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List of specific record(s):
Please provide the inspection schedule, procedures and follow-upcompliance requirements for the Holland Tunnel, Lincoln Tunnel and George Washington Bridge, along with a definition of codes. Please provide records of all inspections, follow-up inspections, and all subsequent follow-up documents of the Holland Tunnel, Lincoln Tunnel and George Washington Bridge from 2010 - present.

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

Action by (print / type name):

Danny Ng , Freedom of Information Administrator

Signature: Date: 06/14/2016

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

☐ The requested records are being made available.

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

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Engineering Quality
Assurance Division
B04-925.104

Port Authority Facility Condition Survey Program

George Washington Bridge Main Span Lower Level 2011 Biennial Inspection

December 2011

Engineering Department

THE PORT AUTHORITY OF NY & NJ

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HNTB

December 22, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

2011 FINAL Condition Survey Report / GWB Lower Level

Gentlemen,

We are pleased to submit twelve (12) copies of the Final Condition Survey Report for the 2011 Biennial Inspection of the George Washington Bridge Main Span Lower Level in accordance with Agreement # 405-11-002.

The thoroughness and accuracy of all work on this project has been ensured by independent quality control performed by our senior technical and management staff.

We trust you find this submission to your satisfaction, and please feel free to contact us at 201-528-9067 with any questions regarding this report.

We thank you for the opportunity to provide professional services associated with this project.

Sincerely,

A.Wm Rutherford

A.William Rutherford, P.E.
Principal-in-Charge

EXECUTIVE SUMMARY

HNTB Corporation in association with PK Engineering, P.C. (PKE), PKB Engineering Corporation (PKB), and Mega Engineering, Inc. (MEGA), performed the 2011 Biennial Inspection of the George Washington Bridge Lower Level (BIN 5522507), from June through September of 2011. The inspection was performed with the assistance of SEMAC personnel. The inspection included lower level roadway and framing, the stiffening trusses (except for the upper gusset plates and upper chord members which were included in the George Washington Bridge Upper Level inspection), the west abutment and travelers, including the traveler support framing and connections. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The George Washington Bridge Lower Level is in overall good condition.

During this inspection, no conditions were found that required immediate action.

Out of a total of the 25 priority repair recommendations at 171 locations identified in the previous inspection report, 5 priority repairs at 9 locations have been completed and 1 priority repair was partially completed at 14 out of 16 locations. There are 20 priority repairs at 148 locations that remain outstanding. A total of 6 new locations were found at 2 outstanding priority repairs. In addition, 2 new priority repairs were found at 11 locations for a total of 22 priority repairs at 165 locations recommended for repair in this report. The majority of these recommendations include the repair of deteriorated steel stringers, diaphragms and truss bottom chord, spalled, cracked and/or undermined concrete bearing pedestals, jammed finger expansion joints and deteriorated traveler support framing members and traveler connection tees.

An In-depth inspection of all gusset plate connections at the lower chord of the stiffening truss was performed and all gusset plates were found to be in good overall condition.

There are also 22 non-structural safety repairs recommended at 294 locations and 98 routine repairs recommended at 2,819 locations. The safety repair recommendations primarily include railing or walkway deficiencies, roadway deficiencies and numerous deficiencies at the travelers. All conditions are listed in the “Inspection Findings and Recommendations” section of this report and located on the “Deficiency and Photo Location Plans”.

The report contains conclusions concerning the causes of the noted deterioration and recommendations for the rehabilitation of the structure. The repair procedures contained in the recommendation section of the report outline the general extent of the required rehabilitation work. The presentation of these conceptual repairs does not preclude the necessity of performing further investigation and preliminary design work for the purpose of establishing the complete scope of work and the final rehabilitation design.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-021	Replace the severely corroded end diaphragms with holes in span 3 between stringers S3 - S4 and S14 – S15 over floorbeam 1E (2 locations).	Completed	-------	-------
GWB-BR001-011	Replace severely deteriorated rivets (50% loss of section or greater) in the bottom flange of floorbeam 4 (span 6) in the New York Anchorage (1 location).	Completed	-------	-------
GWB-BR001-020	Replace the severely corroded end diaphragms in span 3 between stringers S12 and S14 over floorbeam 1E (2 locations).	Completed	-------	-------
GWB-BR001-018	Repair spalled concrete pedestal at the east end of span 11 in the New York Anchorage (1 location).	Outstanding	Repair spalled concrete pedestal at the east end of span 11 in the New York Anchorage (1 location).	SDU-7 *(Photo 6)*
GWB-BR001-022	Repair ½″ diameter hole in the bottom of web of stringer S4 at panel point 38E (1 location).	Outstanding	Repair ½″ diameter hole in the bottom of web of stringer S4 at panel point 38E (1 location).	SDU-5 *(Photo 7)*
GWB-BR001-024	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S10 at the east end of span 10. One anchor bolt is partially exposed (1 location).	Outstanding	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S10 at the east end of span 10. Anchor bolts are partially exposed (1 location).	SDU-7 *(Photo 8)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-025	Repair twelve (12) up to 6" x 2" holes in the top plate of the south bottom truss chord between panel points 3E* and 3E (1 location).	Outstanding	Repair twelve (12) up to 6" x 2" holes in the top plate of the south bottom truss chord between panel points 3E* and 3E (1 location). Temporary repair performed by filling holes with caulk and repainting.	SDU-7 *(Photo 9)*
GWB-BR001-033	Replace the severely corroded end diaphragms with holes in span 3 between stringers S6 – S7, S11 – S12, S15 – S16 over floorbeam 1E (3 locations).	Completed	-------	-------
GWB-BR001-034	Repair severely corroded stringer webs with holes above the bearings at all stringers above panel point 1E (16 locations).	Partially Completed	Repair severely corroded stringer webs with holes above the bearings at stringers S6 and S14 above panel point 1E (2 locations).	SDU-7 *(Photo 10)*
GWB-BR001-035	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S16 at the west end of span 10 and under stringer S14 at the east end of span 11 (2 locations).	Outstanding	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S16 at the west end of span 10 and under stringer S14 at the east end of span 11 (2 locations).	SDU-7 *(Photos 11 & 12)*
GWB-BR001-037	Repair the severely corroded stringer S1, between panel points 7E* and 8E, with 50% section loss on the top flange near the quarter point (1 location).	Outstanding	Repair the severely corroded stringer S1, between panel points 7E* and 8E, with 50% section loss on the top flange near the quarter point (1 location).	SDU-7 *(Photo 13)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-038	Repair the severely corroded top flange and web with holes in the web at the bearings of stringers S2, S3, S4, S6, S7, S10 and S11, located at the east side of floorbeam 1E (7 locations).	Outstanding	Repair the severely corroded top flange and web with holes in the web at the bearings of stringers S2, S3, S4, S6, S7, S10 and S11, located at the east side of floorbeam 1E (7 locations).	SDU-7 *(Photo 14)*
GWB-BR001-039	Repair the severely corroded webs, with hole near the bearing, of stringers S1, S5 and S8 located at the west end of span 7 and stringers S13, S14 and S15 located at the east end of span 9 (6 locations). (Holes exist in webs of S11, S12 and S13 in Span 9 incorrectly labeled S13, S14 and S15).	Outstanding	Repair the severely corroded webs, with hole near the bearing, of stringers S1, S5 and S8 located at the west end of span 7 and stringers S11, S12 and S13, including an adjacent corrosion crack at stringer S12, located at the east end of span 9 (6 locations).	SDU-7 *(Photo 15 &16)*
GWB-BR001-040	Repair the severely corroded stringers S1 and S18 with web holes and 50% section loss of bottom flange near the 1/3 span between panel points 1E* and 1E (2 locations).	Outstanding	Repair the severely corroded stringers S1 and S18 with web holes and 50% section loss of bottom flange near the 1/3 span between panel points 1E* and 1E (2 locations).	SDU-7 *(Photo 17)*
GWB-BR001-041	Repair the severely corroded web, with holes around the bearing stiffening angles, of stringer S1 at the east side of panel point 26W* (1 location).	Outstanding	Repair the severely corroded web, with holes around the bearing stiffening angles, of stringer S1 at the east side of panel point 26W* (1 location).	SDU-4 *(Photo 18)*
GWB-BR001-042	Repair cracked and spalled concrete pedestals causing undermining of the bearing under stringer S13, S15 and S16 at the west end of span 10 and under stringer S4, S7, S8, S10, S15 and S18 at the east end of span 11 (9 locations).	Outstanding	Repair cracked and spalled concrete pedestals causing undermining of the bearing under stringer S13, S15 and S16 at the west end of span 10 and under stringer S4, S7, S8, S10, S15 and S18 at the east end of span 11 (9 locations).	SDU-7 *(Photo 19 & 20)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-043	Repair the 2 of 4 broken anchor bolts at the bearing of stringer S16 located at the east end of span 11 (1 location).	Outstanding	Repair the 2 of 4 broken anchor bolts at the bearing of stringer S16 located at the east end of span 11 (1 location).	SDU-7 *(Photo 21)*
GWB-BR001-044	Repair the severely corroded end diaphragms with holes between stringers S16 and S17 over floorbeam 1E in span 3 (1 location).	Completed	-------	-------
GWB-BR001-047	-------	New	Repair spalled and cracked concrete pedestals, with or without exposed anchor bolts and/or rebar, causing minor undermining of the bearing under stringers S9 and S15 of span 10, under stringer S9 at the east end of span 11, and at 3 locations under stringer S12 in span 11 (6 locations).	SDU-7 *(Photos 22 & 23)*
GWB-BR001-023	Repair/Replace missing expansion joint filler material at span 9 (1 location).	Outstanding	Repair/Replace missing expansion joint filler material at span 9 (1 location).	TD-6 *(Photo 24)*
GWB-BR001-045	Repair the jammed finger joint plates at panel point 1E (1 location).	Outstanding	Repair the jammed finger joint plates at panel point 1E (1 location).	TD-6 *(Photo 25)*
GWB-BR001-026	New Jersey and New York Main Span Travelers - repair greater than 50% section loss in vertical stem of connection tee for south traveler hanger at panel point 40W that supports the track for the Main Span Travelers (1 location).	Outstanding	New Jersey and New York Main Span Travelers - repair greater than 50% section loss in vertical stem of connection tee for south traveler hanger at panel point 40W that supports the track for the Main Span Travelers (1 location).	SDU-5 *(Photo 26)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-030	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members (12 locations).	Outstanding	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members. One new location added. (13 locations).	T-3 *(Photo 27)*
GWB-BR001-028	New York Main Span Traveler – repair moderate to severe section loss at main support truss members (90 locations).	Outstanding	New York Main Span Traveler – repair moderate to severe section loss at main support truss members. Additional 5 new locations added (Total 95 locations).	T-4 *(Photo 28)*
GWB-BR001-031	New Jersey and New York Main Span Travelers - repair 50% section loss in vertical stem of connection tee that supports the south track at panel point 23E and the north track at Panel Point 42W for the Main Span Travelers (2 locations).	Outstanding	New Jersey and New York Main Span Travelers - repair 50% section loss in vertical stem of connection tee that supports the south track at panel point 23E and the north track at Panel Point 42W for the Main Span Travelers (2 locations).	SDU-5 & 6 *(Photos 29 & 30)*
GWB-BR001-046	New Jersey Main Span Traveler – repair moderate to severe section loss at cross bracings between main support truss top chords (6 locations).	Outstanding	New Jersey Main Span Traveler – repair moderate to severe section loss at cross bracings between the main support truss top chords (6 locations).	T-3 *(Photo 31)*
GWB-BR001-048	-------	New	New Jersey Back Span Traveler – repair moderate to severe section loss at main support truss members (5 locations).	T-2 *(Photo 32)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

Repair Recommendation - 2011 Inspection	**Dwg. No.** (***Photo No.***)
1. Replace two detached hangers and repair open joints of the 4-inch diameter electrical conduits with exposed electrical wires near the New Jersey abutment (1 location).	SDU-3 *(Photo 33)*
2. Repair the broken weld at the base of the west handrail of the north safetywalk stairs and broken base at the east handrail of the south safety walk stairs at the New Jersey abutment (2 locations).	SDU-3 *(Photo 34)*
3. Remove section of abandonded 8-inch diameter water main with deteriorated clevis hanger at the New Jersey abutment (1 location).	SDU-3 *(Photo 35)*
4. Replace severely deteriorated steel knee brace support bracket for two 3-inch diameter electrical conduits at stringer S2, west of Floorbeam 3W at span 1 (1 location).	SDU-3 *(Photo 36)*
5. Remove partially detached curb plate (3 locations).	TD-5 & 6 *(Photo 37)*
6. Replace the missing or partially missing railings at the walkways over the open median areas (8 locations).	TD 2, 3 & 5 *(Photo 38)*
7. Repair the detached connections of the safety walk railing or bridge railings (5 locations).	TD 2, 5 & 6 *(Photo 39)*
8. Repair or replace the missing or loose cover to the electrical panel box with exposed wires attached to the back of the barrier (accessible to the public / stranded motorists) along the north and south safety walks (29 locations).	TD 2, 3, 4 5, & 6 *(Photo 40)*
9. Repair or replace the diamond plate safety walk uplifted 1.5 inches creating a tripping hazard at the New York tower (1 location).	TD-5 *(Photo 41)*
10. Repair the severely deteriorated and collapsed section of steel curb at the south side of the eastbound roadway (1 location).	TD-2 *(Photo 42)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Lower Level

Repair Recommendation - 2011 Inspection	**Dwg. No. (*Photo No.*)**
11. Remove the cable looped through the safety walk grate from below that creates a tripping hazard at the New York tower (1 location).	TD-5 *(Photo 43)*
12. Replace the missing stair grate connection clip at the median catwalk at the New Jersey tower (accessible to the public / stranded motorist) (1 location).	TD-2 *(Photo 44)*
13. Repair the broken conduit at the south safety walk at the New Jersey tower (Accessible to the public / stranded motorists) (1 location).	TD-2 *(Photo 45)*
14. Replace the broken bottom rail of the chain link fence panel at the west end of Span 10 along the westbound roadway and east end of Span 11 along the eastbound roadway (2 locations).	TD-6 *(Photo 46)*
15. Repair or replace the safety netting with large holes at median (6 locations).	TD-2, 4, 5 & 6 *(Photo 47)*
16. Repair the 2' x 2' opening in the north safety walk due to removed conduits and 2' long x 4" wide section of removed safety walk grating at the New Jersey Tower (1 location).	TD-2 *(Photo 48)*
17. Repair the broken aluminum fence posts and rails and repair the welds between the fence fabric connection plates and the posts (11 locations).	T-2, 3, 4 & 5 *(Photo 49)*
18. Replace the missing or broken hinges or hinge screws at access doors in grate floor of the travelers (5 locations).	T-2, T-3 & T-4 *(Photo 50)*
19. Repair or replace the safety netting with large holes at the New York main span traveler (9 locations).	T-4 *(Photo 51)*
20. Repair the moderate to severe section loss at W8's and 3" x 3" L's that support the safety netting for the travelers (35 locations).	T-2, 3, 4 & 5 *(Photo 52)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS ***2011 Biennial Inspection of the George Washington Bridge Lower Level***	
Repair Recommendation - 2011 Inspection	**Dwg. No.** **(*Photo No.*)**
21. Replace the missing horizontal rail angle at the New York back span traveler truss platform below the floor access hatch (1 location).	T-5 *(Photo 53)*
22. Tighten or replace the loose or missing bolts for safety netting straps and replace the missing safety netting straps and bolts (169 locations).	T-2, 3, 4 & 5 *(Photo 54)*

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Location Plan

Sheet of

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
BIN 5522507
LOWER LEVEL

LOCATION PLAN

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J.B./R.G./T.K.	V.S.	M.N.
Designed by	Drawn by	Checked by

Date Oct. 2011

Contract Number

Drawing Number L-1

General Plan, Elevation and Cross-Section

I. Scope of Work, Inspection Procedures and Terminology

I. Scope of Work, Inspection Procedures and Terminology

A. SCOPE OF WORK

HNTB Corporation in association with PK Engineering, P.C. (PKE), PKB Engineering Corporation (PKB), and Mega Engineering, Inc. (MEGA), performed the 2011 Biennial Inspection of the George Washington Bridge Lower Level (BIN 5522507), from June through September of 2011. The inspection was performed with the assistance of SEMAC personnel. The inspection included lower level roadway and framing, the stiffening trusses (except for the upper gusset plates and upper chord members which were included in the George Washington Bridge Upper Level inspection), the west abutment and travelers, including the traveler support framing and connections. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The survey included a 100% visual inspection of all unobstructed structural elements and a hands-on inspection of all floorbeams and stringers and of all non-redundant, fracture critical members including steel cap beams and the bottom chord of the stiffening trusses, the gusset plate connections of the stiffening trusses at the bottom chord and the accessible primary traveler main truss members. The NY and NJ Towers (with the exception of the lower level framing across the towers), the anchorages, the stiffening truss upper chord and upper portions of the verticals and diagonals, all bridge mounted signs and lighting structures and a diving inspection of the NJ tower are included with the inspection of the GWB Upper Level.

The inspection was performed in compliance with the latest requirements of the Authority and New York State Department of Transportation and included the preparation and submittal of a state biennial bridge inspection report, as well as this facility condition survey report, which includes verification and status of all priority repairs recommended in the previous report.

B. INSPECTION PROCEDURE

1. Inspection Method

The inspection team was comprised of three individuals. The Team Leader was a Professional Engineer licensed in the State of New York.

Structural deficiencies were recorded, photographed and located on the "Deficiency and Photo Location Plans," which are included in this report.

2. Access Methods

Lower level framing between panel points 3W and 1E* between the traveler beams was accessed from the travelers using scaffolding and ladders set up by SEMAC personnel. Areas outside of the traveler beams and the lower chord gusset plates of the stiffening trusses were inspected with ladders provided by SEMAC set on the travelers.

The lower level framing at the New Jersey abutment between Panel Points 2W and 3W was inspected using extension ladders set on the rock slope in front of the NJ abutment. Lower

level framing between panel points 1E' and Spans 3 to 9 were inspected using a 120 ft. man lift from within the New York anchorage courtyard.

Spans 10 and 11 at the New York anchorage were inspected by crawling, using Tyvek suits and dust masks.

The top of deck in Spans 1 through 3 was inspected from the north and south safety walks. Spans 4 through 11 and the median areas, deck joints and left lanes in Spans 1 through 9 were inspected at night during lower level roadway closings installed for the upper level roadway inspections. A shadow truck was utilized to protect the work areas during all night-time lower level roadway closings.

I. Scope of Work, Inspection Procedures and Terminology

PHOTO A **Location:** Span 1, main floorbeam at Panel Point 7W. **Description:** Hands-on inspection of main floorbeam and stringers utilizing scaffolding access from traveler platform between support beams.	
PHOTO B **Location:** Span 1, main floorbeam, stiffening truss lower chord and gusset plate at Panel Point 9W*. **Description:** Hands-on inspection of stiffening truss lower chord, floorbeams and stringer with ladders set on traveler.	

I. Scope of Work, Inspection Procedures and Terminology

PHOTO C

Location: New York Anchorage Courtyard.

Description: 120' man lift was utilized within the NY anchorage courtyard to access the superstructure and deck underside in Spans 4 through 9.

PHOTO D

Location: Span 1, main floorbeam and stringers at Panel Point 2W* - 3W.

Description: Hands-on inspection of floorbeams and stringers with ladders near the New Jersey Anchorage.

C. CONDITION SURVEY DEFINITIONS AND TERMINOLOGY

(a) DEFINITIONS OF RECOMMENDATION CATEGORIES

The inspection involves one of the following methods:

Hands-on Inspection Close-up inspection from no further away than arm's length where the member or element can be physically touched.

Visual Inspection The inspection from a reasonable distance of a member or element where initial determination of the condition can be made.

Four categories of recommendations are identified and defined as follows:

Immediate Requires immediate action including possible closing of the structure or areas affected for safety reasons until interim remedial measures, such as shoring or removal of potentially unsafe structures (or elements), can be implemented. These closings or interim remedial actions, if any, always require immediate action upon discovery.

Priority Conditions for which no immediate action may be required or for which immediate action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work.

Safety Conditions that present a potential hazard and which should be repaired as soon as possible.

Routine Conditions requiring further investigation or remedial work, which can be undertaken as part of a scheduled maintenance program, other scheduled project, or routine facility maintenance, depending on the action required.

(b) RATING CRITERIA

Terms used to describe the condition of a structural system or component are listed and defined below. When the term is applied to an overall structure or system, this does not indicate that all elements of the structure or system are in the same condition.

Excellent "As New" Condition

Good The structural system is sound and performing its function, although it shows signs of wear and may require some minor repairs, mostly routine.

Fair The structural system is still performing adequately at this time, but needs "priority" and/or "routine" repairs to prevent future deterioration and to restore it to good condition.

Poor The structural system cannot be relied upon to continue to perform its original function without "immediate" and/or "priority" repair.

(c) INSPECTION TEMINOLOGY

The following terms may be used during inspection to describe the condition of structural members.

1) STEEL MEMBERS

a) **Corrosion**

- Minor (or Light) – A light surface rust.
- Moderate – Rust that is loose and flaking with some pitting. This scaling, or exfoliation, can be removed with some effort by use of a scraper or chipping hammer. Element exhibits measurable but not significant loss of section.
- Severe – Heavy, stratified rust or rust scales with extensive pitting. Removal requires exerted effort and may require mechanical means. Significant loss of section.

b) **Pack Rust** – Rust collected between two interfacing surfaces, usually two steel plates. Pack rust can be minor, moderate, or severe as described above. Pack rust can severely deform the steel members due to the expansive nature of rust.

c) **Pitting** – Formation of cavities due to corrosion. Minor, moderate, and severe pitting categories are used based upon depth and density of cavities.

- Minor – Typically less than ¼ inch diameter and $^{1}/_{32}$ inch deep.
- Moderate – ¼ inch to ½ inch diameter and up to $^{1}/_{8}$ inch deep.
- Severe – Greater than ½ inch diameter and over $^{1}/_{8}$ inch deep.

2) **CONCRETE MEMBERS**

a) **Cracking** – A separation into two or more parts with a space between the fractured concrete surfaces.

- Hairline- Crack width less than $^{1}/_{32}$ inch.
- Fine – Crack width between $^{1}/_{32}$ inch and $^{1}/_{16}$ inch.
- Medium – Crack width between $^{1}/_{16}$ inch and $^{1}/_{8}$ inch.
- Wide – Crack width greater than $^{1}/_{8}$ inch.

The above definitions for cracks can be modified, depending on the type of structural element. Other terminology, such as map cracking, pattern cracking, etc., may be used as appropriate.

b) **Efflorescence** – A white deposit caused by crystallization of soluble salts brought to the surface by moisture leaching through concrete.

c) **Delamination** – A layered separation of the concrete. When a delaminated area of concrete is struck (sounded) with a hammer, a hollow sound will be emitted.

d) **Leaching** – The dissolution and washing away of the calcium hydroxide in concrete. The moisture enters the concrete through exposed cracks in the surface.

e) **Spall** – A roughly circular, oval, or elongated depression in the surface of a concrete element caused by separation of a portion of the surface concrete.

- Small (Pop-out) – Less than 6 inches in diameter and 1 inch deep.
- Medium – Between 6 inches and 12 inches in diameter and up to 2 inches deep.
- Large – Over 12 inches in diameter and any depth.

f) **Scaling** – The gradual loss of surface mortar and aggregates.

- Light Scaling – Loss of surface mortar up to ¼ inch deep.
- Medium Scaling – Loss of surface mortar between ¼ inch and ½ inch deep, including loss between large aggregate.
- Heavy Scaling – Loss of mortar greater than ½ inch in depth significantly exposing large aggregate.

g) **Hollow area** – An area of concrete which emits a hollow sound when struck with a hammer and indicates the existence of a fracture plane beneath the surface.

h) **Honeycomb** – Typically small pocket voids formed by the entrapment of air during the placement of the concrete.

3) **TIMBER MEMBERS**

a) **Fungus decay** – generally appears as a moist area with stain or discoloration. Fungi produce conks, which are fruiting bodies, usually fan-like in shape, and which grow horizontally from the wood. They shed spores which propagate the fungus. Conks are a sure sign of advanced decay and they vary from a fraction of an inch to several inches in length. Sapstain fungi have small black, globular fruiting bodies which smear like soft carbon when brushed with the hand.

