A310 Letter: Yes  
Ref. Code: 001  
COMU: 0901  
CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Industrial  
Facility Phone: Not reported  
Substance(s): OIL LIKE SUBSTANCE  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: No  
Hazrds Material: Yes  
Amnt Released: UNK  
Release VE: Not reported  
Contained: No  
Release Type: Not reported  
Incident Desc: Spill  
Status at Spill: OIL SHEEN ON WATER UNKNOWN SOURCE.  
NJ Spill Date: Not reported  
NJ Spill Time: Not reported  
NJ Spill Name: Not reported  
NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: KILL VAN KULL  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Water  
Nature of Incident: Other  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: JIMH

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NEAR BAYONNE BRIDGE (Continued)**

**S104725994**

Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: UnKnown  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Telephone: Not reported  
Responsible Party Street: Not reported  
Responsible Party Municipality: Not reported  
Responsible Party State: Not reported  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: Not reported  
Responsible Party County: Not reported  
Local Municipality: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: OPER 97  
Local Municipality Phone: 201-858-6005  
Local Municipality Date: 10/16/1992  
Local Municipality Time: 0906  
Incident Name: W.JANICEK  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Phone: PAGED  
Incident Date: 10/16/1992  
Incident Name: Not reported  
Incident Referred To: OEP  
Incident Region: Monitoring  
Incident Phone: Faxed  
Incident Date: 1992-10-16 00:00:00  
Incident Name: Not reported  
Incident Referred To: DFG  
Incident Region: HQ1  
Incident Phone: Faxed  
Incident Date: 1992-10-16 00:00:00  
Comments: Not reported  
Date A310 Letter Printed: 1992-10-16 00:00:00  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: 1992-10-16 00:00:00  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NEAR BAYONNE BRIDGE (Continued)**

**S104725994**

Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

**A2  
Target  
Property**

**NJDOT BRIDGE BLASTING PAINTING  
STRUCTURE 0921-150 0913-155  
BAYONNE, NJ 07002**

**RCRA NonGen / NLR 1001079255  
FINDS NJR000000182**

**Site 2 of 11 in cluster A**

**Actual:  
0 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 01/01/2007  
Facility name: NJDOT BRIDGE BLASTING PAINTING  
Facility address: STRUCTURE 0921-150 0913-155  
156 & 157 RTE 169  
BAYONNE, NJ 07002  
EPA ID: NJR000000182  
Mailing address: PARKWAY AVE CN600  
TRENTON, NJ 08625  
Contact: TIMOTHY STEINBEISER  
Contact address: PARKWAY AVE CN600  
TRENTON, NJ 08625  
Contact country: US  
Contact telephone: (609) 530-4293  
Contact email: Not reported  
EPA Region: 02  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: STATE OF NEW JERSEY  
Owner/operator address: 1035 PARKWAY AVE  
TRENTON, NJ 08625  
Owner/operator country: US  
Owner/operator telephone: (609) 530-2975  
Legal status: State  
Owner/Operator Type: Owner  
Owner/Op start date: 01/01/2001  
Owner/Op end date: Not reported

Owner/operator name: STATE OF NEW JERSEY  
Owner/operator address: 1035 PARKWAY AVE  
TRENTON, NJ 08625  
Owner/operator country: US  
Owner/operator telephone: (609) 530-2975  
Legal status: State  
Owner/Operator Type: Operator  
Owner/Op start date: 01/01/2001  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**NJDOT BRIDGE BLASTING PAINTING (Continued)**

**1001079255**

Treater, storer or disposer of HW: No  
 Underground injection activity: No  
 On-site burner exemption: No  
 Furnace exemption: No  
 Used oil fuel burner: No  
 Used oil processor: No  
 User oil refiner: No  
 Used oil fuel marketer to burner: No  
 Used oil Specification marketer: No  
 Used oil transfer facility: No  
 Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
 Facility name: NJDOT BRIDGE BLASTING PAINTING  
 Classification: Not a generator, verified

Date form received by agency: 11/01/1995  
 Facility name: NJDOT BRIDGE BLASTING PAINTING  
 Classification: Not a generator, verified

Violation Status: No violations found

FINDS:

Registry ID: 110004246726

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
 The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**A3  
 Target  
 Property**

**EAST OF BAYONNE BRIDGE  
 ALONG SHORLINE  
 BAYONNE, NJ**

**NJ SPILLS S102614464  
 N/A**

**Site 3 of 11 in cluster A**

**Actual:  
 0 ft.**

NJ SPILL:  
 Facility ID: 6969  
 Case Number: 97-5-29-1130-24  
 Notify Type: Not reported  
 Date Received: 05/29/1997  
 Location: Other  
 Other Location: Not reported  
 Incident Date: 05/29/1997  
 Incident Time: 1120  
 A310 Letter: Yes  
 Ref. Code: 001  
 COMU: 0901

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EAST OF BAYONNE BRIDGE (Continued)**

**S102614464**

CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Industrial  
Facility Phone: Not reported  
Substance(s): TAR BALLS  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: No  
Hazrds Material: Yes  
Amnt Released: 10 BALLS  
Release VE: Estimate  
Contained: No  
Release Type: Terminated  
Incident Desc: Spill  
Status at Spill: TAR BALLS FOUND ALONG SHORELINE DUE TO UNKNOWN CAUSE  
NJ Spill Date: 1997-05-29 00:00:00  
NJ Spill Time: Not reported  
NJ Spill Name: OEM  
NJ Spill Title: FAXED  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: NEWARK BAY  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Land,Water  
Nature of Incident: Other  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: JULIE1  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: UnKnown  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Telephone: Not reported  
Responsible Party Street: Not reported  
Responsible Party Municipality: Not reported  
Responsible Party State: Not reported  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EAST OF BAYONNE BRIDGE (Continued)**

**S102614464**

Responsible Party County: Not reported  
Local Municipality: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: OPR 3  
Local Municipality Phone: 201-858-6005  
Local Municipality Date: 05/29/1997  
Local Municipality Time: 1137  
Incident Name: LAURA FONDE  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Phone: Office  
Incident Date: 05/29/1997  
Incident Name: Not reported  
Incident Referred To: DFG  
Incident Region: HQ1  
Incident Phone: Not reported  
Incident Date: 1997-05-29 00:00:00  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

**A4  
Target  
Property**

**BAYONNE BRIDGE NJ ABATEMENT  
BAYONNE BRIDGE  
BAYONNE, NJ 07002**

**RCRA-SQG 1000785998  
NY MANIFEST NJD986645216  
NJ MANIFEST**

**Site 4 of 11 in cluster A**

**Actual:  
0 ft.**

RCRA-SQG:  
Date form received by agency: 03/13/2012  
Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Facility address: BAYONNE BRIDGE  
BAYONNE, NJ 07002  
EPA ID: NJD986645216  
Mailing address: 2777 GOETHALS RD NORTH  
GOETHALS BRDG ADM BLDG  
STATEN ISLAND, NY 10303  
Contact: RONALD BORUP

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Contact address: 2777 GOETHALS RD NO GOETHALS BRDG ADM BLDG  
STATEN ISLAND, NY 10303  
Contact country: US  
Contact telephone: (718) 390-2595  
Contact email: RBORUP@PANYNJ.GOV  
EPA Region: 02  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: PORT AUTH OF NY & NJ  
Owner/operator address: 2777 GOETHALS RD NO GOETHALS BRDG ADM BLDG  
STATEN ISLAND, NY 10303

Owner/operator country: US  
Owner/operator telephone: (718) 390-2595  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 11/15/1931  
Owner/Op end date: Not reported

Owner/operator name: PORT AUTH OF NY & NJ  
Owner/operator address: 2777 GOETHALS RD NO GOETHALS BRDG ADM BLDG  
STATEN ISLAND, NY 10303

Owner/operator country: US  
Owner/operator telephone: (718) 390-2595  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: 11/15/1931  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 03/17/2008  
Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: BAYONNE BRIDGE ABUTMENT  
Classification: Large Quantity Generator

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date form received by agency: 01/01/2007

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: BAYONNE BRIDGE NEW JERSEY ABUTMENT  
Classification: Small Quantity Generator

Date form received by agency: 02/16/2006

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: BAYONNE BRIDGE NEW JERSEY ABUTMENT  
Classification: Large Quantity Generator

Date form received by agency: 02/15/2006

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: BAYONNE BRIDGE NEW JERSEY ABUTMENT  
Classification: Small Quantity Generator

Date form received by agency: 03/03/2002

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: PORT AUTHORITY BAYONNE BRIDGE-NJ ABUTMEN  
Classification: Large Quantity Generator

Date form received by agency: 03/29/2001

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: BAYONNE BRIDGE NJ ABUTMENT  
Classification: Large Quantity Generator

Date form received by agency: 03/11/1996

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: BAYONNE BRIDGE - NJ ABUTMENT  
Classification: Large Quantity Generator

Date form received by agency: 02/28/1994

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: PORT AUTHORITY OF NY & NJ  
Classification: Large Quantity Generator

Date form received by agency: 01/21/1993

Facility name: BAYONNE BRIDGE NJ ABATEMENT  
Site name: PORT AUTH OF NY & NJ  
Classification: Large Quantity Generator

**Hazardous Waste Summary:**

Waste code: D002  
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D004  
Waste name: ARSENIC

Violation Status: No violations found

**NY MANIFEST:**

EPA ID: NJD986645216

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Country: USA  
Mailing Name: PORT AUTHORITY OF NEW YORK & NEW JERSEY  
Mailing Contact: L PANZICA  
Mailing Address: 241 ERIE ST RM 306A  
Mailing Address 2: Not reported  
Mailing City: JERSEY CITY  
Mailing State: NJ  
Mailing Zip: 07310  
Mailing Zip4: Not reported  
Mailing Country: USA  
Mailing Phone: 718-390-2560

Document ID: NYG0867366  
Manifest Status: Completed copy  
Trans1 State ID: 50059  
Trans2 State ID: Not reported  
Generator Ship Date: 970724  
Trans1 Recv Date: 970724  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 970725  
Part A Recv Date: 970812  
Part B Recv Date: 970815  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986607380  
Trans2 EPA ID: Not reported  
TSD ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 25200  
Units: P - Pounds  
Number of Containers: 036  
Container Type: DM - Metal drums, barrels  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 100  
Waste Code: Not reported  
Quantity: 02662  
Units: P - Pounds  
Number of Containers: 012  
Container Type: CF - Fiber or plastic boxes, cartons  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 100  
Year: 97

Document ID: NYB7345944  
Manifest Status: Completed copy  
Trans1 State ID: 11283PNY  
Trans2 State ID: Not reported  
Generator Ship Date: 951212  
Trans1 Recv Date: 951212  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 951213  
Part A Recv Date: 951221  
Part B Recv Date: 960103  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NYD980769947  
Trans2 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

TSDF ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 04000  
Units: P - Pounds  
Number of Containers: 008  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 95

Document ID: NYB7559973  
Manifest Status: Completed copy  
Trans1 State ID: V14842CT  
Trans2 State ID: Not reported  
Generator Ship Date: 951012  
Trans1 Recv Date: 951012  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 951013  
Part A Recv Date: Not reported  
Part B Recv Date: 951030  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: CTD016424210  
Trans2 EPA ID: Not reported  
TSDF ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 07297  
Units: P - Pounds  
Number of Containers: 013  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 95

Document ID: NYB7558209  
Manifest Status: Completed copy  
Trans1 State ID: 10222PNY  
Trans2 State ID: Not reported  
Generator Ship Date: 950816  
Trans1 Recv Date: 950816  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950817  
Part A Recv Date: 950825  
Part B Recv Date: 950905  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NYD980769947  
Trans2 EPA ID: Not reported  
TSDF ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 14813  
Units: P - Pounds  
Number of Containers: 022  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 95

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Document ID: NYB7261488  
Manifest Status: Completed copy  
Trans1 State ID: 98115FNY  
Trans2 State ID: Not reported  
Generator Ship Date: 960501  
Trans1 Recv Date: 960501  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 960502  
Part A Recv Date: 960510  
Part B Recv Date: 960513  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NYD982792814  
Trans2 EPA ID: Not reported  
TSD ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 13000  
Units: P - Pounds  
Number of Containers: 016  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Waste Code: Not reported  
Quantity: 02450  
Units: P - Pounds  
Number of Containers: 006  
Container Type: CF - Fiber or plastic boxes, cartons  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 96

Document ID: NYB8530965  
Manifest Status: Completed after the designated time period for a TSD to get a copy to the DEC  
Trans1 State ID: 88852  
Trans2 State ID: Not reported  
Generator Ship Date: 961017  
Trans1 Recv Date: 961017  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 961021  
Part A Recv Date: 961030  
Part B Recv Date: 961114  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: CTD016424210  
Trans2 EPA ID: Not reported  
TSD ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 08000  
Units: P - Pounds  
Number of Containers: 010  
Container Type: DM - Metal drums, barrels  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 100  
Year: 96

Document ID: NYB7636896  
Manifest Status: Completed copy

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Trans1 State ID: 2281OHNY  
Trans2 State ID: Not reported  
Generator Ship Date: 960118  
Trans1 Recv Date: 960118  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 960119  
Part A Recv Date: 960125  
Part B Recv Date: 960130  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NYD982792814  
Trans2 EPA ID: Not reported  
TSD ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 04479  
Units: P - Pounds  
Number of Containers: 006  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 96

Document ID: NYB8543286  
Manifest Status: Completed copy  
Trans1 State ID: V29064CT  
Trans2 State ID: Not reported  
Generator Ship Date: 961211  
Trans1 Recv Date: 961211  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 961212  
Part A Recv Date: 970102  
Part B Recv Date: 970102  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: CTD016424210  
Trans2 EPA ID: Not reported  
TSD ID: NYD057770109  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 22400  
Units: P - Pounds  
Number of Containers: 028  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 96

Document ID: NYB6557193  
Manifest Status: Completed copy  
Trans1 State ID: 9557MRNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941208  
Trans1 Recv Date: 941208  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941209  
Part A Recv Date: 941223  
Part B Recv Date: 941219  
Generator EPA ID: NJD986645216

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSDF ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 20593  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557364  
Manifest Status: Completed copy  
Trans1 State ID: XA81728PA  
Trans2 State ID: Not reported  
Generator Ship Date: 941128  
Trans1 Recv Date: 941128  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941129  
Part A Recv Date: 941223  
Part B Recv Date: 941214  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NYD986969947  
Trans2 EPA ID: Not reported  
TSDF ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21364  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557166  
Manifest Status: Completed copy  
Trans1 State ID: T835VMNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941207  
Trans1 Recv Date: 941207  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941208  
Part A Recv Date: 941223  
Part B Recv Date: 941216  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSDF ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21700  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Specific Gravity: 100  
Year: 94

Document ID: NYB6557445  
Manifest Status: Completed copy  
Trans1 State ID: T193ZC  
Trans2 State ID: Not reported  
Generator Ship Date: 941205  
Trans1 Recv Date: 941205  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941206  
Part A Recv Date: 950109  
Part B Recv Date: 941216  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21764  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557526  
Manifest Status: Completed copy  
Trans1 State ID: T105ZLNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941207  
Trans1 Recv Date: 941207  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941208  
Part A Recv Date: 941223  
Part B Recv Date: 941216  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 22916  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557454  
Manifest Status: Completed copy  
Trans1 State ID: T10422  
Trans2 State ID: Not reported  
Generator Ship Date: 941205

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Trans1 Recv Date: 941205  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941206  
Part A Recv Date: 950109  
Part B Recv Date: 941216  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21482  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557373  
Manifest Status: Completed copy  
Trans1 State ID: TW07421PA  
Trans2 State ID: 7A296  
Generator Ship Date: 941128  
Trans1 Recv Date: 941128  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941129  
Part A Recv Date: 941223  
Part B Recv Date: 941214  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NYD986969947  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 22362  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557139  
Manifest Status: Completed copy  
Trans1 State ID: T193ZCNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941207  
Trans1 Recv Date: 941207  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941208  
Part A Recv Date: 941223  
Part B Recv Date: 941216  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21664  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557202  
Manifest Status: Completed copy  
Trans1 State ID: T893VMNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941208  
Trans1 Recv Date: 941208  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941209  
Part A Recv Date: 941223  
Part B Recv Date: 941219  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 20457  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6557481  
Manifest Status: Completed copy  
Trans1 State ID: T645XXNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941206  
Trans1 Recv Date: 941206  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941207  
Part A Recv Date: 950109  
Part B Recv Date: 941215  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 20584  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Document ID: NYB6659928  
Manifest Status: Completed copy  
Trans1 State ID: TZ15908PA  
Trans2 State ID: Not reported  
Generator Ship Date: 941229  
Trans1 Recv Date: 941229  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941230  
Part A Recv Date: 950113  
Part B Recv Date: 950112  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21673  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

Document ID: NYB6659937  
Manifest Status: Completed copy  
Trans1 State ID: T104ZLNJ  
Trans2 State ID: Not reported  
Generator Ship Date: 941229  
Trans1 Recv Date: 941229  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 941230  
Part A Recv Date: 950113  
Part B Recv Date: 950112  
Generator EPA ID: NJD986645216  
Trans1 EPA ID: NJD986609949  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES  
Quantity: 21691  
Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 94

[Click this hyperlink](#) while viewing on your computer to access  
25 additional NY\_MANIFEST: record(s) in the EDR Site Report.

**NJ MANIFEST:**

Manifest Code: 006016334JJK  
EPA ID: NJD986645216  
Date Shipped: 08/12/2009  
TSD EPA ID: NJD991291105  
Transporter EPA ID: NJD980772768  
Transporter 2 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	08/12/2009
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	08/12/2009
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejectedd (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	2000
Unit:	P
Hand Code:	H111
Manifest Code:	NJA5249387
EPA ID:	NJD986645216
Date Shipped:	05/09/2005
TSDF EPA ID:	NJD991291105
Transporter EPA ID:	NJD980772768
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 05/09/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 05/09/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 06030521  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA5305153  
EPA ID: NJD986645216  
Date Shipped: 08/17/2005  
TSDf EPA ID: NJD991291105  
Transporter EPA ID: NJD980772768  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 08/17/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 08/17/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 09300522  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA5270652  
EPA ID: NJD986645216  
Date Shipped: 10/19/2005  
TSDf EPA ID: NJD991291105  
Transporter EPA ID: NJD980772768  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 10/19/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 10/19/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 01100621  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 004258179JJK  
EPA ID: NJD986645216  
Date Shipped: 02/04/2009  
TSDf EPA ID: NJD991291105  
Transporter EPA ID: NJD980772768  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 02/04/2009  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 02/05/2009  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D002  
Manifest Year: 2009 New Jersey Manifest Data  
Quantity: 55  
Unit: G  
Hand Code: H141

Manifest Code: 000201158WAS  
EPA ID: NJD986645216  
Date Shipped: 01/30/2009  
TSDF EPA ID: NJD991291105  
Transporter EPA ID: NYD046765574  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/30/2009
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDf Received Waste:	01/30/2009
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDf EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejectedd (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	15320
Unit:	P
Hand Code:	H111
Manifest Code:	000201135WAS
EPA ID:	NJD986645216
Date Shipped:	01/13/2009
TSDf EPA ID:	NJD991291105
Transporter EPA ID:	NYD046765574
Transporter 2 EPA ID:	NYD046765574
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 01/13/2009  
Date Trans2 Transported Waste: 01/13/2009  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 01/20/2009  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D008  
Manifest Year: 2009 New Jersey Manifest Data  
Quantity: 1000  
Unit: P  
Hand Code: H111

Manifest Code: 003371647JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771646JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771648JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771649JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771650JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771660JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDf EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771661JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDf EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771662JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/07/2007  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771663JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDf EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/07/2007  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771664.JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDf EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/07/2007  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 003771665JJK  
EPA ID: NJD986645216  
Date Shipped: 12/07/2007  
TSDf EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/07/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Date TSDf Received Waste: 12/07/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 004257839JJK  
EPA ID: NJD986645216  
Date Shipped: 08/01/2008  
TSDf EPA ID: NJD991291105  
Transporter EPA ID: NJD980772768  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 08/01/2008  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 08/01/2008

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D008  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 900  
Unit: P  
Hand Code: H111

Manifest Code: 003771666JJK  
EPA ID: NJD986645216  
Date Shipped: 12/06/2007  
TSDF EPA ID: NJD045995693  
Transporter EPA ID: NJR000029967  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/06/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/06/2007  
Tranporter 1 Decal: Not reported

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**BAYONNE BRIDGE NJ ABATEMENT (Continued)**

**1000785998**

Transporter 2 Decal: Not reported  
 Generator EPA Facility Name: Not reported  
 Transporter-1 EPA Facility Name: Not reported  
 Transporter-2 EPA Facility Name: Not reported  
 Transporter-3 EPA Facility Name: Not reported  
 Transporter-4 EPA Facility Name: Not reported  
 Transporter-5 EPA Facility Name: Not reported  
 TSDF EPA Facility Name: Not reported  
 QTY Units: Not reported  
 Transporter SEQ ID: Not reported  
 Transporter-1 Date: Not reported  
 Waste SEQ ID: Not reported  
 Waste Type Code 2: Not reported  
 Waste Type Code 3: Not reported  
 Waste Type Code 4: Not reported  
 Waste Type Code 5: Not reported  
 Waste Type Code 6: Not reported  
 Date Accepted: Not reported  
 Manifest Discrepancy Type: Not reported  
 Data Entry Number: Not reported  
 Reference Manifest Number: Not reported  
 Was Load Rejected (Y/N): No  
 Reason Load Was Rejected: Not reported  
 Waste Code: Not reported  
 Manifest Year: Not reported  
 Quantity: Not reported  
 Unit: Not reported  
 Hand Code: Not reported

**A5  
 Target  
 Property**

**BAYONNE BRIDGE NJ ABATEMENT  
 BAYONNE BRIDGE  
 BAYONNE, NJ 07002**

**FINDS 1010225507  
 N/A**

**Site 5 of 11 in cluster A**

**Actual:  
 0 ft.**

FINDS:

Registry ID: 110029452287

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
 The Department of Environmental Protection (NJDEP) manages large  
 databases of environmental information in this integrated system.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**A6** BAYONNE BRIDGE/NEAR VIA DUCT  
**Target** RT 440  
**Property** BAYONNE, NJ

**NJ Release** S104441384  
N/A

**Site 6 of 11 in cluster A**

**Actual:**  
**0 ft.**

NJ Release:

Facility ID:	18469	Case Number:	92-11-17-1038-00
Date Received:	11/17/1992	Nature of Incident:	Other
Operator:	JIMH		
Incident Type:	Not reported		
Incident Location:	Not reported		
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	11/17/1992	Incident Time:	Not reported
Substance(s):	LEAD, SOIL CONTAMINATED		
Substance Type:	Solid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0901	Ref. Code:	101
Amnt Released:	UNK	Contained:	Yes
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	FOUND CONTAMINATION BY BRIDGE		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		
Public Evacuation:	No		
Assistance Requested:	No		
Wind Direction/Speed:	Not reported		
Local Municipality Notified:	Not reported		
Local Municipality Name:	BAYONNE CITY		
Local Municipality Title:	OPER 102		
Local Municipality Telephone:	201-858-6005		
Local Municipality Date:	11/17/1992		
Local Municipality Time:	1047		
Incident Description:	SOIL CONTAMINATION		
Incident Name:	Not reported		
Incident Referred To:	DRPSR		
Incident Region:	BFO-SA		
Incident Telephone:	Mailed,Faxed		
Incident Date:	11/17/1992		
Incident time:	Not reported		
Incident ITM:	B		
Comments:	Not reported		

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**BAYONNE BRIDGE/NEAR VIA DUCT (Continued)**

**S104441384**

Date A310 Letter Printed: Not reported  
 Date Local Authority Was Notified: Not reported  
 Date Updated: Not reported  
 Date Report Faxed to Local Authority: Not reported  
 Local Authority Notification Date: Not reported  
 Rep Receive Date: 01/01/1900  
 Reporter Type: Not reported  
 Reporter Name: Not reported  
 Reporter Title: Not reported  
 Reporter Org: Not reported  
 Reporter Address: Not reported  
 Reporter City,St,Zip: Not reported  
 Reporter County: Not reported  
 Incident Status: Not reported  
 Incident Category: Not reported  
 Incident Source: Not reported  
 Incident Address: Not reported  
 Incident Address 2: Not reported  
 Incident City,St,Zip: Not reported  
 Incident County: Not reported  
 DEP Requested: Not reported  
 Confidential: Not reported  
 Notify Type: Not reported  
 Road Closed: Not reported  
 Direction: Not reported  
 Responsible Party: Known  
 Responsible Party Name: PORT AUTHORITY  
 Responsible Party Contact: HARRY BARR  
 Responsible Party Title: Not reported  
 Responsible Party Phone: Not reported  
 Responsible Party Street: Not reported  
 Responsible Party County: Not reported  
 Responsible Party City,St,Zip: Not reported  
 Memo. Of Understanding: Not reported  
 Drill/trng Exercise: Not reported  
 Hazardous: Not reported

**A7** **BAYONNE BRIDGE**  
**Target** **NEW YORK APPROACH**  
**Property** **STATEN ISLAND, NY 10303**

**FINDS 1007786848**  
**N/A**

**Site 7 of 11 in cluster A**

**Actual:**  
**0 ft.**

**FINDS:**

Registry ID: 110019493289

**Environmental Interest/Information System**

FIS (New York - Facility Information System) is New York's Department of Environmental Conservation (DEC) information system for tracking environmental facility information found across the State.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**A8**  
**Target**  
**Property**

**BAYONNE CITY BRIDGE**  
**RT 440**  
**BAYONNE CITY, NJ 07002**

**FINDS** **1014789049**  
**N/A**

**Site 8 of 11 in cluster A**

**Actual:**  
**0 ft.**

FINDS:

Registry ID: 110040806606

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
The Department of Environmental Protection (NJDEP) manages large  
databases of environmental information in this integrated system.

**A9**  
**Target**  
**Property**

**AREA OF BY BAYONNE BRIDGE**  
**RT 169/RT 440**  
**BAYONNE, NJ**

**NJ Release** **S104969825**  
**N/A**

**Site 9 of 11 in cluster A**

**Actual:**  
**0 ft.**

NJ Release:

Facility ID: 75159  
Date Received: 03/08/2001  
Operator: JIMH  
Incident Type: Not reported  
Incident Location: Not reported  
Location: Other  
Other Location: Not reported  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Industrial  
Facility Phone: Not reported  
Incident Date: 03/08/2001  
Substance(s): Not reported  
Substance Type: Not reported  
CAS Number: Not reported  
TCPA Chemical: Not reported  
COMU: 0901  
Amnt Released: Not reported  
Release Type: Not reported  
Injuries: No  
Public Exposure: No  
Police at Scene: No  
Contamination of: Water  
Status at Spill: CAR BEING REMOVED FROM WATER  
NJ Spill Date: Not reported  
NJ Spill Name: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Name: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: No  
Wind Direction/Speed: 0

Case Number: 01-03-08-1111-42  
Nature of Incident: Not reported

Incident Time: 0900

Substance Identity: Not reported  
A310 Letter: True  
Hazrds Material: Not reported  
Ref. Code: 001  
Contained: Not reported  
Release VE: Not reported

Facility Evacuation: No  
Firemen at Scene: No  
Receiving Water: KILL VAN KULL

NJ Spill Time: Not reported  
NJ Spill Title: Not reported

Other Time: Not reported  
Other Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

AREA OF BY BAYONNE BRIDGE (Continued)

S104969825

Local Municipality Notified: No  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Telephone: Not reported  
Local Municipality Date: 01/01/1900  
Local Municipality Time: Not reported  
Incident Description: Not reported  
Incident Name: Not reported  
Incident Referred To: Not reported  
Incident Region: Not reported  
Incident Telephone: Not reported  
Incident Date: 01/01/1900  
Incident time: Not reported  
Incident ITM: Not reported  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 01/01/1900  
Reporter Type: Not reported  
Reporter Name: Not reported  
Reporter Title: Not reported  
Reporter Org: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported  
Notify Type: Other  
Road Closed: No  
Direction: Not reported  
Responsible Party: Unknown  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: No  
Drill/trng Exercise: No  
Hazardous: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

A10  
Target  
Property

**NJDOT BRIDGE BLASTING PAINTING  
STRUCTURE 0915-150 RTE 440  
BAYONNE, NJ 07002**

**RCRA NonGen / NLR 1001197175  
FINDS NJR000020032**

**Site 10 of 11 in cluster A**

**Actual:  
0 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 01/01/2007  
Facility name: NJDOT BRIDGE BLASTING PAINTING  
Facility address: STRUCTURE 0915-150 RTE 440  
BAYONNE, NJ 07002  
EPA ID: NJR000020032  
Mailing address: PARKWAY AVE CN600  
TRENTON, NJ 08625  
Contact: TIMOTHY STEINBEISER  
Contact address: PARKWAY AVE CN600  
TRENTON, NJ 08625  
Contact country: US  
Contact telephone: (609) 530-4293  
Contact email: Not reported  
EPA Region: 02  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: STATE OF NEW JERSEY  
Owner/operator address: 1035 PARKWAY AVE  
TRENTON, NJ 08625  
Owner/operator country: US  
Owner/operator telephone: (609) 530-2975  
Legal status: State  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: STATE OF NEW JERSEY  
Owner/operator address: 1035 PARKWAY AVE  
TRENTON, NJ 08625  
Owner/operator country: US  
Owner/operator telephone: (609) 530-2975  
Legal status: State  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NJDOT BRIDGE BLASTING PAINTING (Continued)**

**1001197175**

Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: NJDOT BRIDGE BLASTING PAINTING  
Classification: Not a generator, verified

Date form received by agency: 06/11/1997  
Facility name: NJDOT BRIDGE BLASTING PAINTING  
Classification: Not a generator, verified

Violation Status: No violations found

**FINDS:**

Registry ID: 110006089400

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**A11**  
**Target**  
**Property**

**PORT AUTH NY/NJ @ BAYONNE BRIDGE REHABILITATION**  
**BAYONNE BRIDGE**  
**BAYONNE, NJ 07002**

**FINDS** **1008964946**  
**N/A**

**Site 11 of 11 in cluster A**

**Actual:**  
**0 ft.**

**FINDS:**

Registry ID: 110024054832

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

**NPL**  
**Region**

**DIAMOND ALKALI CO.**  
**80 LISTER AVE**  
**NEWARK, NJ 07105**

**NPL** **1000301205**  
**CERCLIS** **NJD980528996**  
**US ENG CONTROLS**  
**CONSENT**  
**ROD**  
**FINDS**  
**PRP**

**< 1/8**  
**1 ft.**

NPL:  
EPA ID: NJD980528996  
EPA Region: 02  
Federal: N

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Final Date: 1984-09-21 00:00:00

Category Details:

NPL Status: Currently on the Final NPL  
Category Description: Depth To Aquifer-<= 10 Feet  
Category Value: 10

NPL Status: Currently on the Final NPL  
Category Description: Distance To Nearest Population-> 0 And <= 1/4 Mile  
Category Value: 10

Site Details:

Site Name: DIAMOND ALKALI CO.  
Site Status: Final  
Site Zip: 07105  
Site City: NEWARK  
Site State: NJ  
Federal Site: No  
Site County: ESSEX  
EPA Region: 02  
Date Proposed: 09/08/83  
Date Deleted: Not reported  
Date Finalized: 09/21/84

Substance Details:

NPL Status: Currently on the Final NPL  
Substance ID: Not reported  
Substance: Not reported  
CAS #: Not reported  
Pathway: Not reported  
Scoring: Not reported

NPL Status: Currently on the Final NPL  
Substance ID: A050  
Substance: DIOXIN  
CAS #: 1746-01-6  
Pathway: AIR PATHWAY  
Scoring: 4

NPL Status: Currently on the Final NPL  
Substance ID: A050  
Substance: DIOXIN  
CAS #: 1746-01-6  
Pathway: GROUND WATER PATHWAY  
Scoring: 3

NPL Status: Currently on the Final NPL  
Substance ID: A050  
Substance: DIOXIN  
CAS #: 1746-01-6  
Pathway: SURFACE WATER PATHWAY  
Scoring: 3

NPL Status: Currently on the Final NPL  
Substance ID: C328  
Substance: HALOGENATED ORGANICS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

CAS #: Not reported  
Pathway: NO PATHWAY INDICATED  
Scoring: 1

Summary Details:

Conditions at listing September 1983): The Diamond Alkali Co. Site occupies about 1 acre immediately adjacent to the Passaic River, in Newark, Essex County, New Jersey. From 1943 through 1968, the company manufactured numerous chemicals on the site, including 2,4,5-trichlorophenol, which is likely to contain dioxin as an impurity. Extensive sampling conducted by EPA and the State has detected extremely high concentrations of dioxin on and off the site. EPA and the State have covered the area of major contamination with plastic tarpaulins. Adjacent transportation routes and residential areas were swept and vacuumed. Workers may have been exposed to dioxin during normal operations, as well as during renovations conducted during the summer of 1982. Another company has since purchased the land. The area is both densely populated and heavily industrialized. Municipal water is drawn from the Wanaque Reservoir, roughly 35 miles from the site. Status June 1984): On March 13, 1984, the State and Diamond entered into an Administrative Order on Consent for a remedial investigation/feasibility study and for on-site cleanup.