- Molds – cottony powdery circular growths varying from white or light colors to black. Molds themselves do not cause decay but their presence is an indication that conditions favorable to growth of fungi exist.
- Stains – specks, spots, streaks, or patches, varying in color, which penetrate the sap wood. Sapstain is harmless to wood. It is usually a surface phenomenon and like molds, implies conditions where harmful fungi can flourish.
- Soft rot – attack the wood, making it soft and spongy. Only the surface wood is affected, and thus it does not significantly weaken the member.
- Brown rot – feeds upon the cellulose and makes the wood dark brown and crumbly.
- White rot – feeds upon both the cellulose and the lignin and makes the wood white and stringy.

Brown and white rots are responsible for structural damage to wood, while the other fungi types simply provide a sign that favorable conditions exist for growth.

b) **Checks** – separation of the wood fibers, normally occurring across the annual growth rings.

c) **Splits** – similar to checks except the separations of the wood fibers extend completely through the piece of wood.

d) **Shakes** – separations along the grain, which usually occur between the annual growth rings.

e) **Damage by parasites** – damage is generally inside the surface of the wood and is therefore not visible, but sagging, crushing, small holes or the accumulation of sawdust may be observed.

Parasites tunnel in and hollow out the insides of timber members for food and shelter. Some common types of parasites include:

- Termites – termites are pale-colored, soft-bodied insects that feed on wood. All damage is inside the surface of the wood; hence it is not visible. The only visible signs of infestation are white mud shelter tubes or runways extending up from the earth to the wood and on the side of masonry substructures.

- Carpenter ants – Carpenter ants are large, black ants that gnaw galleries in soft or decayed wood. The ants may be seen in the vicinity of the infested wood, but the accumulation of sawdust on the ground at the base of the timber is also an indicator of their presence.

- Powder-post beetles – Powder-post beetles also hollow out the insides of timber members and leave the outer surface pierced with small holes about 1/16” in diameter filled with dry pulverized wood. Often a powdery wood dust is dislodged from the holes. The inside may be completely excavated.

II. History and Structure Description

II. History and Structure Description

A. HISTORY

The George Washington Bridge is a 4760' long suspension bridge that spans the Hudson River between upper Manhattan in New York and Fort Lee in New Jersey. The bridge serves as an important link in the I-95 corridor, carrying approximately 300,000 vehicles per day, making it one of the busiest in the world.

The bridge was originally designed to carry a 90′ wide upper roadway with 10′ wide sidewalks on each side and four electric railway tracks on a lower level. The bridge was opened to traffic on October 25, 1931. Originally the upper level carried only six lanes of traffic and the center portion was unpaved. In 1946, the upper level was expanded to accommodate eight lanes of traffic. The six lane lower level was added and opened to traffic on August 29, 1962 (original contract Dwg. No. GWB-190.008). The new addition made the George Washington Bridge the only fourteen lane suspension bridge in the world. In 2001, the Port Authority prohibited all trucks from using the lower level of the bridge at all times.

B. STRUCTURE DESCRIPTION

For the purpose of recording inspection findings and ratings, the lower level is made up of eleven spans: the New Jersey Side Span (Span 1), the Main Center Span (Span 2), the New York Side Span (Span 3) and the New York Anchorage Spans (Spans 4 through 11).

The stiffening (Warren type) trusses are 30′ deep from the center of the top chord to the center of the bottom chord. The top and bottom chords are comprised of built-up riveted steel box sections. The top chord dimensions are 30″ deep by 30″ wide; and the bottom chord dimensions are 24″ deep by 30″ wide. The vertical chord members are built-up riveted steel sections that consist of a web plate (31″x½″) and flanges made up of angles (8″x8″x¾″); the diagonals vary in size and cross section.

The lower level framing comprising Spans 1, 2 and 3 consists of main floorbeams, intermediate floorbeams, roadway stringers and a concrete filled steel deck. The floorbeams are 7′ deep riveted steel plate girders and are located at each main panel point and intermediate panel point (30′ on center). The main floorbeams of the lower level are supported by the stiffening truss verticals located directly below and supported by a total of sixteen suspension ropes anchored to the four main bridge suspension cables. The intermediate floorbeams of the lower level are supported by the stiffening truss diagonals and verticals (see General Plan, Elevation and Cross-Section, Page No. xii). The floorbeams are built-up sections that consist of a web plate (84″x½″), a built-up top flange that consists of two angles (8″x8″x¾″) and a top cover plate (22″x⅝″) and a built-up bottom flange that consists of two angles (8″x8″x¾″), a bottom cover plate (22″x⅝″) and two additional bottom cover plates (22″x½″). The typical roadway stringers are 24 WF sections and are bolted to the top flange of the floorbeams. The roadway consists of a concrete filled steel deck (4¼″ I-beams at 6″ on center welded to the roadway stringers). The deck is reinforced with

¾″ diameter reinforcing rods and there are expansion joints at each panel point (60′ on center). The underside of deck has stay-in-place (S.I.P.) metal forms.

The lower level framing in Spans 4 to 9, within the New York Anchorage, is comprised of a similar floorbeam and stringer system. The floorbeams are supported on steel columns or on the walls of the New York anchorage. Spans 10 and 11 are comprised of a series of stringers and diaphragms supported on concrete pedestals bearing on the top of the New York anchorage.

There are two electrically powered travelers situated below the main span and one under each back span. Each traveler is hung from support beams and consists of a box shape truss providing a grated work area of 8’-0” x 116’-0”. The top and bottom chords of the trusses are horizontal vierendeel trusses and the two side support trusses are 4’-0” deep by 116’-0” long. The truss members are comprised of steel angles and channels. Each platform’s grated work area is extended on both sides and both ends with a sloping wide wing covered with safety netting consisting of a chain link fabric to safeguard personnel on the traveler.

III. Inspection Findings, Conclusions and Recommendations

III. Inspection Findings, Conclusions and Recommendations

A. OVERALL CONDITION

The overall condition of the deck, superstructure, substructure and travelers is good. An in-depth inspection of all gusset plate connections at the lower chord of the stiffening truss was performed and all gusset plates were found to be in good overall condition. During the inspection, there were no conditions found that required immediate action.

Out of a total of the 25 priority repair recommendations at 171 locations identified in the previous inspection report, 5 priority repairs at 9 locations have been completed and 1 priority repair was partially completed at 14 out of 16 locations. There are 20 priority repairs at 148 locations that remain outstanding. A total of 6 new locations were found at 2 outstanding priority repairs. In addition, 2 new priority repairs were found at 11 locations for a total of 22 priority repairs at 165 locations recommended for repair in this report. The majority of these recommendations include the repair of deteriorated steel stringers, diaphragms and truss bottom chord, spalled, cracked and/or undermined concrete bearing pedestals, jammed finger expansion joints and deteriorated traveler support framing members and traveler connection tees.

There are also 22 safety repairs recommended at 293 locations and 98 routine repairs recommended at 2,786 locations. The safety repair recommendations primarily include railing or walkway deficiencies, roadway deficiencies and numerous deficiencies at the travelers.

B. UNDERSIDE OF DECK (SPANS 1 THROUGH 11)

Bottom Chord of Stiffening Truss

The “box shaped” bottom chords of the stiffening trusses are generally in good condition. Water ponding was noted on top of the bottom chord at approximately one third of the truss chord panels, mostly adjacent to the panel points. Various rivet heads located along the top of the bottom chords exhibit greater than 50% section loss at isolated locations, generally where water ponding occurs. Pack rust remains between the flange plates and the side plates of the box shaped chords resulting in minor warping and curling of the flange plate edges at the corners of the box member resulting in isolated rivet fractures. To prevent further deterioration, the pack rust beneath the warped top flange plate edges was previously cleaned and caulking was applied to fill the resulting void to seal out water. Caulking is missing or deteriorated along several lengths of the top chord plate allowing water infiltration, exacerbating the condition. Areas of pack rust remains along the lower corners of the box shaped chords. Minor to moderate pitting up to 3/16" deep was evident along the top plate of the bottom chord of the stiffening truss. A 1" diameter hole remains in the top flange plate of the south truss between panel points 8E* and 9E and a 3" x 1" hole remains in the top plate of the south truss between panel points 14E* and 15E. Twelve holes in the top flange plate, up to 6" x 2" in size, remain in the south bottom truss chord between panel points 3E* and 3E (see Photo No. 9). A temporary repair has been

performed by filling the holes with caulk and painting over the deteriorated area. Paint failure has also been noted at localized areas.

Main and Intermediate Floorbeams

The main and intermediate floorbeams comprising Spans 1 through 3 are generally in good condition. The top flange of the floorbeams is typically covered with roadway debris and sand blasting material below the median openings and the curb lines. As of result of the debris accumulation a large number of rivet heads (approximately 1500 total rivets) exhibit greater than 50% section loss and the top flange exhibits moderate to severe corrosion with minor losses. The rivet heads at the bottom flange of the floorbeams below the median areas also exhibit a large number of rivet heads with greater than 50% section loss (approximately 1000 total rivets). Numerous floorbeams exhibit moderate to severe corrosion with localized pitting up to 3/16" deep along the top and bottom flanges below the deck joints. The paint system along the floorbeams directly below the median opening is in fair condition. The main floorbeams exhibit areas of peeling paint, spot rust and moderate to severe corrosion with minor section losses and the intermediate floorbeams between panel points exhibit similar conditions but to a lesser extent.

There are six steel floorbeams/capbeams within the New York Anchorage that are in generally good condition. The areas of corrosion and pitting along the lower flange, bottom of web and web stiffener angles of floorbeam/capbeam 4 was cleaned and painted and numerous deteriorated rivets were replaced with high strength bolts.

Stringers

- Spans 1, 2, and 3

The stringers and diaphragms in Spans 1 through 3 are generally in good condition. Horizontal cracks were previously noted at the ends of various stringers typically occurring at the web/top flange interface. Crack arrestor holes were drilled at the end of most cracks. No additional crack propagation was observed during this inspection, including locations with arrestor holes. (Refer to Appendix A for documentation and location of the five cracked interior stringers without crack arrestor holes).

At the west side of floorbeam 38E in Span 2, the bottom of stringer S4 web is severely corroded and exhibits a 1/2" diameter hole (see Photo No. 7). Above floorbeam 1E in Span 3, stringers S6 and S14 exhibit severe corrosion to the ends of webs with up to 3" x 1" holes (see Photo No. 10). Severe corrosion with a large 2" x 10" hole was found along the top flange of fascia stringer S1 between floorbeams 7E* and 8E in Span 3 (see Photo No. 13). Also, severe corrosion with up to 50% loss and large holes was found at the web and both flanges of fascia stringers S1 and S18 between floorbeams 1E* and 1E in Span 3 (see Photo No. 17).

The paint system for fascia stringers S1 and S18 remains in fair to poor condition in all three spans. Moderate to severe corrosion was noted in the web at the ends of many fascia stringers and at the stringer support angels, end diaphragms and vertical floorbeam stiffeners at the floorbeam connections. Numerous fascia stringers exhibit

moderate to severe corrosion holes varying in size from 1/2" diameter to 6" long x 5/8" wide, and crack arrestor holes were previously drilled at 15 stringer locations. Since the fascia stringers do not carry roadway live load and only support half of the safety walk load, these conditions were recommended to be repaired on a routine basis. (Refer to Appendix C for documentation and location of severely corroded stringers with crack arrestor holes).

At the east end of Span 3, all the previously deteriorated end diaphragms over floorbeam 1E were replaced with new diaphragms. Numerous diaphragms supporting the safety walks and median catwalks exhibit moderate to severe corrosion with small holes at several locations and the diaphragms under the median area in Spans 1 and 3 are severely corroded.

An extensive heavy accumulation of debris remains on top of bridge seat at the New Jersey anchorage with up to 3 inches of debris accumulated on the top of bottom flange of stringers S1, S2, S8, S9, S15, and S16 between floorbeams 2W and 3W in span 1. Extensive debris accumulation was also observed on the top of all floorbeams directly below the safety walks and median opening in spans 1 through 3. The debris creates a corrosive environment and advances the deterioration rate of the bearings, stringers, floorbeams, and connections.

- Spans 4 through 9

The stringers and diaphragms in Spans 4 through 9 are generally in good condition. Long-term water leakage below expansion joints at the end of spans 3, 6, and 9 has caused advanced deterioration to the stringers below. Above floorbeam 1E in Span 4, the ends of stringers exhibit severe corrosion with large holes in the web and top flange at stringers S2, S3, S4, S6, S7, S10 and S11 (see Photo No. 14). Above Capbeam 4, at the west end of Span 7, the web of stringers S1, S5 and S8 exhibit severe corrosion with up to 11" high x 4" wide hole (see Photo No. 15). At the east end of stringers S11, S12, and S13 in Span 9, severe corrosion was noted at the bottom of web over the bearing with up to 1.5" high x 4" wide holes and an adjacent 5" long corrosion crack was also evident in the base of web at stringer S12 (see Photo No. 16). All stringers at the east end of span 9 bear on small concrete pedestals, several of which exhibit small corner spalls and fine cracking, however, no undermining of the bearing plates were evident.

- Spans 10 and 11

The stringers and diaphragms in Spans 10 and 11 are generally in good condition. Concrete pedestals on the top on New York Anchorage support each of the continuous stringers. Cracks and spalls were observed at approximately 30% of the 126 pedestals in these two spans. Nineteen pedestals exhibit moderate to severe spalls and small voids with up to 10% undermining below stringer bearing plate. In addition, the concrete pedestals exhibit disintegrated and severely scaled concrete in

the remaining portion, most notably below stringers S10 and S16 in span 10 (see Photo Nos. 6, 8, 11, 12, 19, 20, 22 and 23). There are two out of four anchor bolts sheared at the stringer S16 bearing pedestal in Span 11 (see Photo No. 21).

There is extensive debris accumulation on the top of the New York Anchorage in Span 10 and 11. The debris creates a corrosive environment for the steel superstructure and partially restricts access for maintenance and inspection activities.

Underside of Deck

The underside of the concrete filled steel grid deck in Spans 1 through 3 is generally in good condition. The stay-in-place (S.I.P.) forms observed at the underside of deck in Spans 1 through 3 exhibit peeling paint with light to moderate corrosion and few locations exhibit up to 100% section loss. These areas typically occur at drain tubes, at the short cantilevered sections of the deck over the fascias along median stringers, and at other random locations. Voids were observed in the underside of the steel grid deck particularly at the short cantilevered sections of the deck over the fascia and median stringers and at few other random locations. The voids have exposed the main steel bearing bars and distribution bars of the steel grid, many of which exhibit light to moderate corrosion. At one location, spalling of the concrete filled steel grid deck was observed, however, since the integrity of the steel grid decking has not been compromised, these concrete deficiencies are not structurally significant. The underside of deck exhibits a large spall 2’ x 2’ x 2” deep east of panel point 16E*.

The steel finger joint plates at panel point 1E remain jammed against each other restricting movement (see Photo No. 25).

The underside of deck in the New York Anchorage (Spans 4 through 11) is in generally in good condition. The S.I.P. forms exhibit areas of 100% section loss exposing deteriorated concrete at several locations in Spans 7 and 8, however, the reinforced concrete deck is in good condition.

Miscellaneous Framing

The miscellaneous framing is in generally good condition. The lateral bracing gusset plates, the roadway curbs and barriers, the open median area framing and the closed “turn around” framing exhibit localized areas of moderate to heavy corrosion with light to moderate pitting.

C. TOP OF DECK (SPANS 1 THROUGH 11)

Wearing Surface and Roadway Elements

The wearing surface is in overall good condition. An asphalt-wearing surface exists throughout both directions of the lower level roadways with the exception of Spans 4 through 9, 10 and 11 of the westbound roadway which have a bare concrete wearing surface. The asphalt-wearing surface in both roadways is generally in good condition. Spans 1 through 3 exhibit numerous potholes and areas of raveling in the eastbound asphalt wearing surface, mostly near the deck joints. The westbound asphalt wearing surface was repaved since the previous inspection. The concrete wearing surface in Spans 4 through 9 is in generally good condition. Several areas of the concrete wearing surface within the westbound roadway of Spans 10 and 11 were patched with asphalt, but still exhibit spalled and cracked areas.

The deck joints are in overall good condition. The expansion joints at the eastbound and westbound roadways exhibit portions of missing or deteriorated joint filler material. For further detail of these expansion joints and missing/deteriorated lengths, refer to the "Deficiency and Photo Location Plans" (see Dwg. Nos. TD-2 through TD-6). At the east end of Span 9, the joint filler material is missing for nearly the entire width of the bridge (see Photo No. 24). The expansion joint deficiencies discussed above allow water to infiltrate onto the structural elements below.

The north and south safety walks along the fascias and the access catwalks and stairs are generally in good condition. The north and south safety walk grating is crushed and broken over areas of less than 3 sq. ft. at numerous locations and the hold down clips connecting the grating to the steel beam below are missing or loose at several locations. At the New York tower, the north safety walk plate has uplifted up to 1-1/2" due to pack rust and a steel cable is looped through the north safety walk grating, both creating tripping hazards (see Photo Nos. 41 and 43). One of three steel grate steps for the medium access at the New Jersey Tower is loose due to missing connection clips (see Photo No. 44). There is a 2' x 2' opening in the south safety walk and a 2' long x 4" wide section of the grating was cut out at the New Jersey Tower (See Photo No. 48).

The steel traffic barriers and rails with integrally constructed steel curbs are generally in good to fair condition. The north and south traffic barriers and curbs exhibit areas of moderate to severe pitting with localized through holes in Spans 1 through 3. An area of collapsed curb with severe corrosion and numerous holes remain at Panel Point 14W near the New Jersey Tower (see Photo No. 42). Curb plates, used to close the space between the base of the steel curb and the deck were found detached or partially detached at 3 locations (see Photo No. 37). Several previously noted loose curb plates were removed at 6 locations since the last inspection. The south railing is detached from the rail post due to collision at Panel Point 1E (see Photo No. 39).

The bridge railing at the outside of the safety walks and the railings at the various access catwalks and stairs are in generally good condition. At the catwalks that cross the open median, one or two of four total handrails are missing at several locations (see Photo No. 38). The safety walk railing is detached from the post at few locations. A weld is broken at the base of a handrail post at the north safety walk staircase near the west abutment (see Photo No. 34).

Chain link security fencing is generally in good condition. A severely corroded bottom fence rail with broken connections at the east and west fence posts remains along the north side of the westbound roadway in Span 10 (see Photo No. 46).

Numerous deficiencies were found at the debris netting spanning the open median including holes in the netting (see Photo No. 47), detached or missing connection clips, partially detached U-bolts and broken welds at the aluminum support rails.

Utilities

The conduits extending along the backside of the north and south bridge railing in Spans 1 through 3 exhibit several broken or missing support brackets. However, due to the numerous supports for these conduits, this condition is not significant. Water main hangers and conduit hangers are deteriorated below the south safety walk near the west abutment causing the conduits to sag and the conduit joints to open (see Photo Nos. 33 and 35). A conduit support bracket is severely corroded at floorbeam 3W (see Photo No. 36). There are numerous electrical boxes attached to the rear side of the roadway barrier along the north and south safety walks that are missing and there is a broken conduit along the south safety walk at the New Jersey Tower (see Photo Nos. 40 and 45). These areas are considered accessible to the public / stranded motorists.

D. TRAVELERS

There are four travelers suspended beneath the lower level that are used for access to the underside of lower level roadway for inspection and maintenance / repair purposes. Each traveler is suspended from two traveler beams (similar to crane rails) that are connected to the floorbeams. The travelers are propelled along the traveler beams by wheels powered by electric motors (See Traveler Details on Drawing T2).

At the time of the inspection three of the four travelers were operational. The New York Main Span traveler remains removed from service (See Photo No. 28). An inspection of each traveler was performed prior to use and an inspection of each traveler was completed to verify the status of all previously recommended repairs. The other three travelers were used to complete the condition survey of the lower level inspections.

The traveler beams, located below stringers S4 and S15, are in good condition. No deficiencies were observed at the welds that join the flanges to the webs of these beams and no significant deficiencies were noted for the traveler rail splices.

The top flange of the traveler beams exhibit light to moderate corrosion with localized areas of severe corrosion with deliminations. The traveler beams are suspended from each floorbeam with four hanger rods which were wrapped in plastic tape after their installation. In Span 1, the tape was previously removed by sandblasting during bridge painting. Moisture trapped by the tape has continued to the deterioration of the hanger rods in Spans 2 and 3 resulting in measured losses of up to 30%. Moderate corrosion was also observed at the nuts and washers of the hanger rod connections. Testing performed in 2009 on the most seriously deteriorated rods indicated the rods, in their current deteriorated condition, have a sufficient factor of safety to support the travelers.

The hanger rods are connected to the floorbeams with an inverted tee section attached to stiffener plates on the web of the beam. The flange of the hanger tee support was roughly cut and coped to allow the tee stem to be connected to the stiffener. At several locations, an inspection of the coped area revealed as-built cuts that extend vertically from the cope into the web of the tee resulting from the coping process, however these cut areas are not structurally significant. However, at floorbeams 23E, 40W and 42W the stems of the hanger tee supports exhibit approximately 50% section loss which is a significant concern and is recommended for Priority repair (see Photo Nos. 26, 29 and 30). The lateral cross bracing angles between the main support truss chords typically exhibit moderate to severe corrosion with large holes noted at six locations (see Photo No. 31).

The vertical movement dampening springs and bolts are improperly aligned at numerous locations throughout Spans 1 through 3. The bolts were considered to be misaligned when the tapered center of the bolt was off the edge of the bearing plate attached to the top flange of the traveler beam.

The New Jersey Back Span, New Jersey Main Span and New York Main Span travelers exhibit moderate to severe corrosion with section loss at several main truss members (see Photo Nos. 27 and 32). These deteriorated areas are generally located near the center of the traveler directly below the lower level median opening. The chain link safety netting support angles and/or edge beams exhibit severe corrosion with localized holes at all four travelers (see Photo No. 52). Broken welds exist at the chain link fence posts and rails of the travelers, and various hinges or connection screws for hinges were missing at the access door grates (see Photo Nos. 49 and 50). Loose strap bolts and missing bolts that connect the chain link safety netting to the traveler framing were noted at 169 total locations at all four travelers (see Photo No. 54). The New York Main Span traveler has 9 holes of various sizes in the chain link safety netting, and the panels are brittle and prone to fracture due to their advanced age (see Photo No. 51). There is a missing horizontal rail angle at the truss platform below the floor access hatch at the New York Back Span traveler (see Photo No. 53).

III. Inspection Findings, Conclusions and Recommendations

E. RECOMMENDATIONS

Immediate: None.

Priority: The following priority repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck		
*1	Repair spalled concrete pedestal at the east end of span 11 in the New York Anchorage. *(Photo 6)* (1 Location)	SDU-7
*2	Repair 1/2″ diameter hole in the bottom of web of stringer S4 at panel point 38E. *(Photo 7)* (1 Location)	SDU-5
*3	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S10 at the east end of span 10. Anchor bolts are partially exposed. *(Photo 8)* (1 Location)	SDU-7
*4	Repair twelve (12) up to 6" x 2" holes in the top plate of the south bottom truss chord between panel points 3E* and 3E. *(Photo 9)* (1 Location) Temporary repair performed by filling holes with caulk and repainting.	SDU-7
*5	Repair severe corroded stringer webs with holes above the bearings at stringers S6 and S14 above panel point 1E. *(Photo 10)* (2 Locations)	SDU-7
*6	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S16 at the west end of Span 10 and under stringer S14 at the east end of Span 11. *(Photos 11 & 12)* (2 Locations)	SDU-7
*7	Repair the severely corroded stringer S1, between panel points 7E* and 8E, with 50% section loss on top flange near the quarter point. *(Photo 13)* (1 Location)	SDU-7
*8	Repair severely corroded top flange and web with holes in the web at the bearings of stringers S2, S3, S4, S6, S7, S10 and S11, located at the east side of floorbeam 1E. *(Photo 14)* (7 Locations)	SDU-7
*9	Repair severely corroded webs with holes near the bearing of stringers S1, S5, and S8 located at the west end of span 7, and at stringers S11, S12 and S13, including an adjacent corrosion crack at stringer S12, located at the east end of span 9 *(Photos 15 & 16)* (6 Locations)	SDU-7
*10	Repair the severely corroded stringers S1 and S18 with web holes and 50% section loss of bottom flange near the 1/3 span between panel points 1E* and 1E. *(Photo 17)* (2 Locations)	SDU-7

*11	Repair severe corroded stringer web, with holes around the bearing stiffening angles, of stringer S1 at the east side of panel point 26W*. *(Photo 18)* (1 Location)	SDU-4
*12	Repair cracked and spalled concrete pedestals causing undermining of the bearing under stringer S13, S15 and S16 at the west end of Span 10 and under stringer S4, S7, S8, S10, S15 and S18 at the east end of span 11. *(Photos 19 & 20)* (9 Locations)	SDU-7
*13	Repair the 2 of 4 broken anchor bolts at the bearing of stringer S16 located at the east end of span 11. *(Photo 21)* (1 Location)	SDU-7
14	Repair spalled and cracked concrete pedestals, with or without exposed anchor bolts and/or rebar, causing minor undermining of the bearing under stringer S9 and S15 of span 10, under stringer S9 at the east end of span 11, and at 3 locations under stringer S12 in span 11. *(Photos 22 & 23)* (6 Locations).	SDU-7
Top of Deck		
*15	Repair/Replace missing expansion joint filler material at span 9. *(Photo 24)* (1 Location)	TD-6
*16	Repair the jammed finger joint plates at panel point 1E. *(Photo 25)* (1 Location).	TD-6
Travelers		
*17	New Jersey and New York Main Span Travelers - repair greater than 50% section loss in vertical stem of connection tee for south traveler hanger at panel point 40W that supports the track for the Main Span Travelers. *(Photo 26)* (1 Location)	SDU-5
*18	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members. One new location added. *(Photo 27)* (13 Locations)	T-3
*19	New York Main Span Traveler – repair moderate to severe section loss at main support truss members. Additional 5 new locations added. *(Photo 28)* (95 Locations)	T-4
*20	New Jersey and New York Main Span Travelers - repair 50% section loss in vertical stem of connection tee that supports the south track at panel point 23E and the north track at panel point 42W for the Main Span Travelers. *(Photos 29 and 30)* (2 Locations)	SDU-5 and SDU-6
*21	New Jersey Main Span Traveler – repair moderate to severe section loss at cross bracings between the main support truss top chords. *(Photo 31)* (6 Locations)	T-3
22	New Jersey Back Span Traveler – repair moderate to severe section loss at main support truss members. *(Photo 32)* (5 Locations)	T-2
* Previously recommended as a "Priority Repair" in the 2009 inspection report.		