Site Status Details:

NPL Status: Final  
Proposed Date: 09/08/1983  
Final Date: 09/21/1984  
Deleted Date: Not reported

Narratives Details:

NPL Name: DIAMOND ALKALI CO.  
City: NEWARK  
State: NJ

CERCLIS:

Site ID: 0200613  
EPA ID: NJD980528996  
Facility County: ESSEX  
Short Name: DIAMOND ALKALI CO  
Congressional District: 13  
IFMS ID: 0296  
SMSA Number: 5640  
USGC Hydro Unit: 02030103  
Federal Facility: Not a Federal Facility  
DMNSN Number: 3.00000  
Site Orphan Flag: N  
RCRA ID: Not reported  
USGS Quadrangle: Not reported  
Site Init By Prog: Not reported  
NFRAP Flag: Not reported  
Parent ID: Not reported  
RST Code: Not reported  
EPA Region: 02  
Classification: Chemical Plant  
Site Settings Code: UR  
NPL Status: Currently on the Final NPL

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

DMNSN Unit Code: ACRE  
RBRAC Code: Not reported  
RResp Fed Agency Code: Not reported  
Non NPL Status: Not reported  
Non NPL Status Date: / /  
Site Fips Code: 34013  
CC Concurrence Date: / /  
CC Concurrence FY: Not reported  
Alias EPA ID: Not reported  
Site FUDS Flag: Not reported

CERCLIS Site Contact Name(s):

Contact ID: 2272049.00000  
Contact Name: ELIZABETH BUTLER  
Contact Tel: (212) 637-4396  
Contact Title: Remedial Project Manager (RPM)  
Contact Email: butler.elizabeth@epa.gov

Contact ID: 2271960.00000  
Contact Name: ALICE YEH  
Contact Tel: (212) 637-4427  
Contact Title: Remedial Project Manager (RPM)  
Contact Email: yeh.alice@epa.gov

Contact ID: 2270982.00000  
Contact Name: STEPHANIE VAUGHN  
Contact Tel: (212) 637-3914  
Contact Title: Remedial Project Manager (RPM)  
Contact Email: VAUGHN.STEPHANIE@EPA.GOV

CERCLIS Site Alias Name(s):

Alias ID: 103  
Alias Name: DIAMOND ALKALI CO.  
Alias Address: 80 LISTER AVE  
NEWARK, NJ 07105

Alias ID: 104  
Alias Name: PASSAIC RIVER  
Alias Address: Not reported  
NJ

Alias ID: 104  
Alias Comments: Not reported

Site Description: The 80 Lister Avenue property is located in the Ironbound section of Newark, New Jersey. The property occupies approximately 3.4 acres on the north side of Lister Avenue. It is nearly rectangular in shape, extending about 373 feet in an east-west direction and 405 feet north-south. The property is bounded on the north by the Passaic River, on the east by the formal-Sergeant Chemical Company (120 Lister Avenue) site subsequently purchased by Diamond Shamrock, at the southeast corner by the Duralac Company property, and on the south and west by Sherwin-Williams Company property. Vehicular access to the property is via a common right-of-way shared with Duralac entering the southeast corner of the property. The property is formally described as Lots 56 and 59 in Block 2438 on the Newark tax maps. As an industrial area that has been occupied for over 100 years, the entire site has been built up with fill. Approximately 6 to 8 feet of cinders, bricks, sand, and rubble have been placed over natural materials. In this process, the site has been intentionally leveled. Total relief across the site is approximately 3 feet with the lowest point along the

MAP FINDINGS

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

railroad tracks at the southern boundary. Elevations vary between approximately 7 and 10 feet mean sea level (MSL). Much of the site has been covered with either pavement or gravel. The site is located in the Lower Valley portion of the Passaic River drainage basin. The Lower Valley is the southeasterly portion of the basin lying between the Central Basin and the mouth of Newark Bay. It is characterized as a flat relatively narrow floodplain of 1,000 to 2,000 feet in width, abutting low rolling hills. From Dundee Dam to the mouth of Newark Bay, the river is a tidal estuary and is navigable. The site is approximately three miles upstream from the mouth of Newark Bay. The closest known surface water gauging station on the Passaic River is at Little Falls, New Jersey, which is approximately twenty-six river miles upstream from the site. The gauging station is also upstream from the Dundee Dam, and therefore, river elevations at this station are much higher than river elevations at the site, and thus are not representative of site conditions. Industrial development on the site is reported to date from the 1870's. Drawings from 1914, revised in 1922, show the site to be part of the Lister Agricultural Chemical Company property which extended for some distance along the Passaic River. This plant site also included most of the other nearby industrial sites. It was during the period of ownership by Lister that the site reached its present dimensions following filling along the south shore of the Passaic River to form the northernmost 30 percent of the property. Much of the remainder of the site is also filled with the granular material reportedly used to fill the marsh land that existed in the natural state. Several buildings were on the site including the Lister power plant, which remains today as the chemical manufacturing building. When Lister Agricultural Chemical Company ceased operations the property was subdivided largely along the lines that form the present property boundaries and was sold. A 1.8-acre parcel (the northeast portion of the present site) was eventually acquired by the Kolker Chemical Works, Inc., which, by the mid-1940's, was operating an agricultural chemicals plant on the site. This was the beginning of the manufacturing operations that are related to the current conditions at the site. Kolker was an early producer of both dichlorodiphenyl trichloroethane (DDT) and the phenoxy herbicides. The exact dates when manufacture started is not known, but it is believed that DDT production was underway before the end of World War II and that herbicide production started by 1948. In addition to DDT and the phenoxy herbicides, other products of interest produced on the site included hexachlorobenzene (HCB), ovex (a miticide), Lindane and low gamma-benzene hexachloride (low gamma-BHC). Several derivatives of benzene sulfonyl chloride and sulfonates were also made, but these were all low volume products. In all cases, manufacture started with readily available raw materials and the principal intermediates were made on the site. The principal products made on the site by Kolker were DDT and the phenoxy herbicides. Ownership by Kolker ceased in March 1951 when the Kolker Chemical Works was acquired by Diamond Alkali Company (Diamond Shamrock Chemicals Company). During this period the manufacture of several products was either transferred to other locations or discontinued, leaving the phenoxy herbicides as the only products of the plant. A major impetus for this change was an explosion in February 1960 which destroyed several plant processes. When rebuilt the plant only included processes for the manufacture of the phenoxy herbicides and their intermediates. Modernization and expansion continued during the 1960's, more than doubling total phenoxy capacity, to 15 million pounds per year. The changes started in 1955 with the transfer of Lindane manufacture to another location. Production of low gamma-BHC continued until 1957 or 1958 when it also was relocated. The biggest change, however, was the transfer of DDT production, which was moved to Texas in late 1958 or early 1959. During the late 1950's several process changes were instituted to improve the operating efficiency of the plant. Among these was a change instituted around 1956 to the

**DIAMOND ALKALI CO. (Continued)****1000301205**

trichlorophenol (TCP) process effluent with the installation of an industrial sewer connecting to the Passaic Valley Sewerage Commission (PVSC) Lister Avenue line. Following installation of that connection, most of the plant process wastes were discharged through the PVSC treatment plant. An explosion in the TCP unit during February 1960 destroyed the large five-story building in which it and several other plant processes had been located. Following the explosion, a decision was made to limit future production to the phenoxy herbicides, ending output of HCB, ovex and the benzene sulfonyl chloride derivatives. A larger site was required for rebuilding the plant on the scale desired, so an adjacent 1.6-acre parcel (consisting of the southwest portion of the present site) was leased from the Triplex Oil and Refining Company (later Walter Ray Holding Company). This site, which had been used for reclaiming oil, contained several buildings and large tanks which were razed to permit installation of a new laboratory and office building, a maintenance shop/warehouse building, and a tank farm for flammable raw materials along the west side of the property. Following demolition of the remains of the damaged building, a new process building devoted to the manufacture of sodium trichlorophenol (NaTCP), 2,4-dichlorophenol (2,4-DCP), monochloroacetic acid (MCA), and by-product hydrochloric acid (HCl) was erected along the river near what had been the north end of the old building. Following this construction, the manufacture of the intermediates was carried out in the new buildings, leaving the old but undamaged chemical manufacturing building for the production of 2,4-dichlorophenoxyacetic acid (2,4-D), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), and their esters and amines. The process building remains largely unchanged to this day. The only addition was equipment installed in 1967 to purify the NaTCP by removing dioxin. The period 1963 to 1967 saw several major projects in the 2,4-D and 2,4,5-T manufacturing areas which were designed to improve working conditions, improve product quality, and expand capacity. Operation at the plant continued until August 1969 when it was shut down. The production units were cleaned out as they were shut down, and between September and December the remaining raw materials and products were sold and shipped. The plant was listed for sale and remained idle throughout 1970 until it was purchased by Chemicaland Corporation in March 1971. It is noted that Chemicaland actually purchased the 1.8 acres and improvements owned by Diamond Shamrock, which then assigned rights to the 1.6 acres it had leased from Walter Ray Holding Company to Chemicaland. Following purchase of the property by Chemicaland, equipment was installed for the manufacture of benzyl alcohol which was to be made and sold by Cloray NJ Corporation, an affiliate of Chemicaland. Production of benzyl alcohol was not profitable, so an attempt was made to expand their product line by manufacturing on a toll basis. These efforts were all unsuccessful and production ceased during the summer of 1973. In September 1973, Chemicaland contracted with Diamond Shamrock to produce 2,4-D on a toll basis and started rehabilitating the plant so that it could again make 2,4-D. Rehabilitation of the plant was completed sometime during the spring of 1974 and production of 2,4-D resumed. Limited quantities of 2,4-D were produced during the summer of 1974, but none was delivered to Diamond Shamrock under the contract. Operations were suspended and the plant staff was laid off in September 1974. Arrangements were then made by Chemicaland to produce 2,4-D on a toll basis for a second time and work resumed in February 1975. Limited quantities of 2,4-D were being produced by April 1975. Production of 2,4-D continued for the next 22 months, but output varied widely. Chemicaland scavenge equipment from unused processes such as TCP purification and 2,4,5-T for use in their 2,4-D unit and made temporary repairs to bypass failed equipment. The only major addition to the process known to have been made by Chemicaland was the Installation of a second 2,4-D reactor during May 1976. However, this addition was soon negated by the failure of the original reactor. The maximum monthly output of 2,4-D by Chemicaland was

MAP FINDINGS

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

reported to be about 500,000 pounds. In November 1976, while they were considering acquisition of Chemicaland, Occidental Chemical Company assumed control of the management of the plant and continued to manage the plant until February 24, 1977, when they returned control of the plant to Chemicaland. Because Chemicaland did not have the resources to continue operating without the support of Occidental, they laid off all plant personnel and shut down the plant on February 24, 1977. The property remained idle through 1980, but the ownership changed as William Leckie (the successor to Walter Ray Holding Company) purchased the 1.8 acres owned by Chemicaland in a tax sale, consolidating ownership in his name. In March 1981 Leckie sold the site to Marisol, Inc. Little is known of the use of the property by Marisol, but eventually this company started cleaning and clearing the site. Concerning the cleanup, it is known that: - The product left in the equipment when the plant was shut down on February 24, 1977, was removed and placed in drums, of which 570 remain on site today. - Some equipment known to be on the site following the shutdown was removed. - Warehouse space and tankage was leased to SCA Corporation which used it in conjunction with waste disposal operations at their neighboring plant. The date that SCA started to use the site is not exactly known, but was prior to the summer of 1982. During the spring of 1983, SCA continued to lease and use a portion of the site, while Marisol was working to prepare the office building for occupancy. This was the situation in May 1983 when results of samples taken in April by the USEPA showed high levels of dioxin on the site and New Jersey Department of Environmental Protection (NJDEP) moved to control access to the property. Upon the discovery of the presence of high concentrations of TCDD in May of 1983, the site was evacuated and secured. All exposed soils were covered with geofabric to prevent potential migration of contamination by surface runoff and wind blown particulates. In addition, the site is guarded 24 hours per day. These provisions have been maintained and are currently in place. A Record of Decision addressing Operable Unit 1 of the site was completed in September 1987.

CERCLIS Assessment History:

Action Code: 001  
Action: DISCOVERY  
Date Started: / /  
Date Completed: 11/01/79  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: PRELIMINARY ASSESSMENT  
Date Started: / /  
Date Completed: 06/01/80  
Priority Level: Low priority for further assessment  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: SITE INSPECTION  
Date Started: 08/01/83  
Date Completed: 09/01/83  
Priority Level: Higher priority for further assessment  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: PROPOSAL TO NATIONAL PRIORITIES LIST  
Date Started: / /  
Date Completed: 09/08/83  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: AERIAL SURVEY  
Date Started: / /  
Date Completed: 12/01/83  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: REMEDIAL INVESTIGATION/FEASIBILITY STUDY NEGOTIATIONS  
Date Started: / /  
Date Completed: 02/15/84  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: State Enforcement  
Planning Status: Alternate  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action Code: 001  
Action: NATIONAL PRIORITIES LIST RESPONSIBLE PARTY SEARCH  
Date Started: / /  
Date Completed: 02/15/84  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 03/13/84  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: State Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: FINAL LISTING ON NATIONAL PRIORITIES LIST  
Date Started: / /  
Date Completed: 09/21/84  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: REMOVAL  
Date Started: 07/28/83  
Date Completed: 11/29/84  
Priority Level: Stabilized  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Primary  
Urgency Indicator: Time Critical  
Action Anomaly: Original Action Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: STATE ORDER  
Date Started: / /

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Date Completed: 12/20/84  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: State Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: ADMINISTRATIVE/VOLUNTARY COST RECOVERY  
Date Started: / /  
Date Completed: 01/31/85  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Alternate  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL  
Date Started: 11/29/84  
Date Completed: 06/30/86  
Priority Level: Stabilized  
Operable Unit: SITEWIDE  
Primary Responsibility: Responsible Party  
Planning Status: Primary  
Urgency Indicator: Time Critical  
Action Anomaly: New Action Resulting from Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
Date Started: 02/15/84  
Date Completed: 09/30/87  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: State, No Fund Money  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: RECORD OF DECISION  
Date Started: / /  
Date Completed: 09/30/87  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Primary Responsibility: Federal Enforcement  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004  
Action: Notice Letters Issued  
Date Started: / /  
Date Completed: 10/19/88  
Priority Level: Not reported  
Operable Unit: EXTENDED PASSAIC RIVER STUDY  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003  
Action: Notice Letters Issued  
Date Started: / /  
Date Completed: 10/19/88  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: Notice Letters Issued  
Date Started: / /  
Date Completed: 10/20/88  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: Notice Letters Issued  
Date Started: / /  
Date Completed: 10/20/88  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: COST RECOVERY NEGOTIATIONS  
Date Started: 10/14/88  
Date Completed: 08/23/89  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Alternate  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: REMEDIAL DESIGN/REMEDIAL ACTION NEGOTIATIONS  
Date Started: 10/20/88  
Date Completed: 08/23/89  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Federal Enforcement  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: Lodged By DOJ  
Date Started: / /  
Date Completed: 12/04/89  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: REMOVAL ASSESSMENT  
Date Started: 03/30/90  
Date Completed: 08/24/90  
Priority Level: Stabilized  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action Code: 001  
Action: CONSENT DECREE  
Date Started: 08/23/89  
Date Completed: 11/19/90  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Federal Enforcement  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: REMOVAL ASSESSMENT  
Date Started: 11/17/92  
Date Completed: 12/04/92  
Priority Level: Stabilized  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 04/20/94  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Federal Enforcement  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN  
Date Started: 12/14/89  
Date Completed: 10/18/95  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Responsible Party  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION  
Date Started: 09/19/95

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Date Completed: 06/30/96  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Responsible Party  
Planning Status: Primary  
Urgency Indicator: Early Action  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN  
Date Started: 12/14/89  
Date Completed: 08/04/98  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Responsible Party  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: FIVE-YEAR REVIEW  
Date Started: / /  
Date Completed: 07/13/01  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
Date Started: 04/20/94  
Date Completed: 09/28/02  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Responsible Party  
Planning Status: Primary  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: STATE ENFORCEMENT MANAGEMENT ASSISTANCE  
Date Started: 09/29/97  
Date Completed: 09/30/03  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Other Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 02/13/04  
Priority Level: Not reported  
Operable Unit: NEWARK BAY  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: CONSENT AGREEMENT (ADMINISTRATIVE)  
Date Started: / /  
Date Completed: 03/31/04  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: TECHNICAL ASSISTANCE  
Date Started: 09/30/96  
Date Completed: 09/30/04  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: TECHNICAL ASSISTANCE  
Date Started: 08/06/01  
Date Completed: 09/30/04  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action Code: 002  
Action: FIVE-YEAR REVIEW  
Date Started: / /  
Date Completed: 07/12/06  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION  
Date Started: 08/04/98  
Date Completed: 07/20/06  
Priority Level: Final RA Report  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: Responsible Party  
Planning Status: Primary  
Urgency Indicator: Long Term Action  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 05/08/07  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: CLAIM IN BANKRUPTCY PROCEEDING  
Date Started: 04/09/07  
Date Completed: 05/20/08  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: REMOVAL NEGOTIATIONS  
Date Started: 10/19/88  
Date Completed: 06/23/08

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Priority Level: Not reported  
Operable Unit: EXTENDED PASSAIC RIVER STUDY  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 005  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 06/23/08  
Priority Level: Not reported  
Operable Unit: EXTENDED PASSAIC RIVER STUDY  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: ENGINEERING EVALUATION/COST ANALYSIS  
Date Started: 06/23/08  
Date Completed: 01/09/09  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Responsible Party  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004  
Action: CLAIM IN BANKRUPTCY PROCEEDING  
Date Started: 02/27/09  
Date Completed: 12/14/09  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 005  
Action: CLAIM IN BANKRUPTCY PROCEEDING  
Date Started: 04/24/09  
Date Completed: 04/23/10  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: ADMINISTRATIVE/VOLUNTARY COST RECOVERY  
Date Started: / /  
Date Completed: 08/19/10  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003  
Action: FIVE-YEAR REVIEW  
Date Started: / /  
Date Completed: 06/08/11  
Priority Level: Not reported  
Operable Unit: 80 AND 120 LISTER AVENUE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 006  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 09/27/11  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: Lodged By DOJ  
Date Started: / /  
Date Completed: 01/30/12  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004  
Action: CONSENT DECREE  
Date Started: / /  
Date Completed: 03/29/12  
Priority Level: Multi-Site-First Site  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007  
Action: ADMINISTRATIVE ORDER ON CONSENT  
Date Started: / /  
Date Completed: 06/18/12  
Priority Level: Not reported  
Operable Unit: EXTENDED PASSAIC RIVER STUDY  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: UNILATERAL ADMIN ORDER  
Date Started: / /  
Date Completed: 06/25/12  
Priority Level: Participate and Cooperate  
Operable Unit: SITEWIDE  
Primary Responsibility: Federal Enforcement  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
Date Started: 09/28/02  
Date Completed: / /  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: Special Account Financed Action - EPA  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Original Action Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
Date Started: 02/13/04  
Date Completed: / /  
Priority Level: Not reported  
Operable Unit: NEWARK BAY  
Primary Responsibility: Special Account Financed Action - EPA  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
Date Started: 02/13/04  
Date Completed: / /  
Priority Level: Not reported  
Operable Unit: NEWARK BAY  
Primary Responsibility: Responsible Party  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001  
Action: TECHNICAL ASSISTANCE GRANT  
Date Started: 09/23/04  
Date Completed: / /  
Priority Level: Not reported  
Operable Unit: SITEWIDE  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003  
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
Date Started: 05/08/07  
Date Completed: / /  
Priority Level: Not reported  
Operable Unit: EXTENDED PASSAIC RIVER STUDY  
Primary Responsibility: Responsible Party  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002  
Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL  
Date Started: 01/09/09  
Date Completed: / /  
Priority Level: Cleaned up  
Operable Unit: PASSAIC RIVER STUDY - LOWER

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Primary Responsibility: Responsible Party  
Planning Status: Not reported  
Urgency Indicator: Non-Time Critical  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003  
Action: TECHNICAL ASSISTANCE  
Date Started: 06/30/09  
Date Completed: / /  
Priority Level: Not reported  
Operable Unit: PASSAIC RIVER STUDY - LOWER  
Primary Responsibility: EPA Fund-Financed  
Planning Status: Not reported  
Urgency Indicator: Not reported  
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Federal Register Details:

Fed Register Date: 09/21/84  
Fed Register Volume: 49  
Page Number: 37070

Fed Register Date: 09/08/83  
Fed Register Volume: 48  
Page Number: 40674

[Click this hyperlink](#) while viewing on your computer to access  
2048 additional US CERCLIS Financial: record(s) in the EDR Site Report.

US ENG CONTROLS:

EPA ID: NJD980528996  
Site ID: 0200613  
Name: DIAMOND ALKALI CO.  
Address: 80 LISTER AVE  
NEWARK, NJ 07105  
EPA Region: 02  
County: ESSEX  
Event Code: Not reported  
Actual Date: 09/30/87

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Buildings/Structures  
Engineering Control: Decontamination

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Buildings/Structures  
Engineering Control: Demolition

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Buildings/Structures  
Engineering Control: Disposal

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Buildings/Structures  
Engineering Control: Recycling

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Groundwater  
Engineering Control: Monitoring

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Groundwater  
Engineering Control: Pump And Treat

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Groundwater  
Engineering Control: Residuals Disposal

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Groundwater  
Engineering Control: Slurry Wall

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Soil  
Engineering Control: Cap

Action ID: 001  
Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Solid Waste  
Engineering Control: Disposal

Action ID: 001

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

Action Name: RECORD OF DECISION  
Action Completion date: 09/30/87  
Operable Unit: 01  
Contaminated Media : Solid Waste  
Engineering Control: Solidification/Stabilization (Ex-Situ)

**CONSENT:**

EPA ID: NJD980528996  
Site ID: Not reported  
Case Title: U.S. V. OCCIDENTAL CHEMICAL CORP. (DIAMOND ALKALI)  
Court Num: 89-5064  
District: New Jersey  
Entered Date: 19901119  
Full-text of the consent decree for this site issued by the United States District Court is available from EDR. Contact your EDR Account Executive.

**ROD:**

Full-text of USEPA Record of Decision(s) is available from EDR.

**FINDS:**

Registry ID: 110009324409

**Environmental Interest/Information System**

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

PRP:

PRP name:

ALLIANCE CHEMICAL  
ARKEMA INC  
ARKEMA INC  
ASHLAND INC.  
ASHLAND INC.  
ATLANTIC RICHFIELD COMPANY  
ATLANTIC RICHFIELD COMPANY  
BASF CORPORATION  
BASF CORPORATION  
BELLEVILLE INDUSTRIAL CENTER  
BELLEVILLE INDUSTRIAL CENTER  
BENJAMIN MOORE & CO  
BENJAMIN MOORE & CO  
BRADY IRON AND METALS CO.  
BRISTOL-MYERS SQUIBB COMPANY  
CBS CORPORATION  
CBS CORPORATION  
CELANESE LTD.  
CHEMICAL LAND HOLDINGS, INC.  
CHEMTURA CORPORATION AND RACLAUR LLC  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
CITY OF NEWARK  
CNA HOLDINGS LLC  
COATS & CLARK INC  
COLTEC INDUSTRIES NC  
COLTEC INDUSTRIES NC  
CONOPCO INC  
CONOPCO INC  
CONRAIL CORP.  
COOPER INDUSTRIES LLC  
COVANTA ESSEX COMPANY  
COVANTA ESSEX COMPANY  
CRODA INC  
CRODA INC  
DII INDUSTRIES LLC  
DILORENZO PROPERTIES COMPANY  
DILORENZO PROPERTIES COMPANY  
DU PONT COMPANY  
E I DUPONT DE NEMOURS AND COMPANY  
EDEN WOOD CORPORATION  
EDEN WOOD CORPORATION  
ELAN CHEMICAL CO INC  
ELAN CHEMICAL CO INC  
EPEC POLYMERS INC  
EPEC POLYMERS INC  
EQUISTAR CHEMICALS LP  
ESSEX CHEMICAL CORPORATION  
ESSEX CHEMICAL CORPORATION  
EXELIS INC  
FLEXON INDUSTRIES CORP  
FLEXON INDUSTRIES CORP

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DIAMOND ALKALI CO. (Continued)**

**1000301205**

FRANKLIN-BURLINGTON PLASTICS INC  
FRANKLIN-BURLINGTON PLASTICS INC  
GARFIELD MOLDING CO INC  
GARFIELD MOLDING CO INC  
GENERAL ELECTRIC COMPANY  
GENERAL ELECTRIC COMPANY  
GENERAL MOTORS CORPORATION  
GENERAL MOTORS CORPORATION

[Click this hyperlink](#) while viewing on your computer to access  
104 additional PRP: record(s) in the EDR Site Report.

**B12**      **DISCOVERIES INCORPORATED**  
**235 WEST 1ST STREET**  
**< 1/8**      **BAYONNE CITY, NJ 07002**  
**1 ft.**

**NJ ISRA**      **S107586343**  
**N/A**

**Site 1 of 13 in cluster B**

**Relative:**  
**Higher**

NJ ISRA:  
Pi Number:                    G000009311  
Action Number:              ISR850002  
Title:                            E85434 Discoveries Incorporate  
Isra Trg: Finalized Date      Not reported  
Start Date:                    02/13/1990  
Facility Status:               Withdrawn from ECRA/ISRA  
Case No:                        E85434  
Case Name:                     Discoveries Incorporated  
Case Type:                      ISRA  
Trigger Type:                  Property Sale  
Trigger Date:                  10/28/1985

**Actual:**  
**7 ft.**

Pi Number:                    G000009311  
Action Number:              ISR940002  
Title:                            E94309 Discoveries Incorporate  
Isra Trg: Finalized Date      Not reported  
Start Date:                    11/30/1994  
Facility Status:               NFA (No Further Action) HISTORIC  
Case No:                        E94309  
Case Name:                     Discoveries Incorporated  
Case Type:                      ISRA  
Trigger Type:                  Cessation  
Trigger Date:                  06/20/1994

**B13**      **TEXACO USA - A DIVISION OF TEXACO**  
**AVENUE A AND WEST 1ST ST**  
**< 1/8**      **BAYONNE, NJ 07002**  
**1 ft.**

**CT MANIFEST**      **S109779624**  
**N/A**

**Site 2 of 13 in cluster B**

**Relative:**  
**Higher**

CT MANIFEST:  
Waste:  
Manifest No:                    Not reported  
Waste Occurrence:            Not reported  
UNNA:                            Not reported  
Hazard Class:                  Not reported  
US Dot Description:            Not reported

**Actual:**  
**6 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA - A DIVISION OF TEXACO (Continued)**

**S109779624**

No of Containers: Not reported  
Container Type: Not reported  
Quantity: Not reported  
Weight/Volume: Not reported  
Additional Description: Not reported  
Handling Code: Not reported  
Date Record Was Last Modified: Not reported  
DEO Who Last Modified Record: Not reported

Waste CD:

Manifest No: Not reported  
Waste Occurrence: Not reported  
EPA Waste Code: Not reported  
Recycled Waste?: Not reported  
Date Record Was Last Modified: Not reported  
DEO Who Last Modified Record: Not reported

Detail:

Year: 1991  
Manifest ID: CTF0073750  
TSDf EPA ID: CTD002593887  
TSDf Name: HITCHCOCK GAS ENGINE CO  
TSDf Address: 50 CROSS STREET  
TSDf City,St,Zip: BRIDGEPORT, CT 06608  
TSDf Country: USA  
TSDf Telephone: Not reported  
Transport Date: 5/1/1991  
Transporter EPA ID: CTD002593887  
Transporter Name: HITCHCOCK GAS ENGINE CO  
Transporter Country: USA  
Transporter Phone: Not reported  
Trans 2 Date: Not reported  
Trans 2 EPA ID: Not reported  
Trans 2 Name: Not reported  
Trans 2 Address: Not reported  
Trans 2 City,St,Zip: CT  
Trans 2 Country: USA  
Trans 2 Phone: Not reported  
EPA ID: NJD067505958  
Generator Phone: 2034362200  
Generator Mailing Addr: AVE A & FIRST ST  
Generator Mailing Town: BAYONNE  
Generator Mailing State: NJ  
Generator Mailing Zip: 07002  
Generator Mailing Country: USA  
Special Handling: No  
Discrepancies: Yes  
Date Shipped: 5/1/1991  
Date Received: 5/1/1991  
Last modified date: 4/27/2004  
Last modified by: IG  
Comments: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

14

**ULTRA ADDITIVES INC**  
**54 JULIETTE ST**  
**BAYONNE, NJ 07002**

RCRA NonGen / NLR

**1011844178**  
**NJN008019580**

< 1/8  
1 ft.

**Relative:  
Higher**

**Actual:  
20 ft.**

RCRA NonGen / NLR:

Date form received by agency: 07/29/2008  
Facility name: ULTRA ADDITIVES INC  
Facility address: 54 JULIETTE ST  
BAYONNE, NJ 07002  
EPA ID: NJN008019580  
Mailing address: JULIETTE ST  
BAYONNE, NJ 07002  
Contact: Not reported  
Contact address: JULIETTE ST  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported  
EPA Region: 02  
Land type: Private  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 07/15/2008  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: EPA

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**B15**  
**< 1/8**  
**1 ft.**

**PIRELLI CABLE CORP**  
**236 W 1ST ST**  
**BAYONNE, NJ 07002**

**RCRA NonGen / NLR**  
**FINDS**  
**US AIRS**

**1000205119**  
**NJD085663631**

**Site 3 of 13 in cluster B**

**Relative:**  
**Higher**

RCRA NonGen / NLR:

**Actual:**  
**6 ft.**

Date form received by agency: 01/01/2007  
Facility name: PIRELLI CABLE CORP  
Facility address: 236 W 1ST ST  
BAYONNE, NJ 070025252  
EPA ID: NJD085663631  
Mailing address: W 1ST ST  
BAYONNE, NJ 07002  
Contact: Not reported  
Contact address: W 1ST ST  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported  
EPA Region: 02  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: PIRELLI CABLE CORP  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999  
Owner/operator country: US  
Owner/operator telephone: (212) 555-1212  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: PIRELLI CABLE CORP  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999  
Owner/operator country: US  
Owner/operator telephone: (212) 555-1212  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PIRELLI CABLE CORP (Continued)**

**1000205119**

Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: PIRELLI CABLE CORP  
Classification: Not a generator, verified

Date form received by agency: 09/23/1981  
Facility name: PIRELLI CABLE CORP  
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110001533136

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

AIRS (AFS):

Airs Minor Details:

EPA plant ID: 110001533136  
Plant name: GENERAL CABLE CORPORATION  
Plant address: 236 WEST FIRST STREET  
BAYONNE, NJ 07002  
County: HUDSON  
Region code: 02  
Dunn & Bradst #: Not reported  
Air quality cntrl region: 043  
Sic code: 3357

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PIRELLI CABLE CORP (Continued)**

**1000205119**

Sic code desc: NONFERROUS WIRE DRAWING AND INSULATING  
North Am. industrial classf: Not reported  
NAIC code description: Not reported  
Default compliance status: IN COMPLIANCE - SHUT DOWN  
Default classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR  
Govt facility: ALL OTHER FACILITIES NOT OWNED OR OPERATED BY A FEDERAL, STATE, OR LOCAL GOVERNMENT  
Current HPV: Not reported

Historical Compliance Minor Sources:

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 0904  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1002  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1101  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1103  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1202  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1001  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1003  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1004  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1102  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1104  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1201  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - SHUT DOWN  
Hist compliance date: 1203

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PIRELLI CABLE CORP (Continued)**

**1000205119**

Air prog code hist file: 0

Compliance & Violation Data by Minor Sources:

Air program code: SIP SOURCE  
Plant air program pollutant: VOLATILE ORGANIC COMPOUNDS  
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR  
Def. poll. compliance status: IN COMPLIANCE - SHUT DOWN  
Def. attainment/non attainment: Not reported  
Repeat violator date: Not reported  
Turnover compliance: Not reported

**B16**

**TEXACO PROPERTY  
FIRST STREET  
BAYONNE CITY, NJ 00000**

**NJ BROWNFIELDS S110747232  
N/A**

< 1/8  
1 ft.

**Site 4 of 13 in cluster B**

**Relative:  
Higher**

**BROWNFIELDS:**  
Price: Not reported  
Assessed Value: Not reported  
**Actual:** Property Size: 26 ? 50  
6 ft. Annual Taxes: Not reported  
Representative Address: Not reported  
Representative City/State/Zip: Not reported  
Submitter Name: Not reported  
Submitter Address1: Not reported  
Submitter Address2: Not reported  
Submitter City: Not reported  
Submitte rState: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported  
General Comments: This property is 33 acres...

**B17**

**TEXACO  
AVENUE A & W 1ST ST  
BAYONNE CITY, NJ 07002**

**NJ BROWNFIELDS S110747234  
N/A**

< 1/8  
1 ft.

**Site 5 of 13 in cluster B**

**Relative:  
Higher**

**BROWNFIELDS:**  
Price: Not reported  
Assessed Value: Greater than \$1,000,000  
**Actual:** Property Size: 26 ? 50  
6 ft. Annual Taxes: Not reported  
Representative Address: Not reported  
Representative City/State/Zip: Not reported  
Submitter Name: Not reported  
Submitter Address1: Not reported  
Submitter Address2: Not reported  
Submitter City: Not reported  
Submitte rState: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO (Continued)**

**S110747234**

Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported  
General Comments: Coming Soon...

**B18**

**PIRELLI CABLE COMPANY  
236 1ST ST W  
BAYONNE CITY, NJ 07002**

**NJ HIST HWS  
NJ ISRA**

**S107445243  
N/A**

< 1/8  
1 ft.

**Site 6 of 13 in cluster B**

**Relative:  
Higher**

HIST SHWS:

**Case Status: Active**  
Status Date: 6/18/1998  
Case ID: G000003880  
Contact: BNCM  
Sub Section Label: A: Sites with On-Site Sources of Contamination  
Site Municipality: 0901  
Remedial Level Code: C3  
Classification exception area dt: None  
Classification exception area dt: Not reported  
Deed Notice Status: None  
Deed Notice Date: Not reported  
Engineering Control Status: None  
Engineering Control Date: Not reported  
National Priorities List Status: Not reported  
National Priorities List Date: Not reported  
X Coordinate: 591827  
Y Coordinate: 660955  
Coordinate System: NJ State Plane (NAD83) - USFEET

**Actual:  
6 ft.**

NJ ISRA:

Pi Number: G000003880  
Action Number: ISR860002  
Title: E86523 Pirelli Cable Corporati  
Isra Trg: Finalized Date: Not reported  
Start Date: 09/10/1992  
Facility Status: Withdrawn from ECRA/ISRA  
Case No: E86523  
Case Name: Pirelli Cable Corporation  
Case Type: ISRA  
Trigger Type: Property Sale  
Trigger Date: 02/09/1987

Pi Number: G000003880  
Action Number: ISR920002  
Title: E92133 Pirelli Cable Corporati  
Isra Trg: Finalized Date: Not reported  
Start Date: 04/12/1993  
Facility Status: NFA (No Further Action) HISTORIC  
Case No: E92133  
Case Name: Pirelli Cable Corporation  
Case Type: ISRA  
Trigger Type: Cessation  
Trigger Date: 06/01/1992

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**B19**      **WILLIAMS INDUSTRIES**  
**235 WEST 1ST ST**  
**< 1/8**      **BAYONNE, NJ 07002**  
**1 ft.**

**NY MANIFEST**      **1009225135**  
   **N/A**

**Site 7 of 13 in cluster B**

**Relative:**  
**Higher**

NY MANIFEST:  
EPA ID:                      NJP000913400  
Country:                    USA  
Mailing Name:              WILLIAMS INDUSTRIES  
Mailing Contact:           WILLIAM RUBESNSTEIN  
Mailing Address:           235 WEST 1ST ST  
Mailing Address 2:        Not reported  
Mailing City:               BAYONNE  
Mailing State:              NJ  
Mailing Zip:                07002  
Mailing Zip4:               Not reported  
Mailing Country:          USA  
Mailing Phone:             901-522-2209

**Actual:**  
**7 ft.**

Document ID:              NYB7404363  
Manifest Status:           Completed copy  
Trans1 State ID:           PD1946NY  
Trans2 State ID:           PD9945NY  
Generator Ship Date:      951025  
Trans1 Recv Date:         951025  
Trans2 Recv Date:         951030  
TSD Site Recv Date:      951030  
Part A Recv Date:         951122  
Part B Recv Date:         951110  
Generator EPA ID:         NJP000913400  
Trans1 EPA ID:             NYD980769947  
Trans2 EPA ID:             NYD980769947  
TSD ID:                     NYD049836679  
Waste Code:                D004 - ARSENIC 5.0 MG/L TCLP  
Quantity:                   00500  
Units:                       P - Pounds  
Number of Containers:     001  
Container Type:             DM - Metal drums, barrels  
Handling Method:          T Chemical, physical, or biological treatment.  
Specific Gravity:           100  
Waste Code:                Not reported  
Quantity:                   00300  
Units:                       P - Pounds  
Number of Containers:     001  
Container Type:             DM - Metal drums, barrels  
Handling Method:          T Chemical, physical, or biological treatment.  
Specific Gravity:           100  
Year:                         95

Document ID:              NYB9075249  
Manifest Status:           Not reported  
Trans1 State ID:           PAD146714878  
Trans2 State ID:           Not reported  
Generator Ship Date:      10/26/1998  
Trans1 Recv Date:         10/26/1998  
Trans2 Recv Date:         Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

TSD Site Recv Date: 10/27/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: TS31639PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 50800  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075258  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/23/1998  
Trans1 Recv Date: 10/23/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/26/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: XA07719PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 48480  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075276  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/26/1998  
Trans1 Recv Date: 10/26/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/29/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: XD54730PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 48020

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075285  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/26/1998  
Trans1 Recv Date: 10/26/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/27/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: TW56995PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 46880  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075294  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/26/1998  
Trans1 Recv Date: 10/26/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/27/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: XB5459PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 48000  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075303

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/26/1998  
Trans1 Recv Date: 10/26/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/28/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: TY30468PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 50920  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075312  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/22/1998  
Trans1 Recv Date: 10/22/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/23/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: TW56995PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 46340  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075321  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/23/1998  
Trans1 Recv Date: 10/23/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/26/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: XC76512PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 54040  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075339  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/23/1998  
Trans1 Recv Date: 10/23/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/26/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: XD54729PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 37920  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075348  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/23/1998  
Trans1 Recv Date: 10/23/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/28/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: XA61009PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 29640  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9075357  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/22/1998  
Trans1 Recv Date: 10/22/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/23/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: TV34339PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 45940  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9001233  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/20/1998  
Trans1 Recv Date: 10/20/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/21/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: 7T78952PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 45840  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9001242  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

Generator Ship Date: 10/13/1998  
Trans1 Recv Date: 10/13/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/14/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: TM99723PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 47400  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9001251  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/19/1998  
Trans1 Recv Date: 10/19/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/20/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: XA44675  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 53720  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9001269  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/13/1998  
Trans1 Recv Date: 10/13/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/14/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

TSDF ID: XB47596PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 51120  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9001278  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/08/1998  
Trans1 Recv Date: 10/08/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/09/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: XA07719PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 48540  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9001287  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/08/1998  
Trans1 Recv Date: 10/08/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/09/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSDF ID: TZ15906PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 51420  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**WILLIAMS INDUSTRIES (Continued)**

**1009225135**

Document ID: NYB9001296  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/08/1998  
Trans1 Recv Date: 10/08/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/09/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: TW56995PA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 48320  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Year: 98

Document ID: NYB9002655  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 10/16/1998  
Trans1 Recv Date: 10/16/1998  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/19/1998  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJP000913400  
Trans1 EPA ID: NYD049836679  
Trans2 EPA ID: Not reported  
TSD ID: XB5459APA  
Waste Code: D004 - ARSENIC 5.0 MG/L TCLP  
Quantity: 40060  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 01.00  
Year: 98

[Click this hyperlink](#) while viewing on your computer to access  
74 additional NY\_MANIFEST: record(s) in the EDR Site Report.

MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Site

Database(s)

EDR ID Number  
 EPA ID Number

**B20**      **TEXACO REFINING AND MARKETING INC**  
 236 W 1ST ST  
 < 1/8      **BAYONNE, NJ 07002**  
 1 ft.

**NJ VCP**      **S106591283**  
 N/A

**Site 8 of 13 in cluster B**

**Relative:**      VCP:  
**Higher**      Incident Number:      98-01-30-0345-59  
                  MOA Execution Date:      5/27/1998  
**Actual:**      Type Of Vcp File:      HISTORICAL  
**6 ft.**      Pi Number:      Not reported  
                  Case Type(Case Type):      Not reported  
                  Case Contact: Department      Not reported  
                  Case Contact Name:      Not reported  
                  Case Contact: Organization      Texaco Refining & Marketing  
                  Case Contact: Address: Line1      Not reported  
                  Case Contact: Address: Line2      Not reported  
                  Case Contact: Address: Line3      Not reported  
                  Case Contact City,St,Zip:      Not reported

**B21**      **DISCOVERIES INCORPORATED**  
 235 W 1ST ST  
 < 1/8      **BAYONNE CITY, NJ**  
 1 ft.

**NJ SHWS**      **S108973387**  
**NJ BROWNFIELDS**      **N/A**

**Site 9 of 13 in cluster B**

**Relative:**      SHWS:  
**Higher**      Site ID:      64152  
                  Status:      ACTIVE  
**Actual:**      Home Owner:      No  
**7 ft.**      PI Number:      G000009311  
                  X Coord Site:      591929  
                  X Coord PI:      591929  
                  Y Coord Site:      660969  
                  Y Coord PI:      660969

**BROWNFIELDS:**  
 Price:      Not reported  
 Assessed Value:      Not reported  
 Property Size:      Unknown  
 Annual Taxes:      Not reported  
 Representative Address:      Not reported  
 Representative City/State/Zip:      Not reported  
 Submitter Name:      Not reported  
 Submitter Address1:      Not reported  
 Submitter Address2:      Not reported  
 Submitter City:      Not reported  
 Submitter State:      Not reported  
 Submitter Zip:      Not reported  
 Submitter Email:      Not reported  
 Submitter Phone:      Not reported  
 Transaction Type:      Not reported  
 Transfer Type:      Not reported  
 General Comments:      Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

B22

**ABBEY ENTERPRISES INC**  
**235 W 1ST ST**  
**BAYONNE, NJ 07002**

**RCRA NonGen / NLR** 1000226037  
**FINDS** NJD058117755

< 1/8  
1 ft.

**Site 10 of 13 in cluster B**

**Relative:**  
**Higher**

RCRA NonGen / NLR:

Date form received by agency: 01/01/2007

Facility name: ABBEY ENTERPRISES INC

Facility address: 235 W 1ST ST  
BAYONNE, NJ 070025251

EPA ID: NJD058117755

Mailing address: W 1ST ST  
BAYONNE, NJ 07002

Contact: Not reported

Contact address: W 1ST ST  
BAYONNE, NJ 07002

Contact country: US

Contact telephone: Not reported

Contact email: Not reported

EPA Region: 02

Classification: Non-Generator

Description: Handler: Non-Generators do not presently generate hazardous waste

**Actual:**  
**7 ft.**

Owner/Operator Summary:

Owner/operator name: KENNETH ABBEY  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999

Owner/operator country: US  
Owner/operator telephone: (212) 555-1212

Legal status: Private

Owner/Operator Type: Operator

Owner/Op start date: Not reported

Owner/Op end date: Not reported

Owner/operator name: KENNETH ABBEY  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999

Owner/operator country: US  
Owner/operator telephone: (212) 555-1212

Legal status: Private

Owner/Operator Type: Owner

Owner/Op start date: Not reported

Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No

Mixed waste (haz. and radioactive): No

Recycler of hazardous waste: No

Transporter of hazardous waste: No

Treater, storer or disposer of HW: No

Underground injection activity: No

On-site burner exemption: No

Furnace exemption: No

Used oil fuel burner: No

Used oil processor: No

User oil refiner: No

Used oil fuel marketer to burner: No

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**ABBEY ENTERPRISES INC (Continued)**

**1000226037**

Used oil Specification marketer: No  
 Used oil transfer facility: No  
 Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
 Facility name: ABBEY ENTERPRISES INC  
 Classification: Not a generator, verified

Date form received by agency: 06/29/1988  
 Facility name: ABBEY ENTERPRISES INC  
 Classification: Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110004157787

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
 The Department of Environmental Protection (NJDEP) manages large  
 databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource  
 Conservation and Recovery Act (RCRA) program through the tracking of  
 events and activities related to facilities that generate, transport,  
 and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA  
 program staff to track the notification, permit, compliance, and  
 corrective action activities required under RCRA.

**B23**

**PIRELLI CABLE COMPANY**

**NJ SHWS  
 NJ BROWNFIELDS**

**S108973392  
 N/A**

< 1/8  
 1 ft.

**236 W 1ST ST  
 BAYONNE CITY, NJ**

**Site 11 of 13 in cluster B**

**Relative:  
 Higher**

SHWS:  
 Site ID: 76417  
 Status: ACTIVE  
 Home Owner: No  
 PI Number: G000003880  
 X Coord Site: 591827  
 X Coord PI: 591827  
 Y Coord Site: 660955  
 Y Coord PI: 660955

**Actual:  
 6 ft.**

**BROWNFIELDS:**

Price: Not reported  
 Assessed Value: Not reported  
 Property Size: Unknown  
 Annual Taxes: Not reported  
 Representative Address: Not reported  
 Representative City/State/Zip: Not reported  
 Submitter Name: Not reported  
 Submitter Address1: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**PIRELLI CABLE COMPANY (Continued)**

**S108973392**

Submitter Address2: Not reported  
Submitter City: Not reported  
Submitter State: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported  
General Comments: Not reported

**B24**

**MIMOSA CONSTRUCTION CO INC**  
**213 W FIRST ST**  
**BAYONNE, NJ 07002**

**RCRA-LQG**

**1011863322**  
**NJR000072587**

**< 1/8**  
**0.000 mi.**  
**2 ft.**

**Site 12 of 13 in cluster B**

**Relative:**  
**Higher**

RCRA-LQG:

Date form received by agency: 10/30/2008  
Facility name: MIMOSA CONSTRUCTION CO INC  
Facility address: 213 W FIRST ST

**Actual:**  
**7 ft.**

MAINTENANCE YARD  
BAYONNE, NJ 07002  
EPA ID: NJR000072587  
Mailing address: MORTON ST  
EAST RUTHERFORD, NJ 07070

Contact: MIQUEL DEMENTON  
Contact address: MORTON ST  
EAST RUTHERFORD, NJ 07070

Contact country: US  
Contact telephone: (201) 438-0448  
Contact email: Not reported  
EPA Region: 02  
Classification: Large Quantity Generator

Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name: MIMOSA CONSTRUCTION CO INC  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: Not reported  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 10/14/2008  
Owner/Op end date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**MIMOSA CONSTRUCTION CO INC (Continued)**

**1011863322**

Owner/operator name: PORT AUTHORITY OF NY & NJ  
Owner/operator address: GOETHEL RD N  
STATEN ISLAND, NY 10305  
Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: 01/01/1931  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Hazardous Waste Summary:

Waste code: D001  
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: F003  
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005  
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**MIMOSA CONSTRUCTION CO INC (Continued)**

**1011863322**

THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

**C25**  
**NNE**  
**< 1/8**  
**0.002 mi.**  
**10 ft.**

**AMOCO S/S #357**  
**210 KENNEDY BLVD & 7TH ST**  
**BAYONNE, NJ**

**NJ HIST LUST** **S104387517**  
**N/A**

**Site 1 of 4 in cluster C**

**Relative:**  
**Higher**

LUST HIST:

Case ID: 87-09-30-0600  
Lead Program Assigned: Bureau of Underground Storage Tanks  
**Facility Status: Assigned to a Program**  
UST ID: 0018074  
TMS Number: Not reported  
Remedial Level: Site has confirmed soil and ground water contamination.  
Case Manager: Leonard Lipman  
Facility Phone: (609) 777-0126  
No Further Action: Not reported  
RAW Approved: Y  
CEA: Y  
Date CEA Lifted: Not reported  
Dead Notice: N

**Actual:**  
**24 ft.**

**B26**  
**NNE**  
**< 1/8**  
**0.008 mi.**  
**44 ft.**

**BAYONNE BRIDGE**  
**W 1ST ST & KENNEDY BLVD**  
**BAYONNE CITY, NJ**

**NJ SHWS** **1007013000**  
**NJ BROWNFIELDS** **N/A**

**Site 13 of 13 in cluster B**

**Relative:**  
**Higher**

SHWS:

Site ID: 64597  
Status: ACTIVE  
Home Owner: No  
PI Number: G000021830  
X Coord Site: 592032  
X Coord PI: 592032  
Y Coord Site: 660779  
Y Coord PI: 660779

**Actual:**  
**7 ft.**

BROWNFIELDS:

Price: Not reported  
Assessed Value: Not reported  
Property Size: Unknown  
Annual Taxes: Not reported  
Representative Address: Not reported  
Representative City/State/Zip: Not reported  
Submitter Name: Not reported  
Submitter Address1: Not reported  
Submitter Address2: Not reported  
Submitter City: Not reported  
Submitter State: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE BRIDGE (Continued)**

1007013000

Transfer Type: Not reported  
General Comments: Not reported

D27  
NNE  
< 1/8  
0.010 mi.  
51 ft.

**BAYONNE SHOPPING CENTER**  
**163 AVE A**  
**BAYONNE CITY, NJ 07002**

NJ VCP  
NJ BROWNFIELDS

S107585188  
N/A

Site 1 of 6 in cluster D

Relative:  
Higher

VCP:

Actual:  
24 ft.

Incident Number: Not reported  
MOA Execution Date: 6/11/2008  
Type Of Vcp File: CURRENT  
Pi Number: 006042  
Case Type(Case Type): MOA  
Case Contact: Department Not reported  
Case Contact Name: RAYMOND A TRIPODI  
Case Contact: Organization PUBLIC SERVICE ELECTRIC & GAS CO  
Case Contact: Address: Line1 80 PARK PLAZA, T-17  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Newark, NJ 07102

BROWNFIELDS:

Price: Not reported  
Assessed Value: Other  
Property Size: Unknown  
Annual Taxes: Not reported  
Representative Address: Not reported  
Representative City/State/Zip: Not reported  
Submitter Name: Not reported  
Submitter Address1: Not reported  
Submitter Address2: Not reported  
Submitter City: Not reported  
Submitte rState: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported  
General Comments: This site was redeveloped as a supermarket strip mall. KCSL# on file.

D28  
NNE  
< 1/8  
0.010 mi.  
51 ft.

**BAYONNE SHOPPING CENTER**  
**163 AVENUE A**  
**BAYONNE CITY, NJ 07002**

NJ UST

1000143055  
N/A

Site 2 of 6 in cluster D

Relative:  
Higher

UST:

Actual:  
24 ft.

Facility ID: 006042  
Owner Name: Not Identified Not Identified  
Organization: Not Identified  
Contact Type(UST Reg): Facility Operator  
Contact Address (UST Reg): Not reported  
Contact Address 2 (UST Reg): Not reported  
Conact City,St,Zip (UST Reg): Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**1000143055**

Owner Name: SCOTT HELLER  
Organization: HB BAYONNE PARTNERSHIP  
Contact Type(UST Reg): Tank Owner  
Contact Address (UST Reg): 525 RIVER RD  
Contact Address 2 (UST Reg): Not reported  
Conact City,St,Zip (UST Reg): Edgewater, NJ 07020

Tank Id: TANK-10  
Tank Number: E4  
Tank Contents: Unleaded Gasoline  
Tank Size: 1000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/01/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-11  
Tank Number: E5  
Tank Contents: Heating Oil (No. 2)  
Tank Size: 4000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/01/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

1000143055

Tank Id: TANK-12  
Tank Number: E6  
Tank Contents: Other  
Tank Size: 5000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 09/15/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-13  
Tank Number: F01  
Tank Contents: Heating Oil (No. 6)  
Tank Size: 10000  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 05/20/1999  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-14  
Tank Number: F02  
Tank Contents: Heating Oil (No. 6)  
Tank Size: 10000  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**1000143055**

Overfill: No  
Tank Status Date: 05/26/1999  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-15  
Tank Number: F03  
Tank Contents: Heating Oil (No. 6)  
Tank Size: 10000  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 05/26/1999  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167455  
Tank Number: C1  
Tank Contents: Other  
Tank Size: 4000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/01/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**1000143055**

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167456  
Tank Number: C3  
Tank Contents: Other  
Tank Size: 1000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/01/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167458  
Tank Number: C7  
Tank Contents: Other  
Tank Size: 3000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/15/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**1000143055**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167459  
Tank Number: C8  
Tank Contents: Other  
Tank Size: 3000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/15/1987  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167460  
Tank Number: E10  
Tank Contents: Other  
Tank Size: 3000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/15/1988  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167462  
Tank Number: E11

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

1000143055

Tank Contents: Other  
Tank Size: 2000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/15/1988  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-167463  
Tank Number: E12  
Tank Contents: Other  
Tank Size: 3000  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/15/1988  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-5  
Tank Number: C9  
Tank Contents: Heating Oil (No. 2)  
Tank Size: 2500  
Install Date: 01/01/1987  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/15/1996

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**1000143055**

Compliance Monitoring?: No  
 Overfill Protection: No  
 Spill Containment: No  
 Tank Wellhead Protection: Not reported

TANK MONITOR DATA:  
 Monitor Tank / Pipe: Pipe  
 Monitor Type: None  
 Monitor Tank / Pipe: Tank  
 Monitor Type: None

TANK DETAIL:  
 Tankpipe Tank / Pipe: Pipe  
 Tankpipe Construction Type: Bare steel  
 Tankpipe Tank / Pipe: Tank  
 Tankpipe Construction Type: Bare steel

Tank Id: TANK-9  
 Tank Number: E2  
 Tank Contents: Unleaded Gasoline  
 Tank Size: 4000  
 Install Date: 01/01/1987  
 Tank Compliance: No  
**Tank Status: Removed**  
 Overfill: No  
 Tank Status Date: 01/01/1987  
 Compliance Monitoring?: No  
 Overfill Protection: No  
 Spill Containment: No  
 Tank Wellhead Protection: Not reported

TANK MONITOR DATA:  
 Monitor Tank / Pipe: Pipe  
 Monitor Type: None  
 Monitor Tank / Pipe: Tank  
 Monitor Type: None

TANK DETAIL:  
 Tankpipe Tank / Pipe: Pipe  
 Tankpipe Construction Type: Bare steel  
 Tankpipe Tank / Pipe: Tank  
 Tankpipe Construction Type: Bare steel

**D29**  
**NNE**  
 < 1/8  
 0.010 mi.  
 51 ft.

**ELCO MARINA**  
**163 AVENUE A**  
**BAYONNE, NJ**  
 Site 3 of 6 in cluster D

**NJ HIST LUST 1002974300**  
**N/A**

**Relative:**  
**Higher**

LUST HIST:  
 Case ID: Not reported  
 Lead Program Assigned: Bureau of Field Operations - Initial Notice Section  
**Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern**  
 UST ID: 0043724  
 TMS Number: C99-0468  
 Remedial Level: Site has 1 area of concern with 1 media of concern.  
 Case Manager: Corbin Weck  
 Facility Phone: (609) 292-9519  
 No Further Action: 11/29/2000 0:00:00  
 RAW Approved: Not reported

**Actual:**  
 24 ft.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ELCO MARINA (Continued)**

**1002974300**

CEA: Not reported  
Date CEA Lifted: Not reported  
Dead Notice: Not reported

**D30**  
**NNE**  
**< 1/8**  
**0.010 mi.**  
**51 ft.**

**EFKA PLASTICS CORP**  
**163 AVENUE A**  
**BAYONNE, NJ 07002**  
**Site 4 of 6 in cluster D**

**CERC-NFRAP**  
**RCRA NonGen / NLR**  
**NJ Release**

**1000238901**  
**NJD001290030**

**Relative:**  
**Higher**

CERC-NFRAP:  
Site ID: 0200059  
Federal Facility: Not a Federal Facility  
NPL Status: Not on the NPL  
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

**Actual:**  
**24 ft.**

CERCLIS-NFRAP Assessment History:

Action: ARCHIVE SITE  
Date Started: / /  
Date Completed: 03/30/90  
Priority Level: Not reported

Action: SITE INSPECTION  
Date Started: 01/01/90  
Date Completed: 03/30/90  
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: DISCOVERY  
Date Started: / /  
Date Completed: 04/10/84  
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT  
Date Started: 10/01/84  
Date Completed: 11/01/84  
Priority Level: Low priority for further assessment

RCRA NonGen / NLR:

Date form received by agency: 01/01/2007  
Facility name: EFKA PLASTICS CORP  
Facility address: 163 AVE A  
BAYONNE, NJ 070021225  
EPA ID: NJD001290030  
Mailing address: LIGHTING WAY - PO BOX 1560  
SECAUCUS, NJ 07096  
Contact: Not reported  
Contact address: LIGHTING WAY - PO BOX 1560  
SECAUCUS, NJ 07096  
Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported  
EPA Region: 02  
Land type: Private  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EFKA PLASTICS CORP (Continued)**

**1000238901**

Owner/Operator Summary:

Owner/operator name: HB BAYONNE PARTNERSHIP  
Owner/operator address: 270 SYLVAN AVE  
ENGLEWOOD CLIFFS, NJ 07632  
Owner/operator country: US  
Owner/operator telephone: (201) 569-6200  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: HB BAYONNE PARTNERSHIP  
Owner/operator address: 270 SYLVAN AVE  
ENGLEWOOD CLIFFS, NJ 07632  
Owner/operator country: US  
Owner/operator telephone: (201) 569-6200  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: EFKA PLASTICS CORP  
Classification: Not a generator, verified  
  
Date form received by agency: 05/30/1995  
Facility name: EFKA PLASTICS CORP  
Classification: Small Quantity Generator

Facility Has Received Notices of Violations:

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 06/26/1995  
Date achieved compliance: 07/06/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 06/26/1995

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EFKA PLASTICS CORP (Continued)**

**1000238901**

Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 07/06/1995  
Evaluation: COMPLIANCE SCHEDULE EVALUATION  
Area of violation: Generators - General  
Date achieved compliance: 07/06/1995  
Evaluation lead agency: State

Evaluation date: 06/26/1995  
Evaluation: CASE DEVELOPMENT INSPECTION  
Area of violation: Generators - General  
Date achieved compliance: 07/06/1995  
Evaluation lead agency: State

NJ Release:

Facility ID:	22586	Case Number:	94-12-30-1538-33
Date Received:	12/30/1994	Nature of Incident:	Municipal
Operator:	KIM		
Incident Type:	Not reported		
Incident Location:	Not reported		
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial	Incident Time:	ONGO
Facility Phone:	Not reported	Substance Identity:	Known
Incident Date:	12/30/1994	A310 Letter:	No
Substance(s):	UNKNOWN GAS	Hazrds Material:	Unknown
Substance Type:	Gas	Ref. Code:	001
CAS Number:	Not reported	Contained:	No
TCPA Chemical:	Unknown	Release VE:	Not reported
COMU:	0901		
Amnt Released:	UNKNOWN	Facility Evacuation:	Yes
Release Type:	Continuous	Firemen at Scene:	Yes
Injuries:	No	Receiving Water:	NONE
Public Exposure:	No	Status at Spill:	RELEASE DUE TO UNKNOWN GAS LINE RUPTURE. REQ ASSIST.
Police at Scene:	Yes	NJ Spill Date:	1994-12-30 00:00:00
Contamination of:	Air	NJ Spill Name:	NJSP/OEM
		NJ Spill Phone:	609-882-2000
		Other Date:	Not reported
		Other Name:	Not reported
		Other Telephone:	Not reported
		Public Evacuation:	Yes
		Assistance Requested:	Yes

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EFKA PLASTICS CORP (Continued)**

**1000238901**

Wind Direction/Speed: Not reported  
Local Municipality Notified: Not reported  
Local Municipality Name: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Telephone: Not reported  
Local Municipality Date: Not reported  
Local Municipality Time: Not reported  
Incident Description: Air Release  
Incident Name: BRUCE DOYLE  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Telephone: Paged,Faxed  
Incident Date: 12/30/1994  
Incident time: 1547  
Incident ITM: B  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 01/01/1900  
Reporter Type: Not reported  
Reporter Name: Not reported  
Reporter Title: Not reported  
Reporter Org: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: Not reported  
Direction: Not reported  
Responsible Party: UnKnown  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**D31**      **BAYONNE SHOPPING CENTER**  
**NNE**      **163 AVE A**  
**< 1/8**     **BAYONNE CITY, NJ 07002**  
**0.010 mi.**  
**51 ft.**     **Site 5 of 6 in cluster D**

**NJ SHWS**    **S108170629**  
**NJ ENG CONTROLS**  
**NJ INST CONTROL**    **N/A**  
**NJ BROWNFIELDS**  
**NJ ISRA**

**Relative:**  
**Higher**

**SHWS:**  
Site ID:                    38634  
Status:                    ACTIVE  
Home Owner:              No  
PI Number:                6042  
X Coord Site:             593045  
X Coord PI:                593045  
Y Coord Site:             663491  
Y Coord PI:                663491

**Actual:**  
**24 ft.**

Site ID:                    38634  
Status:                    ACTIVE  
Home Owner:              No  
PI Number:                4372  
X Coord Site:             593045  
X Coord PI:                593045  
Y Coord Site:             663491  
Y Coord PI:                663491

**NJ ENGINEERING CONTROLS:**

Site ID:                    38634  
Pi Number:                006042  
PI Name:                    BAYONNE SHOPPING CENTER  
Owner Name:              Bava, Mark  
DER Filed Date:           08/04/1998  
DER Lifted Date:         Not reported  
Der Deed Usage (si):    Limited Restricted  
Deed Specific Requirement: Asphalt Cap  
Deeds Parameter Desc:   Not reported  
Deeds Depth:             Not reported  
Comments:                Not reported

**NJ INSTITUTIONAL CONTROL:**

Facility ID:                38634  
Date Established (SI):    06/06/2000  
Date Closed/Lifted (SI): Not reported  
PI Number:                004372  
PI Name:                    THE BOAT WORKS  
CEA Description (SI):    Benzene  
CEA Case Track #:        5300  
CEA Duration:            1.30  
Intermediate Durations: No

Facility ID:                38634  
Date Established (SI):    06/06/2000  
Date Closed/Lifted (SI): Not reported  
PI Number:                004372  
PI Name:                    THE BOAT WORKS  
CEA Description (SI):    Benzene  
CEA Case Track #:        5302  
CEA Duration:            1.30  
Intermediate Durations: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**S108170629**

Facility ID: 38634  
Date Established (SI): 06/06/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 004372  
PI Name: THE BOAT WORKS  
CEA Description (SI): Benzene  
CEA Case Track #: 5303  
CEA Duration: 1.30  
Intermediate Durations: No

Facility ID: 38634  
Date Established (SI): 06/06/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 004372  
PI Name: THE BOAT WORKS  
CEA Description (SI): Benzene  
CEA Case Track #: 7305  
CEA Duration: 1.30  
Intermediate Durations: No

Facility ID: 38634  
Date Established (SI): 06/06/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 004372  
PI Name: THE BOAT WORKS  
CEA Description (SI): Benzene  
CEA Case Track #: 59293  
CEA Duration: 1.30  
Intermediate Durations: No

Facility ID: 38634  
Date Established (SI): 06/06/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 004372  
PI Name: THE BOAT WORKS  
CEA Description (SI): Benzene  
CEA Case Track #: 82072  
CEA Duration: 1.30  
Intermediate Durations: No

**BROWNFIELDS:**

Price: Not reported  
Assessed Value: Not reported  
Property Size: Unknown  
Annual Taxes: Not reported  
Representative Address: Not reported  
Representative City/State/Zip: Not reported  
Submitter Name: Not reported  
Submitter Address1: Not reported  
Submitter Address2: Not reported  
Submitter City: Not reported  
Submitter State: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BAYONNE SHOPPING CENTER (Continued)**

**S108170629**

General Comments: Not reported

NJ ISRA:

Pi Number: 006042  
Action Number: ISR840002  
Title: E84250 Englander Company  
Isra Trg: Finalized Date: Not reported  
Start Date: 10/25/1984  
Facility Status: NFA (No Further Action) HISTORIC  
Case No: E84250  
Case Name: Englander Company  
Case Type: ISRA  
Trigger Type: Property Sale  
Trigger Date: 09/24/1984

C32  
NNE  
< 1/8  
0.015 mi.  
77 ft.