III. Inspection Findings, Conclusions and Recommendations

Safety: The following safety repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck		
1	Replace two detached hangers and repair open joints of the 4-inch diameter electrical conduits with exposed electrical wires near the New Jersey abutment. *(Photo 33)* (1 Location)	SDU-3
2	Repair the broken weld at the base of the west handrail of the north safety walk staircase and broken base at the east handrail of the south safety walk stairs at the New Jersey abutment. *(Photo 34)* (2 Locations)	SDU-3
3	Remove section of abandoned 8" diameter water main with deteriorated clevis hanger. *(Photo 35)* (1 Location)	SDU-3
4	Replace the severely deteriorated steel knee brace support bracket for two 3-inch diameter electrical conduits at Stringer S2, west of floorbeam 3W at span 1. *(Photo 36)* (1 Location)	SDU-3
Top of Deck		
5	Remove partially detached curb plate. *(Photo 37)* (3 Locations)	TD-5 & 6
6	Replace the missing or partially missing railings at the walkways over the open median areas. *(Photo 38)* (8 Locations)	TD-2, TD-3 and TD-5
7	Repair the detached connections of the safety walk railing or bridge railing. *(Photo 39)* (5 Locations)	TD-2, TD-5 and TD-6
8	Repair or replace the missing or loose cover to the electrical panel box with exposed wires attached to the back of the barrier (accessible to the public / stranded motorists) along the north and south safety walks. *(Photo 40)* (29 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
9	Repair or replace the diamond plate safety walk uplifted 1.5 inches creating a tripping hazard at the New York tower. *(Photo 41)* (1 Location)	TD-5
10	Repair the severely deteriorated and collapsed section of steel curb at the south side of the eastbound roadway. *(Photo 42)* (1 Location)	TD-2
11	Remove the cable looped through the safety walk grate from below that creates a tripping hazard at the New York tower. *(Photo 43)* (1 Location)	TD-5
12	Replace the missing stair grate connection clip at the median catwalk at the New Jersey tower *(Photo 44)* (1 Location)	TD-2

13	Repair the broken conduit at the south safety walk at the New Jersey tower (Accessible to the public / stranded motorists). *(Photo 45)* (1 Location)	TD-2
14	Replace the broken bottom rail of the chain link fence panel at the west end of Span 10 along the westbound roadway and east end of Span 11 along the eastbound roadway. *(Photo 46)* (2 Locations)	TD-6
15	Repair or replace the safety netting with large holes at median (6 locations). *(Photo 47)* (6 Locations)	TD-2, TD-4, TD-5 and TD-6
16	Repair the 2' x 2' opening in the north safety walk due to removed conduits and 2' long x 4" wide section of removed safety walk grating at the New Jersey Tower. *(Photo 48)* (1 Location)	TD-2
Travelers		
17	Repair the broken aluminum fence posts and rails and repair welds between the fence fabric connection plates and the posts. *(Photo 49)* (11 Locations)	T-2, T-3, T-4 and T-5
18	Replace missing or broken hinges or hinge screws at access doors in grate floor of the travelers. *(Photo 50)* (5 Locations)	T-2, T-3 and T-4
19	Repair or replace the safety netting with large holes at the New York main span traveler. *(Photo 51)* (9 Locations)	T-4
20	Repair the moderate to severe section loss at W8's and 3" x 3" L's that support the safety netting for the travelers. *(Photo 52)* (35 Locations)	T-2, T-3, T-4 and T-5
21	Replace the missing horizontal rail angle at the New York Back Span Traveler truss platform below the floor access hatch. *(Photo 53)* (1 Location)	T-5
22	Tighten or replace the loose or missing bolts for safety netting straps and replace the missing safety netting straps and bolts. *(Photo 54)* (169 Locations)	T-2, T-3, T-4 and T-5

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck		
1	Replace the missing rivets or bolts at the top and/or bottom flange of the floorbeams, top and/or bottom of the bottom truss chord, or the bottom truss chord gusset plate. (# indicates the number of missing bolts or rivets). (7 Locations)	SDU-3
2	Repair the cracks and holes in the fascia stringer webs, S1 and S18, below the stringer support angle, diaphragms or vertical floorbeam stiffeners. (64 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7

3	Repair the vertical misalignment of damper bolt when the bolt is off the damper bolt base plate. Also repair or replace broken or bent damper bolts, loose nuts on damper bolts, damper bolts not in contact with damper bolt base plate and broken damper bolt springs. (186 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
4	Replace the sheared, fractured or missing bolts at the bottom truss chord. # indicates the number of sheared, fractured or missing bolts (3 Locations)	SDU-3 and SDU-6
5	Tighten the loose bolts and replace missing nuts and bolts at stringer web connections to the floorbeams (5 bolts per connection except 4 bolts per connection where the stringer tie-down has been modified). # indicates the number of loose bolts. (5 Locations)	SDU-3, SDU-5 and SDU-6
6	Remove the roadway debris accumulation that is partially covering the heavily rusted bearings at the New Jersey bridge seat and repair the top of the severely rusted bottom flange and web, with up to 1/8" pitting, of the stringer at the New Jersey back span. (11 Locations)	SDU-3
7	Repair the less than 1 square inch hole in the insulating plastic cover of the power supply line for the traveler near panel point 36E. (1 Location)	SDU-5
8	Reconnect the bearing strap plate at the south bearing of floorbeam 1E. (1 Location)	SDU-7
9	Clean the light to medium rust from the top of the top flange of both traveler beams and paint the top of the beam. Remove protective plastic tape where appropriate, clean the light to heavy rust and paint the hanger rod assemblies. (General condition, location not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
10	Repair or replace the heavily rusted horizontal stiffener plates with more than 50% areas of section loss adjacent to the traveler hanger tee. (71 Locations)	SDU-3, SDU-4, SDU-5, and SDU-6
11	Repair the cracked welds between a finger and a finger bar or a cracked finger bar at the tower deck joints. (7 Locations)	SDU-3 and SDU-6
12	Tighten the loose bolts at the top or bottom flange of the floorbeams. # indicates the number of loose bolts. (2 Locations)	SDU-3 and SDU-5
13	Repair deteriorated trapeze hanger supporting three electrical conduits. (1 Location)	SDU-3
14	Remove the abandoned electrical conduits with detached or missing flange attachment clips or provide proper support west of floorbeams 15W and 29W. (2 Locations).	SDU-3 and SDU-4

15	Replace rivets and/or bolts with greater than 50% loss of section of the rivet head or bolt head/nut at the top flange of the floorbeams. # indicates the number of deteriorated rivets or bolts. (297 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
16	Repair the heavy corrosion with random holes in channel supports of abandoned platforms attached to the bottom of the floorbeams. Alternately remove the platforms. (5 Locations)	SDU-3, SDU-6 and SDU-7
17	Repair the heavy rust with small holes in the lateral bracing between floorbeams. (2 Locations)	SDU-5 and SDU-6
18	Repair the 3 inch x 1 inch hole in the top plate of the stiffening truss bottom chord between panel points 14E and 15E. (1 Location)	SDU-6
19	Repair detached flange clips, replace missing flange clips and repair detached 1-1/2" channel support for electrical conduits. (10 Locations)	SDU-3, SDU-4, SDU-6 and SDU-7
20	Repair the deteriorated stone masonry at the south end of the New Jersey abutment. (1 Location)	SDU-3
21	Remove the accumulation of sand blasting medium and debris on top of the floorbeams beneath the median openings and at the outer curb lines. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
22	Repair the spalled concrete in underside of concrete filled steel deck grating visible through the deteriorated steel stay-in-place forms. (8 Locations)	SDU-6 and SDU-7
23	Clean and paint the moderate pitting and rusting of steel angles of diagonal, longitudinal bracing members between floorbeams or bracing at gusset plate connection to floorbeams particularly below safety walks and open median. Also disassemble built-up bracing members and connections with pack rust between components, clean and paint steel contact surfaces and reassemble with new bolted connections. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
24	Clean and paint the moderate to severe rusting and pitting with minor section loss, paint failure at stringers, stringer web connection plates, diaphragms, pin supports at cap beams (New York anchorage) beneath the median openings and at the outer curb lines (General condition, locations not shown on drawings).	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
25	Repair the cracked and/or spalled concrete pedestals with less than 10% undermining at the base plates in Spans 10 & 11 at the New York anchorage. (18 Locations)	SDU-7
26	Clean the debris from the south drainage screen and replace the north drainage screen at the north and south sides of Cap Beam 6 of Span 8 at the New York anchorage. (2 Locations)	SDU-7

27	Clean debris and clean and paint the moderately to severely rusted bearings at the north and south ends of Cap Beam 1E at the New York anchorage. (2 Locations)	SDU-7
28	Clean and paint the heavily rusted bearings in Spans 10 & 11 at the New York anchorage. (1 Location)	SDU-7
29	Repair the 2.5 ft wide x 1.0 ft long x 1.0 ft deep spalls at the south pedestal and north pedestal under Cap Beam 1E at the New York anchorage (no undermining of the bearing was noted). (2 Locations)	SDU-7
30	Clean and paint the moderately rusted bearings with up to 1/2" uplift of the stringer (1/2" maximum measured uplift of stringers 5 at the 14E bearing) due to pack rust at the towers. (56 Locations)	SDU-3 and SDU-6
31	Replace the missing drainpipe at drain hole in top flange of bottom chord of stiffening truss. (99 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
32	Clean and paint the top and bottom plates of the bottom chord of the stiffening truss and gusset plates at connections. Also replace missing caulk at the joint between the top and bottom plates and the web plates of the same members. In addition, install methods to prevent ponding on top of the top chord. (197 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
33	Repair the severely corroded diaphragm (with or without holes and up to 1/8" loss) that support the safety walk or median. # indicates the number diaphragms between the stringers. (7 Locations)	SDU-3 and SDU-4
34	Replace rivets with greater than 50% loss of section of the rivet heads along bottom chord of the stiffening truss or gusset plates at connections. (# indicates the number of deteriorated rivet heads). (68 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
35	Repair the deteriorated web area with up to 1/16" loss at the bottom of the stringer at the floorbeam connection. (17 Locations)	SDU-3, SDU-4, SDU-5, and SDU-6
36	Repair the deteriorated web area and small holes in the stringer over Floorbeam 1E. (7 Locations)	SDU-7
37	Divert flow from three abandoned water pipe sleeves at the north end of the New Jersey abutment backwall to prevent water from being discharged onto the bridge seat. (1 Location)	SDU-3
38	Clean and paint the light to severe rust with minor section loss at stringers S1 and S18 and all safety walk support beams. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7

39	Remove debris, clean and paint all floorbeams. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
40	Repair the 1 inch diameter hole in the top of the bottom chord of the stiffening truss between panel points 8E* and 9E. (1 Location)	SDU-7
41	Remove and replace the cracked and bulging neoprene pads at the stringer end web connection over the floorbeam or at the anchor bolt between the stringer and floorbeam. (114 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
42	Repair the severely corroded diaphragm with hole for the crosswalk. (2 Locations).	SDU-4
43	Remove the accumulated debris and clean and paint the light localized rust on the interior surfaces of the bottom truss chords. In addition, install methods to prevent ponding inside the bottom chord. (8 Locations)	SDU-3, SDU-4, SDU-5 and SDU-7
44	Remove the warped/bulging connection plates, due to pack rust, between stringer webs over floorbeams. Clean and paint steel surfaces and reassemble the connections with new bolts. # indicates the number of missing bolts. (27 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
45	Direct the scupper drain tube flows away from contact with structural steel members. (1 Location)	SDU-3
46	Replace the deteriorated deck joint material hanging from the underside of the joint. (7 Locations)	SDU-3, SDU-6 and SDU-7
47	Remove the heavy accumulation of debris on tower catwalks below the deck joints. (4 Locations)	SDU-3 and SDU-6
48	Repair the detached section of lower hand rail of two rail system at west New York tower catwalk (1 Location)	SDU-6
49	Remove the accumulated debris and clean and paint the light localized rust on the interior surfaces at the gusset plate connection of the bottom truss chord to the truss verticals or diagonals. In addition install methods to prevent ponding inside the connection area. (39 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
50	Clean localized pack rust, up to 3/4" thick, between the cover plates of the top flange of the floorbeam. (327 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
51	Clean and paint all the bearings at panel points 11W and 14W (General condition). (1 Location)	SDU-3

52	Repair the cracked weld between the bottom flange of stringers S4 to S6 and the bearing plate at panel point 11E. (3 Locations)	SDU-6
53	Replace rivets or bolts with greater than 50% loss of section of the rivet heads and/or bolt heads/nuts at the bottom flanges of the floorbeams. # indicates the number of deteriorated rivet or bolts. (137 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
54	Clean the medium to heavy rust without significant section loss from the web of the hanger tee or hanger rods. (30 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
55	Repair the deteriorated gusset plate at the connection of the bottom chord to the diagonals of the stiffening truss. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
56	Repair the random loose or deteriorated bolts at the gusset plates at the north stiffening truss at panel point 4E*. (1 Locations)	SDU-7
57	Remove the debris accumulated around the bearing pedestals in Spans 10 and 11. (1 Location)	SDU-7
58	Repair one of four broken anchor bolts at the bearing of stringers S2 and S3 at the west end of Span 10. (2 Locations)	SDU-7
59	Clean pack rust causing bulging between the bottom cover plate and bottom flange angles of the bottom chord of the stiffening truss and paint. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
60	Seal the holes at the anchor bolts connecting the Jersey Barrier to the deck in Spans 10 and 11 to prevent water intrusion into the deck. (1 Location)	SDU-7
61	Repair or remove the disconnected, abandoned or deteriorated electrical conduits or junction box supports. (3 Locations)	SDU-3, SDU-6 and SDU-7
62	Replace the sheared tie down bolts for the deck finger joint. (1 Location)	SDU-6
63	Repair the areas of mutual wear between the stringer lower flange and bearing plate over the floorbeam with up to 1/8" gap and minor vertical movement of the stringer under live load. (16 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
64	Remove the debris on the windlock and clean and paint the moderately to severely corroded windlock members. (2 Locations)	SDU-3 and SDU-7
65	Repair the areas of arrested metal loss with up to 1/4" diameter holes in the base of the web of floorbeam 4 at spans 6 and 7 between stringers S4 to S6. (1 Location)	SDU-7

III. Inspection Findings, Conclusions and Recommendations

Top of Deck		
66	Repair holes at top of railing/guiderail support. (43 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
67	Repair or replace missing and broken support straps for traffic signs. # indicates ratio of broken missing support strap to total number of required support straps. (1 Location)	TD-5
68	Repair corrosion holes in sliding cover plate over westbound roadway finger joint at panel point 2W. (1 location)	TD-2
69	Replace the broken or detached clips and/or screws attaching the safety walk grating to the steel framing below. (13 locations)	TD-2, TD-3, TD-4 and TD-5
70	Install panel point identification plates at vertical truss members. (73 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
71	Replace missing or deteriorated joint filler. # indicates the total linear feet of joint material to be replaced. (97 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
72	Repair water main tie down connections with loose or missing nuts and/or bolts at south safety walk. (127 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
73	Repair loose bolt at bottom of traffic sign connection to curb. (2 Locations)	TD-4
74	Repair broken weld or coupling at corner connection of debris net fence support rails. (2 Locations)	TD-2 and TD-5
75	Replace missing curb plate. (5 Locations)	TD-2 and TD-5
76	Repair spalls with or without exposed rusted steel reinforcement at tunnel walls, concrete curbs or pavement. (8 Locations)	TD-2 and TD-6
77	Replace severely corroded steel diamond plate with holes at south safety walk. (1 Locations)	TD-5
78	Clean debris from safety walk and debris netting in median, repair holes or damaged debris netting; repair debris net clips detached, missing, missing nuts; repair broken debris net rail u-bolts supports or u-bolts with missing or backed off nuts; repair detached debris net connections to tower columns. (General condition).	TD-2, TD-3, TD-4, TD-5 and TD-6

79	Repair, remove or replace missing condulette covers, open junction box covers, open or loose outlet covers, open blue light fixtures, open light fixtures, detached conduit couplings or detached conduit connections to electrical junction box with exposed wires in inaccessible areas. (4 Locations).	TD-2
80	Provide support for unsupported bridge railing. (1 Location)	TD-6
81	Repair the broken conduit coupling without exposed wires, broken conduit ground strap or broken conduit support clips at conduits attached to the back of the bridge rail. (182 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
82	Repair cracks and scaling at south of median in Spans 5 & 7. (1 Locations).	TD-6
83	Repair cracks in concrete curb at median. (2 Locations)	TD-6
84	Repair impact damage to steel median barrier. (1 Location)	TD-6
85	Replace missing sign. (1 Location)	TD-6
86	Replace 3 missing bolts at bottom plate connection of downspout tube at panel point 18W. (1 Location)	TD-2
87	Repair impact damage to south bridge rail post near panel point 22W. (1 Location)	TD-2
88	Repair holes in the curbs and vertical traffic barriers, repair the pitting of steel railings, curbs and vertical traffic barriers. (183 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
89	Replace missing downspout anchor bolt at south safety walk at panel points 17E and 18W. (2 Locations)	TD-2 and TD-5
90	Clean and paint medium rust at access stairs to span 9 at the south safety walk. (1 Location)	TD-6
91	Repair the potholes or severe raveling in the asphalt wearing surface. (108 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6
92	Repair or replace the damaged safety walk grating over areas measuring less than 3 square feet. (23 Locations)	TD-2, TD-3, TD-4 and TD-5
93	Repair broken hinge to access ladder hatch at median between panel points 14W-15W. (1 Location)	TD-2
94	Replace 1 of 2 light fixture connections missing at truss member at panel point 3W. (1 Location)	TD-2

95	Replace the missing screws/bolts at to cover of electrical panel box attached to the back of the north roadway barrier at panel points 10W and 26W*. (# indicates the total number of missing bolts). (2 Locations)	TD-2 and TD-3
Travelers		
96	Repair detached flange clips supporting electrical conduits. Properly support electrical conduit suspended with rope hanger and conduit cantilevered 8 feet without support. (4 Locations)	T-2
97	Replace approximately 10 SF of damaged floor grate at center of the New Jersey main span traveler at the east side. (1 Location)	T-3
98	Repair disconnected electrical conduit or junction box cover with exposed wires (no pedestrian access). (8 Locations)	T-2, T-3, T4 and T-5

Findings with no Recommendations:

No.	Description	Dwg. No.
Underside of Deck		
1	Exposed underside of steel grid deck due to deteriorated stay-in-place forms exhibits deck voids but without concrete deterioration. (33 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
2	Miscellaneous underside of deck deficiencies: - Exposed underside of deck at the cantilevers of the deck beyond the stringers, due to deteriorated stay-in-place forms, exhibit deck voids but without concrete deterioration. Embedded steel grid deck members, exposed at random locations, exhibit light to moderate rust. - As-built stay-in-place form blow outs (failures). - Exposed underside of deck due to deteriorated stay-in-place forms without voids or notable concrete deterioration. (General conditions, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
3	Loose hanger rods. (94 Locations)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
4	Pack rust at the connection of the hanger tee to the floorbeam at south connection at west side of floorbeam 27W. (1 Location)	SDU-4
5	Broken welds at square washers of hanger rod connections. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7

6	Misaligned "non-vertical" traveller hanger damper bolts that remain contacting the base plate. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
7	As-Built cut at cope in stems of hanger tees. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
8	Heavy rust of the short leg of the angle support for the steel curb with up to 100% loss of section at the deck elevation. (General condition, locations not shown on drawings)	TD-2, TD-3, TD-4, TD-5 and TD-6
9	Extra lengths of joint filler extend beyond edge of deck. (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
10	Steel straps welded to the underside of the steel plate median cover along the bridge centerline are missing or partially detached between floorbeams 2E and 1E elevation. (2 Locations)	SDU-7
11	Heavy pack rust at stringer web connection plates and built-up safety walk grate supports (General condition, locations not shown on drawings)	SDU-3, SDU-4, SDU-5, SDU-6 and SDU-7
12	Pin connection was previously loose and tightened without nut welded to pin and north end of pin hammered to restrict movement of north washer. (9 Locations)	SDU-7
13	Welded cover plates at east end of stringers S4 to S11 in span 9 with cracked welds due to pack rust and the cover plate at stringer S12 remains fallen off. (9 Locations)	SDU-7
Top of Deck		
14	Small electrical box detached from vertical of stiffening truss but supported by conduit. (10 Locations)	TD-2, TD-3, TD-4, TD-5 and TD-6

IV. Deficiency and Photo Location Plans

V. Photographs

George Washington Bridge Lower Level

Photo No.: 1. **Location:** North elevation. **Description:** General view.	
Photo No.: 2. **Location:** Span 1, underside of deck, superstructure and New Jersey Back Span Traveler. **Description:** General view.	

George Washington Bridge Lower Level

Photo No.: 3. **Location:** Top of deck in Spans 1 and 2, westbound roadway. **Description:** General view from Panel Point 9W.	
Photo No.: 4. **Location:** Top of deck in Spans 9 , 10 and 11. **Description:** General view from Span 11.	

George Washington Bridge Lower Level

Photo No.: 5.

Location: Span 2, south stiffening truss at Floorbeam 15W*.

Description: General view of bolted gusset plate along the bottom chord of the stiffening truss.

Photo No.: 6.

Location: Span 11, the concrete pedestal at the east end of Stringer 11.

Description: The pedestal exhibits a large spall with exposed and corroded rebar at the west end with minor undermining of the bearing.

(Priority Repair 1)

George Washington Bridge Lower Level

Photo No.: 7.

Location: Span 2, Stringer S4 at west side of Panel Point 38E.

Description: The bottom of web exhibits severe corrosion with a 1/2" diameter hole at Floorbeam 38E.

(Priority Repair 2)

Photo No.: 8.

Location: Span 10, concrete pedestal at the east end of Stringer S10.

Description: The concrete pedestal is spalled and cracked undermining the bearing. The remaining concrete exhibits severe scaling. Anchor bolts are partially exposed but in good condition.

(Priority Repair 3)

George Washington Bridge Lower Level

Photo No.: 9.

Location: Span 3, top of bottom chord between Panel Points 3E* and 3E of the south stiffening truss.

Description: The top plate is severely pitted with twelve (12) holes up to 6" long x 2" wide and water ponding throughout. Note the temporary repair performed by filling holes with caulk and repainting.

(Priority Repair 4)

Photo No.: 10.

Location: Span 3, east end of Stringer S14 at Floorbeam 1E.

Description: The web at the end of stringer exhibits severe corrosion with holes, including a 3" x 1" hole near the top of the web.