**202 KENNEDY BOULEVARD  
202 KENNEDY BLVD  
BAYONNE CITY, NJ 07002**

**NJ LUST U004108792  
NJ UST N/A**

**Site 2 of 4 in cluster C**

**Relative:  
Higher**

LUST:  
Case ID: 443213

**Actual:  
23 ft.**

UST:  
Facility ID: 443213  
Owner Name: LORRAINE MARTYNIAK  
Organization: LORRAINE MARTYNIAK  
Contact Type(UST Reg): Tank Owner  
Contact Address (UST Reg): 9 MOHAWK RD  
Contact Address 2 (UST Reg): Not reported  
Conact City,St,Zip (UST Reg): MARBLEHEAD, MA 01945

Tank Id: TANK-1  
Tank Number: G1  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

202 KENNEDY BOULEVARD (Continued)

U004108792

Tank Id: TANK-2  
Tank Number: G2  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-3  
Tank Number: G3  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-4  
Tank Number: G4  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

202 KENNEDY BOULEVARD (Continued)

U004108792

Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-5  
Tank Number: G5  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-6  
Tank Number: G6  
Tank Contents: Leaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

202 KENNEDY BOULEVARD (Continued)

U004108792

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-9  
Tank Number: G7  
Tank Contents: Unleaded Gasoline  
Tank Size: 2000  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Not reported  
Tank Status Date: 09/27/2007  
Compliance Monitoring?: No  
Overfill Protection: Not reported  
Spill Containment: Not reported  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

C33  
NNE  
< 1/8  
0.015 mi.  
77 ft.

202 KENNEDY BOULEVARD  
202 KENNEDY BLVD  
BAYONNE CITY, NJ

NJ SHWS S108777501  
NJ Release N/A

Site 3 of 4 in cluster C

Relative:  
Higher

SHWS:

Site ID: 358414  
Status: ACTIVE  
Home Owner: No  
PI Number: 443213  
X Coord Site: 593452  
X Coord PI: 593452  
Y Coord Site: 663106  
Y Coord PI: 663106

Actual:  
23 ft.

NJ Release:

Facility ID: 248453  
Date Received: 09/17/2007  
Operator: Not reported

Case Number: 07-09-17-1652-22  
Nature of Incident: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

202 KENNEDY BOULEVARD (Continued)

S108777501

Incident Type:	Underground Storage Tank	Incident Time:	Not reported
Incident Location:	FORMER GAS STATION	Substance Identity:	Not reported
Location:	Not reported	A310 Letter:	Not reported
Other Location:	Not reported	Hazrds Material:	Not reported
Contact Name:	Not reported	Ref. Code:	Not reported
Caller Name:	Not reported	Contained:	Not reported
Caller Title:	Not reported	Release VE:	Not reported
Caller Address:	Not reported	Facility Evacuation:	No
Caller City,St,Zip:	Not reported	Firemen at Scene:	No
Caller Telephone:	Not reported	Receiving Water:	Not reported
Facility Type:	Commercial	NJ Spill Time:	Not reported
Facility Phone:	Not reported	NJ Spill Title:	Not reported
Incident Date:	09/17/2007	Other Time:	Not reported
Substance(s):	Not reported	Other Title:	Not reported
Substance Type:	Not reported	Other Telephone:	Not reported
CAS Number:	Not reported	Public Evacuation:	No
TCPA Chemical:	Not reported	Assistance Requested:	Not reported
COMU:	Not reported	Wind Direction/Speed:	Not reported
Amnt Released:	Not reported	Local Municipality Notified:	Not reported
Release Type:	Not reported	Local Municipality Name:	Not reported
Injuries:	No	Local Municipality Title:	Not reported
Public Exposure:	No	Local Municipality Telephone:	Not reported
Police at Scene:	No	Local Municipality Date:	01/01/1900
Contamination of:	Not reported	Local Municipality Time:	Not reported
Status at Spill:	Not reported	Incident Description:	Not reported
NJ Spill Date:	Not reported	Incident Name:	Not reported
NJ Spill Name:	Not reported	Incident Referred To:	Not reported
NJ Spill Phone:	Not reported	Incident Region:	Not reported
Other Date:	Not reported	Incident Telephone:	Not reported
Other Name:	Not reported	Incident Date:	01/01/1900
Other Telephone:	Not reported	Incident time:	Not reported
Public Evacuation:	No	Incident ITM:	Not reported
Assistance Requested:	Not reported	Comments:	Not reported
Wind Direction/Speed:	Not reported	Date A310 Letter Printed:	Not reported
Local Municipality Notified:	Not reported	Date Local Authority Was Notified:	Not reported
Local Municipality Name:	Not reported	Date Updated:	Not reported
Local Municipality Title:	Not reported	Date Report Faxed to Local Authority:	Not reported
Local Municipality Telephone:	Not reported	Local Authority Notification Date:	Not reported
Local Municipality Date:	01/01/1900	Rep Receive Date:	09/17/2007
Local Municipality Time:	Not reported	Reporter Type:	Other
Incident Description:	Not reported	Reporter Name:	REDACTED
Incident Name:	Not reported		
Incident Referred To:	Not reported		
Incident Region:	Not reported		
Incident Telephone:	Not reported		
Incident Date:	01/01/1900		
Incident time:	Not reported		
Incident ITM:	Not reported		
Comments:	Not reported		
Date A310 Letter Printed:	Not reported		
Date Local Authority Was Notified:	Not reported		
Date Updated:	Not reported		
Date Report Faxed to Local Authority:	Not reported		
Local Authority Notification Date:	Not reported		
Rep Receive Date:	09/17/2007		
Reporter Type:	Other		
Reporter Name:	REDACTED		

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

202 KENNEDY BOULEVARD (Continued)

S108777501

Reporter Title: REDACTED  
Reporter Org: REDATED  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Terminated  
Incident Category: Other  
Incident Source: LORAINNE MARTYNIAK  
Incident Address: 9 MOHWAK RD  
Incident Address 2: MARBLEHEAD  
Incident City,St,Zip: Out Of State, MA 01945  
Incident County: Out Of State  
DEP Requested: No  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: No  
Direction: Not reported  
Responsible Party: Not reported  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

C34  
NNE  
< 1/8  
0.016 mi.  
83 ft.

200 KENNEDY BLVD  
BAYONNE, NJ 07002  
Site 4 of 4 in cluster C

EDR US Hist Auto Stat 1015301226  
N/A

Relative:  
Higher  
Actual:  
22 ft.

EDR Historical Auto Stations:  
Name: BERGEN POINT AUTOMOTIVE INCORPORATED  
Year: 1999  
Address: 200 KENNEDY BLVD  
Name: BERGEN POINT AUTOMOTIVE INC  
Year: 2002  
Address: 200 KENNEDY BLVD

E35  
NNE  
< 1/8  
0.018 mi.  
95 ft.

POINT BUILDERS INCORPORATED  
197-199 W 1ST ST;14 & 16 KENNEDY  
BAYONNE, NJ 07002  
Site 1 of 2 in cluster E

NJ Release S106590445  
NJ VCP N/A

Relative:  
Higher  
Actual:  
7 ft.

NJ Release:  
Facility ID: 4106 Case Number: 97-4-3-2309-09  
Date Received: 04/03/1997 Nature of Incident: Other  
Operator: JOEG  
Incident Type: Not reported  
Incident Location: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**POINT BUILDERS INCORPORATED (Continued)**

**S106590445**

Location:	Facility	Incident Time:	Not reported
Other Location:	Not reported	Substance Identity:	Not reported
Contact Name:	Not reported	A310 Letter:	No
Caller Name:	REDACTED	Hazrds Material:	No
Caller Title:	Not reported	Ref. Code:	101
Caller Address:	Not reported	Contained:	Not reported
Caller City,St,Zip:	Not reported	Release VE:	Not reported
Caller Telephone:	Not reported	Facility Evacuation:	No
Facility Type:	Not reported	Firemen at Scene:	No
Facility Phone:	Not reported	Receiving Water:	Not reported
Incident Date:	04/03/1997	NJ Spill Time:	Not reported
Substance(s):	Not reported	NJ Spill Title:	Not reported
Substance Type:	Not reported	Other Time:	Not reported
CAS Number:	Not reported	Other Title:	Not reported
TCPA Chemical:	No		
COMU:	0901		
Amnt Released:	N/A		
Release Type:	Not reported		
Injuries:	No		
Public Exposure:	No		
Police at Scene:	No		
Contamination of:	NONE		
Status at Spill:	MOA		
NJ Spill Date:	Not reported		
NJ Spill Name:	Not reported		
NJ Spill Phone:	Not reported		
Other Date:	Not reported		
Other Name:	Not reported		
Other Telephone:	Not reported		
Public Evacuation:	No		
Assistance Requested:	No		
Wind Direction/Speed:	Not reported		
Local Municipality Notified:	Not reported		
Local Municipality Name:	Not reported		
Local Municipality Title:	Not reported		
Local Municipality Telephone:	Not reported		
Local Municipality Date:	Not reported		
Local Municipality Time:	Not reported		
Incident Description:	MOA		
Incident Name:	Not reported		
Incident Referred To:	DRPSR		
Incident Region:	BFO-CAS		
Incident Telephone:	Not reported		
Incident Date:	04/03/1997		
Incident time:	Not reported		
Incident ITM:	B		
Comments:	Not reported		
Date A310 Letter Printed:	Not reported		
Date Local Authority Was Notified:	Not reported		
Date Updated:	Not reported		
Date Report Faxed to Local Authority:	Not reported		
Local Authority Notification Date:	Not reported		
Rep Receive Date:	01/01/1900		
Reporter Type:	Not reported		
Reporter Name:	Not reported		
Reporter Title:	Not reported		
Reporter Org:	Not reported		

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**POINT BUILDERS INCORPORATED (Continued)**

**S106590445**

Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: Not reported  
Direction: Not reported  
Responsible Party: Not reported  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

VCP:

Incident Number: 97-04-03-2309-09  
MOA Execution Date: 6/18/1997  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization Leonard P Kiczek Mayor  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

**F36**  
**North**  
**< 1/8**  
**0.031 mi.**  
**164 ft.**

**TEXACO USA /A DIV OF TEXACO INC**  
**AVE A & WEST FIRST ST**  
**BAYONNE, NJ 07002**  
**Site 1 of 2 in cluster F**

**CERC-NFRAP 1015735442**  
**RCRA-SQG NJD067505958**

**Relative:**  
**Higher**

CERC-NFRAP:  
Site ID: 0200415  
Federal Facility: Not a Federal Facility  
Actual:  
NPL Status: Not on the NPL  
7 ft. Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Alias Name(s):

Alias Name: BAYONNE TERMINAL  
Alias Address: Not reported  
NJ

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA /A DIV OF TEXACO INC (Continued)**

**1015735442**

CERCLIS-NFRAP Assessment History:

Action: ARCHIVE SITE  
Date Started: / /  
Date Completed: 04/04/86  
Priority Level: Not reported

Action: SITE INSPECTION  
Date Started: 04/01/86  
Date Completed: 04/04/86  
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: DISCOVERY  
Date Started: / /  
Date Completed: 06/01/81  
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT  
Date Started: / /  
Date Completed: 06/01/84  
Priority Level: Low priority for further assessment

Action: SITE INSPECTION  
Date Started: 08/01/85  
Date Completed: 08/26/85  
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

RCRA-SQG:

Date form received by agency: 01/01/2007  
Facility name: TEXACO DOWNSTREAM BAYONNE  
Facility address: AVENUE A AND WEST 1ST ST  
BAYONNE, NJ 07002  
EPA ID: NJD067505958  
Mailing address: PO BOX 6004  
SAN RAMON, CA 94583  
Contact: KATHY L NORRIS  
Contact address: Not reported  
Not reported  
Contact country: US  
Contact telephone: (925) 842-5931  
Contact email: KNORRIS@CHEVRON.COM  
EPA Region: 02  
Land type: Private  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: CHEVRON ENVIRONMENTAL  
Owner/operator address: PO BOX 6004  
SAN RAMON, CA 94583  
Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Private

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA /A DIV OF TEXACO INC (Continued)**

**1015735442**

Owner/Operator Type: Owner  
Owner/Op start date: 08/26/1977  
Owner/Op end date: Not reported  
  
Owner/operator name: TEXACO U.S.A.  
Owner/operator address: 1040 KINGS HWY.-P.O. BOX 5008  
OPERCITY, NJ 99999  
  
Owner/operator country: US  
Owner/operator telephone: (609) 667-3800  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 02/20/2006  
Facility name: TEXACO DOWNSTREAM BAYONNE  
Classification: Large Quantity Generator  
  
Date form received by agency: 02/19/2006  
Facility name: TEXACO DOWNSTREAM BAYONNE  
Classification: Small Quantity Generator  
  
Date form received by agency: 03/12/1996  
Facility name: TEXACO DOWNSTREAM BAYONNE  
Site name: TEXACO REFINING & MARKETING INC.  
Classification: Large Quantity Generator  
  
Date form received by agency: 02/19/1992  
Facility name: TEXACO DOWNSTREAM BAYONNE  
Site name: TEXACO REFINING AND MARKETING INC  
Classification: Large Quantity Generator  
  
Date form received by agency: 11/19/1980  
Facility name: TEXACO DOWNSTREAM BAYONNE  
Site name: TEXACO USA - A DIV OF TEXACO INC  
Classification: Not a generator, verified

Date form received by agency: 08/18/1980

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA /A DIV OF TEXACO INC (Continued)**

**1015735442**

Facility name: TEXACO DOWNSTREAM BAYONNE  
Site name: TEXACO USA - A DIV OF TEXACO INC  
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:

Regulation violated: Not reported  
Area of violation: Generators - Manifest  
Date violation determined: 03/12/1993  
Date achieved compliance: 03/25/1993  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/12/1993  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 05/06/1986  
Date achieved compliance: 03/23/1988  
Violation lead agency: State  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 06/18/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: 3875  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 05/06/1986  
Date achieved compliance: 03/23/1988  
Violation lead agency: State  
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER  
Enforcement action date: 06/18/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: 2325  
Paid penalty amount: 2325

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 03/02/1985  
Date achieved compliance: 09/07/1985  
Violation lead agency: State  
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER  
Enforcement action date: 08/23/1985  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA /A DIV OF TEXACO INC (Continued)**

**1015735442**

Proposed penalty amount: 875  
Final penalty amount: 875  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 03/01/1983  
Date achieved compliance: 01/04/1984  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 10/24/1983  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 03/25/1993  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Generators - Manifest  
Date achieved compliance: 03/25/1993  
Evaluation lead agency: State

Evaluation date: 03/12/1993  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - Manifest  
Date achieved compliance: 03/25/1993  
Evaluation lead agency: State

Evaluation date: 05/06/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 03/23/1988  
Evaluation lead agency: State

Evaluation date: 03/25/1986  
Evaluation: FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 03/02/1985  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Generators - General  
Date achieved compliance: 09/07/1985  
Evaluation lead agency: State

Evaluation date: 01/04/1984  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 03/01/1983  
Evaluation: NON-FINANCIAL RECORD REVIEW

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site		Database(s)	EDR ID Number EPA ID Number
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**TEXACO USA /A DIV OF TEXACO INC (Continued)**

**1015735442**

Area of violation: Generators - General  
 Date achieved compliance: 01/04/1984  
 Evaluation lead agency: State

**F37**  
**North**  
**< 1/8**  
**0.031 mi.**  
**164 ft.**

**TEXACO USA A DIVISION OF TEXACO INCORPORATED**  
**AVENUE A AND WEST 1ST STREET**  
**BAYONNE, NJ 07002**  
**Site 2 of 2 in cluster F**

**FINDS** **1000144324**  
**NJ UST** **N/A**  
**NJ MANIFEST**  
**NY MANIFEST**

**Relative:**  
**Higher**

**FINDS:**

Registry ID: 110007926619

**Actual:**  
**7 ft.**

**Environmental Interest/Information System**

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**HAZARDOUS WASTE BIENNIAL REPORTER**

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

**UST:**

Facility ID: 002274  
 Owner Name: Not Identified Not Identified  
 Organization: Not Identified  
 Contact Type(UST Reg): Facility Operator  
 Contact Address (UST Reg): Not reported  
 Contact Address 2 (UST Reg): Not reported  
 Contact City,St,Zip (UST Reg): Not reported  
 Owner Name: M.F. BUTLER  
 Organization: TEXACO REFINING & MARKETING INC  
 Contact Type(UST Reg): Tank Owner  
 Contact Address (UST Reg): AVE A & 1ST ST - PO BOX 335  
 Contact Address 2 (UST Reg): Not reported  
 Contact City,St,Zip (UST Reg): Bayonne, NJ 07002

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Tank Id: TANK-1  
Tank Number: 00A1  
Tank Contents: Light Diesel Fuel (No. 1-D)  
Tank Size: 550  
Install Date: 01/01/1981  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/01/1981  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Fiberglass-reinforced plastic

Tank Id: TANK-2  
Tank Number: 00A2  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1977  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 01/01/1977  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Fiberglass-reinforced plastic

NJ MANIFEST:

Manifest Code: 007052325JJK  
EPA ID: NJD067505958  
Date Shipped: 04/08/2010  
TSDF EPA ID: NYD049836679  
Transporter EPA ID: NYD982792814  
Transporter 2 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 04/08/2010  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 04/09/2010  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D008  
Manifest Year: 2010 New Jersey Manifest Data  
Quantity: 5500  
Unit: P  
Hand Code: H141

Manifest Code: NJA5104013  
EPA ID: NJD067505958  
Date Shipped: 11/18/2005  
TSDF EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 11/18/2005  
Date Trans2 Transported Waste: 11/21/2005  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 11/23/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 02060625  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NYH1459728  
EPA ID: NJD067505958  
Date Shipped: 06/01/2005  
TSDF EPA ID: NYD049836679  
Transporter EPA ID: PAD146714878  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 06/01/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 06/02/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 07130525  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NYH1510569  
EPA ID: NJD067505958  
Date Shipped: 01/26/2006  
TSDf EPA ID: NYD049836679  
Transporter EPA ID: PAD146714878  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)**

**1000144324**

Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 01/26/2006  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 01/27/2006  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 03160621  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 007055502JJK  
EPA ID: NJD067505958  
Date Shipped: 08/10/2010  
TSDF EPA ID: NYD049836679  
Transporter EPA ID: NYD982792814  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 08/10/2010  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 08/11/2010  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D008  
Manifest Year: 2010 New Jersey Manifest Data  
Quantity: 2500  
Unit: P  
Hand Code: H141

NY MANIFEST:

EPA ID: NJD067505958  
Country: USA  
Mailing Name: TEXACO REFINING & MARKETING  
Mailing Contact: WILLIAM C GORMAN  
Mailing Address: AVENUE A & 1ST STREET  
Mailing Address 2: Not reported  
Mailing City: BAYONNE  
Mailing State: NJ  
Mailing Zip: 07002  
Mailing Zip4: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Mailing Country: USA  
Mailing Phone: 201-436-2200

Document ID: NYB8217306  
Manifest Status: Completed copy  
Trans1 State ID: TY21801PA  
Trans2 State ID: Not reported  
Generator Ship Date: 950725  
Trans1 Recv Date: 950725  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950726  
Part A Recv Date: 950801  
Part B Recv Date: 950803  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 28860  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 100  
Year: 95

Document ID: NYB8217405  
Manifest Status: Completed copy  
Trans1 State ID: TW56995PA  
Trans2 State ID: Not reported  
Generator Ship Date: 950724  
Trans1 Recv Date: 950724  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950725  
Part A Recv Date: 950801  
Part B Recv Date: 950804  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 45680  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 95

Document ID: NYB8217396  
Manifest Status: Completed copy  
Trans1 State ID: XB54594PA  
Trans2 State ID: Not reported  
Generator Ship Date: 950724

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Trans1 Recv Date: 950724  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950725  
Part A Recv Date: 950801  
Part B Recv Date: 950802  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 43080  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 95

Document ID: NYB8217279  
Manifest Status: Completed copy  
Trans1 State ID: TY14550PA  
Trans2 State ID: Not reported  
Generator Ship Date: 950724  
Trans1 Recv Date: 950724  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950725  
Part A Recv Date: 950801  
Part B Recv Date: 950803  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 45480  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 100  
Year: 95

Document ID: NYB8217297  
Manifest Status: Completed copy  
Trans1 State ID: TY30444PA  
Trans2 State ID: Not reported  
Generator Ship Date: 950725  
Trans1 Recv Date: 950725  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950726  
Part A Recv Date: 950801  
Part B Recv Date: 950804  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)**

**1000144324**

Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 27780  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 100  
Year: 95

Document ID: NYH1510569  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 01/26/2006  
Trans1 Recv Date: 01/26/2006  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 01/27/2006  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: XT98255PA  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679

Waste Code: D018 - BENZENE 0.5 MG/L TCLP  
Quantity: 02600  
Units: P - Pounds  
Number of Containers: 006  
Container Type: DM - Metal drums, barrels  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00

Waste Code: D018 - BENZENE 0.5 MG/L TCLP  
Quantity: 00600  
Units: P - Pounds  
Number of Containers: 002  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00

Waste Code: D035 - METHYL ETHYL KETONE 200.0 MG/L TCLP  
Quantity: 00011  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DF - Fiberboard or plastic drums (glass)  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00

Waste Code: U154 - METHANOL  
Quantity: 00170  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00  
Year: 2006

Document ID: NYH1510569  
Manifest Status: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 01/26/2006  
Trans1 Recv Date: 01/26/2006  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 01/27/2006  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: XT98255PA  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D002 - NON-LISTED CORROSIVE WASTES  
Quantity: 00020  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DF - Fiberboard or plastic drums (glass)  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00140  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00  
Year: 2006

Document ID: NYB8217414  
Manifest Status: Completed copy  
Trans1 State ID: TY30445PA  
Trans2 State ID: Not reported  
Generator Ship Date: 950724  
Trans1 Recv Date: 950724  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 950725  
Part A Recv Date: 950801  
Part B Recv Date: 950804  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PAD146714878  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D008 - LEAD 5.0 MG/L TCLP  
Quantity: 37400  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DT - Dump trucks  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 95

Document ID: NYH1459728  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)**

**1000144324**

Generator Ship Date: 06/01/2005  
Trans1 Recv Date: 06/01/2005  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 06/02/2005  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PT9040FPA  
Trans2 EPA ID: Not reported  
TSDF ID: NYD049836679  
Waste Code: D018 - BENZENE 0.5 MG/L TCLP  
Quantity: 00330  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 006  
Container Type: DM - Metal drums, barrels  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: D012 - ENDRIN 0.02 MG/L TCLP  
Quantity: 00110  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 002  
Container Type: DM - Metal drums, barrels  
Handling Method: Not reported  
Specific Gravity: 01.00  
Waste Code: D002 - NON-LISTED CORROSIVE WASTES  
Quantity: 00070  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DF - Fiberboard or plastic drums (glass)  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: Not reported  
Quantity: Not reported  
Units: Not reported  
Number of Containers: Not reported  
Container Type: Not reported  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: Not reported  
Year: Not reported

Document ID: NYB2700675  
Manifest Status: Completed copy  
Trans1 State ID: TV31298PA  
Trans2 State ID: Not reported  
Generator Ship Date: 920304  
Trans1 Recv Date: 920304  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 920309  
Part A Recv Date: 920316  
Part B Recv Date: 920317  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: NYD046765574  
Trans2 EPA ID: Not reported  
TSDF ID: NYD049836679  
Waste Code: B004 - PCB ARTICLES WITH 50 PPM BUT < 500 PPM  
Quantity: 00110

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Units: K - Kilograms (2.2 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: L Landfill.  
Specific Gravity: 100  
Year: 92

Document ID: NYH1459728  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 06/01/2005  
Trans1 Recv Date: 06/01/2005  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 06/02/2005  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: PT9040FPA  
Trans2 EPA ID: Not reported  
TSDF ID: NYD049836679  
Waste Code: D018 - BENZENE 0.5 MG/L TCLP  
Quantity: 00330  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 006  
Container Type: DM - Metal drums, barrels  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: D012 - ENDRIN 0.02 MG/L TCLP  
Quantity: 00110  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 002  
Container Type: DM - Metal drums, barrels  
Handling Method: Not reported  
Specific Gravity: 01.00  
Waste Code: D002 - NON-LISTED CORROSIVE WASTES  
Quantity: 00070  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DF - Fiberboard or plastic drums (glass)  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: Not reported  
Quantity: Not reported  
Units: Not reported  
Number of Containers: Not reported  
Container Type: Not reported  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: Not reported  
Year: 2005

Document ID: NYH1510569  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)**

**1000144324**

Generator Ship Date: 01/26/2006  
Trans1 Recv Date: 01/26/2006  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 01/27/2006  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: XT98255PA  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D018 - BENZENE 0.5 MG/L TCLP  
Quantity: 02600  
Units: P - Pounds  
Number of Containers: 006  
Container Type: DM - Metal drums, barrels  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: D018 - BENZENE 0.5 MG/L TCLP  
Quantity: 00600  
Units: P - Pounds  
Number of Containers: 002  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00  
Waste Code: D035 - METHYL ETHYL KETONE 200.0 MG/L TCLP  
Quantity: 00011  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DF - Fiberboard or plastic drums (glass)  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00  
Waste Code: U154 - METHANOL  
Quantity: 00170  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00  
Year: 2006

Document ID: NYH1510569  
Manifest Status: Not reported  
Trans1 State ID: PAD146714878  
Trans2 State ID: Not reported  
Generator Ship Date: 01/26/2006  
Trans1 Recv Date: 01/26/2006  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 01/27/2006  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: XT98255PA  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: D002 - NON-LISTED CORROSIVE WASTES  
Quantity: 00020

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)**

**1000144324**

Units: P - Pounds  
Number of Containers: 001  
Container Type: DF - Fiberboard or plastic drums (glass)  
Handling Method: T Chemical, physical, or biological treatment.  
Specific Gravity: 01.00  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00140  
Units: P - Pounds  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 01.00  
Year: 2006

Document ID: Not reported  
Manifest Status: Not reported  
Trans1 State ID: NYD982792814  
Trans2 State ID: Not reported  
Generator Ship Date: 2010-04-08  
Trans1 Recv Date: 2010-04-08  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 2010-04-09  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: Not reported  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: Not reported  
Quantity: 5500.0  
Units: P - Pounds  
Number of Containers: 11.0  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 1.0  
Year: 2010  
Manifest Tracking Num: 007052325JJK  
Import Ind: N  
Export Ind: N  
Discr Quantity Ind: N  
Discr Type Ind: N  
Discr Residue Ind: N  
Discr Partial Reject Ind: N  
Discr Full Reject Ind: N  
Manifest Ref Num: Not reported  
Alt Fac RCRA Id: Not reported  
Alt Fac Sign Date: Not reported  
Mgmt Method Type Code: H141

Document ID: Not reported  
Manifest Status: Not reported  
Trans1 State ID: NYD982792814  
Trans2 State ID: Not reported  
Generator Ship Date: 2010-08-10  
Trans1 Recv Date: 2010-08-10

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

TEXACO USA A DIVISION OF TEXACO INCORPORATED (Continued)

1000144324

Trans2 Recv Date: Not reported  
TSD Site Recv Date: 2010-08-11  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD067505958  
Trans1 EPA ID: Not reported  
Trans2 EPA ID: Not reported  
TSD ID: NYD049836679  
Waste Code: Not reported  
Quantity: 2500.0  
Units: P - Pounds  
Number of Containers: 5.0  
Container Type: DM - Metal drums, barrels  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 1.0  
Year: 2010  
Manifest Tracking Num: 007055502JJK  
Import Ind: N  
Export Ind: N  
Discr Quantity Ind: N  
Discr Type Ind: N  
Discr Residue Ind: N  
Discr Partial Reject Ind: N  
Discr Full Reject Ind: N  
Manifest Ref Num: Not reported  
Alt Fac RCRA Id: Not reported  
Alt Fac Sign Date: Not reported  
Mgmt Method Type Code: H141

G38  
NNE  
< 1/8  
0.032 mi.  
171 ft.

DROGIN BUS TERMINAL  
53 JF KENNEDY BLVD  
BAYONNE CITY, NJ 07002

NJ HIST LUST U003295138  
NJ UST N/A

Site 1 of 4 in cluster G

Relative:  
Higher

LUST HIST:

Case ID: 98-04-02-1423-55  
Lead Program Assigned: Bureau of Underground Storage Tanks  
**Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern**  
UST ID: 0322823  
TMS Number: N98-0182  
Remedial Level: Site has 1 area of concern with 1 media of concern.  
Case Manager: Tim Nuss  
Facility Phone: (609) 633-1275  
No Further Action: 8/31/1998 0:00:00  
RAW Approved: Not reported  
CEA: Not reported  
Date CEA Lifted: Not reported  
Dead Notice: Not reported

Actual:  
18 ft.

UST:

Facility ID: 032282  
Owner Name: Not Identified Not Identified  
Organization: JEFF DROGIN  
Contact Type(UST Reg): Facility Operator  
Contact Address (UST Reg): Not reported  
Contact Address 2 (UST Reg): Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003295138**

Conact City,St,Zip (UST Reg): Not reported  
Owner Name: JEFF DROGIN  
Organization: DROGIN BUS COMPANY  
Contact Type(UST Reg): Tank Owner  
Contact Address (UST Reg): 53 JOHN F KENNEDY BLVD  
Contact Address 2 (UST Reg): Not reported  
Conact City,St,Zip (UST Reg): Bayonne, NJ 07002

Tank Id: TANK-1  
Tank Number: 0001  
Tank Contents: Waste Oil  
Tank Size: 5000  
Install Date: 01/01/1944  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 04/02/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

**E39**  
**NNE**  
**< 1/8**  
**0.036 mi.**  
**189 ft.**

**28-34 KENNEDY BLVD**  
**BAYONNE CITY, NJ**  
**Site 2 of 2 in cluster E**

**NJ SPILLS S106223567**  
**NJ VCP N/A**

**Relative:**  
**Higher**

**NJ SPILL:**  
Facility ID: 80753  
Case Number: 03-12-10-1718-34  
Notify Type: Not reported  
Date Received: 12/10/2003  
Location: Not reported  
Other Location: Not reported  
Incident Date: 12/03/2003  
Incident Time: Not reported  
A310 Letter: Not reported  
Ref. Code: Not reported  
COMU: Not reported  
CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: SHOPS  
Facility Type: Commercial  
Facility Phone: Not reported  
Substance(s): Not reported  
Substance Type: Not reported

**Actual:**  
**8 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

(Continued)

S106223567

Substance Identity: Not reported  
TCPA Chemical: Not reported  
Hazrds Material: Not reported  
Amnt Released: Not reported  
Release VE: Not reported  
Contained: Not reported  
Release Type: Not reported  
Incident Desc: Not reported  
Status at Spill: Not reported  
NJ Spill Date: Not reported  
NJ Spill Time: Not reported  
NJ Spill Name: Not reported  
NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: No  
Facility Evacuation: No  
Receiving Water: Not reported  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: Yes  
Contamination of: Not reported  
Nature of Incident: Not reported  
Wind Direction/Speed: Not reported  
Assistance Requested: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: Not reported  
Contact Name: Not reported  
Caller Name: Not reported  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Not reported  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Telephone: Not reported  
Responsible Party Street: Not reported  
Responsible Party Municipality: Not reported  
Responsible Party State: Not reported  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: Not reported  
Responsible Party County: Not reported  
Local Municipality: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Phone: Not reported  
Local Municipality Date: 01/01/1900  
Local Municipality Time: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

(Continued)

S106223567

Incident Name: Not reported  
Incident Referred To: Not reported  
Incident Region: Not reported  
Incident Phone: Not reported  
Incident Date: 01/01/1900  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: REDACTED  
Reporter Type: Other  
Rep Received Date: 12/10/2003  
Reporter Title: REDACTED  
Reporter Orgzn: REDATED  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Spill  
Incident Status: Terminated  
Incident Category: Other  
Incident Source: UNKNOWN  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: No  
Confidential: Not reported

VCP:

Incident Number: 03-12-10-1718-34A  
MOA Execution Date: 3/4/2004  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization W I Zin Corporation  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

Incident Number: 03-12-10-1718-34  
MOA Execution Date: 4/14/2005  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization Waterford at Bayonne LLC c/o the Kaplan Companies  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**G40**  
**NNE**  
**< 1/8**  
**0.037 mi.**  
**194 ft.**

**DROGIN BUS TERMINAL (CLOSED)**  
**64 JFK BLVD**  
**BAYONNE, NJ**

**NJ HIST LUST** **S104393456**  
**N/A**

**Site 2 of 4 in cluster G**

**Relative:**  
**Higher**

LUST HIST:

Case ID: 98-03-24-1044-37  
Lead Program Assigned: Bureau of Field Operations - Initial Notice Section  
**Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern**  
UST ID: 0252506  
TMS Number: N98-0175  
Remedial Level: Site has 1 area of concern with 1 media of concern.  
Case Manager: Maria Brimat  
Facility Phone: (609) 633-8110  
No Further Action: 11/24/1998 0:00:00  
RAW Approved: Not reported  
CEA: Not reported  
Date CEA Lifted: Not reported  
Dead Notice: Not reported

**Actual:**  
**19 ft.**

**G41**  
**NNE**  
**< 1/8**  
**0.037 mi.**  
**194 ft.**

**DROGIN BUS TERMINAL**  
**64 JOHN F KENNEDY BLVD**  
**BAYONNE CITY, NJ 07002**

**NJ UST** **U003367248**  
**NJ SPILLS** **N/A**

**Site 3 of 4 in cluster G**

**Relative:**  
**Higher**

UST:

Facility ID: 025250  
Owner Name: Not Identified Not Identified  
Organization: Not Identified  
Contact Type(UST Reg): Facility Operator  
Contact Address (UST Reg): Not reported  
Contact Address 2 (UST Reg): Not reported  
Contact City,St,Zip (UST Reg): Not reported  
Owner Name: JEFF DROGIN  
Organization: DROGIN BUS COMPANY  
Contact Type(UST Reg): Tank Owner  
Contact Address (UST Reg): 64 JOHN F KENNEDY BLVD  
Contact Address 2 (UST Reg): Not reported  
Contact City,St,Zip (UST Reg): Bayonne, NJ 07002

**Actual:**  
**19 ft.**

Tank Id: TANK-1  
Tank Number: E1  
Tank Contents: Medium Diesel Fuel (No. 2-D)  
Tank Size: 8000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: Yes  
Tank Status Date: 03/27/1998  
Compliance Monitoring?: No  
Overfill Protection: Yes  
Spill Containment: Yes  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Tank  
Monitor Type: In-tank(automatic)monitoring

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003367248**

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Other  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Fiberglass-coated steel

Tank Id: TANK-2  
Tank Number: 0002  
Tank Contents: Medium Diesel Fuel (No. 2-D)  
Tank Size: 4000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 03/27/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-3  
Tank Number: 0003  
Tank Contents: Medium Diesel Fuel (No. 2-D)  
Tank Size: 4000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 03/27/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-4

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003367248**

Tank Number: 0004  
Tank Contents: Medium Diesel Fuel (No. 2-D)  
Tank Size: 4000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 03/27/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-5  
Tank Number: 0005  
Tank Contents: Medium Diesel Fuel (No. 2-D)  
Tank Size: 5000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 03/24/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-6  
Tank Number: 0006  
Tank Contents: Medium Diesel Fuel (No. 2-D)  
Tank Size: 4000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003367248**

Tank Status Date: 03/24/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-7  
Tank Number: 0007  
Tank Contents: Leaded Gasoline  
Tank Size: 2000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 03/31/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

Tank Id: TANK-8  
Tank Number: 0008  
Tank Contents: Leaded Gasoline  
Tank Size: 4000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 03/31/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Tank  
Monitor Type: None

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003367248**

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel  
  
Tank Id: TANK-9  
Tank Number: 0009  
Tank Contents: Leaded Gasoline  
Tank Size: 4000  
Install Date: 01/01/1988  
Tank Compliance: No  
**Tank Status: Abandoned in Place**  
Overfill: No  
Tank Status Date: 04/02/1998  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Bare steel  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Bare steel

NJ SPILL:

Facility ID: 21813  
Case Number: 98-03-24-1044-37  
Notify Type: Other  
Date Received: 03/24/1998  
Location: Facility  
Other Location: Not reported  
Incident Date: 03/24/1998  
Incident Time: 1000  
A310 Letter: True  
Ref. Code: 101  
COMU: 0901  
CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Commercial  
Facility Phone: Not reported  
Substance(s): Not reported  
Substance Type: Not reported  
Substance Identity: Not reported  
TCPA Chemical: Not reported  
Hazrds Material: Not reported  
Amnt Released: Not reported  
Release VE: Not reported  
Contained: Not reported  
Release Type: Not reported  
Incident Desc: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003367248**

Status at Spill: 1/4000 GAL UST REMOVED.SOIL CONTAMINATION FOUND.CLEAN UP TO BE  
DONE.UST 0252506 30 DAY NOTICE NUMBER UNK

NJ Spill Date: Not reported  
NJ Spill Time: Not reported  
NJ Spill Name: Not reported  
NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: No  
Facility Evacuation: No  
Receiving Water: Not reported  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Land  
Nature of Incident: Not reported  
Wind Direction/Speed: 0  
Assistance Requested: No  
Memo. Of Understanding: No  
Drill/trng Exercise: No  
Operator: JULIE  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: DROGGEN BUS COMP  
Responsible Party Contact: JEFF DROGGEN  
Responsible Party Title: Not reported  
Responsible Party Telephone: 201-436-4489  
Responsible Party Street: 600 BROADWAY  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: 07002  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: HUDSON  
Local Municipality: No  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Phone: Not reported  
Local Municipality Date: 01/01/1900  
Local Municipality Time: Not reported  
Incident Name: Not reported  
Incident Referred To: Not reported  
Incident Region: Not reported  
Incident Phone: Not reported  
Incident Date: 01/01/1900  
Comments: Not reported  
Date A310 Letter Printed: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS TERMINAL (Continued)**

**U003367248**

Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

42  
NNE  
< 1/8  
0.039 mi.  
207 ft.

42 KENNEDY BLVD  
BAYONNE, NJ 07002

EDR US Hist Auto Stat 1015485218  
N/A

Relative:  
Higher

EDR Historical Auto Stations:

Name: GAS ALLEY  
Year: 2001  
Address: 42 KENNEDY BLVD  
  
Name: GAS ALLEY  
Year: 2002  
Address: 42 KENNEDY BLVD  
  
Name: GAS ALLEY  
Year: 2004  
Address: 42 KENNEDY BLVD  
  
Name: GAS ALLEY  
Year: 2005  
Address: 42 KENNEDY BLVD  
  
Name: GAS ALLEY  
Year: 2006  
Address: 42 KENNEDY BLVD

Actual:  
10 ft.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D43  
NNE  
< 1/8  
0.042 mi.  
221 ft.

177 AVENUE A  
BAYONNE, NJ 07002  
Site 6 of 6 in cluster D

EDR US Hist Cleaners 1015005611  
N/A

Relative:  
Higher  
Actual:  
28 ft.

EDR Historical Cleaners:

Name: SUPER SUDS LAUNDROMAT  
Year: 2003  
Address: 177 AVENUE A  
Name: SUPER SUDS LAUNDROMAT  
Year: 2006  
Address: 177 AVENUE A  
Name: SUPER SUDS  
Year: 2007  
Address: 177 AVENUE A  
Name: SUPER SUDS LAUNDROMAT  
Year: 2010  
Address: 177 AVENUE A  
Name: SUPER SUDS LAUNDROMAT  
Year: 2011  
Address: 177 AVENUE A  
Name: SUPER SUDS LAUNDROMAT  
Year: 2012  
Address: 177 AVENUE A

H44  
NNE  
< 1/8  
0.043 mi.  
225 ft.

BEST FOODS  
99 AVE A  
BAYONNE, NJ 07002  
Site 1 of 3 in cluster H

CERC-NFRAP 1000392028  
RCRA NonGen / NLR NJD001343862  
FINDS  
NJ SHWS  
NJ HIST HWS  
NY MANIFEST  
NJ Release  
NJ SPILLS  
NJ VCP  
NJ BROWNFIELDS

Relative:  
Higher  
Actual:  
17 ft.

CERC-NFRAP:

Site ID: 0200065  
Federal Facility: Not a Federal Facility  
NPL Status: Not on the NPL  
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Alias Name(s):

Alias Name: BAYONNE TRAILER SITE (NJD980769970)  
Alias Address: 69 AVENUE A  
BAYONNE, NJ 07002

CERCLIS-NFRAP Assessment History:

Action: DISCOVERY  
Date Started: / /  
Date Completed: 06/01/81  
Priority Level: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Action: PRELIMINARY ASSESSMENT  
Date Started: / /  
Date Completed: 08/01/84  
Priority Level: Low priority for further assessment

Action: SITE INSPECTION  
Date Started: 08/29/88  
Date Completed: 08/30/88  
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE  
Date Started: / /  
Date Completed: 08/30/88  
Priority Level: Not reported

**RCRA NonGen / NLR:**

Date form received by agency: 09/09/2010  
Facility name: 99 AVENUE A LLC  
Facility address: 99 AVENUE A  
BAYONNE, NJ 07001  
EPA ID: NJD001343862  
Mailing address: RALEIGH RD  
C/O VAK LA  
KENDALL PARK, NJ 088241040  
Contact: JACK IANNUZZI  
Contact address: RALEIGH RD C/O VAK LA  
KENDALL PARK, NJ 088241040  
Contact country: US  
Contact telephone: (973) 876-5966  
Telephone ext.: C  
Contact email: JACKIANNUZZI1@AOL.COM  
EPA Region: 02  
Land type: Private  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: NO NAME FOUND  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 02/21/2006  
Owner/Op end date: Not reported

Owner/operator name: BOB LINDENBAUM  
Owner/operator address: PASSAIC ST  
NEWARK, NJ 07104

Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: 02/06/2006  
Owner/Op end date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2007  
Facility name: 99 AVENUE A LLC  
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 10/27/2006  
Facility name: 99 AVENUE A LLC  
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 10/26/2006  
Facility name: 99 AVENUE A LLC  
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 03/26/1992  
Facility name: 99 AVENUE A LLC  
Site name: BEST FOODS CPC INTL INC  
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980  
Facility name: 99 AVENUE A LLC  
Site name: BEST FOODS UNIT OF CPC NORTH AMERICA  
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 03/01/1994  
Date achieved compliance: 03/16/1994  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/01/1994  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Area of violation: Generators - Manifest  
Date violation determined: 03/01/1994  
Date achieved compliance: 03/16/1994  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/01/1994  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: Generators - General  
Date violation determined: 05/10/1985  
Date achieved compliance: 09/17/1985  
Violation lead agency: EPA  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 07/15/1985  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: EPA  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Evaluation Action Summary:  
Evaluation date: 01/08/1999  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 03/16/1994  
Evaluation: COMPLIANCE SCHEDULE EVALUATION  
Area of violation: Generators - Manifest  
Date achieved compliance: 03/16/1994  
Evaluation lead agency: State

Evaluation date: 03/16/1994  
Evaluation: COMPLIANCE SCHEDULE EVALUATION  
Area of violation: Generators - General  
Date achieved compliance: 03/16/1994  
Evaluation lead agency: State

Evaluation date: 03/01/1994  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 05/10/1985  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 09/17/1985  
Evaluation lead agency: EPA-Initiated Oversight/Observation/Training Actions

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Evaluation date: 01/17/1984  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

**FINDS:**

Registry ID: 110001532547

**Environmental Interest/Information System**

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

**SHWS:**

Site ID: 14892  
Status: ACTIVE  
Home Owner: No  
PI Number: G000001023  
X Coord Site: 592196  
X Coord PI: 592196  
Y Coord Site: 661955  
Y Coord PI: 661955

**HIST SHWS:**

**Case Status:** Active  
Status Date: 8/5/2003  
Case ID: G000001023

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

1000392028

Contact: Bureau of Field Operations - Northern  
Sub Section Label: A: Sites with On-Site Sources of Contamination  
Site Municipality: 0901  
Remedial Level Code: C3  
Classification exception area dt: None  
Classification exception area dt: Not reported  
Deed Notice Status: None  
Deed Notice Date: Not reported  
Engineering Control Status: None  
Engineering Control Date: Not reported  
National Priorities List Status: Not reported  
National Priorities List Date: Not reported  
X Coordinate: 592196  
Y Coordinate: 661955  
Coordinate System: NJ State Plane (NAD83) - USFEET

**NY MANIFEST:**

EPA ID: NJD001343862  
Country: USA  
Mailing Name: BEST FOODS UNIT OF CPC NORTH AMERICA  
Mailing Contact: DONALD EBINGER  
Mailing Address: PO BOX 307 99 AVENUE A  
Mailing Address 2: Not reported  
Mailing City: BAYONNE  
Mailing State: NJ  
Mailing Zip: 07002  
Mailing Zip4: 5218  
Mailing Country: USA  
Mailing Phone: 201-339-6800

Document ID: NYA4064758  
Manifest Status: Completed copy  
Trans1 State ID: (NY)U-648  
Trans2 State ID: Not reported  
Generator Ship Date: 860319  
Trans1 Recv Date: 860319  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 860319  
Part A Recv Date: 860325  
Part B Recv Date: 860328  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD980769947  
Trans2 EPA ID: Not reported  
TSDF ID: NYD067539940  
Waste Code: B006 - PCB TRANSFORMERS WITH 500 PPM OR > PCB  
Quantity: 06390  
Units: P - Pounds  
Number of Containers: 001  
Container Type: TP - Tanks, portable  
Handling Method: B Incineration, heat recovery, burning.  
Specific Gravity: 100  
Year: 86

Document ID: NYC6923575  
Manifest Status: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 01/02/2003  
Trans1 Recv Date: 01/02/2003  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 01/03/2003  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSDF ID: 47344JF  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00008  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2003

Document ID: NYC6986057  
Manifest Status: Not reported  
Trans1 State ID: TXR000050930  
Trans2 State ID: Not reported  
Generator Ship Date: 02/14/2003  
Trans1 Recv Date: 02/14/2003  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 02/19/2003  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSDF ID: NY47344JF  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00009  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2003

Document ID: NYC6409528  
Manifest Status: Not reported  
Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 01/29/2002  
Trans1 Recv Date: 01/29/2002  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 01/31/2002  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSDF ID: ILP226919  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00008  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2002

Document ID: NYC6911504  
Manifest Status: Not reported  
Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 11/04/2002  
Trans1 Recv Date: 11/04/2002  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 11/05/2002  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSDF ID: P226919  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00007  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2002

Document ID: NYC6801750  
Manifest Status: Not reported  
Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 05/23/2002  
Trans1 Recv Date: 05/23/2002  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 05/28/2002  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSDF ID: 47344JF  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00007  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Specific Gravity: 01.00  
Year: 2002

Document ID: NYC6773624  
Manifest Status: Not reported  
Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 07/16/2002  
Trans1 Recv Date: 07/16/2002  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 07/18/2002  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSD ID: 47344JF  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00007  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2002

Document ID: NYC6729748  
Manifest Status: Not reported  
Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 09/26/2002  
Trans1 Recv Date: 09/26/2002  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 10/01/2002  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSD ID: 47344JF  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00008  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2002

Document ID: NYC6679361  
Manifest Status: Not reported  
Trans1 State ID: SCR000075150  
Trans2 State ID: Not reported  
Generator Ship Date: 04/02/2002

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Trans1 Recv Date: 04/02/2002  
Trans2 Recv Date: Not reported  
TSD Site Recv Date: 04/04/2002  
Part A Recv Date: Not reported  
Part B Recv Date: Not reported  
Generator EPA ID: NJD001343862  
Trans1 EPA ID: NYD000708198  
Trans2 EPA ID: Not reported  
TSDF ID: 47344JF  
Waste Code: D001 - NON-LISTED IGNITABLE WASTES  
Quantity: 00008  
Units: G - Gallons (liquids only)\* (8.3 pounds)  
Number of Containers: 001  
Container Type: DM - Metal drums, barrels  
Handling Method: R Material recovery of more than 75 percent of the total material.  
Specific Gravity: 01.00  
Year: 2002

**NJ Release:**

Facility ID: 33426 Case Number: 98-10-20-1056-36  
Date Received: 10/20/1998 Nature of Incident: Not reported  
Operator: JULIE  
Incident Type: Not reported  
Incident Location: Not reported  
Location: Facility  
Other Location: Not reported  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Industrial  
Facility Phone: 201-339-6800  
Incident Date: 10/20/1998 Incident Time: 1045  
Substance(s): Not reported  
Substance Type: Not reported Substance Identity: Not reported  
CAS Number: Not reported A310 Letter: False  
TCPA Chemical: Not reported Hazrds Material: Not reported  
COMU: 0901 Ref. Code: 010  
Amnt Released: Not reported Contained: Not reported  
Release Type: Not reported Release VE: Not reported  
Injuries: No  
Public Exposure: No Facility Evacuation: No  
Police at Scene: No Firemen at Scene: No  
Contamination of: Water Receiving Water: NEWARK BAY  
Status at Spill: A MIX OF WATER & MAYONAISE RUNNING INTO WATER DUE TO UNK CAUSE.INVEST  
AND CLEAN UP TO BE DONE  
NJ Spill Date: Not reported NJ Spill Time: Not reported  
NJ Spill Name: Not reported NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported Other Time: Not reported  
Other Name: Not reported Other Title: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: No  
Wind Direction/Speed: 0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Local Municipality Notified: No  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Telephone: Not reported  
Local Municipality Date: 01/01/1900  
Local Municipality Time: Not reported  
Incident Description: Not reported  
Incident Name: Not reported  
Incident Referred To: Not reported  
Incident Region: Not reported  
Incident Telephone: Not reported  
Incident Date: 01/01/1900  
Incident time: Not reported  
Incident ITM: Not reported  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 01/01/1900  
Reporter Type: Not reported  
Reporter Name: Not reported  
Reporter Title: Not reported  
Reporter Org: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported  
Notify Type: Facility  
Road Closed: No  
Direction: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS  
Responsible Party Contact: GLEN BOLLES  
Responsible Party Title: ER TEAM LEADER  
Responsible Party Phone: 201-339-6800  
Responsible Party Street: 99 AVE A  
Responsible Party County: HUDSON  
Responsible Party City,St,Zip: BAYONNE, NJ  
Memo. Of Understanding: No  
Drill/trng Exercise: No  
Hazardous: Not reported

Facility ID: 15161  
Date Received: 08/22/1994  
Operator: JULIE1  
Incident Type: Not reported  
Incident Location: Not reported

Case Number: 94-8-22-1154-15  
Nature of Incident: Citizen

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Location: Facility  
Other Location: Not reported  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Commercial  
Facility Phone: Not reported  
Incident Date: 08/22/1994  
Substance(s): MERCURY,IODINE, CARBON TETRACHLORIDE  
Substance Type: Liquid  
CAS Number: 56235  
TCPA Chemical: No  
COMU: 0901  
Amnt Released: UNKNOWN  
Release Type: Intermittent  
Injuries: No  
Public Exposure: Yes  
Police at Scene: No  
Contamination of: Land  
Status at Spill: ASSORTED HAZ-WASTE MATERIALS BEING DUMPED IN BACK OF PLANT.NO CLEAN UP  
NJ Spill Date: Not reported  
NJ Spill Name: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Name: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: Yes  
Wind Direction/Speed: Not reported  
Local Municipality Notified: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: OPR 11  
Local Municipality Telephone: 201-858-6005  
Local Municipality Date: 08/22/1994  
Local Municipality Time: 1156  
Incident Description: Illegal Dumping  
Incident Name: Not reported  
Incident Referred To: DRPSR  
Incident Region: BFO-CAS  
Incident Telephone: Faxed,Mailed  
Incident Date: 08/22/1994  
Incident time: Not reported  
Incident ITM: B  
Comments: Not reported  
Date A310 Letter Printed: 1994-08-22 00:00:00  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 01/01/1900  
Reporter Type: Not reported  
Reporter Name: Not reported  
Reporter Title: Not reported  
Reporter Org: Not reported

Incident Time: ONGO  
Substance Identity: Suspected  
A310 Letter: Yes  
Hazrds Material: Yes  
Ref. Code: 101  
Contained: No  
Release VE: Not reported  
Facility Evacuation: No  
Firemen at Scene: No  
Receiving Water: NONE  
NJ Spill Time: Not reported  
NJ Spill Title: Not reported  
Other Time: Not reported  
Other Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: Not reported  
Direction: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: UNK  
Responsible Party Street: 99 AVE A  
Responsible Party County: HUDSON  
Responsible Party City,St,Zip: BAYONNE, NJ  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

Facility ID: 9894  
Date Received: 07/09/1991  
Operator: ROGER  
Incident Type: Not reported  
Incident Location: Not reported  
Location: Facility  
Other Location: Not reported  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Industrial  
Facility Phone: 201-339-6800  
Incident Date: 07/09/1991  
Substance(s): DYE TESTING RED FOOD COLORING & FLORESENT GREEN COLORIN, DYE  
Substance Type: Liquid  
CAS Number: Not reported  
TCPA Chemical: No  
COMU: 0901  
Amnt Released: 12 OZ  
Release Type: Intermittent  
Injuries: No  
Public Exposure: No  
Police at Scene: No  
Contamination of: Water  
Status at Spill: FACILITY IS PREFORMING DYE TESTING WITH ABOVE MATERIALS.  
NJ Spill Date: 1991-07-09 00:00:00  
NJ Spill Name: OEM

Case Number: 91-7-9-1010-35  
Nature of Incident: Facility  
Incident Time: 1100  
Substance Identity: Known  
A310 Letter: No  
Hazrds Material: No  
Ref. Code: 009  
Contained: No  
Release VE: Estimate  
Facility Evacuation: No  
Firemen at Scene: No  
Receiving Water: NEWARK BAY  
NJ Spill Time: Not reported  
NJ Spill Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

NJ Spill Phone: 609-882-2000  
Other Date: Not reported  
Other Name: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: No  
Wind Direction/Speed: Not reported  
Local Municipality Notified: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Telephone: Not reported  
Local Municipality Date: Not reported  
Local Municipality Time: Not reported  
Incident Description: NJPDES  
Incident Name: R.MANIS  
Incident Referred To: DWR  
Incident Region: Metro  
Incident Telephone: Office,Faxed  
Incident Date: 07/09/1991  
Incident time: 1016  
Incident ITM: B  
Incident Name: D.ROSENBLATT  
Incident Referred To: DWR  
Incident Region: Monitoring  
Incident Telephone: Office,Faxed  
Incident Date: 1991-07-09 00:00:00  
Incident Time: 1022  
Incident ITM: T  
Incident Name: Not reported  
Incident Referred To: DFG  
Incident Region: HQ1  
Incident Telephone: Faxed  
Incident Date: 1991-07-09 00:00:00  
Incident Time: Not reported  
Incident ITM: T  
Comments: Not reported  
Date A310 Letter Printed: 1991-07-09 00:00:00  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: 1991-07-09 00:00:00  
Local Authority Notification Date: Not reported  
Rep Receive Date: 01/01/1900  
Reporter Type: Not reported  
Reporter Name: Not reported  
Reporter Title: Not reported  
Reporter Org: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported

Other Time: Not reported  
Other Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Confidential: Not reported  
Notify Type: Not reported  
Road Closed: Not reported  
Direction: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS  
Responsible Party Contact: GLENN BOLLES  
Responsible Party Title: ASST.ENV.ENG  
Responsible Party Phone: 201-339-6800  
Responsible Party Street: 99 AVE A  
Responsible Party County: HUDSON  
Responsible Party City,St,Zip: BAYONNE, NJ  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

Facility ID: 54683  
Date Received: 04/29/2003  
Operator: Not reported  
Incident Type: Odors  
Incident Location: BEST FOODS  
Location: Not reported  
Other Location: Not reported  
Contact Name: N/A  
Caller Name: Not reported  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Commercial  
Facility Phone: Not reported  
Incident Date: 04/29/2003  
Substance(s): Not reported  
Substance Type: Not reported  
CAS Number: Not reported  
TCPA Chemical: Not reported  
COMU: Not reported  
Amnt Released: Not reported  
Release Type: Not reported  
Injuries: No  
Public Exposure: Yes  
Police at Scene: Yes  
Contamination of: Not reported  
Status at Spill: Not reported  
NJ Spill Date: Not reported  
NJ Spill Name: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Name: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: Not reported  
Wind Direction/Speed: Not reported  
Local Municipality Notified: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Telephone: Not reported

Case Number: 03-04-29-1718-32  
Nature of Incident: Not reported

Incident Time: Not reported  
Substance Identity: Not reported  
A310 Letter: Not reported  
Hazrds Material: Not reported  
Ref. Code: Not reported  
Contained: Not reported  
Release VE: Not reported

Facility Evacuation: No  
Firemen at Scene: No  
Receiving Water: Not reported

NJ Spill Time: Not reported  
NJ Spill Title: Not reported

Other Time: Not reported  
Other Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Local Municipality Date: 01/01/1900  
Local Municipality Time: Not reported  
Incident Description: Not reported  
Incident Name: Not reported  
Incident Referred To: Not reported  
Incident Region: Not reported  
Incident Telephone: Not reported  
Incident Date: 01/01/1900  
Incident time: Not reported  
Incident ITM: Not reported  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 04/29/2003  
Reporter Type: Municipal Rep.  
Reporter Name: REDACTED  
Reporter Title: REDACTED  
Reporter Org: REDACTED  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Continuous  
Incident Category: Facility  
Incident Source: BEST FOODS  
Incident Address: 99 AVE A  
Incident Address 2: Not reported  
Incident City,St,Zip: Bayonne City, NJ  
Incident County: Hudson  
DEP Requested: No  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: No  
Direction: Not reported  
Responsible Party: Not reported  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

**NJ SPILL:**

Facility ID: 3984  
Case Number: 95-3-21-1009-01  
Notify Type: Not reported  
Date Received: 03/21/1995  
Location: Facility  
Other Location: Not reported  
Incident Date: 03/21/1995  
Incident Time: 1003

Map ID  
Direction  
Distance  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

1000392028

A310 Letter: No  
Ref. Code: 001  
COMU: 0901  
CAS Number: 7697372  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Commercial  
Facility Phone: 201-339-6800  
Substance(s): NITRIC ACID  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: Yes  
Hazrds Material: Yes  
Amnt Released: UNK  
Release VE: Not reported  
Contained: Unknown  
Release Type: Terminated  
Incident Desc: Spill  
Status at Spill: SPILL INSIDE FACIL,FACIL HAS BEEN EVACUATED,NO OTHER INFO AT THIS TIME.  
NJ Spill Date: 1995-03-21 00:00:00  
NJ Spill Time: 1013  
NJ Spill Name: NJSP  
NJ Spill Title: TPR ORAM  
NJ Spill Phone: 609-882-2000  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: Unknown  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: Yes  
Receiving Water: Not reported  
Public Evacuation: No  
Police at Scene: Yes  
Firemen at Scene: Yes  
Contamination of: Land  
Nature of Incident: Municipal  
Wind Direction/Speed: Not reported  
Assistance Requested: Unknown  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: SELL  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS  
Responsible Party Contact: UNK  
Responsible Party Title: Not reported  
Responsible Party Telephone: 201-339-6800  
Responsible Party Street: 99 AVE A

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

1000392028

Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: HUDSON  
Local Municipality: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Phone: Not reported  
Local Municipality Date: Not reported  
Local Municipality Time: Not reported  
Incident Name: GARY ALLEN  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Phone: Office  
Incident Date: 03/21/1995  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

Facility ID: 3998  
Case Number: 95-3-21-1150-12  
Notify Type: Not reported  
Date Received: 03/21/1995  
Location: Facility  
Other Location: Not reported  
Incident Date: 03/21/1995  
Incident Time: 1000  
A310 Letter: No  
Ref. Code: 001  
COMU: 0901  
CAS Number: 7697372  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Industrial  
Facility Phone: 201-339-6800

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

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Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Substance(s): NITRIC ACID  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: Yes  
Hazrds Material: Yes  
Amnt Released: 3 GAL  
Release VE: Estimate  
Contained: Yes  
Release Type: Terminated  
Incident Desc: Spill  
Status at Spill: WORKERS MOVED CABINET CONTAINING ACID CAUSING SPILL,8 PEOPLE EVACUATED FROM AREA,KENS MARINE DOING CLEANUP,DEP RES 11 ON SCENE.  
NJ Spill Date: 1995-03-21 00:00:00  
NJ Spill Time: Not reported  
NJ Spill Name: NJSP  
NJ Spill Title: FAX  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: Yes  
Receiving Water: Not reported  
Public Evacuation: No  
Police at Scene: Yes  
Firemen at Scene: Yes  
Contamination of: Land  
Nature of Incident: Facility  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: SELL  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS  
Responsible Party Contact: GLENN BOLLES  
Responsible Party Title: ENV ENG  
Responsible Party Telephone: 201-339-6800  
Responsible Party Street: 99 AVE  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: HUDSON  
Local Municipality: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: TD#3984

Map ID  
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MAP FINDINGS

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Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

1000392028

Local Municipality Phone: 201-858-6005  
Local Municipality Date: 03/21/1995  
Local Municipality Time: Not reported  
Incident Name: BRUCE DOYLE  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Phone: Office  
Incident Date: 03/21/1995  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

Facility ID: 9631  
Case Number: 91-7-2-2203-45  
Notify Type: Not reported  
Date Received: 07/02/1991  
Location: Facility  
Other Location: Not reported  
Incident Date: 07/02/1991  
Incident Time: 2200  
A310 Letter: Yes  
Ref. Code: 001  
COMU: 0901  
CAS Number: 7664382  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Residential  
Facility Phone: 201-339-6800  
Substance(s): K-SAN (TRADE NAME) 22% PHOSPHORIC ACID, PHOSPHORIC ACID  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: No  
Hazrds Material: Yes  
Amnt Released: 25-50 GALLONS  
Release VE: Estimate  
Contained: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Release Type: Terminated  
Incident Desc: Spill  
Status at Spill: UNKNOWN HOW SPILL OCCURRED, MATERIAL BEGUN TO FOAM THEN DISSIPATED IN BAY. PRODUCT IS USED TO CLEAN FACILITY'S PROCESS EQUIPMENT..  
NJ Spill Date: 1991-07-02 00:00:00  
NJ Spill Time: Not reported  
NJ Spill Name: OEM  
NJ Spill Title: Not reported  
NJ Spill Phone: 609-882-2000  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: NEWARK BAY  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Water  
Nature of Incident: Facility  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: ANTHONY  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS  
Responsible Party Contact: GLEN BOLLES  
Responsible Party Title: ASSIST ENV E  
Responsible Party Telephone: 201-339-6800  
Responsible Party Street: 99 AVE A  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: HUDSON  
Local Municipality: Not reported  
Local Municipality Name: BAYONNE CITY FD  
Local Municipality Title: BADGE #83  
Local Municipality Phone: 201-858-6005  
Local Municipality Date: 07/02/1991  
Local Municipality Time: 2220  
Incident Name: JOE HOYLE  
Incident Referred To: DEQ  
Incident Region: ER1  
Incident Phone: Paged  
Incident Date: 07/02/1991

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Incident Name: DAVE ROSENBLATT  
Incident Referred To: DWR  
Incident Region: Monitoring  
Incident Phone: Home  
Incident Date: 1991-07-02 00:00:00  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

Facility ID: 5323  
Case Number: 92-4-2-0920-21  
Notify Type: Not reported  
Date Received: 04/02/1992  
Location: Facility  
Other Location: Not reported  
Incident Date: 04/02/1992  
Incident Time: 0910  
A310 Letter: No  
Ref. Code: 009  
COMU: 0901  
CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Industrial  
Facility Phone: 201-339-6800  
Substance(s): WATER, WASTE  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: No  
Hazrds Material: No  
Amnt Released: 5 GALS  
Release VE: Estimate  
Contained: Yes  
Release Type: Terminated  
Incident Desc: Spill  
Status at Spill: OVERFLOW OF CONTAINMENT AREA CAUSE OF SPILL. CALLER STATED MATERIAL IS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

1000392028

NON HAZARDOUS CONTENTS MOSTLY FOOD PRODUCT.  
NJ Spill Date: Not reported  
NJ Spill Time: Not reported  
NJ Spill Name: Not reported  
NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: NEWARK BAY  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Land,Water  
Nature of Incident: Facility  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: ROGER  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS CPC INT'L  
Responsible Party Contact: GLEN BOLLES  
Responsible Party Title: ASST.ENV.ENG  
Responsible Party Telephone: 201-339-6800  
Responsible Party Street: 99 AVE A  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: HUDSON  
Local Municipality: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Phone: Not reported  
Local Municipality Date: Not reported  
Local Municipality Time: Not reported  
Incident Name: Not reported  
Incident Referred To: OEP  
Incident Region: Metro  
Incident Phone: Faxed,Mailed  
Incident Date: 04/02/1992  
Incident Name: Not reported  
Incident Referred To: DFG  
Incident Region: HQ1

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Incident Phone:	Faxed
Incident Date:	1992-04-02 00:00:00
Incident Name:	Not reported
Incident Referred To:	OEP
Incident Region:	Monitoring
Incident Phone:	Faxed
Incident Date:	1992-04-02 00:00:00
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	01/01/1900
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Facility ID:	5187
Case Number:	92-3-31-1014-07
Notify Type:	Not reported
Date Received:	03/31/1992
Location:	Facility
Other Location:	Not reported
Incident Date:	03/31/1992
Incident Time:	0900
A310 Letter:	Yes
Ref. Code:	001
COMU:	0901
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Type:	Industrial
Facility Phone:	201-339-6800
Substance(s):	WATER & VEG.OIL,HEAT TRANSFER FLUID, UNKNOWN LIQUID
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	Unknown
Hazrds Material:	Unknown
Amnt Released:	500 GALS
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Incident Desc: Spill  
Status at Spill: ABOVE MATERIAL CAME FROM A CONTAINMENT BASIN AROUND A STORAGE TANK WHICH CONTAINED HEAT TRANSFER FLUID.CLEAN UP IS IN PROGRESS.  
NJ Spill Date: 1992-03-31 00:00:00  
NJ Spill Time: 1029  
NJ Spill Name: OEM  
NJ Spill Title: M.AUGUSTYNYIAK  
NJ Spill Phone: 609-882-2000  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: NONE  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Land  
Nature of Incident: Facility  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: ROGER  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: BEST FOODS CPC INT.L  
Responsible Party Contact: GLENN BOLLES  
Responsible Party Title: ASST.ENV.ENG  
Responsible Party Telephone: 201-339-6800  
Responsible Party Street: 99 AVE A  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: HUDSON  
Local Municipality: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: OPER.#38  
Local Municipality Phone: 201-858-6005  
Local Municipality Date: 03/31/1992  
Local Municipality Time: 1022  
Incident Name: B.DOYLE  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Phone: Office,Faxed  
Incident Date: 03/31/1992  
Comments: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Date A310 Letter Printed: 1992-03-31 00:00:00  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: 1992-03-31 00:00:00  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

[Click this hyperlink](#) while viewing on your computer to access  
2 additional NJ SPILLS: record(s) in the EDR Site Report.