(Priority Repair 5)

George Washington Bridge Lower Level

Photo No.: 11.

Location: Span 10, concrete pedestal at the west end of Stringer S16.

Description: The pedestal is severely spalled with exposed anchor bolts causing undermining of the bearing plate under the stringer. The remaining concrete exhibits severe scaling.

(Priority Repair 6)

Photo No.: 12.

Location: Span 11, concrete pedestal at the east end of Stringer S14.

Description: The pedestal exhibits spalled concrete with exposed rusted rebar causing minor undermining of the bearing plate under the stringer.

(Priority Repair 6)

George Washington Bridge Lower Level

Photo No.: 13.

Location: Span 3, Stringer S1 between Panel Points 8E and 7E*

Description: The top flange exhibits severe corrosion with a 2" x 10" hole near the quarter point from Floorbeam 7E*.

(Priority Repair 7)

Photo No.: 14.

Location: Span 4, end of Stringer S10 over Floorbeam 1E.

Description: The web and top flange are severely corroded with large holes including a 1" high x 6" wide hole in the top of the web.

(Priority Repair 8)

George Washington Bridge Lower Level

Photo No.: 15.

Location: Span 7, Stringer S8 at Capbeam 4.

Description: The end of stringer exhibits severe corrosion with a 4" x 11" hole (arrow) in the web above the bearing.

(Priority Repair 9)

Photo No.: 16.

Location: Span 9, east end of Stringer S12.

Description: The bottom of the web exhibits severe corrosion with a 1.5" x 4" hole and an adjacent 5" long corrosion crack above the bearing.

(Priority Repair 9)

George Washington Bridge Lower Level

Photo No.: 17.

Location: Span 3, Stringer S18 between Panel Points 1E* and 1E.

Description: Fascia stringer S18, which does not support traffic loads, exhibits 50% section loss of both flanges along with large holes at the bottom of the web near mid-span.

(Priority Repair 10)

Photo No.: 18.

Location: Span 2, fascia Stringer S1 at the east side of Floorbeam 26W*.

Description: The stringer web exhibits severe corrosion with section loss and holes along the bearing stiffening angle at the floorbeam connection. Two 3/4" crack arrestor holes were drilled at this location.

(Priority Repair 11)

George Washington Bridge Lower Level

Photo No.: 19.

Location: Span 10, concrete pedestal at the west end of Stringer S16.

Description: The pedestal exhibits spalled concrete with voids, causing minor undermining of the bearing plate under the stringer.

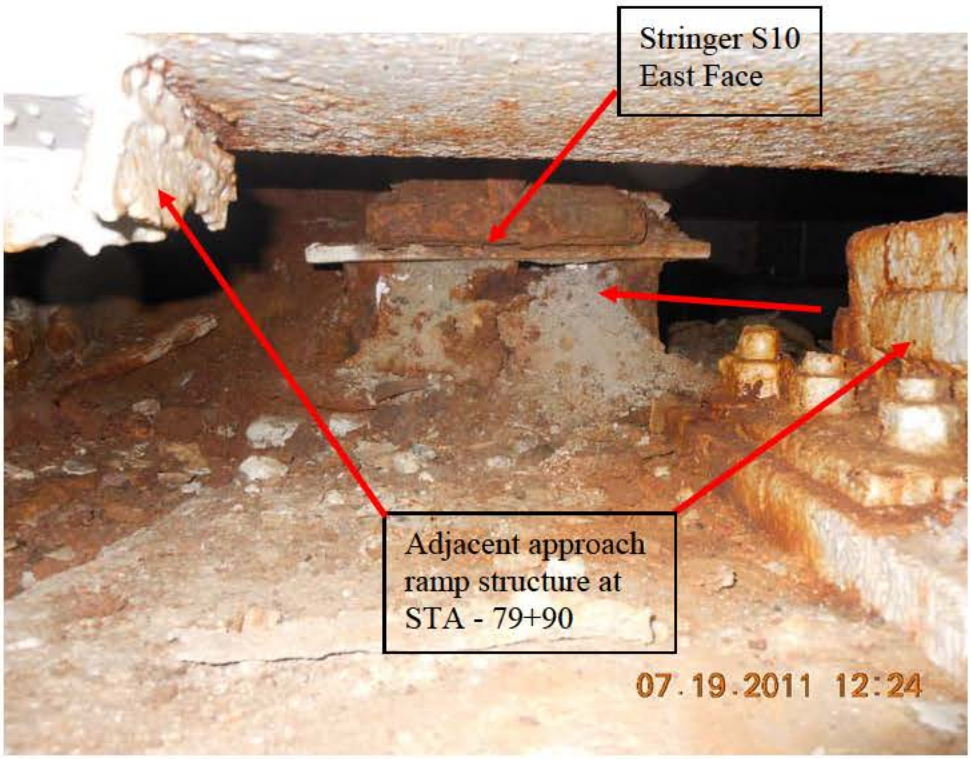
(Priority Repair 12)

Photo No.: 20.

Location: Span 11, concrete pedestal at the east end of Stringer S10.

Description: The pedestal exhibits spalled and cracked concrete causing minor undermining of the bearing plate under the stringer.

(Priority Repair 12)



George Washington Bridge Lower Level

Photo No.: 21.

Location: Span 11, concrete pedestal at the east end of Stringer S16.

Description: One out of two anchor bolts is sheared off on the south side of stringer. Also, one out of two anchor bolts is sheared off on the north side (not shown).

(Priority Repair 13)

Photo No.: 22.

Location: Span 10, concrete pedestal for Stringer 9 bearing at Pedestal 3 from west.

Description: Spalled concrete pedestal below stringer bearing with exposed rusted rebar.

(Priority Repair 14)

George Washington Bridge Lower Level

Photo No.: 23.

Location: Span 10, concrete pedestal for Stringer S15 bearing at Pedestal 3 from west.

Description: Spalled concrete pedestal below stringer bearing with exposed rusted rebar.

(Priority Repair 14)

Photo No.: 24.

Location: Span 9, expansion joint below westbound roadway at the east end of the span between Stringers S13 and S14.

Description: The joint filler material is missing for nearly the entire width of both roadways.

(Priority Repair 15)

Photo No.: 25.

Location: Span 3, underside of steel finger joint below the eastbound roadway at Panel Point 1E.

Description: The finger joint plates are shifted and jammed against each other (arrow), restricting movement.

(Priority Repair 16)

Photo No.: 26.

Location: Span 2, south traveler hanger at the east side of Floorbeam 40W.

Description: The stem of tee shape hanger support exhibits greater than 50% section loss due to active severe corrosion.

(Priority Repair 17)

George Washington Bridge Lower Level

Photo No.: 27. **Location:** New Jersey Main Span Traveler. **Description:** Severe corrosion to the west bottom member of the traveler support truss. **(Priority Repair 18)**	
Photo No.: 28. **Location:** New York Main Span Traveler. **Description:** General View. The traveler is not operational and is enclosed by netting to prevent falling debris. The traveler exhibits moderate to severe corrosion to main support truss members. **(Priority Repair 19)**	

George Washington Bridge Lower Level

Photo No.: 29.

Location: Span 2, south traveler hanger at the east side of Floorbeam 23E.

Description: The stem of the hanger tee support for the traveler exhibits greater than 50% section loss due to active severe corrosion.

(Priority Repair 20)

Photo No.: 30.

Location: Span 2, north traveler hanger at the west side of Floorbeam 42W.

Description: The stem of the hanger tee support for the traveler exhibits greater than 50% section loss due to active severe corrosion.

(Priority Repair 20)

George Washington Bridge Lower Level

Photo No.: 31.

Location: New Jersey Main Span Traveler.

Description: The bracing angle for the top chord of the traveler truss is severely corroded with large holes.

(Priority Repair 21)

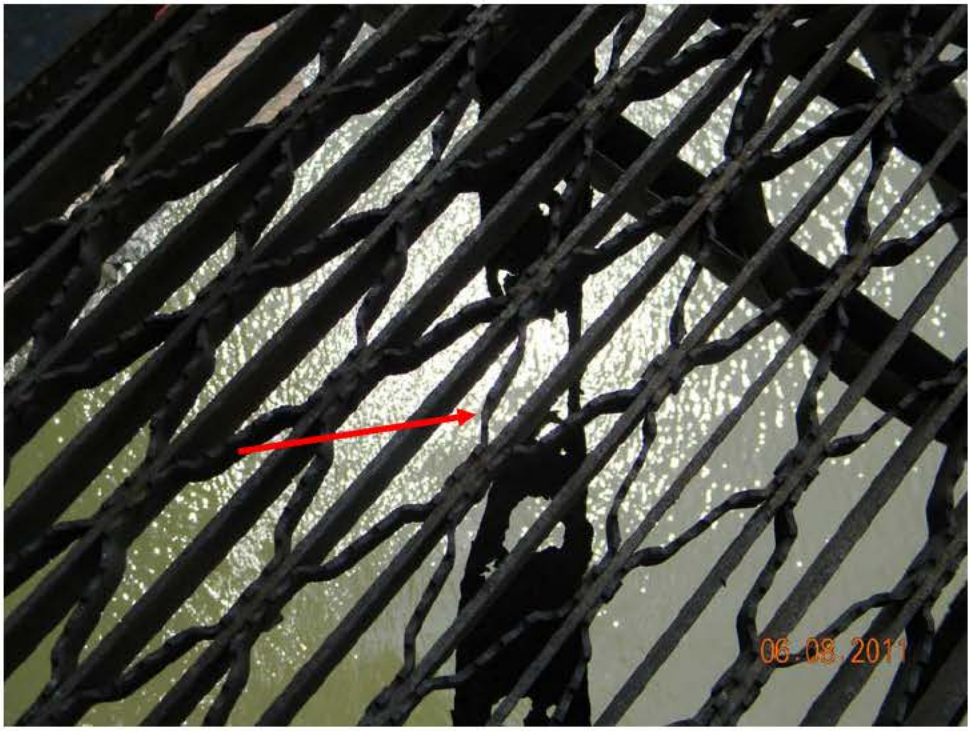


Photo No.: 32.

Location: New Jersey Back Span Traveler.

Description: Moderate to severe section loss at main support truss members.

(Priority Repair 22)

George Washington Bridge Lower Level

Photo No.: 33.

Location: Span 1, electrical conduits at the underside of south safety walk between Panel Points 2W and 2W*.

Description: The trapeze hanger for conduits has detached and causes the conduits to sag.

(Safety Repair 1)

Photo No.: 34.

Location: Span 1, bottom of north safety walk staircase near New Jersey abutment.

Description: The rail post is disconnected at the bottom due to broken weld around the full length of the post base.

(Safety Repair 2)

Photo No.: 35.

Location: Span 1, abandoned 8" diameter water main under the south safety walk at Panel Point 2W.

Description: The clevis hanger for the water main is severely deteriorated and the adjacent strap is broken.

(Safety Repair 3)

Photo No.: 36.

Location: Span 1, west face of Floorbeam 3W under Stringer S2.

Description: The conduit knee brace support exhibits severe corrosion with up to 90% section loss to the horizontal support member and one of the conduits is severely corroded.

(Safety Repair 4)

George Washington Bridge Lower Level

Photo No.: 37.

Location: Span 3, north median curb, along west bound roadway between Panel Points 7E and 6E*.

Description: Section of steel curb plate has detached from the steel curb along the median barrier.

(Safety Repair 5)

Photo No.: 38.

Location: Span 2, crossover walkway at Panel Point 27W.

Description: The southwest handrail (one of four) is missing at the stairs from the median barrier to the access catwalk.

(Safety Repair 6)

George Washington Bridge Lower Level

Photo No.: 39.

Location: Span 3, bridge railing of south safety walk at Panel Point 1E.

Description: The rail is detached from the post connection along the top of the roadway barrier.

(Safety Repair 7)

Photo No.: 40.

Location: Span 1, south safety walk at Panel Point 3W.

Description: Missing electrical box cover with exposed wires attached to the back of roadway barrier along safety walk (Accessible to public/stranded motorists).

(Safety Repair 8)

George Washington Bridge Lower Level

Photo No.: 41.

Location: Span 2, north safety walk at New York Tower.

Description: The west edge of the safety walk diamond plate is uplifted 1.5" causing a tripping hazard.

(Safety Repair 9)

Photo No.: 42.

Location: Span 2, south curb of eastbound roadway at NJ tower (Panel Point 14W) finger joint.

Description: A four feet long section of steel curb remains collapsed and is severely corroded with numerous holes.

(Safety Repair 10)

George Washington Bridge Lower Level

Photo No.: 43.

Location: Span 2, north safety walk at New York Tower.

Description: There is a cable looped through safety walk grating from below that creates a tripping hazard.

(Safety Repair 11)

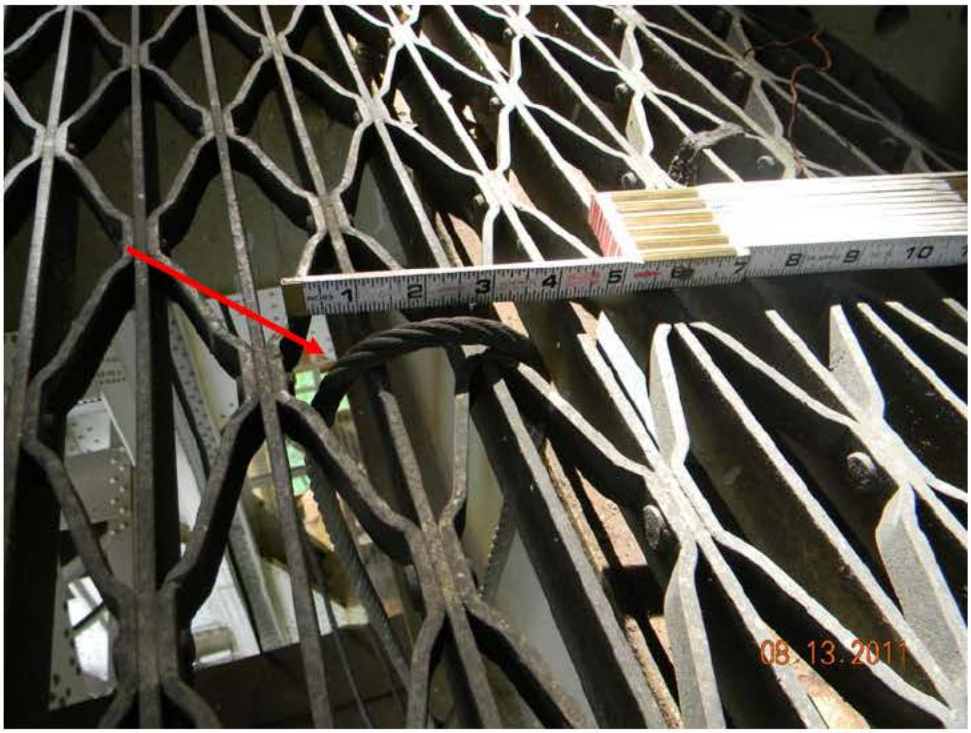


Photo No.: 44.

Location: Span 2, median catwalk step at New Jersey Tower.

Description: One of three steps is loose due to missing connection clips at the south side of the step.

(Safety Repair 12)

George Washington Bridge Lower Level

Photo No.: 45.

Location: South safety walk at the New Jersey Tower.

Description: Broken conduit coupling connection with exposed wires along the safety walk (Accessible to public / stranded motorists).

(Safety Repair 13)

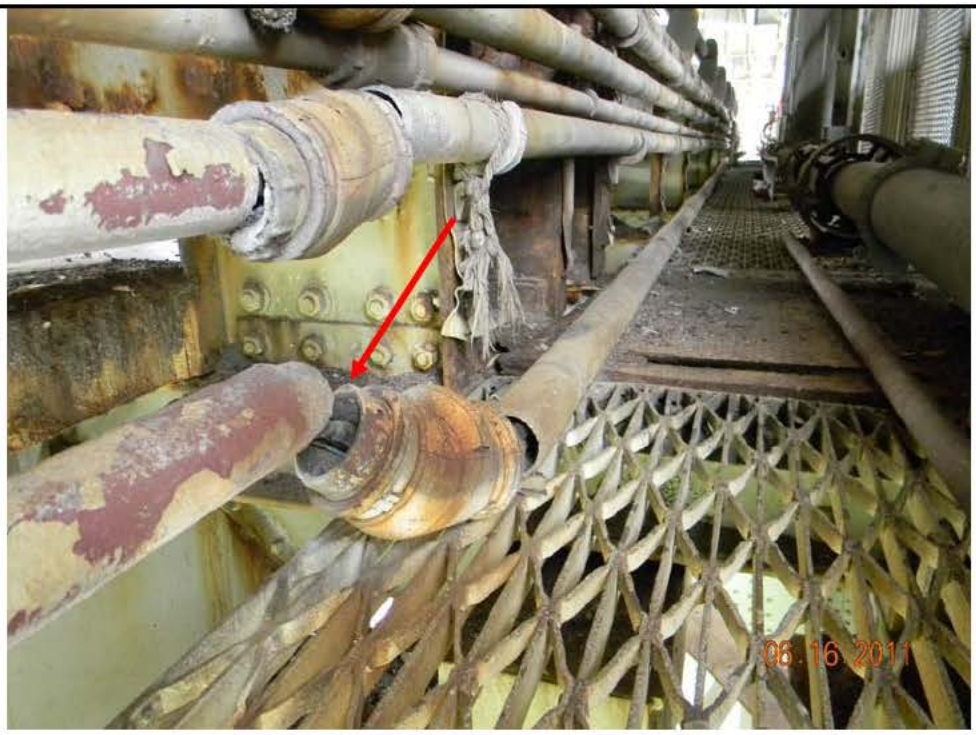


Photo No.: 46.

Location: Span 10, chain link fence at the north side of westbound roadway.

Description: The bottom rail of the fence panel is severely corroded and broken at both ends at the post connections.

(Safety Repair 14)

George Washington Bridge Lower Level

Photo No.: 47.

Location: Span 1, median safety netting between Panel Points 9W and 9W*.

Description: The netting exhibits a 18" long x 12" wide hole and a 6" diameter hole.

(Safety Repair 15)

Photo No.: 48.

Location: New Jersey Tower north safety walk.

Description: 2' x 2' opening in the safety walk, and 2' long x 4" wide cut out area of safety walk grating for conduits.

(Safety Repair 16)

George Washington Bridge Lower Level

Photo No.: 49.

Location: New Jersey Back Span Traveler.

Description: The weld between the fence fabric connection plate and the aluminum post is broken at the southwest corner of the traveler (arrow).

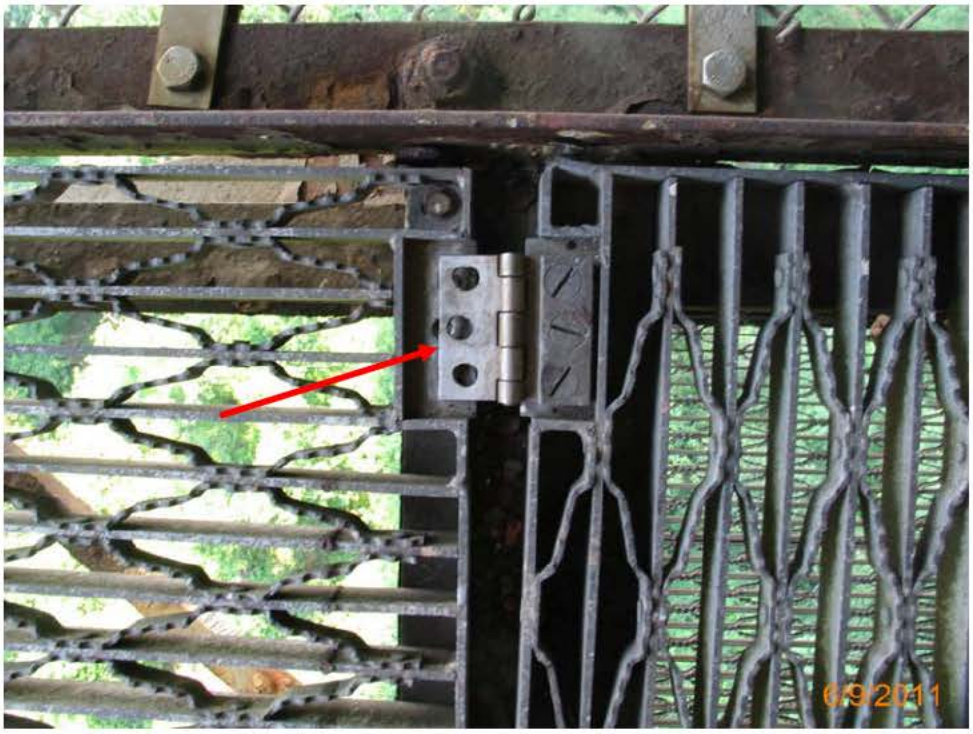
(Safety Repair 17)

Photo No.: 50.

Location: East side of New Jersey Back Span Traveler.

Description: The connection screws for the access door hinge are missing at the north side of the floor grating.

(Safety Repair 18)



George Washington Bridge Lower Level

Photo No.: 51.

Location: New York Main Span Traveler.

Description: Large hole in the safety netting with inadequate wire mesh (arrow) provided as temporary repair.

(Safety Repair 19)

Photo No.: 52.

Location: New Jersey Back Span Traveler.

Description: The 3" x 3" angle supporting the safety netting is severely corroded with holes in horizontal and vertical legs (arrow).

(Safety Repair 20)

George Washington Bridge Lower Level

Photo No.: 53.

Location: New York Back Span Traveler.

Description: Missing horizontal rail angle for platform below traveler floor access hatch.

(Safety Repair 21)

Photo No.: 54.

Location: New Jersey Back Span Traveler.

Description: Missing strap attachment (arrow) connecting traveler floor to safety netting fence fabric.

(Safety Repair 22)

VI. Appendix A
Table of Horizontal Cracks

APPENDIX A

TABLE OF HORIZONTAL CRACKS

FLOORBEAM	STRINGER (E/W)	CRACK LENGTH	CRACK LENGTH
		2009	2011
5W	S17(W)	1-3/8″	1-3/8″
5W* (See Note 2)	S5(W)	2″	2″
24E	S2(W)	1-1/2″	1-1/2″
17W(See Note 3)	S17(W)	1/2”	1/2"
5E	S2(E)	2″	2″
5E	S17(E)	1″	1″

(E/W) denotes: Stringer on east or west side of floorbeam.

Notes:

1. The crack length development at the stringer webs along the top flange has not changed since the previous inspection in 2009. Therefore, no repair is required.

2. This crack was previously drilled with an arrestor hole.

3. This crack was previously noted and extends beyond a 2” x ½” corrosion hole at the end of the stringer web.

VII. Appendix B
Bridge Data Summary

BRIDGE DATA SUMMARY

BIN NO.	NAME	SPANS	LENGTH	YEAR	STRUCTURE TYPE	FCM	LAST INSPECTION	CONTRACT DWGS
5522507	Main Span	11	5062′	1962	Steel Suspension	Y (spans 1 to 9)	October 2009	HRB-5 HRB-5A HRB-5B GWB-190.008 GWB-190.040 GWB-244.056 GWB-244.114 CJ4375

VIII. Appendix C
Table of Drilled Holes

APPENDIX C - GWB LL - TABLE OF DRILLED HOLES

LOCATIONS OF ARRESTOR HOLES DRILLED IN FASCIA STRINGER WEBS TO PREVENT CRACK PROPOGATION

Span No.	Stringer No.	Panel Point	East / West Side	Size of Web Deterioration
2	S18**	24W	East Side	1/2" Diameter Horizontal Hole
	S1	25W*	East Side	3/8" x 2-1/2" Horizontal Hole
	S1	26W	East Side	1/2" x 5" Horizontal Hole
	S1	26W*	East Side	3/8" x 5" Horizontal Hole & 1/8" x 1" Vertical Hole
	S1	27W*	East Side	1/2" x 2" Horizontal Hole
	S1	28W	East Side	3/8" x 2-3/4" Horizontal Hole
	S1	29W	East Side	5/8" x 6" Horizontal Hole
	S1	30W	East Side	1/2" x 3-1/2" Horizontal Hole
	S1	31W	East Side	3/8" x 4-1/2" Horizontal Hole
	S1	32W	East Side	3/8" x 4" Horizontal Hole
	S1	36W	East Side	3/8" x 4" Horizontal Hole
	S18	36W	East Side	3/4" x 4" Horizontal Hole
	S1	39W*	East Side	Crack propagated to the other side of existing drilled hole
	S1	22E*	West Side	1/4" x 1" Horizontal Hole
	S1**	5E	West Side	1/2" Diameter Horizontal Hole

** New location of drilled arrestor holes noted in this report.

Engineering Quality
Assurance Division
A04-925.111

Port Authority Facility Condition Survey Program

George Washington Bridge Main Span Lower Level 2013 Biennial Inspection

December 2013

Engineering Department

THE PORT AUTHORITY OF NY & NJ

Stantec

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
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December 11, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer
Quality Assurance
Engineering Department
The Port Authority of NY & NJ
100 Mulberry Street
Gateway 3, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge Upper & Lower Levels
PA Agreement No. 405-13-005; P.O. 4900009127

Gentlemen:

We are forwarding herewith twelve (12) copies of the 2013 Final Condition Survey Report of the George Washington Bridge Lower Level.