VCP:

Incident Number: 94-05-12-1902-31B  
MOA Execution Date: 8/5/2003  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization Unilever United States, Inc  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

Incident Number: 94-05-12-1902-31  
MOA Execution Date: 3/8/2006  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization A 99 LLC & 667 E 34th St Owners Corp  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

BROWNFIELDS:

Price: Not reported

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**BEST FOODS (Continued)**

**1000392028**

Assessed Value: Not reported  
 Property Size: Unknown  
 Annual Taxes: Not reported  
 Representative Address: Not reported  
 Representative City/State/Zip: Not reported  
 Submitter Name: Not reported  
 Submitter Address1: Not reported  
 Submitter Address2: Not reported  
 Submitter City: Not reported  
 Submitter State: Not reported  
 Submitter Zip: Not reported  
 Submitter Email: Not reported  
 Submitter Phone: Not reported  
 Transaction Type: Not reported  
 Transfer Type: Not reported  
 General Comments: Not reported

**H45**  
**NNE**  
 < 1/8  
 0.043 mi.  
 226 ft.

**90 AVENUE A**  
**90 AVENUE A**  
**BAYONNE, NJ 07002**  
**Site 2 of 3 in cluster H**

**NJ VCP S106586639**  
**N/A**

**Relative:**  
**Higher**  
  
**Actual:**  
 17 ft.

VCP:  
 Incident Number: 96-08-26-0921-56  
 MOA Execution Date: 10/10/1996  
 Type Of Vcp File: HISTORICAL  
 Pi Number: Not reported  
 Case Type(Case Type): Not reported  
 Case Contact: Department Not reported  
 Case Contact Name: Not reported  
 Case Contact: Organization Vincent Traina  
 Case Contact: Address: Line1 Not reported  
 Case Contact: Address: Line2 Not reported  
 Case Contact: Address: Line3 Not reported  
 Case Contact City,St,Zip: Not reported

**H46**  
**NNE**  
 < 1/8  
 0.043 mi.  
 226 ft.

**90 AVENUE A**  
**90 AVE A**  
**BAYONNE CITY, NJ 07002**  
**Site 3 of 3 in cluster H**

**FINDS 1010526957**  
**NJ SHWS N/A**

**Relative:**  
**Higher**  
  
**Actual:**  
 17 ft.

FINDS:  
 Registry ID: 110032283543  
 Environmental Interest/Information System  
 NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
 The Department of Environmental Protection (NJDEP) manages large  
 databases of environmental information in this integrated system.

SHWS:  
 Site ID: 73024  
 Status: CLOSED

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**90 AVENUE A (Continued)**

**1010526957**

Home Owner: No  
PI Number: G000029571  
X Coord Site: Not reported  
X Coord PI: Not reported  
Y Coord Site: Not reported  
Y Coord PI: Not reported

**I47**  
**NNE**  
**< 1/8**  
**0.044 mi.**  
**234 ft.**

**EXXON R/S 3-4341**  
**121 JOHN F KENNEDY BLVD**  
**BAYONNE CITY, NJ 07002**

**NJ HIST HWS** **U000358448**  
**NJ LUST** **N/A**  
**NJ UST**

**Site 1 of 7 in cluster I**

**Relative:**  
**Higher**

HIST SHWS:

**Case Status:** **Active**  
Status Date: 1/29/1998  
Case ID: 007986  
Contact: BSCM  
Sub Section Label: A: Sites with On-Site Sources of Contamination  
Site Municipality: 0901  
Remedial Level Code: C2  
Classification exception area dt: Ongoing  
Classification exception area dt: 8/11/2000  
Deed Notice Status: None  
Deed Notice Date: Not reported  
Engineering Control Status: None  
Engineering Control Date: Not reported  
National Priorities List Status: Not reported  
National Priorities List Date: Not reported  
X Coordinate: 593094  
Y Coordinate: 662093  
Coordinate System: NJ State Plane (NAD83) - USFEET

**Actual:**  
**21 ft.**

LUST:

Case ID: 7986

UST:

Facility ID: 007986  
Owner Name: Not Identified Not Identified  
Organization: MANAGER  
Contact Type(UST Reg): Facility Operator  
Contact Address (UST Reg): Not reported  
Contact Address 2 (UST Reg): Not reported  
Contact City,St,Zip (UST Reg): Not reported  
Owner Name: GILBARCO VEEDER ROOT  
Organization: EXXON MOBIL  
Contact Type(UST Reg): Tank Owner  
Contact Address (UST Reg): 7300 W FRIENDLY AVE MS F76  
Contact Address 2 (UST Reg): C/O VEEDER ROOT CMS  
Contact City,St,Zip (UST Reg): LAKEWOOD, NC 27420

Tank Id: TANK-1  
Tank Number: A5  
Tank Contents: Other  
Tank Size: 4000  
Install Date: 01/01/1957  
Tank Compliance: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON R/S 3-4341 (Continued)**

**U000358448**

**Tank Status:** Abandoned in Place  
Overfill: No  
Tank Status Date: 06/23/1993  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:  
Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:  
Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Other  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Cathodically protected steel

Tank Id: TANK-153709  
Tank Number: E5  
Tank Contents: Unleaded Gasoline  
Tank Size: 550  
Install Date: 01/01/1957  
Tank Compliance: No  
**Tank Status:** Abandoned in Place  
Overfill: No  
Tank Status Date: 04/14/2008  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:  
Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

TANK DETAIL:  
Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Other  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Cathodically protected steel

Tank Id: TANK-2  
Tank Number: E1  
Tank Contents: Unleaded Gasoline  
Tank Size: 8000  
Install Date: 01/01/1981  
Tank Compliance: Yes  
**Tank Status:** Removed  
Overfill: Yes  
Tank Status Date: 04/09/2008  
Compliance Monitoring?: Yes  
Overfill Protection: Yes  
Spill Containment: Yes  
Tank Wellhead Protection: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON R/S 3-4341 (Continued)**

**U000358448**

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: In-line electronic pressure monitor  
Monitor Tank / Pipe: Tank  
Monitor Type: In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Fiberglass-reinforced plastic  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Fiberglass-reinforced plastic

Tank Id: TANK-3  
Tank Number: E2  
Tank Contents: Unleaded Gasoline  
Tank Size: 8000  
Install Date: 01/01/1981  
Tank Compliance: Yes  
**Tank Status: Removed**  
Overfill: Yes  
Tank Status Date: 04/09/2008  
Compliance Monitoring?: Yes  
Overfill Protection: Yes  
Spill Containment: Yes  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: In-line electronic pressure monitor  
Monitor Tank / Pipe: Tank  
Monitor Type: In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Fiberglass-reinforced plastic  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Fiberglass-reinforced plastic

Tank Id: TANK-4  
Tank Number: E3  
Tank Contents: Unleaded Gasoline  
Tank Size: 10000  
Install Date: 01/01/1981  
Tank Compliance: Yes  
**Tank Status: Removed**  
Overfill: Yes  
Tank Status Date: 04/09/2008  
Compliance Monitoring?: Yes  
Overfill Protection: Yes  
Spill Containment: Yes  
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe: Pipe  
Monitor Type: In-line electronic pressure monitor  
Monitor Tank / Pipe: Tank  
Monitor Type: In-tank(automatic)monitoring

TANK DETAIL:

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON R/S 3-4341 (Continued)**

**U000358448**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Fiberglass-reinforced plastic  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Fiberglass-reinforced plastic

Tank Id: TANK-5  
Tank Number: E4  
Tank Contents: Waste Oil  
Tank Size: 1000  
Install Date: 01/01/1947  
Tank Compliance: No  
**Tank Status: Removed**  
Overfill: No  
Tank Status Date: 06/23/1993  
Compliance Monitoring?: No  
Overfill Protection: No  
Spill Containment: No  
Tank Wellhead Protection: Not reported

**TANK MONITOR DATA:**

Monitor Tank / Pipe: Pipe  
Monitor Type: None  
Monitor Tank / Pipe: Tank  
Monitor Type: None

**TANK DETAIL:**

Tankpipe Tank / Pipe: Pipe  
Tankpipe Construction Type: Other  
Tankpipe Tank / Pipe: Tank  
Tankpipe Construction Type: Cathodically protected steel

**I48  
NNE  
< 1/8  
0.044 mi.  
234 ft.**

**EXXON SERVICE STATION #34341  
121 KENNEDY BOULEVARD  
BAYONNE, NJ 07002**

**RCRA-CESQG 1000362110  
FINDS NJD075157974  
NJ MANIFEST**

**Site 2 of 7 in cluster I**

**Relative:  
Higher**

**RCRA-CESQG:**

Date form received by agency: 01/01/2007  
Facility name: HARRINGTONS SERVICE INC  
Facility address: 121 KENNEDY BLVD  
BAYONNE, NJ 070021154

EPA ID: NJD075157974  
Mailing address: KENNEDY BLVD  
BAYONNE, NJ 07002

Contact: Not reported  
Contact address: KENNEDY BLVD  
BAYONNE, NJ 07002

Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported

EPA Region: 02  
Land type: Facility is not located on Indian land. Additional information is not known.  
Classification: Conditionally Exempt Small Quantity Generator  
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON SERVICE STATION #34341 (Continued)**

**1000362110**

other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name: THOMAS & DANIEL HARRINGTON  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999  
Owner/operator country: US  
Owner/operator telephone: (212) 555-1212  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: THOMAS & DANIEL HARRINGTON  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999  
Owner/operator country: US  
Owner/operator telephone: (212) 555-1212  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: HARRINGTONS SERVICE INC  
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 03/01/1994  
Facility name: HARRINGTONS SERVICE INC  
Site name: HARRINGTON SERVICE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON SERVICE STATION #34341 (Continued)**

**1000362110**

Classification: Large Quantity Generator

Date form received by agency: 01/23/1989

Facility name: HARRINGTONS SERVICE INC

Classification: Small Quantity Generator

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 11/27/2007

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

Area of violation: Not reported

Date achieved compliance: Not reported

Evaluation lead agency: State

FINDS:

Registry ID: 110004163280

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

NJ MANIFEST:

Manifest Code: NJA5014680  
EPA ID: NJD075157974  
Date Shipped: 01/13/2004  
TSDf EPA ID: NJD002454544  
Transporter EPA ID: NJD080631369  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 01/13/2004  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 01/14/2004

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON SERVICE STATION #34341 (Continued)**

**1000362110**

Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 03120422  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA5020964  
EPA ID: NJD075157974  
Date Shipped: 06/23/2005  
TSDF EPA ID: NJD980536593  
Transporter EPA ID: NJD080631369  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 06/23/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 06/23/2005  
Tranporter 1 Decal: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON SERVICE STATION #34341 (Continued)**

**1000362110**

Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 07250521  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

**I49**  
**NNE**  
**< 1/8**  
**0.044 mi.**  
**234 ft.**

**EXXON CO USA 34341**  
**121 KENNEDY BLVD**  
**BAYONNE, NJ 07002**

**RCRA NonGen / NLR** **1007204744**  
**NJP000909101**

**Site 3 of 7 in cluster I**

**Relative:**  
**Higher**

RCRA NonGen / NLR:

**Actual:**  
**21 ft.**

Date form received by agency: 02/20/1994  
Facility name: EXXON CO USA 34341  
Facility address: 121 KENNEDY BLVD  
BAYONNE, NJ 070020000  
EPA ID: NJP000909101  
Mailing address: PO BOX 2180  
HOUSTON, NJ 772522180  
Contact: ALDA POOL  
Contact address: PO BOX 2180  
HOUSTON, NJ 772522180  
Contact country: US  
Contact telephone: (713) 656-7709  
Contact email: Not reported  
EPA Region: 02  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON CO USA 34341 (Continued)**

1007204744

Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 02/19/1994  
Facility name: EXXON CO USA 34341  
Classification: Not a generator, verified

Date form received by agency: 02/18/1994  
Facility name: EXXON CO USA 34341  
Classification: Large Quantity Generator

Violation Status: No violations found

150  
NNE  
< 1/8  
0.044 mi.  
234 ft.

**EXXON R/S 3-4341**  
**121 KENNEDY BLVD**  
**BAYONNE CITY, NJ 07002**  
**Site 4 of 7 in cluster I**

**NJ SHWS S104417927**  
**NJ Release N/A**  
**NJ INST CONTROL**  
**NJ BROWNFIELDS**

Relative:  
Higher

SHWS:  
Site ID: 7656  
Status: ACTIVE  
Home Owner: No  
PI Number: 7986  
X Coord Site: 593094  
X Coord PI: 593094  
Y Coord Site: 662093  
Y Coord PI: 662093

Actual:  
21 ft.

NJ Release:

Facility ID: 12821  
Date Received: 07/29/1993  
Operator: PAT  
Incident Type: Not reported  
Incident Location: Not reported  
Location: Facility  
Other Location: Not reported  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City, St, Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Commercial  
Facility Phone: Not reported  
Case Number: 93-7-29-1640-14  
Nature of Incident: Facility

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON R/S 3-4341 (Continued)**

**S104417927**

Incident Date:	07/29/1993	Incident Time:	1630
Substance(s):	OIL WASTE	Substance Identity:	Suspected
Substance Type:	Liquid	A310 Letter:	Yes
CAS Number:	Not reported	Hazrds Material:	Yes
TCPA Chemical:	No	Ref. Code:	101
COMU:	0901	Contained:	Yes
Amnt Released:	UNK	Release VE:	Not reported
Release Type:	Terminated	Facility Evacuation:	No
Injuries:	No	Firemen at Scene:	No
Public Exposure:	No	Receiving Water:	Not reported
Police at Scene:	No	Status at Spill:	REMOVAL ONE 4,000 GAL UST THAT WAS IMPROPERLY ABANDONED. REMEDIATION IN PROGRESS.
Contamination of:	Land	NJ Spill Date:	Not reported
NJ Spill Date:	Not reported	NJ Spill Name:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported	Other Date:	Not reported
Other Date:	Not reported	Other Name:	Not reported
Other Name:	Not reported	Other Time:	Not reported
Other Telephone:	Not reported	Other Title:	Not reported
Public Evacuation:	No	Assistance Requested:	No
Wind Direction/Speed:	Not reported	Local Municipality Notified:	Not reported
Local Municipality Name:	BAYONNE CITY	Local Municipality Title:	DISP LAWRENCE
Local Municipality Telephone:	201-858-6005	Local Municipality Date:	07/29/1993
Local Municipality Date:	07/29/1993	Local Municipality Time:	1642
Local Municipality Time:	1642	Incident Description:	L.U.S.T.
Incident Description:	L.U.S.T.	Incident Name:	Not reported
Incident Name:	Not reported	Incident Referred To:	DRPSR
Incident Referred To:	DRPSR	Incident Region:	BFO-SA
Incident Region:	BFO-SA	Incident Telephone:	Faxed,Mailed
Incident Telephone:	Faxed,Mailed	Incident Date:	07/29/1993
Incident Date:	07/29/1993	Incident time:	Not reported
Incident time:	Not reported	Incident ITM:	B
Incident ITM:	B	Comments:	Not reported
Comments:	Not reported	Date A310 Letter Printed:	Not reported
Date A310 Letter Printed:	Not reported	Date Local Authority Was Notified:	Not reported
Date Local Authority Was Notified:	Not reported	Date Updated:	Not reported
Date Updated:	Not reported	Date Report Faxed to Local Authority:	Not reported
Date Report Faxed to Local Authority:	Not reported	Local Authority Notification Date:	Not reported
Local Authority Notification Date:	Not reported	Rep Receive Date:	01/01/1900
Rep Receive Date:	01/01/1900	Reporter Type:	Not reported
Reporter Type:	Not reported	Reporter Name:	Not reported
Reporter Name:	Not reported	Reporter Title:	Not reported
Reporter Title:	Not reported	Reporter Org:	Not reported
Reporter Org:	Not reported	Reporter Address:	Not reported
Reporter Address:	Not reported	Reporter City,St,Zip:	Not reported
Reporter City,St,Zip:	Not reported	Reporter County:	Not reported
Reporter County:	Not reported	Incident Status:	Not reported
Incident Status:	Not reported	Incident Category:	Not reported
Incident Category:	Not reported	Incident Source:	Not reported
Incident Source:	Not reported	Incident Address:	Not reported
Incident Address:	Not reported	Incident Address 2:	Not reported
Incident Address 2:	Not reported	Incident City,St,Zip:	Not reported
Incident City,St,Zip:	Not reported		

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON R/S 3-4341 (Continued)**

**S104417927**

Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: Not reported  
Direction: Not reported  
Responsible Party: Known  
Responsible Party Name: EXXON STATION #34341  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: 121 KENNEDY BLVD  
Responsible Party County: HUDSON  
Responsible Party City,St,Zip: BAYONNE, NJ  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

**NJ INSTITUTIONAL CONTROL:**

Facility ID: 7656  
Date Established (SI): 08/11/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 007986  
PI Name: EXXON R/S 3-4341  
CEA Description (SI): Benzene  
CEA Case Track #: 9632  
CEA Duration: 999.00  
Intermediate Durations: No

Facility ID: 7656  
Date Established (SI): 08/11/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 007986  
PI Name: EXXON R/S 3-4341  
CEA Description (SI): Methyl tert-butyl ether  
CEA Case Track #: 9632  
CEA Duration: 999.00  
Intermediate Durations: No

Facility ID: 7656  
Date Established (SI): 08/11/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 007986  
PI Name: EXXON R/S 3-4341  
CEA Description (SI): Tert-butyl alcohol  
CEA Case Track #: 9632  
CEA Duration: 999.00  
Intermediate Durations: No

Facility ID: 7656  
Date Established (SI): 08/11/2000  
Date Closed/Lifted (SI): Not reported  
PI Number: 007986  
PI Name: EXXON R/S 3-4341  
CEA Description (SI): Xylenes (total)  
CEA Case Track #: 9632  
CEA Duration: 999.00

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EXXON R/S 3-4341 (Continued)**

**S104417927**

Intermediate Durations: No

**BROWNFIELDS:**

Price: Not reported  
Assessed Value: Not reported  
Property Size: Unknown  
Annual Taxes: Not reported  
Representative Address: Not reported  
Representative City/State/Zip: Not reported  
Submitter Name: Not reported  
Submitter Address1: Not reported  
Submitter Address2: Not reported  
Submitter City: Not reported  
Submitte rState: Not reported  
Submitter Zip: Not reported  
Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported  
General Comments: Not reported

**I51**  
**NNE**  
**< 1/8**  
**0.044 mi.**  
**234 ft.**

**EXXON SERVICE STATION BAYONNE #3-4341**  
**121 KENNEDY BLVD**  
**BAYONNE, NJ**

**NJ HIST LUST S104390758**  
**NJ VCP N/A**

**Site 5 of 7 in cluster I**

**Relative:**  
**Higher**

**LUST HIST:**

Case ID: 93-07-29-1640  
Lead Program Assigned: Bureau of Underground Storage Tanks  
**Facility Status: Assigned to a Program**  
UST ID: 0079860  
TMS Number: C93-2415  
Remedial Level: Site has confirmed soil and ground water contamination.  
Case Manager: Michael Flite  
Facility Phone: (609) 633-2424  
No Further Action: Not reported  
RAW Approved: Y  
CEA: N  
Date CEA Lifted: Not reported  
Dead Notice: N

**Actual:**  
**21 ft.**

**VCP:**

Incident Number: 96-10-02-1708-00  
MOA Execution Date: 1/1/2011  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization Exxon Co Usa  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

J52  
NNE  
< 1/8  
0.046 mi.  
243 ft.

131 WEST 5TH STREET  
131 W 5TH ST  
BAYONNE, NJ 07002  
Site 1 of 4 in cluster J

NJ VCP S108061817  
N/A

Relative:  
Higher

VCP:  
Incident Number: 03-07-16-1031-41  
MOA Execution Date: 3/9/2006  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization Not reported  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

Actual:  
20 ft.

53  
NNE  
< 1/8  
0.047 mi.  
246 ft.

78 AVENUE A  
78 AVE A  
BAYONNE CITY, NJ 07002

NJ SHWS 1008953448  
NJ HIST HWS N/A

Relative:  
Higher

SHWS:  
Site ID: 174574  
Status: PENDING  
Home Owner: Yes  
PI Number: 228930  
X Coord Site: 592336  
X Coord PI: 592336  
Y Coord Site: 662092  
Y Coord PI: 662092

Actual:  
16 ft.

HIST SHWS:

**Case Status:** Active  
Status Date: 5/17/2004  
Case ID: 228930  
Contact: County Environmental Health Act  
Sub Section Label: A: Sites with On-Site Sources of Contamination  
Site Municipality: 0901  
Remedial Level Code: C1  
Classification exception area dt: None  
Classification exception area dt: Not reported  
Deed Notice Status: None  
Deed Notice Date: Not reported  
Engineering Control Status: None  
Engineering Control Date: Not reported  
National Priorities List Status: Not reported  
National Priorities List Date: Not reported  
X Coordinate: 592336  
Y Coordinate: 662092  
Coordinate System: NJ State Plane (NAD83) - USFEET

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

G54  
NNE  
< 1/8  
0.047 mi.  
248 ft.

DROGIN BUS CO  
53 KENNEDY BLVD  
BAYONNE, NJ 07002

Site 4 of 4 in cluster G

RCRA NonGen / NLR  
FINDS  
NJ SPILLS

1000235359  
NJD981481757

Relative:  
Higher

RCRA NonGen / NLR:

Actual:  
19 ft.

Date form received by agency: 01/01/2007  
Facility name: DROGIN BUS CO.  
Facility address: 53 KENNEDY BLVD  
BAYONNE, NJ 070025211  
EPA ID: NJD981481757  
Mailing address: KENNEDY BLVD  
BAYONNE, NJ 07002  
Contact: Not reported  
Contact address: KENNEDY BLVD  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported  
EPA Region: 02  
Land type: Facility is not located on Indian land. Additional information is not known.  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: DROGIN BUS CO.  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999  
Owner/operator country: US  
Owner/operator telephone: (212) 555-1212  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: DROGIN BUS CO.  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, WY 99999  
Owner/operator country: US  
Owner/operator telephone: (212) 555-1212  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS CO (Continued)**

**1000235359**

Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: DROGIN BUS CO.  
Classification: Not a generator, verified

Date form received by agency: 02/28/1992  
Facility name: DROGIN BUS CO.  
Site name: DROGIN BUS COMPANY  
Classification: Small Quantity Generator

Date form received by agency: 04/29/1986  
Facility name: DROGIN BUS CO.  
Classification: Large Quantity Generator

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 06/15/2000  
Evaluation: CASE DEVELOPMENT INSPECTION  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

FINDS:

Registry ID: 110004189896

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

NJ SPILL:

Facility ID: 22414  
Case Number: 98-04-02-1423-55  
Notify Type: Other  
Date Received: 04/02/1998  
Location: Other  
Other Location: Not reported  
Incident Date: 04/02/1998  
Incident Time: 1130  
A310 Letter: True  
Ref. Code: 101

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DROGIN BUS CO (Continued)**

**1000235359**

COMU: 0901  
CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Commercial  
Facility Phone: Not reported  
Substance(s): Not reported  
Substance Type: Not reported  
Substance Identity: Not reported  
TCPA Chemical: Not reported  
Hazrds Material: Not reported  
Amnt Released: Not reported  
Release VE: Not reported  
Contained: Not reported  
Release Type: Not reported  
Incident Desc: Not reported  
Status at Spill: 1/2000 GAL UST REMOVED. SOIL CONTAMINATION FOUND. CLEAN UP IN PROGRESS. UST #0322823 & #N98-01832.  
NJ Spill Date: Not reported  
NJ Spill Time: Not reported  
NJ Spill Name: Not reported  
NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: No  
Facility Evacuation: No  
Receiving Water: Not reported  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No  
Contamination of: Land  
Nature of Incident: Not reported  
Wind Direction/Speed: 0  
Assistance Requested: No  
Memo. Of Understanding: No  
Drill/trng Exercise: No  
Operator: ROB  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: DROGIN BUS CO.  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Telephone: 201-436-4489  
Responsible Party Street: 53 JFK BLVD  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**DROGIN BUS CO (Continued)**

**1000235359**

Responsible Party Zip:	Not reported
Responsible City,St,Zip:	BAYONNE, NJ
Responsible Party County:	HUDSON
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	01/01/1900
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	01/01/1900
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	01/01/1900
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

**K55**  
**NNE**  
 < 1/8  
 0.051 mi.  
 269 ft.

**RELiance CHEMICAL PRODUCTS COMPANY**  
**64 AVENUE A**  
**BAYONNE CITY, NJ 07002**  
**Site 1 of 3 in cluster K**

**NJ ISRA S107589784**  
**N/A**

**Relative:**  
**Higher**

NJ ISRA:	
Pi Number:	G000001087
Action Number:	ISR880002
Title:	E88727 Reliance Chemical Compa
Isra Trg: Finalized Date	Not reported
Start Date:	04/25/1994
Facility Status:	Withdrawn from ECRA/ISRA
Case No:	E88727
Case Name:	Reliance Chemical Company
Case Type:	ISRA
Trigger Type:	Business Sale
Trigger Date:	07/26/1988

**Actual:**  
 13 ft.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RELIANCE CHEMICAL PRODUCTS COMPANY (Continued)**

**S107589784**

Pi Number: G000001087  
Action Number: ISR880002  
Title: E88727 Reliance Chemical Compa  
Isra Trg: Finalized Date: Not reported  
Start Date: 04/25/1994  
Facility Status: Withdrawn from ECRA/ISRA  
Case No: E88727  
Case Name: Reliance Chemical Company  
Case Type: ISRA  
Trigger Type: Property Sale  
Trigger Date: 07/26/1988

Pi Number: G000001087  
Action Number: ISR960002  
Title: E96533 Reliance Chemical Compa  
Isra Trg: Finalized Date: Not reported  
Start Date: 01/30/1997  
Facility Status: NFA (No Further Action) HISTORIC  
Case No: E96533  
Case Name: Reliance Chemical Company  
Case Type: ISRA  
Trigger Type: Business Sale  
Trigger Date: 12/13/1996

Pi Number: G000001087  
Action Number: ISR980002  
Title: E98090 Reliance Chemical Produ  
Isra Trg: Finalized Date: Not reported  
Start Date: 03/20/1998  
Facility Status: NFA-A (Area of Concern) HISTORIC  
Case No: E98090  
Case Name: Reliance Chemical Products Incorporated  
Case Type: ISRA  
Trigger Type: Cessation  
Trigger Date: 02/25/1998

**K56**  
**NNE**  
**< 1/8**  
**0.051 mi.**  
**269 ft.**

**RELIANCE CHEMICAL PRODUCTS CO**  
**64 AVE A**  
**BAYONNE, NJ 07002**

**RCRA NonGen / NLR** **1001202729**  
**FINDS** **NJR000020222**

**Site 2 of 3 in cluster K**

**Relative:**  
**Higher**

RCRA NonGen / NLR:

Date form received by agency: 01/01/2007  
Facility name: RELIANCE CHEMICAL PRODUCTS CO  
Facility address: 64 AVE A  
BAYONNE, NJ 07002  
EPA ID: NJR000020222  
Mailing address: AVE A  
BAYONNE, NJ 07002  
Contact: Not reported  
Contact address: AVE A  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported  
EPA Region: 02  
Classification: Non-Generator

**Actual:**  
**13 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RELIANCE CHEMICAL PRODUCTS CO (Continued)**

**1001202729**

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: RELIANCE TRADING CO  
Owner/operator address: 205 SHEFFIELD RD  
FREEHOLD, NJ 07728  
Owner/operator country: US  
Owner/operator telephone: (201) 437-4144  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: RELIANCE TRADING CO  
Owner/operator address: 205 SHEFFIELD RD  
FREEHOLD, NJ 07728  
Owner/operator country: US  
Owner/operator telephone: (201) 437-4144  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: RELIANCE CHEMICAL PRODUCTS CO  
Classification: Not a generator, verified

Date form received by agency: 06/24/1997  
Facility name: RELIANCE CHEMICAL PRODUCTS CO  
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110004259025

Environmental Interest/Information System

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**RELiance CHEMICAL PRODUCTS CO (Continued)**

**1001202729**

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
 The Department of Environmental Protection (NJDEP) manages large  
 databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource  
 Conservation and Recovery Act (RCRA) program through the tracking of  
 events and activities related to facilities that generate, transport,  
 and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA  
 program staff to track the notification, permit, compliance, and  
 corrective action activities required under RCRA.