The thoroughness and accuracy of all work on this project has been ensured by independent quality control by our senior technical and management staff.

If you have any questions or need additional information, please contact us.

Very truly yours,

STANTEC CONSULTING SERVICES INC.

Stelios N. Bertos, P.E.
Senior Principal
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SNB: ga

EXECUTIVE SUMMARY

Stantec Consulting in association with PK Engineering, P.C. (PKE), SI Engineering, P.C. (SI), performed the 2013 Biennial Inspection of the George Washington Bridge Lower Level (BIN 5522507), from May through September of 2013. The inspection was performed with the assistance of SEMAC personnel. The inspection included lower level roadway and framing, the stiffening trusses (except for the upper gusset plates and upper chord members which were included in the George Washington Bridge Upper Level inspection), the west abutment and travelers, including the traveler support framing and connections. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The George Washington Bridge Lower Level is in overall good condition.

During the course of this inspection, 1 condition at 1 location requiring an immediate action was identified. The severely deteriorated web, top and bottom flanges of the S1 fascia stringer between Panel Points 7E* and 8E was recommended to be repaired on an immediate basis. The immediate action repair is in progress (See Appendix C for Immediate Action Correspondence).

Out of a total of the 22 priority repair recommendations at 165 locations identified in the previous inspection report, 5 priority repairs at 6 locations have been completed and 4 priority repairs were partially completed at 10 locations. In addition, 1 priority repair at 1 location has been worsen and was re-evaluated to an immediate action condition. As a result, there are 16 priority repairs at 148 locations that remain outstanding. A total of 8 new priority repairs were found at 58 locations for a total of 24 priority repairs at 206 locations recommended for repair in this report. The majority of these recommendations include the repair of deteriorated steel stringers, diaphragms and truss bottom chord, spalled, cracked and/or undermined concrete bearing pedestals, jammed finger expansion joints and deteriorated traveler support framing members and traveler connection tees.

An in-depth inspection of all gusset plate connections at the lower chord of the stiffening truss was performed and all gusset plates were found to be in good overall condition.

There are also 18 non-structural safety repairs recommended at 285 locations and 75 routine repairs recommended at 3,183 locations.

All conditions are listed in the "Inspection Findings, Conclusions and Recommendations" section of this report and located on the "Deficiency and Photo Location Plans".

The engineering assessment used to determine the overall condition rating and to recommend repairs was based on the deficiencies found at the time of the inspection. This assessment is not intended to imply long-term viability.

The report contains conclusions concerning the causes of the noted deterioration and recommendations for the rehabilitation of the structure. The repair procedures contained in the recommendation section of the report outline the general extent of the required rehabilitation work. The presentation of these conceptual repairs does not preclude the necessity of performing further investigation and preliminary design work for the purpose of establishing the complete scope of work and the final rehabilitation design.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-018	Repair spalled concrete pedestal at the east end of span 11 in the New York Anchorage (1 location).	Outstanding	Repair spalled concrete pedestal at the east end of span 11 in the New York Anchorage (1 location).	SDU-19 *(Photo 6)*
GWB-BR001-022	Repair ½" diameter hole in the bottom of web of stringer S4 at panel point 38E (1 location).	Completed	----------	----------
GWB-BR001-024	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S10 at the east end of span 10. Anchor bolts are partially exposed (1 location).	Completed	----------	----------
GWB-BR001-025	Repair twelve (12) up to 6" x 2" holes in the top plate of the south bottom truss chord between panel points 3E* and 3E (1 location). Temporary repair performed by filling holes with caulk and repainting.	Outstanding	Repair twelve (12) up to 6" x 2" holes in the top plate of the south bottom truss chord between panel points 3E* and 3E (1 location). Temporary repair performed by filling holes with caulk and repainting.	SDU-18 *(Photo 9)*
GWB-BR001-034	Repair severely corroded stringer webs with holes above the bearings at stringers S6 and S14 above panel point 1E (2 locations).	Outstanding	Repair severely corroded stringer webs with holes above the bearings at stringers S6 and S14 above panel point 1E (2 locations).	SDU-19 *(Photo 10)*
GWB-BR001-035	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S16 at the west end of span 10 and under stringer S14 at the east end of span 11 (2 locations).	Partially Completed	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S16 at the west end of span 10 (1 location).	SDU-19 *(Photo 11)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-037	Repair the severely corroded stringer S1, between panel points 7E* and 8E, with 50% section loss on the top flange near the quarter point (1 location).	Re-evaluated to an immediate action condition, see correspondence	----------	----------
GWB-BR001-038	Repair the severely corroded top flange and web with holes in the web at the bearings of stringers S2, S3, S4, S6, S7, S10 and S11, located at the east side of floorbeam 1E (7 locations).	Outstanding	Repair the severely corroded top flange and web with holes in the web at the bearings of stringers S2, S3, S4, S6, S7, S10 and S11, located at the east side of floorbeam 1E (7 locations).	SDU-19 *(Photo 13)*
GWB-BR001-039	Repair the severely corroded webs, with hole near the bearing, of stringers S1, S5 and S8 located at the west end of span 7 and stringers S11, S12 and S13, including an adjacent corrosion crack at stringer S12, located at the east end of span 9 (6 locations).	Outstanding	Repair the severely corroded webs, with hole near the bearing, of stringers S1, S5 and S8 located at the west end of span 7 and stringers S11, S12 and S13, including an adjacent corrosion crack at stringer S12, located at the east end of span 9 (6 locations).	SDU-19 *(Photo 14 & 15)*
GWB-BR001-040	Repair the severely corroded stringers S1 and S18 with web holes and 50% section loss of bottom flange near the 1/3 span between panel points 1E* and 1E (2 locations).	Outstanding	Repair the severely corroded stringers S1 and S18 with web holes and 50% section loss of bottom flange near the 1/3 span between panel points 1E* and 1E (2 locations).	SDU-18 *(Photo 16)*
GWB-BR001-041	Repair the severely corroded web, with holes around the bearing stiffening angles, of stringer S1 at the east side of panel point 26W* (1 location).	Outstanding	Repair the severely corroded web, with holes around the bearing stiffening angles, of stringer S1 at the east side of panel point 26W* (1 location).	SDU-6 *(Photo 17)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-042	Repair cracked and spalled concrete pedestals causing undermining of the bearing under stringer S13, S15 and S16 at the west end of span 10 and under stringer S4, S7, S8, S10, S15 and S18 at the east end of span 11 (9 locations).	Partially Completed	Repair cracked and spalled concrete pedestals causing undermining of the bearing under stringer S13, S15 and S16 at the west end of span 10 and under stringer S4, S7, S8, and S18 at the east end of span 11 (7 locations).	SDU-19 *(Photo 18)*
GWB-BR001-043	Repair the 2 of 4 broken anchor bolts at the bearing of stringer S16 located at the east end of span 11 (1 location).	Outstanding	Repair the 2 of 4 broken anchor bolts at the bearing of stringer S16 located at the east end of span 11 (1 location).	SDU-19 *(Photo 19)*
GWB-BR001-047	Repair spalled and cracked concrete pedestals, with or without exposed anchor bolts and/or rebar, causing minor undermining of the bearing under stringers S9 and S15 of span 10, under stringer S9 at the east end of span 11, and at 3 locations under stringer S12 in span 11 (6 locations).	Outstanding	Repair spalled and cracked concrete pedestals, with or without exposed anchor bolts and/or rebar, causing minor undermining of the bearing under stringers S9 and S15 of span 10, under stringer S9 at the east end of span 11, and at 3 locations under stringer S12 in span 11 (6 locations).	SDU-19 *(Photo 20)*
GWB-BR001-023	Repair/Replace missing expansion joint filler material at span 9 (1 location).	Completed	----------	----------
GWB-BR001-045	Repair the jammed finger joint plates at panel point 1E (1 location).	Outstanding	Repair the jammed finger joint plates at panel point 1E (1 location).	TD-9 *(Photo 24)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-026	New Jersey and New York Main Span Travelers - repair greater than 50% section loss in vertical stem of connection tee for south traveler hanger at panel point 40W that supports the track for the Main Span Travelers (1 location).	Completed	----------	----------
GWB-BR001-030	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members. One new location added. (13 locations).	Partially Completed	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members (9 locations).	T-3 & 4 *(Photo 25)*
GWB-BR001-028	New York Main Span Traveler – repair moderate to severe section loss at main support truss members. Additional 5 new locations added (Total 95 locations).	Outstanding	New York Main Span Traveler – repair moderate to severe section loss at main support truss members (95 locations).	T-5 & 6 *(Photo 26)*
GWB-BR001-031	New Jersey and New York Main Span Travelers - repair 50% section loss in vertical stem of connection tee that supports the south track at panel point 23E and the north track at Panel Point 42W for the Main Span Travelers (2 locations).	Completed	----------	----------
GWB-BR001-046	New Jersey Main Span Traveler – repair moderate to severe section loss at cross bracings between the main support truss top chords (6 locations).	Partially Completed	New Jersey Main Span Traveler – repair moderate to severe section loss at cross bracings between the main support truss top chords (3 locations).	T-3 *(Photo 28)*
GWB-BR001-048	New Jersey Back Span Traveler – repair moderate to severe section loss at main support truss members (5 locations).	Outstanding	New Jersey Back Span Traveler – repair moderate to severe section loss at main support truss members (5 locations).	T-1 & 2 *(Photo 29)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-049	----------	New	Repair severely corroded stringer webs with holes above the bearings at stringers S2 and S17 above panel point 1E (2 locations).	SDU-19 *(Photo 8)*
GWB-BR001-050	----------	New	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S10 at the east end of span 11 (1 location).	SDU-19 *(Photo 21)*
GWB-BR001-051	----------	New	Repair severely corroded web, with hole near the bearing of stringer S14, located at the east end of span 9 (1 location).	SDU-19 *(Photo 7)*
GWB-BR001-052	----------	New	New Jersey Main Span Traveler – replace the missing 3 of 3 connection bolts at the frame bracing gusset plate (1 location).	T-3 *(Photo 30)*
GWB-BR001-053	----------	New	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members (3 locations).	T-3 *(Photo 27)*
GWB-BR001-054	----------	New	Repair severely corroded web, with holes around the bearing stiffening angles, of stringer S18 at the west face of panel point 36E (1 location).	SDU-11 *(Photo 12)*
GWB-BR001-055	----------	New	Repair bottom of stringer S10 web at the west side of floorbeam 15E connection which exhibits severe corrosion and section loss with 4"x1" and 2"x1" holes and a 3" crack in between (1 location).	SDU-16 *(Photo 22)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
GWB-BR001-056	----------	New	Repair top of the interior stringer webs which exhibit severe corrosion and section loss with cracks (with or without arrestor drill holes) above the splice plates over the bearing area at the floorbeam connections (48 locations).	SDU-1, 2, 3, 6 & 9 thru 18 *(Photo 23)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

Repair Recommendation - 2013 Inspection	Dwg. No. *(Photo No.)*
1. Replace severely deteriorated steel knee brace support bracket for two 3-inch diameter electrical conduits at stringer S2, west of Floorbeam 3W at span 1 (1 location).	SDU-1 *(Photo 31)*
2. Replace the missing bottom rail of the chain link fence panel at Span 10, along the south safety walk (1 location).	TD-10 *(Photo 32)*
3. Repair or replace median safety netting with large holes (7 locations).	TD-1, 5, 7 & 9 *(Photo 33)*
4. Repair or replace the 2' x 1' opening in the north safety walk due to removed conduits and 2' long x 4" wide section of removed safety walk grating at the New Jersey Tower (1 location).	TD-2 *(Photo 34)*
5. Remove partially detached steel curb plate along the roadway barrier (3 locations).	TD-8 & 9 *(Photo 35)*
6. Replace the missing or partially missing railings at the crossover walkways over the open median areas (8 locations).	TD-2, 3, 4, 7 & 8 *(Photo 36)*
7. Repair the detached connections of the safety walk or bridge railings (5 locations).	TD-2, 8 & 9 *(Photo 37)*
8. Repair or replace the missing or loose cover to the electrical panel box with exposed wires attached to the back of the barrier (accessible to the public / stranded motorists) along the north and south safety walks (9 locations).	TD-1, 2, 7, 8 & 9 *(Photo 38)*
9. Repair or replace corroded/uplifted diamond plate (creating a tripping hazard) safety walk grating (12 locations).	TD-2, 6, 7 & 8 *(Photo 39)*
10. Repair severely deteriorated and collapsed section of steel curb at the south side of the eastbound roadway at the NJ Tower (1 location).	TD-2 *(Photo 40)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Lower Level

Repair Recommendation - 2013 Inspection	**Dwg. No.** ***(Photo No.)***
11. Replace bent and broken diamond end plate at the end of the north safety walk at 1E (creating a tripping hazard) (1 location).	TD-9 *(Photo 41)*
12. Repair broken conduit at the south safety walk of the New Jersey tower (Accessible to the public / stranded motorists) (1 location).	TD-2 *(Photo 42)*
13. Repair or replace the safety netting with large holes at the New York main span traveler (9 locations).	T-5 *(Photo 43)*
14. Repair the moderate to severe section loss of W8's and 3" x 3" L's that support the safety netting for the travelers (35 locations).	T-1, 3, 5 & 7 *(Photo 44)*
15. Replace the missing horizontal rail angle at the New York back span traveler truss platform below the floor access hatch (1 location).	T-7 *(Photo 45)*
16. Tighten or replace loose or missing bolts for safety netting straps and replace the missing safety netting straps and bolts (169 locations).	T-1, 3, 5 & 7 *(Photo 46)*
17. Repair broken aluminum fence posts, rails and welds between the fence fabric connection plates and the posts (9 locations).	T-1, 5 & 7 *(Photo 47)*
18. Replace missing or broken hinges or hinge screws at floor access hatch of the travelers (12 locations).	T-1, 3, 5 & 7 *(Photo 48)*

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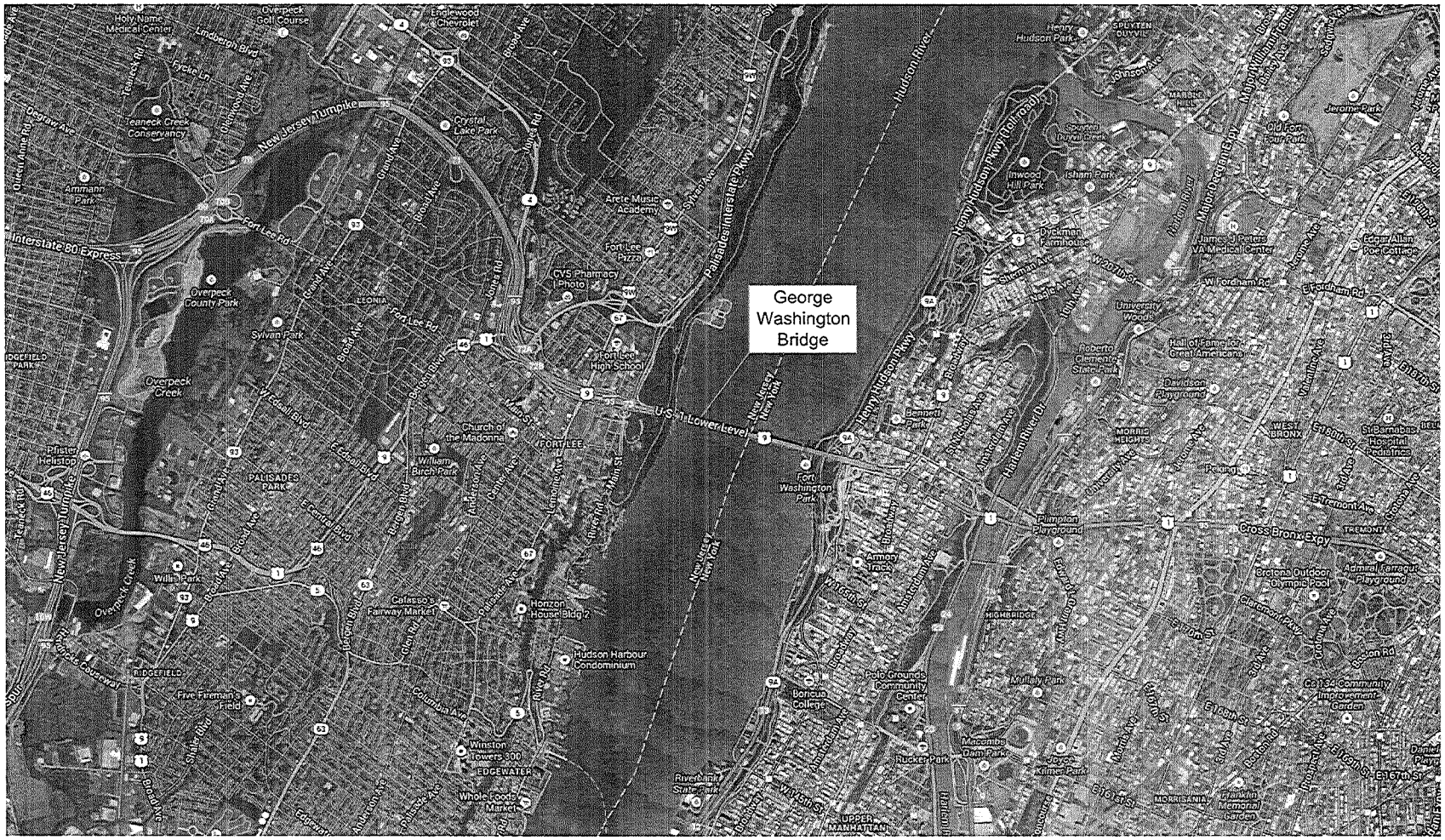
Location Plan



Sheet 1 of 1

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507
LOWER LEVEL

LOCATION PLAN

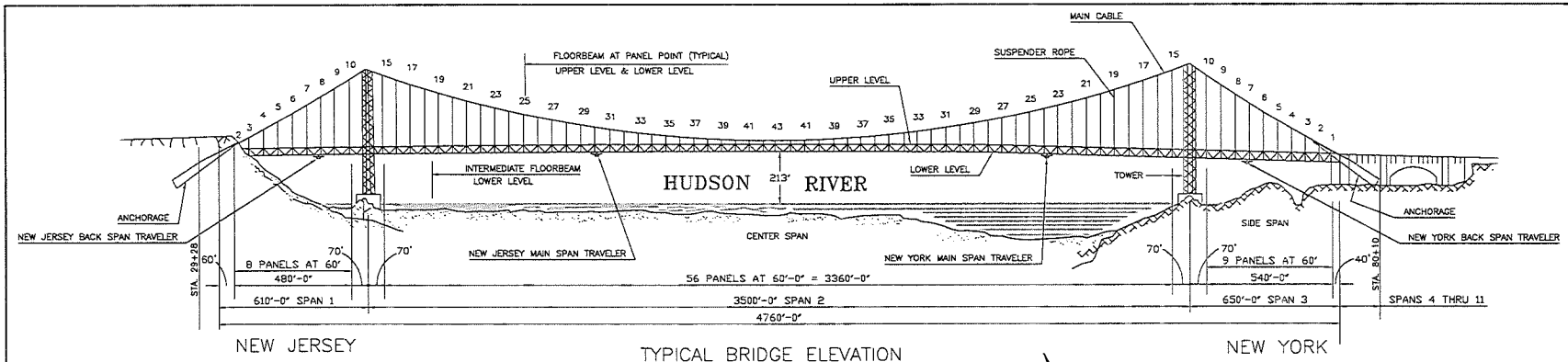
DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

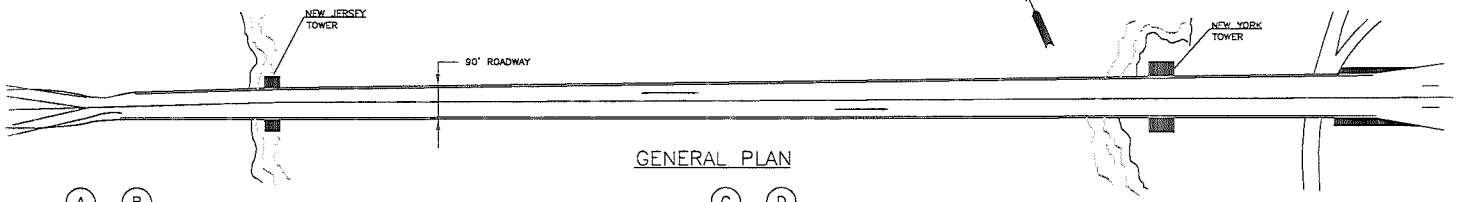
Contract Number 405-13-005

Drawing Number LP-1

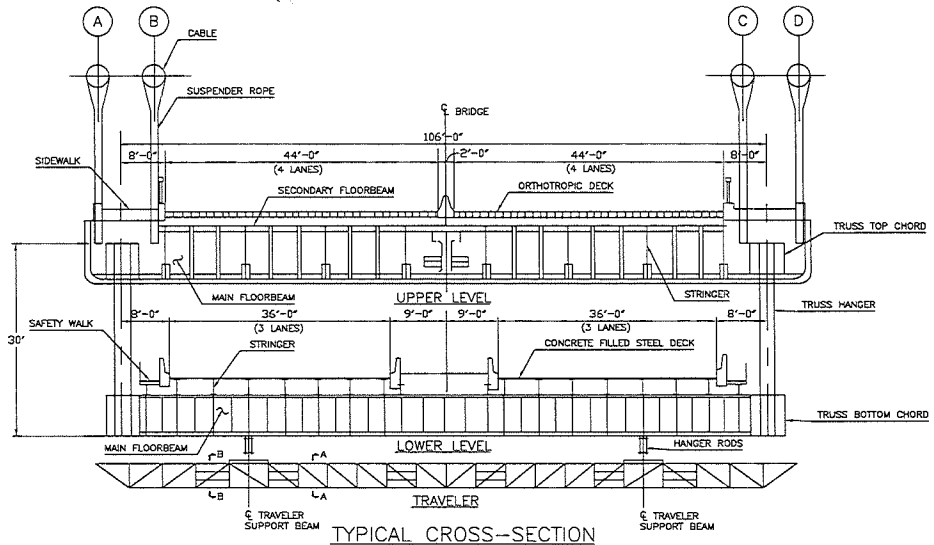
General Plan, Elevation and Cross-Section



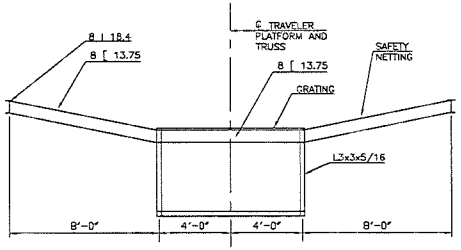
TYPICAL BRIDGE ELEVATION
LOOKING NORTH



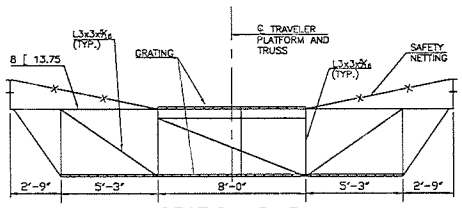
GENERAL PLAN



TYPICAL CROSS-SECTION
LOOKING WEST



SECTION A-A
N.T.S.



SECTION B-B
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Sheet 1 of 1

THE PORT AUTHORITY
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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507
LOWER LEVEL
GENERAL PLAN, ELEVATION AND CROSS-SECTIONS

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number G-1

I. Scope of Work, Inspection Procedures and Terminology

Scope of Work, Inspection Procedures and Terminology

A. SCOPE OF WORK

Stantec Consulting Services Inc. in association with PK Engineering, P.C. (PKE) and SI Engineering, P.C. (SI), performed the 2013 Biennial Inspection of the George Washington Bridge Lower Level (BIN 5522507), from May through September 2013. The inspection was performed with the assistance of SEMAC personnel. The inspection included lower level roadway and framing, the stiffening trusses (except for the upper gusset plates and upper chord members which were included in the George Washington Bridge Upper Level inspection), the west abutment and travelers, including the traveler support framing and connections. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The survey included a 100% visual inspection of all structural elements and a hands-on inspection of all floorbeams, stringers and non-redundant, fracture critical members including steel cap beams and the bottom chord of the stiffening trusses, the gusset plate connections of the stiffening trusses at the bottom chord and the accessible primary traveler main truss members. The NY and NJ Towers (with the exception of the lower level framing across the towers), the anchorages, the stiffening truss upper chord and upper portions of the verticals and diagonals, all bridge mounted signs and lighting structures are included with the inspection of the George Washington Bridge Upper Level.

The inspection was performed in compliance with the latest requirements of the PANY&NJ and New York State Department of Transportation and included the preparation and submittal of a state Biennial Bridge Inspection Report, as well as this Facility Condition Survey Report, which includes verification and status of all priority repairs recommended in the previous report.

B. INSPECTION PROCEDURE

1. Inspection Method

The structural inspections were performed between May and September 2013, utilizing two inspection teams each led by a professional engineer licensed in the state of New York. The field work included a 100% hands-on inspection of all non-redundant, fracture-critical members and fatigue prone details, including the underside of the deck as well as a thorough visual inspection of all the remaining structural and non-structural elements. Dye penetrant tests were performed where cracks were suspected in critical areas. Additionally, all concrete elements were sounded by hammer and all areas of loose concrete were removed during this inspection. All structural and non-structural deficiencies were recorded, photographed and located on the deficiency plans, which are included in this report.

2. Access Methods

Lower level framing between panel points 3W and 1E* between the traveler beams was accessed from the travelers using ladders (see Photo A). Areas outside of the traveler beams and the lower chord gusset plates of the stiffening trusses were inspected with ladders provided by SEMAC personnel set on the travelers.

The lower level framing at the New Jersey abutment between Panel Points 2W and 3W was inspected using extension ladders set on the rock slope in front of the NJ abutment (see Photo B). Lower level framing between panel point 1E* and Spans 3 to 9 were inspected using a 135 ft. manlift from within the New York Anchorage courtyard (see Photo C).

Scope of Work, Inspection Procedures and Terminology

Spans 10 and 11 at the New York Anchorage were inspected by crawling, using Tyvek suits and dust masks (see Photo D).

The top of deck in Spans 1 through 3 was inspected from the north and south safety walks. Spans 4 through 11 and the median areas, deck joints and left lanes in Spans 1 through 9 were inspected at night during lower level roadway closings. A shadow truck was utilized to protect the work areas during all night-time lower level roadway closings.

Scope of Work, Inspection Procedures and Terminology

Photo: A

Location: Span 1, main floorbeam, stiffening truss lower chord and gusset plate at Panel Point 9W*.

Description: Hands-on inspection of stiffening truss lower chord, floorbeams and stringer with ladders set on traveler.

Photo: B

Location: Span 1, main floorbeam and stringers at Panel Point 2W* - 3W.

Description: Hands-on inspection of floorbeams and stringers with ladders near the New Jersey Anchorage.

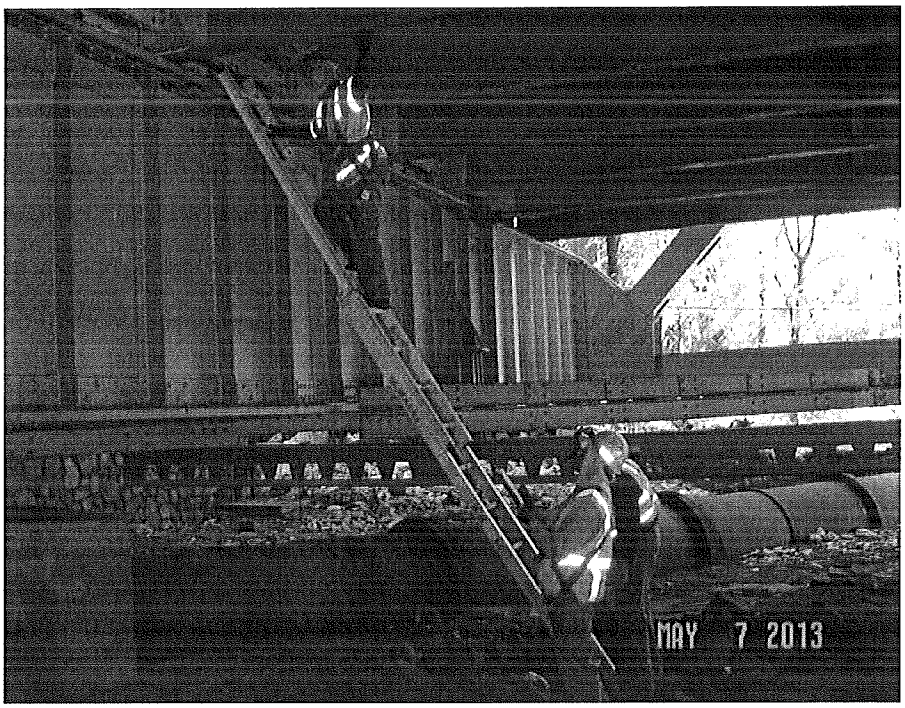
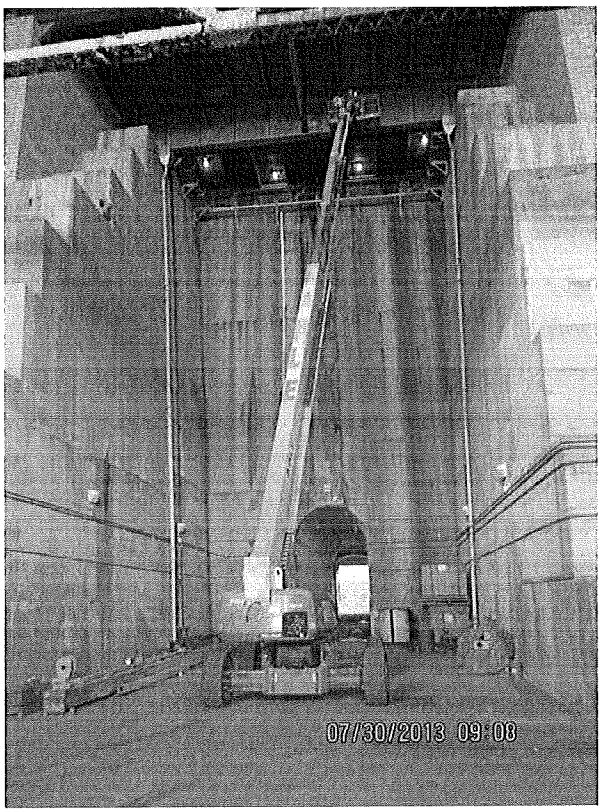
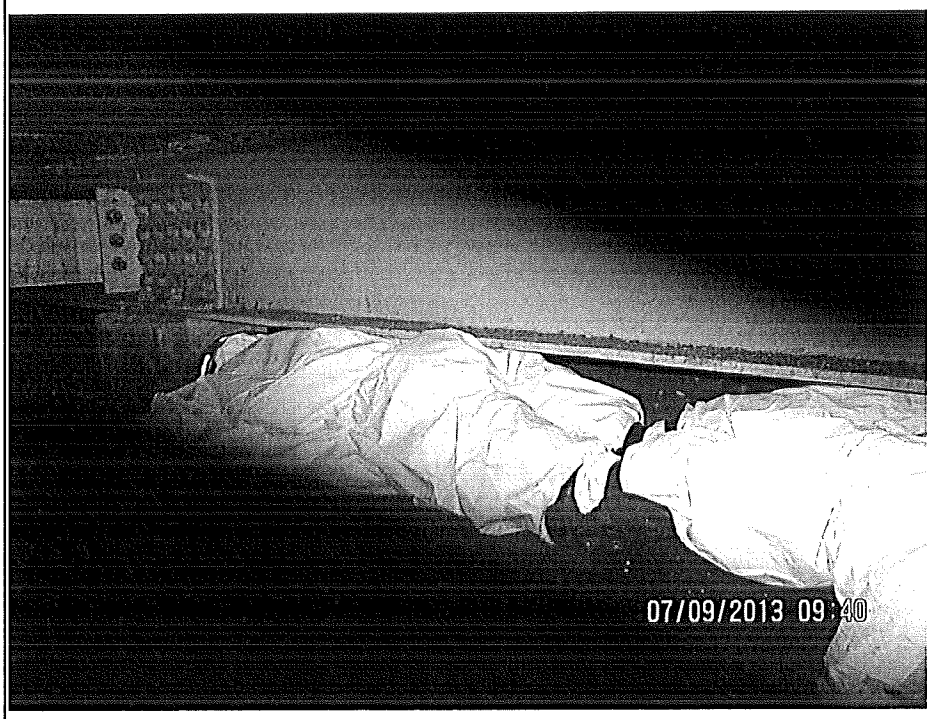


Photo: C **Location:** New York Anchorage Courtyard. **Description:** 135' manlift was utilized within the NY Anchorage courtyard to access the superstructure and deck underside in Spans 3 through 9.	
Photo: D **Location:** Span 10 underdeck at New York Anchorage. **Description:** Hands-on inspection of the stringers and pedestals by crawling.	

C. CONDITION SURVEY DEFINITIONS AND TERMINOLOGY

DEFINITIONS OF RECOMMENDATION CATEGORIES

The inspection involves one of the following methods:

Hands-on Inspection Close-up inspection from no further away than arm's length where the member or element can be physically touched.

Visual Inspection The inspection from a reasonable distance of a member or element where initial determination of the condition can be made.

Four categories of recommendations are identified and defined as follows:

Immediate Requires immediate action including possible closing of the structure or areas affected for safety reasons until interim remedial measures, such as shoring or removal of potentially unsafe structures (or elements), can be implemented. These closings or interim remedial actions, if any, always require immediate action upon discovery.

Priority Conditions for which no immediate action may be required or for which immediate action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work.

Safety Conditions that present a potential hazard and which should be repaired as soon as possible.

Routine Conditions requiring further investigation or remedial work, which can be undertaken as part of a scheduled maintenance program, other scheduled project, or routine facility maintenance, depending on the action required.

RATING CRITERIA

Terms used to describe the condition of a structural system or component are listed and defined below. When the term is applied to an overall structure or system, this does not indicate that all elements of the structure or system are in the same condition.

Excellent "As New" Condition

Good The structural system is sound and performing its function, although it shows signs of wear and may require some minor repairs, mostly routine.

Fair The structural system is still performing adequately at this time, but needs "priority" and/or "routine" repairs to prevent future deterioration and to restore it to good condition.

Poor The structural system cannot be relied upon to continue to perform its original function without "immediate" and/or "priority" repair.

INSPECTION TEMINOLOGY

The following terms may be used during inspection to describe the condition of structural members.

1) **STEEL MEMBERS**

a) **Corrosion**

- Minor (or Light) – A light surface rust.
- Moderate – Rust that is loose and flaking with some pitting. This scaling, or exfoliation, can be removed with some effort by use of a scraper or chipping hammer. Element exhibits measurable but not significant loss of section.
- Severe – Heavy, stratified rust or rust scales with extensive pitting. Removal requires exerted effort and may require mechanical means. Significant loss of section.

b) **Pack Rust** – Rust collected between two interfacing surfaces, usually two steel plates. Pack rust can be minor, moderate, or severe as described above. Pack rust can severely deform the steel members due to the expansive nature of rust.

c) **Pitting** – Formation of cavities due to corrosion. Minor, moderate, and severe pitting categories are used based upon depth and density of cavities.

- Minor – Typically less than ¼ inch diameter and $^1/_{32}$ inch deep.
- Moderate – ¼ inch to ½ inch diameter and up to $^1/_8$ inch deep.
- Severe – Greater than ½ inch diameter and over $^1/_8$ inch deep.

2) **CONCRETE MEMBERS**

a) **Cracking** – A separation into two or more parts with a space between the fractured concrete surfaces.

- Hairline- Crack width less than $^1/_{32}$ inch.
- Fine – Crack width between $^1/_{32}$ inch and $^1/_{16}$ inch.
- Medium – Crack width between $^1/_{16}$ inch and $^1/_8$ inch.
- Wide – Crack width greater than $^1/_8$ inch.

The above definitions for cracks can be modified, depending on the type of structural element. Other terminology, such as map cracking, pattern cracking, etc., may be used as appropriate.

b) **Efflorescence** – A white deposit caused by crystallization of soluble salts brought to the surface by moisture leaching through concrete.

c) **Delamination** – A layered separation of the concrete. When a delaminated area of concrete is struck (sounded) with a hammer, a hollow sound will be emitted.

d) **Leaching** – The dissolution and washing away of the calcium hydroxide in concrete. The moisture enters the concrete through exposed cracks in the surface.

e) **Spall** – A roughly circular, oval, or elongated depression in the surface of a concrete element caused by separation of a portion of the surface concrete.

- Small (Pop-out) – Less than 6 inches in diameter and 1 inch deep.
- Medium – Between 6 inches and 12 inches in diameter and up to 2 inches deep.
- Large – Over 12 inches in diameter and any depth.

f) **Scaling** – The gradual loss of surface mortar and aggregates.

- Light Scaling – Loss of surface mortar up to ¼ inch deep.
- Medium Scaling – Loss of surface mortar between ¼ inch and ½ inch deep, including loss between large aggregate.
- Heavy Scaling – Loss of mortar greater than ½ inch in depth significantly exposing large aggregate.

g) **Hollow area** – An area of concrete which emits a hollow sound when struck with a hammer and indicates the existence of a fracture plane beneath the surface.

h) **Honeycomb** – Typically small pocket voids formed by the entrapment of air during the placement of the concrete.

II. History and Structure Description

History and Structure Description

A. HISTORY

The George Washington Bridge is a 4760' long suspension bridge that spans the Hudson River between upper Manhattan in New York and Fort Lee in New Jersey. The bridge serves as an important link in the I-95 corridor, carrying approximately 300,000 vehicles per day, making it one of the busiest in the world.

The bridge was originally designed to carry a 90' wide upper roadway with 10' wide sidewalks on each side and four electric railway tracks on a lower level. The bridge was opened to traffic on October 25, 1931. Originally the upper level carried only six lanes of traffic and the center portion was unpaved. In 1946, the upper level was expanded to accommodate eight lanes of traffic. The six lane lower level was added and opened to traffic on August 29, 1962 (original contract Dwg. No. GWB-190.008). The new addition made the George Washington Bridge the only fourteen lane suspension bridge in the world. In 2001, the Port Authority prohibited all trucks from using the lower level of the bridge at all times.

B. STRUCTURE DESCRIPTION

For the purpose of recording inspection findings and ratings, the lower level is made up of eleven spans: the New Jersey Side Span (Span 1), the Main Center Span (Span 2), the New York Side Span (Span 3) and the New York Anchorage Spans (Spans 4 through 11).

The stiffening (Warren type) trusses are 30' deep from the center of the top chord to the center of the bottom chord. The top and bottom chords are comprised of built-up riveted steel box sections. The top chord dimensions are 30" deep by 30" wide; and the bottom chord dimensions are 24" deep by 30" wide. The vertical chord members are built-up riveted steel sections that consist of a web plate (31"x½") and flanges made up of angles (8"x8"x¾"); the diagonals vary in size and cross section.

The lower level framing comprising Spans 1, 2 and 3 consists of main floorbeams, intermediate floorbeams, roadway stringers and a concrete filled steel deck. The floorbeams are 7' deep riveted steel plate girders and are located at each main panel point and intermediate panel point (30' on center). The main floorbeams of the lower level are supported by the stiffening truss verticals located directly below and supported by a total of sixteen suspension ropes anchored to the four main bridge suspension cables. The intermediate floorbeams of the lower level are supported by the stiffening truss diagonals and verticals (see General Plan, Elevation and Cross-Sections, Page No. xii). The floorbeams are built-up sections that consist of a web plate (84"x½"), a built-up top flange that consists of two angles (8"x8"x¾") and a top cover plate (22"x⅝") and a built-up bottom flange that consists of two angles (8"x8"x¾"), a bottom cover plate (22"x⅝") and two additional bottom cover plates (22"x½"). The typical roadway stringers are 24 WF sections and are bolted to the top flange of the floorbeams. The roadway consists of a concrete filled steel deck (4¼" I-beams at 6" on center welded to the roadway stringers). The deck is reinforced with ¾" diameter reinforcing rods and there are expansion joints at each panel point (60' on center). The underside of deck has stay-in-place (S.I.P.) metal forms.

History and Structure Description

The lower level framing in Spans 4 to 9, within the New York Anchorage, is comprised of a similar floorbeam and stringer system. The floorbeams are supported on steel columns or on the walls of the New York anchorage. Spans 10 and 11 are comprised of a series of stringers and diaphragms supported on concrete pedestals bearing on the top of the New York anchorage.

There are two electrically powered travelers situated below the main span and one under each back span. Each traveler is hung from support beams and consists of a box shape truss providing a grated work area of 8'-0" x 116'-0". The top and bottom chords of the trusses are horizontal Vierendeel trusses and the two side support trusses are 4'-0" deep by 116'-0" long. The truss members are comprised of steel angles and channels. Each platform's grated work area is extended on both sides and both ends with a sloping wide wing covered with safety netting consisting of a chain link fabric to safeguard personnel on the traveler.

For typical traveler details see General Plan, Elevation and Cross-Sections, Page No. xii.

III. Inspection Findings, Conclusions and Recommendations

Inspection Findings, Conclusions and Recommendations

A. OVERALL CONDITION

The overall condition of the deck, superstructure, substructure and travelers is good. An in-depth inspection of all gusset plate connections at the lower chord of the stiffening truss was performed and all gusset plates were found to be in good overall condition. During the course of this inspection, 1 condition at 1 location requiring an immediate action was identified. The severely deteriorated web, top and bottom flanges with corrosion holes in the S1 fascia stringer between Panel Points 7E* and 8E was recommended to be repaired on an immediate basis. The immediate action repair is in progress (see Appendix C for Immediate Action Correspondence).

Out of a total of the 22 priority repair recommendations at 165 locations identified in the previous inspection report, 5 priority repairs at 6 locations have been completed and 4 priority repairs were partially completed at 10 out of 30 locations. In addition, 1 priority repair at 1 location has been worsen and is re-evaluated to an immediate action condition. As a result, there are 16 priority repairs at 148 locations that remain outstanding. A total of 8 new priority repairs were found at 58 locations for a total of 24 priority repairs at 206 locations recommended for repair in this report. The majority of these recommendations include the repair of deteriorated steel stringers, diaphragms and truss bottom chord, spalled, cracked and/or undermined concrete bearing pedestals, sheared off bearing anchor bolts, jammed finger expansion joints and deteriorated traveler support framing members and traveler connection tees.

There are also 18 non-structural safety repairs recommended at 285 locations and 75 routine repairs recommended at 3,183 locations.

B. UNDERSIDE OF DECK (SPANS 1 THROUGH 11)

Bottom Chord of Stiffening Truss

The "box shaped" bottom chords of the stiffening trusses are generally in good condition. Water ponding was noted on top of the bottom chord at approximately one third of the truss chord panels, mostly adjacent to the panel points. Various rivet heads located along the top of the bottom chords exhibit greater than 50% section loss at isolated locations, generally where water ponding occurs. Pack rust remains between the flange plates and the side plates of the box shaped chords resulting in minor warping and curling of the flange plate edges at the corners of the box member resulting in isolated rivet fractures. To prevent further deterioration, the pack rust beneath the warped top flange plate edges was previously cleaned and caulking was applied to fill the resulting void to seal out water. Caulking is missing or deteriorated along several lengths of the top chord plate allowing water infiltration, exacerbating the condition. Areas of pack rust remain along the lower corners of the box shaped chords. Minor to moderate pitting up to 3/16" deep was evident along the top plate of the bottom chord of the stiffening truss. The 2" diameter hole in the top plate of the south truss between Panel Points 8E* and 9E and the 3" x 1" hole in the top plate of the south truss between panel points 14E and 15E remain unchanged. Twelve holes in the top plate, up to 6" x 2" in size, remain in the south bottom truss chord between Panel Points 3E* and 3E (see Photo 9). Paint failure has also been noted at localized areas.

Inspection Findings, Conclusions and Recommendations

Main and Intermediate Floorbeams

The main and intermediate floorbeams comprising Spans 1 through 3 are generally in good condition. The top flange of the floorbeams is typically covered with roadway debris and sand blasting material below the median openings and the curb lines. As a result of the debris accumulation a large number of rivet heads (approximately 1500 total rivets) exhibit greater than 50% section loss and the top flange exhibits moderate to severe corrosion with minor losses. The rivet heads at the bottom flange of the floorbeams below the median areas also exhibit a large number of rivet heads with greater than 50% section loss (approximately 1000 total rivets). Numerous floorbeams exhibit moderate to severe corrosion with localized pitting up to 3/16" deep along the top and bottom flanges below the deck joints. The paint system along the floorbeams directly below the median opening is in fair condition. The main floorbeams exhibit areas of peeling paint, spot rust and moderate to severe corrosion with minor section losses and the intermediate floorbeams between panel points exhibit similar conditions but to a lesser extent.

The six steel floorbeams/capbeams within the New York Anchorage are generally in good condition. However, there are isolated areas of corrosion and pitting along the bottom flange, bottom of web and web stiffener angles of Floorbeam 4 at Spans 6 and 7.

Stringers and Diaphragms

- Spans 1, 2, and 3

The stringers and diaphragms in Spans 1 through 3 are generally in good condition.

Various interior stringers exhibit severe corrosion and section loss with cracks above the splice plates over the bearing area at the floorbeam connection. Crack arrestor holes were drilled at the end of most cracks. No additional crack propagation was observed during this inspection beyond the drilled arrestor holes. The crack length of five cracked interior stringers without arrestor holes that were identified previously remains unchanged since the 2011 inspection (see Appendix A). These conditions were recommended as priority repairs with or without arrestor drilled holes (see Photo 23).

Previously found severe section loss to the ends of webs with up to 3" x 1" corrosion holes in Stringers S6 and S14 above Floorbeam 1E in Span 3, remains unchanged (see Photo 10). Additionally, 2 new locations were discovered during this inspection with similar conditions above Floorbeam 1E in Span 3, in Stringers S2 and S17 with up to 1" holes in the middle of the web (see Photo 8).

The paint system for fascia Stringers S1 and S18 remains in fair to poor condition in all three spans. Moderate to severe corrosion was noted in the web at the ends of many fascia stringers and at the stringer support angels, end diaphragms and vertical floorbeam stiffeners at the floorbeam connections. Numerous fascia stringers exhibit moderate to severe horizontal and vertical corrosion holes below the angles varying in size.

Previously identified priority repair for fascia Stringer S1 between Panel Point 7E* and 8E was reevaluated to immediate repair due to additional deteriorations found in the web and bottom flange of the member during this inspection (see Appendix C).

Inspection Findings, Conclusions and Recommendations

Crack arrestor holes were drilled at 15 fascia stringers previously and 1 new location during this inspection. The condition previously found on the east side of Stringer S1 at Panel Point 26W* containing a horizontal corrosion hole 6" long x 5/8" wide and a vertical hole 1/8" wide and 1" long remains unchanged (see Photo 17). A new location was found on the west side of Stringer S18 at Panel Point 36E with a 5" long x 3/4" wide horizontal corrosion hole and a 2" long and 1/8" wide vertical hole with arrestor holes drilled at the ends of each of these holes (see Photo 12). Since the fascia stringers only carry a small percentage of the roadway's live load and only support half of the safety walk's load, 14 of 16 locations with lesser extent of deterioration were recommended to be repaired on a routine basis (refer to Appendix B for documentation and location of corroded stringers with cracks and arrestor holes).

Also, severe corrosion with up to 50% section loss and large holes was found at the web and both flanges of fascia Stringers S1 and S18 between Floorbeams 1E* and 1E in Span 3 (see Photo 16).

At the east end of Span 3, numerous diaphragms supporting the safety walks and median catwalks exhibit moderate to severe corrosion with small holes. Diaphragms under the median area in spans 1 and 3 are also severely corroded.

Extensive accumulation of debris remains on top of the bridge seat at the begin abutment of the New Jersey anchorage with up to 3 inches accumulated on the top of bottom flange of most of the stringers between Floorbeams 2W and 3W in Span 1. Widespread debris accumulation was also observed on the top of all floorbeams directly below the safety walks and median opening in Spans 1 through 3. The debris creates a corrosive environment and advances the deterioration rate of the bearings, stringers, floorbeams, and connections.