**J57**  
**NNE**  
 < 1/8  
 0.051 mi.  
 269 ft.

**129 WEST 5TH STREET**  
**129 W 5TH ST**  
**BAYONNE, NJ 07002**

**NJ VCP S108061772**  
**N/A**

**Site 2 of 4 in cluster J**

**Relative:**  
**Higher**

VCP:  
 Incident Number: 03-07-14-1601-27  
 MOA Execution Date: 4/5/2005  
 Type Of Vcp File: HISTORICAL  
 Pi Number: Not reported  
 Case Type(Case Type): Not reported  
 Case Contact: Department Not reported  
 Case Contact Name: Not reported  
 Case Contact: Organization Not reported  
 Case Contact: Address: Line1 Not reported  
 Case Contact: Address: Line2 Not reported  
 Case Contact: Address: Line3 Not reported  
 Case Contact City,St,Zip: Not reported

**Actual:**  
**20 ft.**

**K58**  
**NNE**  
 < 1/8  
 0.052 mi.  
 277 ft.

**TEXAS PIPE LINE CO HARBOR SYSTEM SEC 2**  
**AVENUE A AND THIRD STREET**  
**BAYONNE CITY, NJ 07002**

**NJ ISRA S107590653**  
**N/A**

**Site 3 of 3 in cluster K**

**Relative:**  
**Higher**

NJ ISRA:  
 Pi Number: G000014692  
 Action Number: ISR850002  
 Title: E85522 Texas Pipeline Company  
 Isra Trg: Finalized Date Not reported  
 Start Date: 02/04/1986  
 Facility Status: NFA (No Further Action) HISTORIC  
 Case No: E85522  
 Case Name: Texas Pipeline Company  
 Case Type: ISRA  
 Trigger Type: Business Sale  
 Trigger Date: 12/09/1985

Pi Number: G000014692  
 Action Number: ISR850002  
 Title: E85522 Texas Pipeline Company  
 Isra Trg: Finalized Date Not reported  
 Start Date: 02/04/1986

**Actual:**  
**11 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TEXAS PIPE LINE CO HARBOR SYSTEM SEC 2 (Continued)**

**S107590653**

Facility Status: NFA (No Further Action) HISTORIC  
Case No: E85522  
Case Name: Texas Pipeline Company  
Case Type: ISRA  
Trigger Type: Property Sale  
Trigger Date: 12/09/1985

**L59**  
**NNE**  
**< 1/8**  
**0.055 mi.**  
**288 ft.**

**180 W 5TH ST**  
**BAYONNE, NJ 07002**

**Site 1 of 7 in cluster L**

**Relative:**  
**Higher**

EDR Historical Auto Stations:  
Name: ROYAL LUBE CORP  
Year: 2008  
Address: 180 W 5TH ST

**Actual:**  
**17 ft.**

**EDR US Hist Auto Stat 1015277594**  
**N/A**

**L60**  
**NNE**  
**< 1/8**  
**0.055 mi.**  
**288 ft.**

**SWAN MICHIGAN OIL CO**  
**180 W 5TH ST**  
**BAYONNE, NJ 07002**

**Site 2 of 7 in cluster L**

**Relative:**  
**Higher**

RCRA-CESQG:  
Date form received by agency: 01/01/2007  
Facility name: SWAN MICHIGAN OIL CO  
Facility address: 180 W 5TH ST  
BAYONNE, NJ 070021102  
EPA ID: NJD986649473  
Mailing address: W 5TH ST  
BAYONNE, NJ 07002  
Contact: Not reported  
Contact address: W 5TH ST  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported  
EPA Region: 02  
Classification: Conditionally Exempt Small Quantity Generator  
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

**Actual:**  
**17 ft.**

**RCRA-CESQG 1000786410**  
**FINDS NJD986649473**  
**NJ SPILLS**  
**NJ Release**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SWAN MICHIGAN OIL CO (Continued)**

**1000786410**

Owner/Operator Summary:

Owner/operator name: SWAN MICHIGAN CO  
Owner/operator address: 180 W 5TH ST  
BAYONNE, NJ 07002  
Owner/operator country: US  
Owner/operator telephone: (201) 437-0440  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: SWAN MICHIGAN CO  
Owner/operator address: 180 W 5TH ST  
BAYONNE, NJ 07002  
Owner/operator country: US  
Owner/operator telephone: (201) 437-0440  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: SWAN MICHIGAN OIL CO  
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 05/11/1993  
Facility name: SWAN MICHIGAN OIL CO  
Classification: Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110004242720

Environmental Interest/Information System

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).  
The Department of Environmental Protection (NJDEP) manages large

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SWAN MICHIGAN OIL CO (Continued)**

**1000786410**

databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**NJ SPILL:**

Facility ID: 2438  
Case Number: 93-2-17-1600-50  
Notify Type: Not reported  
Date Received: 02/17/1993  
Location: Facility  
Other Location: Not reported  
Incident Date: 02/17/1993  
Incident Time: 1430  
A310 Letter: Yes  
Ref. Code: 101  
COMU: 0901  
CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Industrial  
Facility Phone: 201-437-0440  
Substance(s): PAINT, OTHER  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: No  
Hazrds Material: Unknown  
Amnt Released: LESS 10 GAL  
Release VE: Estimate  
Contained: Yes  
Release Type: Terminated  
Incident Desc: Spill  
Status at Spill: PAINT FELL OFF OF BACK OF TRUCK DURING DELIVERY. CONTRACTOR ENROUTE TO DO CLEANUP.  
  
NJ Spill Date: Not reported  
NJ Spill Time: Not reported  
NJ Spill Name: Not reported  
NJ Spill Title: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: Not reported  
Public Evacuation: No  
Police at Scene: No  
Firemen at Scene: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SWAN MICHIGAN OIL CO (Continued)**

**1000786410**

Contamination of: Land  
Nature of Incident: Other  
Wind Direction/Speed: Not reported  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: DAVE  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: SWAN MICHIGAN OIL  
Responsible Party Contact: ALVIN BIRNE  
Responsible Party Title: SUPER  
Responsible Party Telephone: 201-437-0440  
Responsible Party Street: 180 W 5TH ST  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ  
Responsible Party County: MICHIGAN  
Local Municipality: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: DISP 140  
Local Municipality Phone: 201-858-6005  
Local Municipality Date: 02/17/1993  
Local Municipality Time: 1608  
Incident Name: Not reported  
Incident Referred To: DRPSR  
Incident Region: BFO-SA  
Incident Phone: Not reported  
Incident Date: 02/17/1993  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

SWAN MICHIGAN OIL CO (Continued)

1000786410

DEP Requested: Not reported  
Confidential: Not reported

NJ Release:

Facility ID: 2542  
Date Received: 02/19/1993  
Operator: RICH  
Incident Type: Not reported  
Incident Location: Not reported  
Location: Facility  
Other Location: Not reported  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Commercial  
Facility Phone: 201-437-0440  
Incident Date: 02/19/1993  
Substance(s): OIL LUBE  
Substance Type: Liquid  
CAS Number: Not reported  
TCPA Chemical: No  
COMU: 0901  
Amnt Released: 50 GAL  
Release Type: Terminated  
Injuries: No  
Public Exposure: No  
Police at Scene: No  
Contamination of: Land  
Status at Spill: SPILL ON FLOOR ONLY INSIDE BUILDING, CLEANUP IS IN PROGRESS, SPILL DUE TO HOUSEKEEPING ONLY  
NJ Spill Date: Not reported  
NJ Spill Name: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Name: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: No  
Wind Direction/Speed: Not reported  
Local Municipality Notified: Not reported  
Local Municipality Name: BAYONNE CITY  
Local Municipality Title: Not reported  
Local Municipality Telephone: 201-858-6005  
Local Municipality Date: 02/19/1993  
Local Municipality Time: Not reported  
Incident Description: Sloppy Housekeeping  
Incident Name: Not reported  
Incident Referred To: DRPSR  
Incident Region: ER1  
Incident Telephone: Faxed,Mailed  
Incident Date: 02/19/1993  
Incident time: 1417  
Incident ITM: B  
Comments: Not reported

Case Number: 93-2-19-1413-00  
Nature of Incident: Facility  
Incident Time: 1400  
Substance Identity: Known  
A310 Letter: No  
Hazrds Material: Yes  
Ref. Code: 001  
Contained: Yes  
Release VE: Estimate  
Facility Evacuation: No  
Firemen at Scene: No  
Receiving Water: Not reported

NJ Spill Time: Not reported  
NJ Spill Title: Not reported  
Other Time: Not reported  
Other Title: Not reported

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**SWAN MICHIGAN OIL CO (Continued)**

**1000786410**

Date A310 Letter Printed: Not reported  
 Date Local Authority Was Notified: Not reported  
 Date Updated: Not reported  
 Date Report Faxed to Local Authority: Not reported  
 Local Authority Notification Date: Not reported  
 Rep Receive Date: 01/01/1900  
 Reporter Type: Not reported  
 Reporter Name: Not reported  
 Reporter Title: Not reported  
 Reporter Org: Not reported  
 Reporter Address: Not reported  
 Reporter City,St,Zip: Not reported  
 Reporter County: Not reported  
 Incident Status: Not reported  
 Incident Category: Not reported  
 Incident Source: Not reported  
 Incident Address: Not reported  
 Incident Address 2: Not reported  
 Incident City,St,Zip: Not reported  
 Incident County: Not reported  
 DEP Requested: Not reported  
 Confidential: Not reported  
 Notify Type: Not reported  
 Road Closed: Not reported  
 Direction: Not reported  
 Responsible Party: Known  
 Responsible Party Name: SWAN MICHIGAN OIL CO  
 Responsible Party Contact: ALVIN A BIRNE  
 Responsible Party Title: PRESIDENT  
 Responsible Party Phone: 201-437-0440  
 Responsible Party Street: 180 W 5TH ST  
 Responsible Party County: HUDSON  
 Responsible Party City,St,Zip: BAYONNE, NJ  
 Memo. Of Understanding: Not reported  
 Drill/trng Exercise: Not reported  
 Hazardous: Not reported

**M61**  
**NNE**  
 < 1/8  
 0.055 mi.  
 291 ft.

**79 KENNEDY BLVD**  
**BAYONNE, NJ 07002**

**Site 1 of 2 in cluster M**

**EDR US Hist Auto Stat 1015634037**  
**N/A**

**Relative:**  
**Higher**

EDR Historical Auto Stations:  
 Name: CHARLIES AUTO  
 Year: 1999  
 Address: 79 KENNEDY BLVD  
  
 Name: CHARLIES AUTO  
 Year: 2000  
 Address: 79 KENNEDY BLVD  
  
 Name: CHARLIES AUTO  
 Year: 2001  
 Address: 79 KENNEDY BLVD  
  
 Name: CHARLIES AUTO  
 Year: 2003

**Actual:**  
 21 ft.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

(Continued)

1015634037

Address: 79 KENNEDY BLVD  
Name: CHARLIES AUTO REPAIR  
Year: 2004  
Address: 79 KENNEDY BLVD  
Name: CHARLIES AUTO  
Year: 2005  
Address: 79 KENNEDY BLVD  
Name: DEPENDABLE AUTO REPAIR  
Year: 2010  
Address: 79 KENNEDY BLVD  
Name: NEXT LEVEL AUTO REPAIR  
Year: 2012  
Address: 79 KENNEDY BLVD

N62  
North  
< 1/8  
0.058 mi.  
305 ft.

NL INDUSTRIES INC  
35-40 AVENUE A  
BAYONNE, NJ 07002  
Site 1 of 5 in cluster N

RCRA-TSDF 1000170153  
CERC-NFRAP NJD067520890  
CORRACTS  
RCRA-CESQG  
FINDS  
NJ MANIFEST  
US AIRS

Relative:  
Higher

Actual:  
8 ft.

RCRA-TSDF:  
Date form received by agency: 05/05/2008  
Facility name: RUTHERFORD CHEMICALS LLC  
Facility address: 35 AVENUE A  
BAYONNE, NJ 07002  
EPA ID: NJD067520890  
Mailing address: AVENUE A  
BAYONNE, NJ 07002  
Contact: ROB ZEDECK  
Contact address: AVENUE A  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: (201) 858-7846  
Contact email: RZEDECK@VERTELLUS.COM  
EPA Region: 02  
Land type: Private  
Classification: TSDF  
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste  
Classification: Conditionally Exempt Small Quantity Generator  
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name: RUTHERFORD CHEMICALS LLC  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: Not reported  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: 11/10/2003  
Owner/Op end date: Not reported

Owner/operator name: RUTHERFORD CHEMICALS LLC  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: Not reported  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 11/10/2003  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 03/03/2008  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: RUTHERFORD CHEMICALS, LLC  
Classification: Large Quantity Generator

Date form received by agency: 01/01/2007  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CAS CHEM - A DIVISION OF RUTHERFORD CHEM  
Classification: Large Quantity Generator

Date form received by agency: 02/28/2006  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CAS CHEM - A DIVISION OF RUTHERFORD CHEM  
Classification: Large Quantity Generator

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Date form received by agency: 02/27/2006  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CAS CHEM - A DIVISION OF RUTHERFORD CHEM  
Classification: Large Quantity Generator

Date form received by agency: 07/15/2004  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM INC  
Classification: Small Quantity Generator

Date form received by agency: 04/20/2004  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CAS CHEM  
Classification: Large Quantity Generator

Date form received by agency: 01/31/2002  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM, INC.  
Classification: Large Quantity Generator

Date form received by agency: 03/29/2001  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CAS CHEM INC  
Classification: Large Quantity Generator

Date form received by agency: 03/28/1996  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CAS CHEM INC  
Classification: Large Quantity Generator

Date form received by agency: 02/25/1994  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM INC  
Classification: Large Quantity Generator

Date form received by agency: 02/27/1992  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM, INC.  
Classification: Large Quantity Generator

Date form received by agency: 03/01/1990  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM INC  
Classification: Large Quantity Generator

Date form received by agency: 11/19/1980  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM INC  
Classification: Not a generator, verified

Date form received by agency: 08/18/1980  
Facility name: RUTHERFORD CHEMICALS LLC  
Site name: CASCHEM INC  
Classification: Large Quantity Generator

Hazardous Waste Summary:

Waste code: D001

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002  
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D018  
Waste name: BENZENE

Waste code: D022  
Waste name: CHLOROFORM

Waste code: D035  
Waste name: METHYL ETHYL KETONE

Waste code: F002  
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003  
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005  
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Corrective Action Summary:

Event date: 09/26/1994  
Event: RFA Completed

Event date: 05/23/1996  
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Event date: 05/23/1996  
Event: RFA Determination Of Need For An RFI, RFI is Necessary;

Facility Has Received Notices of Violations:

Regulation violated: Not reported  
Area of violation: TSD - General  
Date violation determined: 07/27/1990  
Date achieved compliance: 09/06/1990  
Violation lead agency: State  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 12/17/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: 5000  
Final penalty amount: 5000  
Paid penalty amount: 5000

Regulation violated: Not reported  
Area of violation: TSD - General  
Date violation determined: 07/27/1990  
Date achieved compliance: 09/06/1990  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 08/03/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: TSD - Manifest/Records/Reporting  
Date violation determined: 07/27/1990  
Date achieved compliance: 09/06/1990  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 08/03/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: TSD - Manifest/Records/Reporting

Map ID  
Direction  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Date violation determined: 07/27/1990  
Date achieved compliance: 09/06/1990  
Violation lead agency: State  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 12/17/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: 5000  
Final penalty amount: 5000  
Paid penalty amount: 5000

Regulation violated: Not reported  
Area of violation: TSD - General  
Date violation determined: 09/18/1989  
Date achieved compliance: 11/17/1989  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/18/1989  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: TSD - General  
Date violation determined: 05/18/1988  
Date achieved compliance: 04/05/1990  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 05/18/1988  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: TSD - General  
Date violation determined: 05/18/1988  
Date achieved compliance: 04/05/1990  
Violation lead agency: State  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 12/28/1988  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: TSD - General  
Date violation determined: 06/20/1986

Map ID  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Date achieved compliance: 05/07/1988  
Violation lead agency: EPA  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/15/1986  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: EPA  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: Not reported  
Area of violation: TSD - Closure/Post-Closure  
Date violation determined: 07/08/1985  
Date achieved compliance: 08/09/1985  
Violation lead agency: State  
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER  
Enforcement action date: 07/29/1985  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: 875  
Final penalty amount: 0  
Paid penalty amount: 875

Evaluation Action Summary:

Evaluation date: 04/27/2011  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 07/08/2010  
Evaluation: CASE DEVELOPMENT INSPECTION  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 06/30/2009  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 12/18/2006  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 12/13/2005  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: EPA

Evaluation date: 02/03/2000

Map ID  
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MAP FINDINGS

Site

Database(s)

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**NL INDUSTRIES INC (Continued)**

**1000170153**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 08/16/1996  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 08/30/1994  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 08/09/1994  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 05/20/1992  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 08/07/1991  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 06/10/1991  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 09/06/1990  
Evaluation: COMPLIANCE SCHEDULE EVALUATION  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 07/27/1990  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: TSD - Manifest/Records/Reporting  
Date achieved compliance: 09/06/1990  
Evaluation lead agency: State

Evaluation date: 07/27/1990  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: TSD - General  
Date achieved compliance: 09/06/1990

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MAP FINDINGS

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Database(s)

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**NL INDUSTRIES INC (Continued)**

**1000170153**

Evaluation lead agency: State

Evaluation date: 11/17/1989  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 09/18/1989  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: TSD - General  
Date achieved compliance: 11/17/1989  
Evaluation lead agency: State

Evaluation date: 05/18/1988  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: TSD - General  
Date achieved compliance: 04/05/1990  
Evaluation lead agency: State

Evaluation date: 05/18/1988  
Evaluation: COMPLIANCE SCHEDULE EVALUATION  
Area of violation: TSD - General  
Date achieved compliance: 04/05/1990  
Evaluation lead agency: State

Evaluation date: 11/02/1987  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 10/07/1987  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 07/07/1987  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 11/24/1986  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 09/17/1986  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 06/20/1986

Map ID  
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MAP FINDINGS

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EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: TSD - General  
Date achieved compliance: 05/07/1988  
Evaluation lead agency: EPA-Initiated Oversight/Observation/Training Actions

Evaluation date: 05/20/1986  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 04/17/1986  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 04/14/1986  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 12/20/1985  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 12/16/1985  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 07/08/1985  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: TSD - Closure/Post-Closure  
Date achieved compliance: 08/09/1985  
Evaluation lead agency: State

Evaluation date: 03/07/1984  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

**CERC-NFRAP:**

Site ID: 0200416  
Federal Facility: Not a Federal Facility  
NPL Status: Not on the NPL  
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

**CERCLIS-NFRAP Site Alias Name(s):**

Alias Name: NL INDUSTRIES BAYONNE PLANT  
Alias Address: 35 AVE A  
BAYONNE, NJ 07002

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**NL INDUSTRIES INC (Continued)**

1000170153

Alias Name: CASHEM  
Alias Address: Not reported  
NJ

Alias Name: NL INDUSTRIES INC  
Alias Address: Not reported  
HUDSON, NJ

CERCLIS-NFRAP Assessment History:

Action: DISCOVERY  
Date Started: / /  
Date Completed: 06/01/81  
Priority Level: Not reported

Action: ARCHIVE SITE  
Date Started: / /  
Date Completed: 09/29/87  
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT  
Date Started: 09/28/87  
Date Completed: 09/29/87  
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

CORRACTS:

EPA ID: NJD067520890  
EPA Region: 02  
Area Name: SITEWIDE  
Actual Date: 19960523  
Action: CA070YE - RFA Determination Of Need For An RFI, RFI is Necessary  
NAICS Code(s): 325199  
All Other Basic Organic Chemical Manufacturing  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: NJD067520890  
EPA Region: 02  
Area Name: SITEWIDE  
Actual Date: 19960523  
Action: CA075LO - CA Prioritization, Facility or area was assigned a low  
corrective action priority  
NAICS Code(s): 325199  
All Other Basic Organic Chemical Manufacturing  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: NJD067520890  
EPA Region: 02  
Area Name: SITEWIDE  
Actual Date: 19940926  
Action: CA050 - RFA Completed  
NAICS Code(s): 325199  
All Other Basic Organic Chemical Manufacturing  
Original schedule date: Not reported  
Schedule end date: Not reported

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**NL INDUSTRIES INC (Continued)**

**1000170153**

**FINDS:**

Registry ID: 110000317844

**Environmental Interest/Information System**

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**HAZARDOUS WASTE BIENNIAL REPORTER**

**CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY**

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate

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**NL INDUSTRIES INC (Continued)**

**1000170153**

that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

**NJ MANIFEST:**

Manifest Code:	004633355JJK
EPA ID:	NJD067520890
Date Shipped:	07/16/2010
TSDf EPA ID:	NJD002200046
Transporter EPA ID:	NJD038480349
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	07/16/2010
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDf Received Waste:	07/16/2010
Transporter 1 Decal:	Not reported
Transporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDf EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported

Map ID  
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MAP FINDINGS

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Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D002  
Manifest Year: 2010 New Jersey Manifest Data  
Quantity: 3662  
Unit: G  
Hand Code: H111

Manifest Code: 002560455JJK  
EPA ID: NJD067520890  
Date Shipped: 01/14/2008  
TSDf EPA ID: TXD055135388  
Transporter EPA ID: NJD054126164  
Transporter 2 EPA ID: ILD981957236  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 01/14/2008  
Date Trans2 Transported Waste: 01/15/2008  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 01/30/2008  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported

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MAP FINDINGS

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**NL INDUSTRIES INC (Continued)**

**1000170153**

Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: U135  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 2  
Unit: P  
Hand Code: H075

Waste Code: D001  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 6  
Unit: P  
Hand Code: H061

Waste Code: D001  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 2  
Unit: P  
Hand Code: H061

Waste Code: D001  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 10  
Unit: P  
Hand Code: H129

Manifest Code: 000907978FLE  
EPA ID: NJD067520890  
Date Shipped: 01/14/2008  
TSDf EPA ID: PAD987367216  
Transporter EPA ID: NJD054126164  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 01/14/2008  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 01/14/2008  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported

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**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D009  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 30  
Unit: P  
Hand Code: H010

Manifest Code: 001876868FLE  
EPA ID: NJD067520890  
Date Shipped: 04/21/2008  
TSDf EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 04/21/2008  
Date Trans2 Transported Waste: 04/21/2008  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 04/23/2008  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D001  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 450  
Unit: P  
Hand Code: H061

Waste Code: D001  
Manifest Year: 2008 New Jersey Manifest Data  
Quantity: 180  
Unit: P  
Hand Code: H141

Manifest Code: 000500408FLE  
EPA ID: NJD067520890  
Date Shipped: 02/22/2007  
TSDF EPA ID: NJD002454544  
Transporter EPA ID: NJD054126164  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 02/22/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 02/22/2007  
Tranporter 1 Decal: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D001  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 2437  
Unit: G  
Hand Code: H06

Manifest Code: 000600857FLE  
EPA ID: NJD067520890  
Date Shipped: 02/22/2007  
TSDF EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 02/22/2007  
Date Trans2 Transported Waste: 02/23/2007  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 02/23/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: D001  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 400  
Unit: P  
Hand Code: H06  
  
Waste Code: D001  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 500  
Unit: P  
Hand Code: H14  
  
Waste Code: D002  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 1600  
Unit: P  
Hand Code: H14  
  
Waste Code: D018  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 800  
Unit: P  
Hand Code: H14  
  
Waste Code: D001  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 750  
Unit: P  
Hand Code: H14  
  
Waste Code: D001  
Manifest Year: 2007 New Jersey Manifest Data  
Quantity: 2000  
Unit: P  
Hand Code: H14

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Manifest Code: 001860143FLE  
EPA ID: NJD067520890  
Date Shipped: 12/19/2007  
TSDf EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/19/2007  
Date Trans2 Transported Waste: 12/21/2007  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 01/03/2008  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: MDC1089514

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

EPA ID: NJD067520890  
Date Shipped: 05/09/2005  
TSDF EPA ID: MDD980555189  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 05/09/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 05/09/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 06070525  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: MDC1094186  
EPA ID: NJD067520890

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Date Shipped: 05/16/2005  
TSDF EPA ID: MDD980555189  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 05/16/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 05/16/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 06220525  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: MDC1030431  
EPA ID: NJD067520890  
Date Shipped: 11/16/2005

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

TSDF EPA ID:	MDD980555189
Transporter EPA ID:	MAD039322250
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	11/16/2005
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	11/16/2005
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	02080621
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported
Manifest Code:	MDC1089549
EPA ID:	NJD067520890
Date Shipped:	12/15/2005
TSDF EPA ID:	MDD980555189

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/15/2005  
Date Trans2 Transported Waste: 12/21/2005  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/21/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 02170621  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA5228720  
EPA ID: NJD067520890  
Date Shipped: 03/02/2005  
TSDf EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 2 EPA ID:	NJD986607380
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	03/02/2005
Date Trans2 Transported Waste:	03/03/2005
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDf Received Waste:	03/10/2005
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDf EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	05100521
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported
Manifest Code:	NJA5272505
EPA ID:	NJD067520890
Date Shipped:	09/13/2005
TSDf EPA ID:	OHD000816629
Transporter EPA ID:	MAD039322250
Transporter 2 EPA ID:	NJD986607380

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 09/13/2005  
Date Trans2 Transported Waste: 09/13/2005  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 09/15/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 11140521  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA4117736  
EPA ID: NJD067520890  
Date Shipped: 11/14/2005  
TSDF EPA ID: OHD066060609  
Transporter EPA ID: NJD986607380  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 11/14/2005  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 11/29/2005  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 02060625  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA5282354  
EPA ID: NJD067520890  
Date Shipped: 12/15/2005  
TSDF EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/15/2005  
Date Trans2 Transported Waste: 12/22/2005  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/27/2005  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 02160621  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: NJA5282427  
EPA ID: NJD067520890  
Date Shipped: 12/30/2005  
TSDf EPA ID: OHD000816629  
Transporter EPA ID: MAD039322250  
Transporter 2 EPA ID: OHD009865825  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/30/2005  
Date Trans2 Transported Waste: 01/03/2006  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 01/05/2006  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: 02280695  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 000907949FLE  
EPA ID: NJD067520890  
Date Shipped: 12/21/2007  
TSDf EPA ID: NJD980536593  
Transporter EPA ID: NJD054126164  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/21/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDF Received Waste: 12/21/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 000907994FLE  
EPA ID: NJD067520890  
Date Shipped: 12/21/2007  
TSDF EPA ID: NJD980536593  
Transporter EPA ID: NJD054126164  
Transporter 2 EPA ID: Not reported  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: 12/21/2007  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: 12/21/2007  
Tranporter 1 Decal: Not reported  
Tranporter 2 Decal: Not reported  
Generator EPA Facility Name: Not reported  
Transporter-1 EPA Facility Name: Not reported  
Transporter-2 EPA Facility Name: Not reported  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDf EPA Facility Name: Not reported  
QTY Units: Not reported  
Transporter SEQ ID: Not reported  
Transporter-1 Date: Not reported  
Waste SEQ ID: Not reported  
Waste Type Code 2: Not reported  
Waste Type Code 3: Not reported  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: Not reported  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): No  
Reason Load Was Rejected: Not reported  
Waste Code: Not reported  
Manifest Year: Not reported  
Quantity: Not reported  
Unit: Not reported  
Hand Code: Not reported

Manifest Code: 007571150JJK  
EPA ID: NJD067520890  
Date Shipped: 10/21/2011  
TSDf EPA ID: NCD980842132  
Transporter EPA ID: NCD980842132  
Transporter 2 EPA ID: NCD980799142  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	Not reported
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	Not reported
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	RUTHERFORD CHEMICALS LLC
Transporter-1 EPA Facility Name:	ECOFLO INC
Transporter-2 EPA Facility Name:	STAT INC
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	ECOFLO INC
QTY Units:	Pounds
Transporter SEQ ID:	1.00
Transporter-1 Date:	10/21/2011
Waste SEQ ID:	8.00
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	11/2/2011
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	Not reported
Reason Load Was Rejected:	Not reported
Waste Code:	D001
Manifest Year:	2011 New Jersey Manifest Data
Quantity:	5.00
Unit:	Pounds
Hand Code:	H141
Waste Code:	D001
Manifest Year:	2011 New Jersey Manifest Data
Quantity:	8.00
Unit:	Pounds
Hand Code:	H141
Waste Code:	D009
Manifest Year:	2011 New Jersey Manifest Data
Quantity:	9.00
Unit:	Pounds
Hand Code:	H141
Waste Code:	U080
Manifest Year:	2011 New Jersey Manifest Data
Quantity:	12.00

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Unit: Pounds  
Hand Code: H141

Waste Code: D003  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 12.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D002  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 22.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D002  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 38.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D001  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 150.00  
Unit: Pounds  
Hand Code: H141

Manifest Code: 007571150JJK  
EPA ID: NJD067520890  
Date Shipped: 10/21/2011  
TSDf EPA ID: NCD980842132  
Transporter EPA ID: NCD980842132  
Transporter 2 EPA ID: NCD980799142  
Transporter 3 EPA ID: Not reported  
Transporter 4 EPA ID: Not reported  
Transporter 5 EPA ID: Not reported  
Transporter 6 EPA ID: Not reported  
Transporter 7 EPA ID: Not reported  
Transporter 8 EPA ID: Not reported  
Transporter 10 EPA ID: Not reported  
Date Trans1 Transported Waste: Not reported  
Date Trans2 Transported Waste: Not reported  
Date Trans3 Transported Waste: Not reported  
Date Trans4 Transported Waste: Not reported  
Date Trans5 Transported Waste: Not reported  
Date Trans6 Transported Waste: Not reported  
Date Trans7 Transported Waste: Not reported  
Date Trans8 Transported Waste: Not reported  
Date Trans9 Transported Waste: Not reported  
Date Trans10 Transported Waste: Not reported  
Date TSDf Received Waste: Not reported  
Transporter 1 Decal: Not reported  
Transporter 2 Decal: Not reported  
Generator EPA Facility Name: RUTHERFORD CHEMICALS LLC  
Transporter-1 EPA Facility Name: ECOFLO INC

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Transporter-2 EPA Facility Name: STAT INC  
Transporter-3 EPA Facility Name: Not reported  
Transporter-4 EPA Facility Name: Not reported  
Transporter-5 EPA Facility Name: Not reported  
TSDF EPA Facility Name: ECOFLO INC  
QTY Units: Pounds  
Transporter SEQ ID: 1.00  
Transporter-1 Date: 10/21/2011  
Waste SEQ ID: 6.00  
Waste Type Code 2: D018  
Waste Type Code 3: U019  
Waste Type Code 4: Not reported  
Waste Type Code 5: Not reported  
Waste Type Code 6: Not reported  
Date Accepted: 11/2/2011  
Manifest Discrepancy Type: Not reported  
Data Entry Number: Not reported  
Reference Manifest Number: Not reported  
Was Load Rejected (Y/N): Not reported  
Reason Load Was Rejected: Not reported  
Waste Code: D001  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 5.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D001  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 8.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D009  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 9.00  
Unit: Pounds  
Hand Code: H141

Waste Code: U080  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 12.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D003  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 12.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D002  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 22.00  
Unit: Pounds  
Hand Code: H141

Waste Code: D002

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 38.00  
Unit: Pounds  
Hand Code: H141  
  
Waste Code: D001  
Manifest Year: 2011 New Jersey Manifest Data  
Quantity: 150.00  
Unit: Pounds  
Hand Code: H141

**AIRS (AFS):**

**Compliance and Violation Data Major Sources:**

EPA plant ID: 110000317844  
Plant name: RUTHERFORD CHEMICALS LLC  
Plant address: 40 AVENUE A  
BAYONNE, NJ 07002  
  
County: HUDSON  
Region code: 02  
Dunn & Bradst #: 029260833  
Air quality cntrl region: 043  
Sic code: 2076  
Sic code desc: VEGETABLE OIL MILLS, NEC  
North Am. industrial classf: Not reported  
NAIC code description: Not reported  
Default compliance status: IN COMPLIANCE - CERTIFICATION  
Default classification: POTENTIAL EMISSIONS ARE BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS  
IF AND ONLY IF THE SOURCE COMPLIES WITH FEDERALLY ENFORCEABLE  
REGULATIONS OR LIMITATIONS.  
  
Govt facility: ALL OTHER FACILITIES NOT OWNED OR OPERATED BY A FEDERAL, STATE, OR  
LOCAL GOVERNMENT  
  
Current HPV: Not reported

**Compliance and Enforcement Major Issues:**

Air program: SIP SOURCE  
National action type: NXXXXX  
Date achieved: 010629  
Penalty amount: 000000400  
  
Air program: SIP SOURCE  
National action type: NXXXXX  
Date achieved: 050201  
Penalty amount: 000000800  
  
Air program: SIP SOURCE  
National action type: NXXXXX  
Date achieved: 060816  
Penalty amount: 000002000  
  
Air program: SIP SOURCE  
National action type: STATE CONDUCTED FCE / ON-SITE  
Date achieved: 090922  
Penalty amount: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

Air program: SIP SOURCE  
National action type: NXXXXX  
Date achieved: 100713  
Penalty amount: 000001000

Air program: SIP SOURCE  
National action type: NXXXXX  
Date achieved: 110527  
Penalty amount: 000000200

Air program: SIP SOURCE  
National action type: NXXXXX  
Date achieved: 110622  
Penalty amount: 000000000

Air program: SIP SOURCE  
National action type: STATE CONDUCTED PCE/ ON-SITE  
Date achieved: 970430  
Penalty amount: 000000000

Historical Compliance Minor Sources:

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 0904  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1001  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1002  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1003  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1004  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1101  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1102  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1103  
Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
Hist compliance date: 1104  
Air prog code hist file: 0

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**NL INDUSTRIES INC (Continued)**

**1000170153**

State compliance status: IN COMPLIANCE - CERTIFICATION  
 Hist compliance date: 1201  
 Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
 Hist compliance date: 1202  
 Air prog code hist file: 0

State compliance status: IN COMPLIANCE - CERTIFICATION  
 Hist compliance date: 1203  
 Air prog code hist file: 0

**N63**  
**North**  
**< 1/8**  
**0.058 mi.**  
**305 ft.**

**CASCHEM INC**  
**40 AVE A**  
**BAYONNE, NJ 7002**  
**Site 2 of 5 in cluster N**

**TSCA** **1005926820**  
**NJ HIST LUST** **N/A**

**Relative:**  
**Higher**

[Click this hyperlink](#) while viewing on your computer to access additional TSCA detail in the EDR Site Report.