- Spans 4 through 9

The stringers and diaphragms in Spans 4 through 9 are generally in good to fair condition. Long-term water leakage through the expansion joints at the end of Spans 3, 6, and 9 has caused advanced deterioration to the stringers below. Above Floorbeam 1E in Span 4, the ends of stringers exhibit severe corrosion with large holes in the web and top flange at Stringers S2, S3, S4, S6, S7, S10 and S11 (see Photo 13). Above Capbeam 4, at the west end of Span 7, the web of Stringers S1, S5 and S8 exhibit severe corrosion with up to 11" high x 4" wide hole (see Photo 14). At the east end of Stringers S11, S12, and S13 in Span 9, severe corrosion was noted at the web bottom over the bearing area with up to 1 1/2" high x 4" wide holes. In addition, a 5" long corrosion crack was also evident in the base of web at Stringer S12 (see Photo 15). Base of Stringer S14 web exhibits a hole near the bearing area at the east end of span 9 (See Photo 7).

All the stringers at the east end of span 9 bear on small concrete pedestals, several of which exhibit small corner spalls and fine cracking, however, no undermining of the bearing plates were evident.

- Spans 10 and 11

The stringers and diaphragms in Spans 10 and 11 are generally in good condition. Concrete pedestals on the top on New York Anchorage support each of the continuous stringers. Cracks and spalls were observed at approximately 30% of the

126 pedestals in these two spans. Twenty two pedestals exhibit spalls and small voids with up to 10% undermining below stringer bearing plate. These conditions were recommended as routine repairs. Furthermore, the concrete pedestals that exhibit disintegrated and severe scaled concrete with exposed rebar and anchor bolts undermining the bearing plate were recommended as priority repairs during this inspection, most notably below Stringers S11 in Span 11 (see Photo 6), S16 in Span 10 (see Photo 11), S13, S15 and S16 at west end of Span 10 & S4, S7, S8 and S18 at east end of Span 11 (see Photo 18), S9 and S15 in Span 10 & S9 and S12 in Span 11 (see Photo 20), and S10 in Span 11 (see Photo 21).

There are two out of four anchor bolts sheared off at the Stringer S16 bearing pedestal in Span 11 (see Photo 19).

The extensive debris accumulation on the top of the New York Anchorage in Spans 10 and 11 has been removed and cleaned during this inspection. The debris created a corrosive environment for the steel superstructure.

Underside of Deck

The underside of the concrete filled steel grid deck in Spans 1 through 3 is generally in good condition. The stay-in-place (S.I.P.) forms observed at the underside of deck in Spans 1 through 3 exhibit peeling paint with light to moderate corrosion and few locations exhibit up to 100% section loss. These areas typically occur at drain tubes, at the short cantilevered sections of the deck over the fascias along median stringers, and at other random locations. Voids were observed in the underside of the steel grid deck particularly at the short cantilevered sections of the deck over the fascia and median stringers and at few other random locations. The voids have exposed the main steel bearing bars and distribution bars of the steel grid, many of which exhibit light to moderate corrosion. At several locations, spalling of the concrete filled steel grid deck was observed, however, since the integrity of the steel grid decking has not been compromised, these concrete deficiencies are not structurally significant and are recommended as routine repairs. The worst condition is located in the underside of deck at east of panel point 16E* which exhibits a large spall 3' x 2' x 2" deep.

The steel finger joint plates at Panel Point 1E remain jammed against each other restricting movement since the previous inspection (see Photo 24).

The underside of deck in the New York Anchorage (Spans 4 through 11) is in generally in good condition. The S.I.P. forms exhibit areas of 100% section loss exposing deteriorated concrete at several locations in Spans 7 and 8, however, the reinforced concrete deck is in good condition.

Miscellaneous Framing

The miscellaneous framing is in generally good condition. The lateral bracing gusset plates, the roadway curbs and barriers, the open median area framing and the closed "turn around" framing exhibit localized areas of moderate to heavy corrosion with light to moderate pitting.

C. TOP OF DECK (SPANS 1 THROUGH 11)

Wearing Surface and Roadway Elements

The wearing surface is in overall good condition. An asphalt-wearing surface exists throughout both directions of the lower level roadways with the exception of Spans 4 through 9, 10 and 11 of the westbound roadway which have a bare concrete wearing surface. The asphalt-wearing surface in both roadways is generally in good condition (see Photo 3). Spans 1 through 3 exhibit a few random small potholes, and areas of raveling in the asphalt wearing surface, mostly near the deck joints. The concrete wearing surface in Spans 4 through 9 is in generally good condition. Several large areas of the concrete wearing surface within the westbound roadway of Spans 10 and 11 were found to be patched with asphalt. However, still exhibit spalled and cracked areas.

Generally, the deck joints are in overall good condition. Several of the expansion joints exhibit portions of missing or deteriorated joint filler material. For further detail of these expansion joints and missing/deteriorated lengths, refer to the "Deficiency and Photo Location Plans" (see Dwg. Nos. TD-1 through TD-10). At the east end of Span 9, the joint filler material is deteriorated and torn throughout the full length of both roadways. The expansion joint deficiencies discussed above allow water to infiltrate onto the structural elements below.

The north and south safety walks along the fascias and the access catwalks and stairs are generally in good condition. The north and south safety walk grating is crushed and broken over areas of less than 3 sq. ft. at numerous random locations and the hold down clips connecting the grating to the steel beam below are either missing or loose at several locations. At the New York Tower, the west edge of the north safety walk plate has uplifted by up to 1 1/2" due to pack rust creating a tripping hazard (see Photo 39). There is a 2' x 1' opening in the north safety walk and a 2' long x 4" wide section of the grating was cut out at the New Jersey Tower (see Photo 34).

The steel traffic barriers and rails with integrally constructed steel curbs are generally in good to fair condition. The north and south traffic barriers and curbs exhibit areas of moderate to severe pitting with localized through holes in Spans 1 through 3. A 4' long section of collapsed curb with severe deterioration and numerous corrosion holes remains, at the south side of the eastbound roadway, at Panel Point 14W near the New Jersey Tower (see Photo 40). Curb plates, used to close the space between the base of the steel curb and the deck remain detached or partially detached at 3 locations along roadway barriers since the last inspection (see Photo 35). The bridge railing is detached from the rail post at several locations due to a previous collision (see Photo 37).

The bridge railing at the outside of the safety walks and the railings at the various access catwalks and stairs are in generally good condition. At the catwalks that cross the open median, one or two of four total handrails are missing at eight locations (see Photo 36).

The chain link security fencing is generally in good condition. However, there is a missing bottom rail on the chain link fence panel along south safety walk in the west end of Span 10 (see Photo 32).

Numerous deficiencies were found at the debris netting spanning the open median. Various holes in the netting were found ranging up to 10' long x 4' wide in Span 1, between Panel Points 7W and 7W* (see Photo 33). In addition, many detached or missing connection clips, partially detached U-bolts and broken welds at the aluminum support rails were also discovered.

Utilities

The conduits extending along the backside of the north and south bridge railing in Spans 1 through 3 exhibit several broken or missing support brackets. However, due to the numerous supports for these conduits, these conditions are recommended as routine repairs. There is a conduit support bracket that is severely corroded at Stringer S2, west of Floorbeam 3W (see Photo 31). There are numerous electrical junction boxes attached along the north and south safety walks that are missing their covers with exposed electrical wires (see Photo 38). In addition, there are broken conduit and coupling along the south safety walk at the New Jersey Tower (see Photo 42). These areas are considered accessible to the public / stranded motorists.

D. TRAVELERS

There are four travelers suspended beneath the lower level that are used for access to the underside of lower level roadway for inspection and maintenance / repair purposes. Each traveler is suspended from two traveler beams that are connected to the floorbeams. The travelers are propelled along the traveler beams by wheels powered by electric motors.

At the time of the inspection three of the four travelers were operational. The New York Main Span traveler remains removed from service and is enclosed by netting to prevent falling debris. The traveler exhibits moderate to severe corrosion and section loss to main support truss members (see Photo 26). An inspection of each traveler was performed prior to use and to verify the status of all previously recommended repairs. The three working travelers were used to complete the condition survey of the lower level inspections.

The traveler beams, located below Stringers S4 and S15, are mostly in good condition. No deficiencies were observed at the welds that join the flanges to the webs of these beams and traveler rail splices were found to be in good condition.

The top flange of the traveler beams exhibit light to moderate corrosion with localized areas of pitting with deliminations. The traveler beams are suspended from each floorbeam with four hanger rods which are wrapped in plastic tape. In Span 1, the tape has been removed. Moisture trapped by the tape has continued to the deterioration of the hanger rods in Spans 2 and 3 resulting in measured losses of up to 30%. Moderate corrosion was also observed at the nuts and washers of the hanger rod connections. Testing performed in 2009 on the most severely deteriorated rods mentioned above were found to have a sufficient factor of safety to support the travelers.

The hanger rods are connected to the floorbeams with an inverted tee section attached to stiffener plates on the web of the beam. The flange of the hanger tee support was roughly cut and coped to allow the tee stem to be connected to the stiffener.

Inspection Findings, Conclusions and Recommendations

The lateral cross bracing angles between the main support truss chords typically exhibit moderate to severe corrosion with large holes noted at three locations (see Photo 28).

During this inspection, a new condition was found at the New Jersey Main Span traveler which exhibited missing 3 of 3 gusset plate connection bolts to bracing member (see Photo 30).

The vertical movement dampening springs and bolts are improperly aligned at numerous locations throughout Spans 1 through 3. The bolts were considered to be misaligned when the tapered center of the bolt was off the edge of the bearing plate attached to the top flange of the traveler beam. This condition was not considered a structural deficiency and therefore recommended as a routine repair.

The New Jersey Back Span (see Photo 29), New Jersey Main Span (see Photos 25 & 27) and the New York Main Span travelers (see Photo 26) exhibit moderate to severe corrosion with section loss at several main truss members. These deteriorated areas are generally located near the center of the traveler directly below the lower level median opening. The chain link safety netting support angles and/or edge beams exhibit severe corrosion with localized holes at all four travelers (see Photo 44). Broken welds exist at the chain link fence posts and rails of the travelers (see Photo 47), and various hinges or connection screws for hinges were missing at the access door grates (see Photo 48). Loose strap bolts and missing bolts that connect the chain link safety netting to the traveler framing were noted at 166 total locations at all four travelers (see Photo 46). The New York Main Span traveler has 9 holes of various sizes in the chain link safety netting, and the panels are brittle and prone to fracture due to their advanced age (see Photo 43). There is a missing horizontal rail angle at the truss platform below the floor access hatch at the New York Back Span traveler (see Photo 45).

E. RECOMMENDATIONS

Immediate: The following immediate action was recommended during this inspection.

No.	Description	Status
1	Repair the severely deteriorated web, top and bottom flanges with corrosion holes in the S1 fascia stringer between Panel Points 7E* and 8E. (1 Location)	In Progress

Priority: The following priority repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck		
*1	Repair spalled concrete pedestal at the east end of span 11 in the New York Anchorage. *(Photo 6)* (1 Location).	SDU-19
2	Repair severely corroded web, with hole near the bearing of stringer S14 located at the east end of span 9. *(Photo 7)* (1 Location).	SDU-19
3	Repair severely corroded stringer webs with holes above the bearings at stringers S2 and S17 above panel point 1E. *(Photo 8)* (2 Locations).	SDU-19
*4	Repair twelve (12) up to 6" x 2" holes in the top plate of the south bottom truss chord between panel points 3E* and 3E. Temporary repair performed by filling holes with caulk and repainting. *(Photo 9)* (1 Location).	SDU-18
*5	Repair severely corroded stringer webs with holes above the bearings at stringers S6 and S14 above panel point 1E. *(Photo 10)* (2 Locations).	SDU-19
*6	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S16 at the west end of Span 10. *(Photo 11)* (1 Location).	SDU-19
7	Repair severely corroded web, with holes around the bearing stiffening angles, of stringer S18 at the west side of panel point 36E. *(Photo 12)* (1 Location).	SDU-11
*8	Repair the severely corroded top flange and web with holes in the web at the bearings of stringers S2, S3, S4, S6, S7, S10 and S11, located at the east side of floorbeam 1E. *(Photo 13)* (7 Locations).	SDU-19

*9	Repair the severely corroded webs with holes near the bearing of stringers S1, S5, and S8 located at the west end of span 7, and at stringers S11, S12 and S13, including an adjacent corrosion crack at stringer S12, located at the east end of span 9 *(Photos 14 & 15)* (6 Locations).	SDU-19
*10	Repair the severely corroded stringers S1 and S18 with web holes and 50% section loss of bottom flange near the 1/3 span between panel points 1E* and 1E. *(Photo 16)* (2 Locations).	SDU-18
*11	Repair the severe corroded stringer web, with holes around the bearing stiffening angles, of stringer S1 at the east side of panel point 26W*. *(Photo 17)* (1 Location).	SDU-6
*12	Repair cracked and spalled concrete pedestals causing undermining of the bearing under stringer S13, S15 and S16 at the west end of Span 10 and under stringer S4, S7, S8, and S18 at the east end of span 11. *(Photo 18)* (7 Locations).	SDU-19
*13	Repair the 2 of 4 broken anchor bolts at the bearing of stringer S16 located at the east end of span 11. *(Photo 19)* (1 Location).	SDU-19
*14	Repair spalled and cracked concrete pedestals, with or without exposed anchor bolts and/or rebar, causing minor undermining of the bearing under stringer S9 and S15 of span 10, under stringer S9 at the east end of span 11, and at 3 locations under stringer S12 in span 11. *(Photo 20)* (6 Locations).	SDU-19
15	Repair spalled and cracked concrete pedestal causing minor undermining of the bearing under stringer S10 at the east end of span 11. *(Photo 21)* (1 Location).	SDU-19
16	Repair bottom of Stinger S10 web at the west side of Floorbeam 15E connection which exhibits severe corrosion and section loss with 4"x1" and 2"x1" holes and a 3" crack in between. *(Photo 22)* (1 Location).	SDU-16
17	Repair top of the interior stinger webs which exhibit severe corrosion and section loss with cracks (with or without arrestor drill holes) above the splice plates over the bearing area at the floorbeam connections. *(Photo 23)* (48 Locations).	SDU-1, 2, 3, 6 & 9 thru 18
Top of Deck		
*18	Repair the jammed finger joint plates at panel point 1E. *(Photo 24)* (1 Location).	TD-9

Inspection Findings, Conclusions and Recommendations

Travelers		
*19	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members. *(Photo 25)* (9 Locations).	T-3 & 4
*20	New York Main Span Traveler – repair moderate to severe section loss at main support truss members *(Photo 26)* (95 Locations).	T-5 & 6
21	New Jersey Main Span Traveler – repair moderate to severe section loss at main support truss members. *(Photo 27)* (3 Locations).	T-3
*22	New Jersey Main Span Traveler – repair moderate to severe section loss at cross bracings between the main support truss top chords. *(Photo 28)* (3 Locations).	T-3
*23	New Jersey Back Span Traveler – repair moderate to severe section loss at main support truss members. *(Photo 29)* (5 Locations).	T-1 & 2
24	New Jersey Main Span Traveler – replace the missing 3 of 3 connection bolts at the frame bracing gusset plate. *(Photo 30)* (1 Location).	T-3
* Previously recommended as a "Priority Repair" in the 2011 inspection report.		

Safety: The following safety repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck		
1	Replace severely deteriorated steel knee brace support bracket for two 3-inch diameter electrical conduits at Stringer S2, west of floorbeam 3W at span 1. *(Photo 31)* (1 Location).	SDU-1
Top of Deck		
2	Replace the missing bottom rail of the chain link fence panel at Span 10, along the south safety walk. *(Photo 32)* (1 Location).	TD-10
3	Repair or replace median safety netting with large holes. *(Photo 33)* (7 Locations).	TD-1, 5, 7 & 9
4	Repair or replace the 2' x 1' opening in the north safety walk due to removed conduits and 2' long x 4" wide section of removed safety walk grating at the New Jersey Tower. *(Photo 34)* (1 Location).	TD-2

5	Remove partially detached steel curb plate along roadway barrier. *(Photo 35)* (3 Locations).	TD-8 & 9
6	Replace the missing or partially missing railings at the crossover walkways over the open median areas. *(Photo 36)* (8 Locations).	TD-2, 3, 4, 7 & 8
7	Repair the detached connections of the safety walk or bridge railings. *(Photo 37)* (5 Locations).	TD-2, 8 & 9
8	Repair or replace the missing or loose cover to the electrical panel box with exposed wires attached to the back of the barrier (accessible to the public / stranded motorists) along the north and south safety walks *(Photo 38)* (9 Locations).	TD-1, 2, 7, 8 & 9
9	Repair or replace corroded/uplifted diamond plate (creating a tripping hazard) safety walk grating. *(Photo 39)* (12 Locations).	TD-2, 6, 7 & 8
10	Repair severely deteriorated and collapsed section of steel curb at the south side of the eastbound roadway at the NJ Tower. *(Photo 40)* (1 Location)	TD-2
11	Replace bent and broken diamond end plate at the end of north safety walk at 1E (creating a tripping hazard). *(Photo 41)* (1 Location).	TD-9
12	Repair broken conduit at the south safety walk of the New Jersey tower (Accessible to the public / stranded motorists). *(Photo 42)* (1 Location).	TD-2
Travelers		
13	Repair or replace the safety netting with large holes at the New York main span traveler. *(Photo 43)* (9 Locations).	T-5
14	Repair the moderate to severe section loss of W8's and 3" x 3" L's that support the safety netting for the travelers. *(Photo 44)* (35 Locations).	T-1, 3, 5 & 7
15	Replace the missing horizontal rail angle at the New York Back Span Traveler truss platform below the floor access hatch. *(Photo 45)* (1 Location).	T-7
16	Tighten or replace loose or missing bolts for safety netting straps and replace the missing safety netting straps and bolts. *(Photo 46)* (169 Locations).	T-1, 3, 5 & 7

17	Repair broken aluminum fence post, rails and welds between the fence fabric connection plates and the posts. *(Photo 47)* (9 Locations).	T-1, 5 & 7
18	Replace missing or broken hinges or hinge screws at floor access hatch of the travelers. *(Photo 48)* (12 Locations).	T-1, 3, 5 & 7

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck		
1	Replace the missing rivets or bolts at the top and/or bottom flange of the floorbeams, top and/or bottom of the bottom truss chord, or the bottom truss chord gusset plate. (6 Locations).	SDU-1 thru 4
2	Repair the cracks and holes in the fascia stringer webs, S1 and S18, below the stringer support angle, diaphragms or vertical floorbeam stiffeners. (66 Locations).	SDU-2 thru 17
3	Repair or replace broken or bent traveler damper bolts, loose nuts on damper bolts and broken bolt springs. (250 Locations).	SDU-1 thru 18
4	Replace the sheared, fractured or missing bolts at the bottom truss chord. (3 Locations).	SDU-3 & 13
5	Tighten the loose bolts and replace missing nuts and bolts at stringer web connections to the floorbeams (5 bolts per connection except 4 bolts per connection where the stringer tie-down has been modified). (5 Locations).	SDU-4, 10, 14 & 15
6	Remove the roadway debris accumulation that is partially covering the heavily rusted bearings at the New Jersey bridge seat and repair the top of the severely rusted bottom flange and web, with up to 1/8" pitting, of the stringer at the New Jersey back span. (26 Locations).	SDU-1
7	Repair hole in the insulating plastic cover of the power supply line for the traveler near panel point 36E. (1 Location)	SDU-11
8	Reconnect the bearing strap plate at the south bearing of floorbeam 1E. (1 Location)	SDU-19

9	Clean the light to medium rust from top flange of both traveler beams and paint the top of the beam. Remove protective plastic tape where appropriate, clean the light to heavy rust and paint the hanger rod assemblies. (152 Locations)	SDU-1 thru 18
10	Repair or replace the heavily rusted horizontal stiffener plates with more than 50% areas of section loss adjacent to the traveler hanger tee. (96 Locations)	SDU-2 & 5 thru 17
11	Repair the cracked welds between a finger and a finger bar or a cracked finger bar at the tower deck joints. (7 Locations)	SDU-3 & 16
12	Tighten the loose bolts at the top or bottom flange of the floorbeams. (2 Locations)	SDU-1 & 9
13	Repair the broken and disconnected drainage trough. (1 Location)	SDU-19
14	Replace the sheared off and missing bolt at the stringer to floorbeam connection. (1 Location)	SDU-8
15	Replace rivets or bolts with greater than 50% section loss at the top flange of the floorbeams. (310 Locations)	SDU-1 thru 18
16	Repair the heavy corrosion with random holes in channel supports of abandoned platforms attached to the bottom of the floorbeams (Alternately remove the platforms). (5 Locations)	SDU-3, 15 & 17
17	Repair the heavy rust with small holes in the lateral bracing between floorbeams. (2 Locations)	SDU-10 & 15
18	Repair the 3 inch x 1 inch hole in the top plate of the stiffening truss bottom chord between panel points 14E and 15E. (1 Location)	SDU-16
19	Repair detached flange clips, replace missing flange clips and repair detached 1-1/2" channel support for electrical conduits. (10 Locations)	SDU-5, 7 & 15 thru 18
20	Repair the deteriorated stone masonry at the south end of the New Jersey abutment. (1 Location)	SDU-1
21	Repair the areas of section loss with up to 1/4" diameter holes in the base of the web of floorbeam 4 at spans 6 and 7 between stringers S4 to S6. (1 Location)	SDU-19

22	Repair the spalled concrete in underside of concrete filled steel deck grating. (8 Locations)	SDU-16 & 19
23	Clean and paint the moderate pitting, corrosion and pack rust of steel angles of diagonal, longitudinal bracing members between floorbeams or bracing at gusset plate connection to floorbeams particularly below safety walks and open median. (152 Locations)	SDU-1 thru 18
24	Clean and paint the moderate to severe rusting and pitting with minor section loss, paint failure at stringers, stringer web connection plates, diaphragms, pin supports at cap beams (New York anchorage) beneath the median openings and at the outer curb lines. (152 Locations)	SDU-1 thru 18
25	Repair the cracked and/or spalled concrete pedestals with less than 10% undermining at the base plates in Spans 10 and 11 at the New York anchorage. (22 Locations)	SDU-19
26	Remove the debris on the windlock and clean and paint the moderately to severely corroded windlock members. (5 Locations)	SDU-2, 18 & 19
27	Clean debris and clean and paint the moderately to severely rusted bearings at the north and south ends of Cap Beam 1E at the New York anchorage. (2 Locations)	SDU-19
28	Replace the sheared off rivets in the stringer splice plate due to pack rust. (8 Locations)	SDU-5, 7, 9, 11 & 14
29	Repair the 2.5 ft wide x 1.0 ft long x 1.0 ft deep spalls at the south pedestal and north pedestal under Cap Beam 1E at the New York anchorage (no undermining of the bearing was noted). (2 Locations)	SDU-19
30	Clean and paint the moderately rusted bearings with up to 1/2" uplift of the stringer (1/2" maximum measured uplift of stringers 5 at the 14E bearing) due to pack rust at the towers. (59 Locations)	SDU-3 & 16
31	Replace the missing drainpipe at drain hole in top flange of bottom chord of stiffening truss. (7 Locations)	SDU-4, 7, 12, 13 & 18
32	Repair the areas of mutual wear between the stringer lower flange and bearing plate over the floorbeam with up to 1/8" gap and minor vertical movement of the stringer under live load. (18 Locations)	SDU-5 thru 8, 11, 12, 16 & 18
33	Repair the severely corroded diaphragm (with or without holes and up to 1/8" loss) that supports the safety walk or median. (21 Locations)	SDU-1, 2, 7 thru 12, 15 & 16