**Actual:**  
**8 ft.**

**LUST HIST:**  
 Case ID: Not reported  
 Lead Program Assigned: Bureau of Underground Storage Tanks  
**Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern**  
 UST ID: 0004475  
 TMS Number: C91-3822; C91-4442  
 Remedial Level: Not reported  
 Case Manager: Not reported  
 Facility Phone: Not reported  
 No Further Action: 6/24/1992 0:00:00  
 RAW Approved: Not reported  
 CEA: Not reported  
 Date CEA Lifted: Not reported  
 Dead Notice: Not reported

**N64**  
**North**  
**< 1/8**  
**0.058 mi.**  
**305 ft.**

**CASCHEM INC**  
**40 AVE A**  
**BAYONNE CITY, NJ 07002**  
**Site 3 of 5 in cluster N**

**NJ BROWNFIELDS** **S108655281**  
**NJ ISRA** **N/A**

**Relative:**  
**Higher**

**BROWNFIELDS:**  
 Price: Not reported  
 Assessed Value: Not reported  
 Property Size: Unknown  
 Annual Taxes: Not reported  
 Representative Address: Not reported  
 Representative City/State/Zip: Not reported  
 Submitter Name: Not reported  
 Submitter Address1: Not reported  
 Submitter Address2: Not reported  
 Submitter City: Not reported  
 Submitter State: Not reported  
 Submitter Zip: Not reported

**Actual:**  
**8 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CASCHEM INC (Continued)**

**S108655281**

Submitter Email: Not reported  
Submitter Phone: Not reported  
Transaction Type: Not reported  
Transfer Type: Not reported  
General Comments: Not reported

**NJ ISRA:**

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 11/15/2007  
Facility Status: Assigned to Program  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: ISRA  
Trigger Type: Other  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 11/15/2007  
Facility Status: Assigned to Program  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: RA w/out Stips  
Trigger Type: Other  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 12/31/2007  
Facility Status: Waiver from ECRA/ISRA  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: ISRA  
Trigger Type: Other  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 12/31/2007  
Facility Status: Waiver from ECRA/ISRA  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: RA w/out Stips  
Trigger Type: Other  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

CASCHEM INC (Continued)

S108655281

Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 11/15/2007  
Facility Status: Assigned to Program  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: ISRA  
Trigger Type: Stock Transfer  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 11/15/2007  
Facility Status: Assigned to Program  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: RA w/out Stips  
Trigger Type: Stock Transfer  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 12/31/2007  
Facility Status: Waiver from ECRA/ISRA  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: ISRA  
Trigger Type: Stock Transfer  
Trigger Date: 11/08/2007

Pi Number: 000447  
Action Number: ISR070001  
Title: E20070365 CASCHEM  
Isra Trg: Finalized Date 12/07/2007  
Start Date: 12/31/2007  
Facility Status: Waiver from ECRA/ISRA  
Case No: E20070365  
Case Name: CASCHEM  
Case Type: RA w/out Stips  
Trigger Type: Stock Transfer  
Trigger Date: 11/08/2007

**N65**  
**North**  
**< 1/8**  
**0.058 mi.**  
**305 ft.**  
**VERTELLUS PERFORMANCE MATERIALS INC**  
**40 AVENUE A**  
**BAYONNE, NJ 07002**  
**Site 4 of 5 in cluster N**

**NJ SHWS** S107078072  
**NJ Release** N/A  
**NJ NPDES**  
**NJ Financial Assurance**

**Relative:** SHWS:  
**Higher** Site ID: 14890  
Status: ACTIVE  
**Actual:** Home Owner: No  
**8 ft.** PI Number: 447  
X Coord Site: 592001

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**VERTELLUS PERFORMANCE MATERIALS INC (Continued)**

**S107078072**

X Coord PI: 592001  
Y Coord Site: 661597  
Y Coord PI: 661597

**NJ Release:**

Facility ID:	77409	Case Number:	03-11-07-0652-17
Date Received:	11/07/2003	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Other		
Incident Location:	CASCHEM		
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	BOB MATTIVI		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial	Incident Time:	Not reported
Facility Phone:	Not reported	Substance Identity:	Not reported
Incident Date:	11/07/2003	A310 Letter:	Not reported
Substance(s):	Not reported	Hazrds Material:	Not reported
Substance Type:	Not reported	Ref. Code:	Not reported
CAS Number:	Not reported	Contained:	Not reported
TCPA Chemical:	Not reported	Release VE:	Not reported
COMU:	Not reported		
Amnt Released:	Not reported	Facility Evacuation:	No
Release Type:	Not reported	Firemen at Scene:	No
Injuries:	No	Receiving Water:	Not reported
Public Exposure:	No		
Police at Scene:	No	NJ Spill Time:	Not reported
Contamination of:	Not reported	NJ Spill Title:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	Other Time:	Not reported
NJ Spill Name:	Not reported	Other Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported		
Other Name:	Not reported		
Other Telephone:	Not reported		
Public Evacuation:	No		
Assistance Requested:	Not reported		
Wind Direction/Speed:	Not reported		
Local Municipality Notified:	Not reported		
Local Municipality Name:	Not reported		
Local Municipality Title:	Not reported		
Local Municipality Telephone:	Not reported		
Local Municipality Date:	01/01/1900		
Local Municipality Time:	Not reported		
Incident Description:	Not reported		
Incident Name:	Not reported		
Incident Referred To:	Not reported		
Incident Region:	Not reported		
Incident Telephone:	Not reported		
Incident Date:	01/01/1900		
Incident time:	Not reported		
Incident ITM:	Not reported		
Comments:	Not reported		

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**VERTELLUS PERFORMANCE MATERIALS INC (Continued)**

**S107078072**

Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 11/07/2003  
Reporter Type: Facility Rep.  
Reporter Name: REDACTED  
Reporter Title: REDACTED  
Reporter Org: REDATED  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Intermittent  
Incident Category: Facility  
Incident Source: CASCHEM  
Incident Address: 40 AV A  
Incident Address 2: Not reported  
Incident City,St,Zip: Bayonne City, NJ 07002  
Incident County: Hudson  
DEP Requested: No  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: No  
Direction: Not reported  
Responsible Party: Not reported  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

**NJPDES:**

NJPDES Permit Number: NJ0131423  
Facility Telephone: 2018587862  
Facility Contact: JOSEPH W GENTILE  
Facility Municipality: BAYONNE CITY  
Facility Enforcement region: NORTHERN  
Discharger Classification: Major  
Discharger Category Code: Not reported  
Document Status: Not reported  
Facility Primary SIC code: 2076  
Facility Ownership: PRIVATE  
Facility Discharge Basin code: 013308  
Facility Discharge Basin name: NEWARK BAY  
Facility Lat/Long: 403859 740832  
Facility Lot number: Not reported  
Facility Block number: Not reported  
Permittee Name: CAS CHEM INC  
Permittee Address: 40 AVENUE A  
Permittee PO Box: Not reported  
Permittee City,St,Zip: BAYONNE, NJ 07002 0000

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**VERTELLUS PERFORMANCE MATERIALS INC (Continued)**

**S107078072**

Category Description: NEW  
Date Permit Application Received: 05/15/1996  
Date Draft Permit Issued: Not reported  
Date Final Permit Issued: 06/10/1997  
Date Final Permit Effective: 06/10/1997  
Date Final Permit Expires: 01/31/2002  
PI Number: Not reported  
Regional Office: Not reported  
Permit Category: STORMWATER BASIC (GP)

NJPDES Permit Number: NJ0000949  
Facility Telephone: 2018587862  
Facility Contact: JOSEPH W GENTILE  
Facility Municipality: BAYONNE CITY  
Facility Enforcement region: NORTHERN  
Discharger Classification: Major  
Discharger Category Code: Not reported  
Document Status: Not reported  
Facility Primary SIC code: 2076  
Facility Ownership: PRIVATE  
Facility Discharge Basin code: 013308  
Facility Discharge Basin name: NEWARK BAY  
Facility Lat/Long: 403859 740832  
Facility Lot number: Not reported  
Facility Block number: Not reported  
Permittee Name: CAS CHEM INC  
Permittee Address: 40 AVENUE A  
Permittee PO Box: Not reported  
Permittee City,St,Zip: BAYONNE, NJ 07002 0000  
Category Description: RENEWAL  
Date Permit Application Received: 10/27/1997  
Date Draft Permit Issued: 10/31/1997  
Date Final Permit Issued: 12/23/1997  
Date Final Permit Effective: 02/01/1998  
Date Final Permit Expires: 01/31/2003  
PI Number: Not reported  
Regional Office: Not reported  
Permit Category: THERMAL SURFACE WATER DISCH

NJPDES Permit Number: NJG0131423  
Facility Telephone: Not reported  
Facility Contact: Shashi Nayak  
Facility Municipality: Bayonne City  
Facility Enforcement region: Not reported  
Discharger Classification: Not reported  
Discharger Category Code: 5G2  
Document Status: Expired  
Facility Primary SIC code: Not reported  
Facility Ownership: Not reported  
Facility Discharge Basin code: Not reported  
Facility Discharge Basin name: Not reported  
Facility Lat/Long: 592001 661597  
Facility Lot number: Not reported  
Facility Block number: Not reported  
Permittee Name: Not reported  
Permittee Address: Not reported  
Permittee PO Box: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**VERTELLUS PERFORMANCE MATERIALS INC (Continued)**

**S107078072**

Permittee City,St,Zip: Not reported  
Category Description: Basic Industrial Stormwater GP - NJ0088315 (5G2)  
Date Permit Application Received: Not reported  
Date Draft Permit Issued: Not reported  
Date Final Permit Issued: Not reported  
Date Final Permit Effective: 06/01/2007  
Date Final Permit Expires: 05/31/2012  
PI Number: 46187  
Regional Office: Northern  
Permit Category: Not reported

NJ Financial Assurance:

Dispositon Date: 01/30/2009  
RFS Disposition Description: APPROVED  
Institution: JPMorgan Chase Bank  
RFS Type Description: Line of Credit  
PI Number: 000447

Dispositon Date: 06/08/2009  
RFS Disposition Description: RECEIVED  
Institution: Cambrex Corporation (Parent Company)  
RFS Type Description: Self Guarantee  
PI Number: 000447

Dispositon Date: 06/08/2009  
RFS Disposition Description: RELEASED  
Institution: JPMorgan Chase Bank  
RFS Type Description: Line of Credit  
PI Number: 000447

Dispositon Date: 07/12/2011  
RFS Disposition Description: APPROVED  
Institution: Cambrex Corporation (Parent Company)  
RFS Type Description: Self Guarantee  
PI Number: 000447

Dispositon Date: Not reported  
RFS Disposition Description: RECEIVED  
Institution: JPMorgan Chase Bank  
RFS Type Description: Line of Credit  
PI Number: 000447

Dispositon Date: 01/30/2009  
RFS Disposition Description: APPROVED  
Institution: JPMorgan Chase Bank  
RFS Type Description: Line of Credit  
PI Number: 545630

Dispositon Date: 06/08/2009  
RFS Disposition Description: RECEIVED  
Institution: Cambrex Corporation (Parent Company)  
RFS Type Description: Self Guarantee  
PI Number: 545630

Dispositon Date: 06/08/2009  
RFS Disposition Description: RELEASED  
Institution: JPMorgan Chase Bank

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**VERTELLUS PERFORMANCE MATERIALS INC (Continued)**

**S107078072**

RFS Type Description: Line of Credit  
PI Number: 545630

Dispositon Date: 06/01/2010  
RFS Disposition Description: APPROVED  
Institution: Cambrex Corporation (Parent Company)  
RFS Type Description: Self Guarantee  
PI Number: 545630

Dispositon Date: 05/17/2012  
RFS Disposition Description: INCREASED  
Institution: Cambrex Corporation  
RFS Type Description: Self Guarantee  
PI Number: 545630

Dispositon Date: Not reported  
RFS Disposition Description: RECEIVED  
Institution: JPMorgan Chase Bank  
RFS Type Description: Line of Credit  
PI Number: 545630

**N66**  
**North**  
**< 1/8**  
**0.058 mi.**  
**305 ft.**

**CASCHEM INC**  
**40 AVENUE A**  
**BAYONNE CITY, NJ 07002**  
**Site 5 of 5 in cluster N**

**NJ HIST HWS**  
**NJ HIST MAJOR FACILITIES**  
**NJ Release**  
**NJ SPILLS**

**S101899293**  
**N/A**

**Relative:**  
**Higher**

HIST SHWS:  
**Case Status:** Active  
Status Date: 8/18/2003  
Case ID: 000447  
Contact: BNCM  
Sub Section Label: A: Sites with On-Site Sources of Contamination  
Site Municipality: 0901  
Remedial Level Code: C2  
Classification exception area dt: None  
Classification exception area dt: Not reported  
Deed Notice Status: None  
Deed Notice Date: Not reported  
Engineering Control Status: None  
Engineering Control Date: Not reported  
National Priorities List Status: Not reported  
National Priorities List Date: Not reported  
X Coordinate: 592001  
Y Coordinate: 661597  
Coordinate System: NJ State Plane (NAD83) - USFEET

**Actual:**  
**8 ft.**

NJ HIST MAJOR:  
Facility ID: 090100006000  
CAS Number: 1310-73-2  
Maximum Amount Stored: 12300  
Hazardous Substance: SODIUM HYDROXIDE  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 64-19-7  
Maximum Amount Stored: 10600

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CASCHEM INC (Continued)**

**S101899293**

Hazardous Substance: ACETIC ACID  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 71-36-3  
Maximum Amount Stored: 25000  
Hazardous Substance: N-BUTYL ALCOHOL  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 67-56-1  
Maximum Amount Stored: 38500  
Hazardous Substance: METHANOL  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 101-68-8  
Maximum Amount Stored: 18500  
Hazardous Substance: METHYLENEBIS(PHENYLISOCYANATE)  
Storage Type: -

Facility ID: 090100006000  
CAS Number: \*\*\*\*\*  
Maximum Amount Stored: 82000  
Hazardous Substance: VARIOUS DRUMS AND TOTES OF HAZ. SUBST.  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 107-21-1  
Maximum Amount Stored: 3000  
Hazardous Substance: ETHYLENE GLYCOL  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 103-23-1  
Maximum Amount Stored: 57500  
Hazardous Substance: BIS(2-ETHYLHEXYL) ADIPATE  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 71-36-3  
Maximum Amount Stored: 27000  
Hazardous Substance: N-BUTYL ALCOHOL (BUTANOL)  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 108-24-7  
Maximum Amount Stored: 25000  
Hazardous Substance: ACETIC ANHYDRIDE  
Storage Type: -

Facility ID: 090100006000  
CAS Number: \*\*\*\*\*  
Maximum Amount Stored: 13500  
Hazardous Substance: MINERAL OIL  
Storage Type: -

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

CASCHEM INC (Continued)

S101899293

Facility ID: 090100006000  
CAS Number: 7664-93-9  
Maximum Amount Stored: 6300  
Hazardous Substance: SULFURIC ACID  
Storage Type: -

Facility ID: 090100006000  
CAS Number: 68476-30-2  
Maximum Amount Stored: 22100  
Hazardous Substance: #2 FUEL OIL  
Storage Type: -

NJ Release:

Facility ID: 73397  
Date Received: 10/03/2003  
Operator: Not reported  
Incident Type: Other  
Incident Location: CASCHEM  
Location: Not reported  
Other Location: Not reported  
Contact Name: CAROL HOWARTH  
Caller Name: Not reported  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Telephone: Not reported  
Facility Type: Industrial  
Facility Phone: Not reported  
Incident Date: 10/06/2003  
Substance(s): Not reported  
Substance Type: Not reported  
CAS Number: Not reported  
TCPA Chemical: Not reported  
COMU: Not reported  
Amnt Released: Not reported  
Release Type: Not reported  
Injuries: No  
Public Exposure: No  
Police at Scene: No  
Contamination of: Not reported  
Status at Spill: Not reported  
NJ Spill Date: Not reported  
NJ Spill Name: Not reported  
NJ Spill Phone: Not reported  
Other Date: Not reported  
Other Name: Not reported  
Other Telephone: Not reported  
Public Evacuation: No  
Assistance Requested: Not reported  
Wind Direction/Speed: Not reported  
Local Municipality Notified: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Telephone: Not reported  
Local Municipality Date: 01/01/1900  
Local Municipality Time: Not reported  
Incident Description: Not reported

Case Number: 03-10-03-0832-14  
Nature of Incident: Not reported

Incident Time: Not reported  
Substance Identity: Not reported  
A310 Letter: Not reported  
Hazrds Material: Not reported  
Ref. Code: Not reported  
Contained: Not reported  
Release VE: Not reported

Facility Evacuation: No  
Firemen at Scene: No  
Receiving Water: Not reported

NJ Spill Time: Not reported  
NJ Spill Title: Not reported

Other Time: Not reported  
Other Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CASCHEM INC (Continued)**

**S101899293**

Incident Name: Not reported  
Incident Referred To: Not reported  
Incident Region: Not reported  
Incident Telephone: Not reported  
Incident Date: 01/01/1900  
Incident time: Not reported  
Incident ITM: Not reported  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Updated: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Rep Receive Date: 10/03/2003  
Reporter Type: Facility Rep.  
Reporter Name: REDACTED  
Reporter Title: REDACTED  
Reporter Org: REDACTED  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Status: Terminated  
Incident Category: Other  
Incident Source: APPROVED FIRE PROTECTION  
Incident Address: 114 ST NICHOLAS AVE  
Incident Address 2: Not reported  
Incident City,St,Zip: South Plainfield Boro, NJ 07080  
Incident County: Middlesex  
DEP Requested: No  
Confidential: Not reported  
Notify Type: Not reported  
Road Closed: No  
Direction: Not reported  
Responsible Party: Not reported  
Responsible Party Name: Not reported  
Responsible Party Contact: Not reported  
Responsible Party Title: Not reported  
Responsible Party Phone: Not reported  
Responsible Party Street: Not reported  
Responsible Party County: Not reported  
Responsible Party City,St,Zip: Not reported  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Hazardous: Not reported

**NJ SPILL:**

Facility ID: 3112  
Case Number: 87-05-28-1606  
Notify Type: Not reported  
Date Received: 05/28/1987  
Location: Facility  
Other Location: Not reported  
Incident Date: 05/28/1987  
Incident Time: 1330  
A310 Letter: Not reported  
Ref. Code: Not reported  
COMU: 0901

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CASCHEM INC (Continued)**

**S101899293**

CAS Number: Not reported  
Hazardous: Not reported  
Incident Location: Not reported  
Facility Type: Municipal  
Facility Phone: 201-858-7943  
Substance(s): CASTROL OIL  
Substance Type: Liquid  
Substance Identity: Known  
TCPA Chemical: Not reported  
Hazrds Material: Yes  
Amnt Released: 15 GALLON  
Release VE: Estimate  
Contained: No  
Release Type: Terminated  
Incident Desc: SPILL  
Status at Spill: Not reported  
NJ Spill Date: 1987-05-28 00:00:00  
NJ Spill Time: 1627  
NJ Spill Name: JOANNE  
NJ Spill Title: NJSP  
NJ Spill Phone: 609-882-2000  
Other Date: Not reported  
Other Time: Not reported  
Other Name: Not reported  
Other Title: Not reported  
Other Phone: Not reported  
Injuries: No  
Public Exposure: No  
Road Closed: Not reported  
Facility Evacuation: No  
Receiving Water: NEWARK BAY  
Public Evacuation: Unknown  
Police at Scene: No  
Firemen at Scene: Unknown  
Contamination of: Not reported  
Nature of Incident: Not reported  
Wind Direction/Speed: 0  
Assistance Requested: No  
Memo. Of Understanding: Not reported  
Drill/trng Exercise: Not reported  
Operator: JIMS  
Contact Name: Not reported  
Caller Name: REDACTED  
Caller Title: Not reported  
Caller Address: Not reported  
Caller City,St,Zip: Not reported  
Caller Phone: Not reported  
Responsible Party: Known  
Responsible Party Name: CASCHEM INC  
Responsible Party Contact: DOUG DEATRICK  
Responsible Party Title: UNK  
Responsible Party Telephone: 201-858-7943  
Responsible Party Street: 40 AVENUE A  
Responsible Party Municipality: BAYONNE  
Responsible Party State: NJ  
Responsible Party Zip: Not reported  
Responsible City,St,Zip: BAYONNE, NJ

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CASCHEM INC (Continued)**

**S101899293**

Responsible Party County: HUDSON  
Local Municipality: Not reported  
Local Municipality Name: Not reported  
Local Municipality Title: Not reported  
Local Municipality Phone: Not reported  
Local Municipality Date: Not reported  
Local Municipality Time: Not reported  
Incident Name: WALT JANICEK  
Incident Referred To: DEQ  
Incident Region: ER2  
Incident Phone: OFFICE  
Incident Date: 05/28/1987  
Incident Name: Not reported  
Incident Referred To: DEQ  
Incident Region: HQ1  
Incident Phone: Not reported  
Incident Date: Not reported  
Comments: Not reported  
Date A310 Letter Printed: Not reported  
Date Local Authority Was Notified: Not reported  
Date Update: Not reported  
Date Report Faxed to Local Authority: Not reported  
Local Authority Notification Date: Not reported  
Reporter Name: Not reported  
Reporter Type: Not reported  
Rep Received Date: 01/01/1900  
Reporter Title: Not reported  
Reporter Orgzn: Not reported  
Reporter Address: Not reported  
Reporter City,St,Zip: Not reported  
Reporter County: Not reported  
Incident Type: Not reported  
Incident Status: Not reported  
Incident Category: Not reported  
Incident Source: Not reported  
Incident Address: Not reported  
Incident Address 2: Not reported  
Incident City,St,Zip: Not reported  
Incident County: Not reported  
DEP Requested: Not reported  
Confidential: Not reported

**M67  
NNE  
< 1/8  
0.060 mi.  
317 ft.**

**94 KENNEDY BLVD  
BAYONNE, NJ 07002  
Site 2 of 2 in cluster M**

**EDR US Hist Auto Stat 1015680091  
N/A**

**Relative:  
Higher**

EDR Historical Auto Stations:  
Name: MOBILE LUBE SERVICES LLC  
Year: 2005  
Address: 94 KENNEDY BLVD

**Actual:  
22 ft.**

Name: MOBILE LUBE SERVICES LLC  
Year: 2006  
Address: 94 KENNEDY BLVD

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

J68  
NNE  
< 1/8  
0.061 mi.  
320 ft.

163 KENNEDY BOULEVARD  
163 KENNEDY BLVD  
BAYONNE, NJ 07002

NJ VCP S108062137  
N/A

Site 3 of 4 in cluster J

Relative:  
Higher

VCP:

Incident Number: 03-03-24-1009-24  
MOA Execution Date: 10/6/2005  
Type Of Vcp File: HISTORICAL  
Pi Number: Not reported  
Case Type(Case Type): Not reported  
Case Contact: Department Not reported  
Case Contact Name: Not reported  
Case Contact: Organization Not reported  
Case Contact: Address: Line1 Not reported  
Case Contact: Address: Line2 Not reported  
Case Contact: Address: Line3 Not reported  
Case Contact City,St,Zip: Not reported

Actual:  
21 ft.

J69  
NNE  
< 1/8  
0.061 mi.  
320 ft.

163 KENNEDY BOULEVARD  
163 KENNEDY BLVD  
BAYONNE CITY, NJ 07002

NJ SHWS S107915756  
NJ HIST HWS N/A

Site 4 of 4 in cluster J

Relative:  
Higher

SHWS:

Site ID: 64273  
Status: ACTIVE  
Home Owner: Yes  
PI Number: G000010336  
X Coord Site: 593260  
X Coord PI: 593260  
Y Coord Site: 662616  
Y Coord PI: 662616

Actual:  
21 ft.

HIST SHWS:

**Case Status:** Active  
Status Date: 10/6/2005  
Case ID: G000010336  
Contact: Bureau of Field Operations - Northern  
Sub Section Label: A: Sites with On-Site Sources of Contamination  
Site Municipality: 0901  
Remedial Level Code: C2  
Classification exception area dt: None  
Classification exception area dt: Not reported  
Deed Notice Status: None  
Deed Notice Date: Not reported  
Engineering Control Status: None  
Engineering Control Date: Not reported  
National Priorities List Status: Not reported  
National Priorities List Date: Not reported  
X Coordinate: 593260  
Y Coordinate: 662616  
Coordinate System: NJ State Plane (NAD83) - USFEEET

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

I70  
NNE  
< 1/8  
0.062 mi.  
330 ft.

121 KENNEDY BLVD  
BAYONNE, NJ 07002

Site 6 of 7 in cluster I

EDR US Hist Auto Stat 1015182765  
N/A

Relative:  
Higher

EDR Historical Auto Stations:

Name: HARRINGTONS EXXON SERVICENTER  
Year: 2005  
Address: 121 KENNEDY BLVD

Actual:  
24 ft.

Name: HARRINGTON AUTO REPAIR  
Year: 2006  
Address: 121 KENNEDY BLVD

Name: EXXON  
Year: 2007  
Address: 121 KENNEDY BLVD

Name: HARRINGTON AUTO REPAIR  
Year: 2008  
Address: 121 KENNEDY BLVD

Name: HARRINGTONS EXXON SVC CTR  
Year: 2010  
Address: 121 KENNEDY BLVD

O71  
North  
< 1/8  
0.063 mi.  
332 ft.

COASTAL OIL OF NEW YORK  
37 AVENUE A  
BAYONNE, NJ 07002

Site 1 of 5 in cluster O

RCRA NonGen / NLR 1000832892  
FINDS NJD986640217

Relative:  
Higher

RCRA NonGen / NLR:

Date form received by agency: 01/01/2007  
Facility name: COASTAL OIL OF NEW YORK  
Facility address: 37 AVENUE A  
BAYONNE, NJ 07002  
EPA ID: NJD986640217  
Mailing address: E 22ND ST - IMTT-BX  
BAYONNE, NJ 07002  
Contact: NIRAV D PATEL  
Contact address: E 22ND ST - IMTT-BX  
BAYONNE, NJ 07002  
Contact country: US  
Contact telephone: (201) 339-4840  
Contact email: NIRAVPATEL@IMTT.COM  
EPA Region: 02  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Actual:  
8 ft.

Owner/Operator Summary:

Owner/operator name: IMTT-BAYONNE  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Operator

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**COASTAL OIL OF NEW YORK (Continued)**

**1000832892**

Owner/Op start date: 04/01/1993  
Owner/Op end date: Not reported

Owner/operator name: NO NAME FOUND  
Owner/operator address: Not reported  
Not reported

Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 04/01/1993  
Owner/Op end date: Not reported

Owner/operator name: DELAWARE GENERAL PARTNERSHIP  
Owner/operator address: E 22ND ST - IMTT-BX  
BAYONNE, NJ 07002

Owner/operator country: US  
Owner/operator telephone: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: 04/01/1993  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 01/01/2006  
Facility name: COASTAL OIL OF NEW YORK  
Classification: Not a generator, verified

Date form received by agency: 05/25/2005  
Facility name: COASTAL OIL OF NEW YORK  
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 09/15/1992  
Facility name: COASTAL OIL OF NEW YORK  
Site name: COASTAL PIPELINE CO  
Classification: Large Quantity Generator

Hazardous Waste Summary:

Waste code: D001

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**COASTAL OIL OF NEW YORK (Continued)**

**1000832892**

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D008  
Waste name: LEAD

Violation Status: No violations found

**FINDS:**

Registry ID: 110004238067

**Environmental Interest/Information System**

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**O72**  
**North**  
**< 1/8**  
**0.063 mi.**  
**332 ft.**

**COASTAL BERGEN POINT**  
**37 AVE A**  
**BAYONNE, NJ 07002**  
**Site 2 of 5 in cluster O**

**RCRA-CESQG** **1001215339**  
**FINDS** **NJR000021873**  
**US AIRS**

**Relative:**  
**Higher**

**RCRA-CESQG:**

Date form received by agency: 01/01/2007  
Facility name: COASTAL BERGEN POINT  
Facility address: 37 AVE A  
BAYONNE, NJ 07002

**Actual:**  
**8 ft.**

EPA ID: NJR000021873  
Mailing address: AVE A  
BAYONNE, NJ 07002  
Contact: STEVE POWELL  
Contact address: AVE A  
BAYONNE, NJ 07002

Contact country: US  
Contact telephone: (201) 437-5513  
Contact email: Not reported

EPA Region: 02  
Classification: Conditionally Exempt Small Quantity Generator

Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**COASTAL BERGEN POINT (Continued)**

**1001215339**

time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

**Owner/Operator Summary:**

Owner/operator name: COASTAL OIL NEW YORK  
Owner/operator address: 611 RTE 46 W  
HASBROUCK HEIGHTS, NJ 07604

Owner/operator country: US  
Owner/operator telephone: (201) 393-9494  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: COASTAL OIL NEW YORK  
Owner/operator address: 611 RTE 46 W  
HASBROUCK HEIGHTS, NJ 07604

Owner/operator country: US  
Owner/operator telephone: (201) 393-9494  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

**Historical Generators:**

Date form received by agency: 01/01/2006  
Facility name: COASTAL BERGEN POINT  
Classification: Small Quantity Generator

Date form received by agency: 02/25/1998  
Facility name: COASTAL BERGEN POINT  
Classification: Large Quantity Generator

Date form received by agency: 10/20/1997  
Facility name: COASTAL BERGEN POINT  
Classification: Large Quantity Generator

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**COASTAL BERGEN POINT (Continued)**

**1001215339**

Violation Status: No violations found

**FINDS:**

Registry ID: 110004259971

**Environmental Interest/Information System**

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

US EPA Renewable Fuel Standard (RFS) Program encourages the blending of renewable fuels into our nation's motor vehicle fuel by establishing annual renewable fuel standards, responsibilities of refiners and other fuel producers, a trading system and other compliance mechanisms, and recordkeeping and reporting requirements. In addition to the rule, EPA has published a Regulatory Impact Analysis (RIA), which contains analyses of the economic and environmental impacts of the expanded use of renewable fuels under this program. A renewable fuel is defined as a motor vehicle fuel that is produced from plant or animal products or wastes, as opposed to fossil fuel sources. Renewable fuels include ethanol, biodiesel and other motor vehicle fuels made from renewable sources. Currently, RFS only includes facilities using ethanol fuels from the RFS registered facility list.

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites,

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**COASTAL BERGEN POINT (Continued)**

**1001215339**

including an inventory of sites, planned and actual site activities, and financial information.

**HAZARDOUS WASTE BIENNIAL REPORTER**

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

**AIRS (AFS):**

**Compliance and Violation Data Major Sources:**

EPA plant ID: 110004259971  
Plant name: IMTT BAYONNE  
Plant address: 250 E 22ND ST  
BAYONNE, NJ 07002  
County: HUDSON  
Region code: 02  
Dunn & Bradst #: 064288855  
Air quality cntrl region: 043  
Sic code: 5171  
Sic code desc: PETROLEUM BULK STATIONS AND TERMINALS  
North Am. industrial classf: 424710  
NAIC code description: Petroleum Bulk Stations and Terminals  
Default compliance status: IN VIOLATION - NO SCHEDULE  
Default classification: ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS  
Govt facility: ALL OTHER FACILITIES NOT OWNED OR OPERATED BY A FEDERAL, STATE, OR LOCAL GOVERNMENT  
Current HPV: Not reported

**Compliance and Enforcement Major Issues:**

Air program: SIP SOURCE  
National action type: EPA CONDUCTED PCE/ ON-SITE  
Date achieved: 000509  
Penalty amount: 000000000  
Air program: NSPS  
National action type: EPA CONDUCTED PCE/ ON-SITE