34	Replace rivets with greater than 50% section loss along bottom chord of the stiffening truss or gusset plates at connections. (69 Locations)	SDU-2 & 4 thru 18
35	Repair the deteriorated web area with or without small corrosion holes and up to 1/16" section loss at the bottom of the stringer at the floorbeam connection. (28 Locations)	SDU-2, 3, 4, 6, 10, 15, 16 & 19
36	Repair the cracked weld between the bottom flange of stringers S4 to S6 and the bearing plate at panel point 11E. (3 Locations)	SDU-16
37	Divert flow from three abandoned water pipe sleeves at the north end of the New Jersey abutment backwall to prevent water from being discharged onto the bridge seat. (1 Location)	SDU-1
38	Replace the sheared tie down bolts for the deck finger joint. (1 Location)	SDU-16
39	Seal the holes at the anchor bolts connecting the Jersey Barrier to the deck in Spans 10 and 11 to prevent water intrusion into the deck. (2 Locations)	SDU-19
40	Repair the 2 inch diameter hole in the top plate of the bottom chord of the stiffening truss. (2 Locations)	SDU-5 & 17
41	Remove and replace cracked and bulging bearing neoprene pads between the stringer and floorbeam. (132 Locations)	SDU-1, 2, 4, 6 thru 18
42	Repair severely corroded diaphragm with hole for the crosswalk. (2 Locations).	SDU-7 & 8
43	Clean pack rust causing bulging between the bottom cover plates and flange angles of stiffening truss bottom chord and paint. (152 Locations)	SDU-1 thru 18
44	Remove and replace the warped/bulging connection plates, due to pack rust, between stringer webs over floorbeams. Clean and paint steel surfaces and reassemble the connections with new bolts. (31 Locations)	SDU-1, 4 thru 11 & 13 thru 17
45	Repair one of four broken anchor bolts at the bearing of stringers S2 and S3 at the west end of Span 10. (2 Locations)	SDU-19
46	Replace rivets or bolts with greater than 50% section loss at the bottom flanges of the floorbeams. (157 Locations)	SDU-1 thru 12 & 16 thru 18

47	Repair the random loose or deteriorated bolts at the gusset plates of the north stiffening truss at panel point 4E*. (1 Location)	SDU-18
48	Repair the detached section of lower hand rail of two rail system at west New York tower catwalk (1 Location)	SDU-16
49	Repair the deteriorated gusset plate at the connection of the bottom chord to the diagonals of the stiffening truss. (152 Locations)	SDU-1 thru 18
50	Clean localized pack rust, up to 3/4" thick, between the cover plates of floorbeam top flange. (436 Locations)	SDU-1 thru 18
51	Clean the medium to heavy rust with minor section loss from the web of the hanger tee or hanger rods. (73 Locations)	SDU-1, 2, 4 & 7 thru 18
Top of Deck		
52	Repair broken weld or coupling at corner connection of debris net fence support rails. (2 Locations)	TD-2 & 8
53	Replace missing curb plate. (5 Locations)	TD-1, 2 & 8
54	Repair or replace missing and broken support straps for traffic signs. (3 Locations)	TD-2, 3 & 8
55	Repair the 1" height differential in the finger joint at panel point 11W (1 Location)	TD-2
56	Replace the missing bollards. (3 Locations)	TD-1 & 2
57	Repair broken hinge to access ladder hatch at median between panel points 14W-15W. (1 Location)	TD-2
58	Repair the potholes or severe raveling in the asphalt wearing surface. (12 Locations)	TD-1, 4, 5 & 8
59	Replace missing downspout anchor bolt at south safety walk at panel point 17E. (1 Location)	TD-8
60	Repair holes and section loss to steel railings, curbs and vertical traffic barriers. (198 Locations)	TD-1 thru 10

61	Repair impact damage to south bridge rail post near panel point 22W. (1 Location)	TD-2
62	Replace 3 missing bolts at bottom plate connection of downspout tube at panel point 18W. (1 Location)	TD-2
63	Repair impact damage to steel median barrier. (2 Locations)	TD-2 & 9
64	Repair cracks in concrete curb at median. (2 Locations)	TD-10
65	Repair cracks at south face of concrete median at the New York Anchorage. (4 Locations)	TD-10
66	Provide support for unsupported bridge railing. (2 Locations)	TD-2 & 9
67	Repair missing, damaged and detached debris netting in median area. (16 Locations)	TD-1 thru 9
68	Repair holes at top of railing/guiderail support. (50 Locations)	TD-1 thru 9
69	Replace broken or detached clips and/or screws attaching the safety walk grating to the steel framing below. (11 locations)	TD-1, 3, 4, 5, 7 & 8
70	Repair spalls with or without exposed rusted steel reinforcement at concrete curbs or pavement. (9 Locations)	TD-1 & 10
71	Replace missing or deteriorated joint filler. (74 Locations)	TD-1 thru 10
72	Repair water main tie down connections with loose or missing nuts and/or bolts at south safety walk. (130 Locations)	TD-1 thru 9
73	Repair loose bolt at bottom of traffic sign connection to curb. (2 Locations)	TD-5
Travelers		
74	Replace approximately 10 SF of damaged floor grate at center of the New Jersey main span traveler. (1 Location)	T-3
75	Repair electrical conduit suspended with rope hanger, detached flange clips and unsupported over 8 feet long section. (4 Locations)	T-1

IV. Deficiency and Photo Location Plans

KEY CONDITION NOTES (FOR LEGEND, SEE DWG. L-3)

PRIORITY REPAIRS

SUPERSTRUCTURE AND DECK UNDERSIDE

1. REPAIR SPALLED CONCRETE PEDESTAL AT THE EAST END OF SPAN 11 IN THE NEW YORK ANCHORAGE.
2. REPAIR SEVERELY CORRODED WEB, WITH HOLE NEAR THE BEARING OF STRINGER S14 LOCATED AT THE EAST END OF SPAN 9.
3. REPAIR SEVERELY CORRODED STRINGER WEBS WITH HOLES ABOVE THE BEARINGS AT STRINGERS S2 AND S17 ABOVE PANEL POINT 1E.
4. REPAIR TWELVE (12) UP TO 6" X 2" HOLES IN THE TOP PLATE OF THE SOUTH BOTTOM TRUSS CHORD BETWEEN PANEL POINTS 3E* AND 3E. TEMPORARY REPAIR PERFORMED BY FILLING HOLES WITH CAULK AND REPAINTING.
5. REPAIR SEVERELY CORRODED STRINGER WEBS WITH HOLES ABOVE THE BEARINGS AT STRINGERS S6 AND S14 ABOVE PANEL POINT 1E.
6. REPAIR SPALLED AND CRACKED CONCRETE PEDESTAL CAUSING MINOR UNDERMINING OF THE BEARING UNDER STRINGER S16 AT THE WEST END OF SPAN 10.
7. REPAIR SEVERELY CORRODED WEB, WITH HOLES AROUND THE BEARING STIFFENING ANGLES, OF STRINGER S18 AT THE WEST SIDE OF PANEL POINT 36E.
8. REPAIR THE SEVERELY CORRODED TOP FLANGE AND WEB WITH HOLES IN THE WEB AT THE BEARINGS OF STRINGERS S2, S3, S4, S6, S7, S10, AND S11, LOCATED AT THE EAST SIDE OF FLOORBEAM 1E.
9. REPAIR THE SEVERELY CORRODED WEBS, WITH HOLE NEAR THE BEARING, OF STRINGERS S1, S5, AND S8 LOCATED AT THE WEST END OF SPAN 7 AND AT STRINGERS S11, S12, AND S13, INCLUDING AN ADJACENT CORROSION CRACK AT STRINGER S12, LOCATED AT THE EAST END OF SPAN 9.
10. REPAIR THE SEVERELY CORRODED STRINGERS S1 AND S18 WITH WEB HOLES AND 50% SECTION LOSS OF BOTTOM FLANGE NEAR THE 1/3 SPAN BETWEEN PANEL POINTS 1E* AND 1E.
11. REPAIR THE SEVERELY CORRODED STRINGER WEB, WITH HOLES AROUND THE BEARING STIFFENING ANGLES, OF STRINGER S1 AT THE EAST SIDE OF PANEL POINT 26W*.
12. REPAIR CRACKED AND SPALLED CONCRETE PEDESTALS CAUSING UNDERMINING OF THE BEARING UNDER STRINGER S13, S15 AND S16 AT THE WEST END OF SPAN 10 AND UNDER STRINGER S4, S7, S8, & S18 AT THE EAST END OF SPAN 11.
13. REPAIR THE 2 OF 4 BROKEN ANCHOR BOLTS AT THE BEARING OF STRINGER S16 LOCATED AT THE EAST END OF SPAN 11.
14. REPAIR SPALLED AND CRACKED CONCRETE PEDESTALS, WITH OR WITHOUT EXPOSED ANCHOR BOLTS AND/OR REBAR, CAUSING MINOR UNDERMINING OF THE BEARING UNDER STRINGERS S9 AND S15 OF SPAN 10, UNDER STRINGER S9 AT EAST END OF SPAN 11, AND AT 3 LOCATIONS UNDER STRINGER S12 IN SPAN 11.
15. REPAIR SPALLED AND CRACKED CONCRETE PEDESTALS CAUSING MINOR UNDERMINING OF THE BEARING UNDER STRINGER S10 AT THE EAST END OF SPAN 11.
16. REPAIR BOTTOM OF STRINGER S10 WEB AT THE WEST SIDE OF FLOORBEAM 15E CONNECTION WHICH EXHIBITS SEVERE CORROSION AND SECTION LOSS WITH 4"X1" AND 2"X1" HOLES AND A 3" CRACK IN BETWEEN.
17. REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⊘ OR Ⓖ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND ON DWG. L-3)

TOP OF DECK

18. REPAIR THE JAMMED FINGER JOINT PLATES AT PANEL POINT 1E.

PRIORITY REPAIRS (CONTINUED)

TRAVELER

19. NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.
20. NEW YORK MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.
21. NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.
22. NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT CROSS BRACING BETWEEN MAIN SUPPORT TRUSS TOP CHORDS.
23. NEW JERSEY BACK SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.
24. NEW JERSEY MAIN SPAN TRAVELER – REPLACE THE MISSING 3 OF 3 CONNECTION BOLTS AT THE FRAME BRACING GUSSET PLATE.

SAFETY REPAIRS

SUPERSTRUCTURE AND DECK UNDERSIDE

1. REPLACE SEVERELY DETERIORATED STEEL KNEE BRACE SUPPORT BRACKET FOR TWO 3-INCH DIAMETER ELECTRICAL CONDUITS AT STRINGER S2, WEST OF FLOORBEAM 3W AT SPAN 1.

TOP OF DECK

2. REPLACE THE MISSING BOTTOM RAIL OF THE CHAIN LINK FENCE PANEL AT SPAN 10, ALONG THE SOUTH SAFETY WALK.
3. REPAIR OR REPLACE MEDIAN SAFETY NETTING WITH LARGE HOLES.
4. REPAIR OR REPLACE THE 2'X1' OPENING IN THE NORTH SAFETY WALK DUE TO REMOVED CONDUITS AND 2' LONG X 4" WIDE SECTION OF REMOVED SAFETY WALK GRATING AT THE NEW JERSEY TOWER.
5. REMOVE PARTIALLY DETACHED STEEL CURB PLATE ALONG THE ROADWAY BARRIER.
6. REPLACE THE MISSING OR PARTIALLY MISSING RAILINGS AT THE CROSSOVER WALKWAYS OVER THE OPEN MEDIAN AREAS.
7. REPAIR THE DETACHED CONNECTIONS OF THE SAFETY WALK OR BRIDGE RAILINGS.
8. REPAIR OR REPLACE THE MISSING OR LOOSE COVER TO THE ELECTRICAL PANEL BOX WITH EXPOSED WIRES ATTACHED TO THE BACK OF THE BARRIER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS) ALONG THE NORTH AND SOUTH SAFETY WALKS.
9. REPAIR OR REPLACE CORRODED/UPLIFTED DIAMOND PLATE (CREATING A TRIPPING HAZARD) SAFETY WALK GRATING.
10. REPAIR SEVERELY DETERIORATED AND COLLAPSED SECTION OF STEEL CURB AT THE SOUTH SIDE OF THE EASTBOUND ROADWAY.
11. REPLACE BENT AND BROKEN DIAMOND END PLATE AT THE END OF NORTH SAFETY WALK AT 1E (CREATING A TRIPPING HAZARD).
12. REPAIR BROKEN CONDUIT AT THE SOUTH SAFETY WALK OF THE NEW JERSEY TOWER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS).

TRAVELER

13. REPAIR OR REPLACE THE SAFETY NETTING WITH LARGE HOLES AT NEW YORK MAIN SPAN TRAVELER.
14. REPAIR THE MODERATE TO SEVERE SECTION LOSS OF W8'S AND 3" X 3" L'S THAT SUPPORT THE SAFETY NETTING OF TRAVELERS.
15. REPLACE THE MISSING HORIZONTAL RAIL ANGLE AT THE NEW YORK BACK SPAN TRAVELER TRUSS PLATFORM BELOW THE FLOOR ACCESS HATCH.
16. TIGHTEN OR REPLACE LOOSE OR MISSING BOLTS FOR SAFETY NETTING STRAPS AND REPLACE THE MISSING SAFETY NETTING STRAPS AND BOLTS.
17. REPAIR BROKEN ALUMINUM FENCE POST, RAILS AND WELDS BETWEEN THE FENCE FABRIC CONNECTION PLATES AND THE POSTS.
18. REPLACE MISSING OR BROKEN HINGES OR HINGE SCREWS AT FLOOR ACCESS HATCH OF THE TRAVELERS.

ROUTINE REPAIRS

SUPERSTRUCTURE AND DECK UNDERSIDE

1. (X) REPLACE THE MISSING RIVETS OR BOLTS AT THE TOP AND/OR BOTTOM FLANGE OF THE FLOORBEAMS, TOP AND/OR BOTTOM OF THE BOTTOM TRUSS CHORD, OR THE BOTTOM TRUSS CHORD GUSSET PLATE. 'X' INDICATES THE NUMBER OF MISSING BOLTS OR RIVETS.
2. (*) REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.
3. REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.
4. (X) REPLACE THE SHEARED, FRACTURED OR MISSING BOLTS AT THE BOTTOM TRUSS CHORD. 'X' INDICATES THE NUMBER OF SHEARED, FRACTURED OR MISSING BOLTS.
5. (X) TIGHTEN THE LOOSE BOLTS AND REPLACE MISSING NUTS AND BOLTS AT STRINGER WEB CONNECTIONS TO THE FLOORBEAMS (5 BOLTS PER CONNECTION EXCEPT 4 BOLTS PER CONNECTION WHERE THE STRINGER TIE-DOWN HAS BEEN MODIFIED). 'X' INDICATES THE NUMBER OF LOOSE BOLTS, MISSING BOLTS AND NUTS.
6. REMOVE THE ROADWAY DEBRIS ACCUMULATION THAT IS PARTIALLY COVERING THE HEAVILY RUSTED BEARINGS AT THE NEW JERSEY BRIDGE SEAT AND REPAIR THE TOP OF THE SEVERELY RUSTED BOTTOM FLANGE AND WEB, WITH UP TO 1/8" PITTING, OF THE STRINGER AT THE NEW JERSEY BACK SPAN.
7. REPAIR HOLE IN THE INSULATING PLASTIC COVER OF THE POWER SUPPLY LINE FOR THE TRAVELER NEAR PANEL POINT 36E.
8. RECONNECT THE BEARING STRAP PLATE AT THE SOUTH BEARING OF FLOORBEAM 1E.
9. CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.
10. REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.
11. REPAIR THE CRACKED WELDS BETWEEN A FINGER AND A FINGER BAR OR A CRACKED FINGER BAR AT THE TOWER DECK JOINTS.
12. (X) TIGHTEN THE LOOSE BOLTS AT THE TOP OR BOTTOM FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF LOOSE BOLTS.
13. REPAIR THE BROKEN AND DISCONNECTED DRAINAGE TROUGH.
14. REPLACE THE SHEARED OFF AND MISSING BOLT AT THE STINGER TO FLOORBEAM CONNECTION.
15. (X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.
16. REPAIR THE HEAVY CORROSION WITH RANDOM HOLES IN CHANNEL SUPPORTS OF ABANDONED PLATFORMS ATTACHED TO THE BOTTOM OF THE FLOORBEAMS (ALTERNATELY REMOVE THE PLATFORMS).
17. REPAIR THE HEAVY RUST WITH SMALL HOLES IN THE LATERAL BRACING BETWEEN FLOORBEAMS.
18. REPAIR THE 3 INCH X 1 INCH HOLE IN THE TOP PLATE OF THE STIFFENING TRUSS BOTTOM CHORD BETWEEN PANEL POINTS 14E AND 15E.
19. REPAIR DETACHED FLANGE CLIPS, REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.
20. REPAIR THE DETERIORATED STONE MASONRY AT THE SOUTH END OF THE NEW JERSEY ABUTMENT.
21. REPAIR THE AREAS OF SECTION LOSS WITH UP TO 1/4" DIAMETER HOLES IN THE BASE OF THE WEB OF FLOORBEAM 4 AT SPANS 6 AND 7 BETWEEN STRINGERS S4 TO S6.
22. REPAIR THE SPALLED CONCRETE IN UNDERSIDE OF CONCRETE FILLED STEEL DECK GRATING.
23. CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET

CONTINUED ON DWG. L-2

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

MAIN SPAN
KEY CONDITION NOTES & LEGEND - 1

DS	DC	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number L-1

KEY CONDITION NOTES (FOR LEGEND, SEE DWG. L-3)

ROUTINE REPAIRS (CONTINUED)

SUPERSTRUCTURE AND DECK UNDERSIDE

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

25 REPAIR THE CRACKED AND/OR SPALLED CONCRETE PEDESTALS WITH LESS THAN 10% UNDERMINING OF THE BASE PLATES IN SPANS 10 AND 11 AT THE NEW YORK ANCHORAGE.

26 REMOVE THE DEBRIS ON THE WINDLOCK AND CLEAN AND PAINT THE MODERATELY TO SEVERELY CORRODED WINDLOCK MEMBERS.

27 CLEAN DEBRIS AND CLEAN AND PAINT THE MODERATELY TO SEVERELY RUSTED BEARINGS AT THE NORTH AND SOUTH ENDS OF CAP BEAM 1E AT THE NEW YORK ANCHORAGE.

X 28 REPLACE THE SHEARED OF RIVETS IN THE STRINGER SPLICE PLATE DUE TO PACK RUST. 'X' INDICATES THE NUMBER OF SHEARED OFF RIVETS.

29 REPAIR THE 2.5 FT WIDE X 1.0 FT LONG X 1.0 FT DEEP SPALL AT THE SOUTH PEDESTAL AND NORTH PEDESTAL UNDER CAP BEAM 1E AT THE NEW YORK ANCHORAGE (NO UNDERMINING OF THE BEARING WAS NOTED).

30 CLEAN AND PAINT THE MODERATELY RUSTED BEARINGS WITH UP TO 1/2" UPLIFT OF THE STRINGER (1/2" MAXIMUM MEASURED UPLIFT OF STRINGER S5 AT THE 14E BEARING) DUE TO PACK RUST AT THE TOWERS.

31 REPLACE THE MISSING DRAINPIPE AT DRAIN HOLE IN TOP FLANGE OF BOTTOM CHORD OF STIFFENING TRUSS.

32 REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

X 33 REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

X 34 REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

35 REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

36 REPAIR THE CRACKED WELD BETWEEN THE BOTTOM FLANGE OF STRINGERS S4 TO S6 AND THE BEARING PLATE AT PANEL POINT 11E.

37 DIVERT FLOW FROM THREE ABANDONED WATER PIPE SLEEVES AT NORTH END OF THE NEW JERSEY ABUTMENT BACKWALL TO PREVENT WATER FROM BEING DISCHARGED ONTO THE BRIDGE SEAT.

38 REPLACE THE SHEARED TIE DOWN BOLTS FOR THE DECK FINGER JOINT.

39 SEAL THE HOLES AT THE ANCHOR BOLTS CONNECTING THE JERSEY BARRIER TO THE DECK IN SPANS 10 AND 11 TO PREVENT WATER INTRUSION INTO THE DECK.

40 REPAIR THE 2 INCH DIAMETER HOLE IN THE TOP PLATE OF THE BOTTOM CHORD OF THE STIFFENING TRUSS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

42 REPAIR SEVERELY CORRODED DIAPHRAGM WITH HOLE FOR THE CROSSWALK.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

X 44 REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

45 REPAIR ONE OF FOUR BROKEN ANCHOR BOLTS AT THE BEARING OF STRINGERS S2 AND S3 AT THE WEST END OF SPAN 10.

X 46 REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

47 REPAIR THE RANDOM LOOSE OR DETERIORATED BOLTS AT THE GUSSET PLATES OF THE NORTH STIFFENING TRUSSES AT PANEL POINT 4E*.

ROUTINE REPAIRS (CONTINUED)

SUPERSTRUCTURE AND DECK UNDERSIDE

48 REPAIR THE DETACHED SECTION OF LOWER RAIL OF TWO RAIL SYSTEM AT WEST NEW YORK TOWER CATWALK.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

TOP OF DECK

52 REPAIR BROKEN WELD OR COUPLING AT CORNER CONNECTION OF DEBRIS NET FENCE SUPPORT RAILS.

53 REPLACE MISSING CURB PLATE.

X 54 REPAIR OR REPLACE MISSING AND BROKEN SUPPORT STRAPS FOR TRAFFIC SIGNS. 'X' INDICATES RATIO OF BROKEN MISSING SUPPORT STRAP TO TOTAL NUMBER OF REQUIRED SUPPORT STRAPS.

55 REPAIR THE 1" HEIGHT DIFFERENTIAL IN THE FINGER JOINT AT PANEL POINT 11W.

56 REPLACE THE MISSING BOLLARDS.

57 REPAIR BROKEN HINGE TO ACCESS LADDER HATCH AT MEDIAN BETWEEN PANEL POINTS 14W–15W.

58 REPAIR THE POTHOLES OR SEVERE RAVELING IN THE ASPHALT WEARING SURFACE.

59 REPLACE MISSING DOWNSPOUT ANCHOR BOLT AT SOUTH SAFETY WALK AT PANEL POINT 17E.

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

61 REPAIR IMPACT DAMAGE TO SOUTH BRIDGE RAIL POST NEAR PANEL POINT 22W.

62 REPLACE 3 MISSING BOLTS AT BOTTOM PLATE CONNECTION OF DOWNSPOUT TUBE AT PANEL POINT 18W.

63 REPAIR IMPACT DAMAGE TO STEEL MEDIAN BARRIER.

64 REPAIR CRACKS IN CONCRETE CURB AT MEDIAN.

65 REPAIR CRACKS AT SOUTH FACE OF CONCRETE MEDIAN AT THE NEW YORK ANCHORAGE.

66 PROVIDE SUPPORT FOR UNSUPPORTED BRIDGE RAILING.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

69 REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

70 REPAIR SPALLS WITH OR WITHOUT EXPOSED RUSTED STEEL REINFORCEMENT AT CONCRETE CURBS OR PAVEMENT.

X 71 REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

73 REPAIR LOOSE BOLT AT BOTTOM OF TRAFFIC SIGN CONNECTION TO CURB.

ROUTINE REPAIRS (CONTINUED)

TRAVELER

74 REPLACE APPROXIMATELY 10 SF OF DAMAGED FLOOR GRATE AT CENTER OF THE NEW JERSEY MAIN SPAN TRAVELER.

75 REPAIR ELECTRICAL CONDUIT SUSPENDED WITH ROPE HANGER, DETACHED FLANGE CLIPS AND UNSUPPORTED OVER 8 FEET LONG SECTION.

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GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
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Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

MAIN SPAN
KEY CONDITION NOTES & LEGEND - 2

DS	DG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number L-2

KEY CONDITION NOTES

FINDINGS WITH NO RECOMMENDATION

SUPERSTRUCTURE AND DECK UNDERSIDE

1. EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

2. MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
   - EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS. EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
   - AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
   - EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3. LOOSE TRAVELER HANGER RODS.

4. PACK RUST AT THE CONNECTION OF THE HANGER TEE TO THE FLOORBEAM AT SOUTH CONNECTION AT WEST SIDE OF FLOORBEAM 27W.

5. BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6. MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7. AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8. HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9. EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

10. STEEL STRAPS WELDED TO THE UNDERSIDE OF THE STEEL PLATE MEDIAN COVER ALONG THE BRIDGE CENTERLINE ARE MISSING OR PARTIALLY DETACHED AT FOUR LOCATIONS BETWEEN FLOORBEAMS 2E AND 1E ELEVATION.

11. HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

12. PIN CONNECTION WAS PREVIOSULY LOOSE AND TIGHTENED WITH SOUTH NUT WELDED TO PIN AND NORTH END OF PIN HAMMERED TO RESTRICT MOVEMENT OF NORTH WASHER.

13. CRACKED WELDED COVER PLATES AT EAST END OF STRINGERS S4 TO S11 IN SPAN 9 DUE TO PACK RUST. COVER PLATE AT STRINGER S12 HAS FALLEN OFF.

TOP OF DECK

NONE

TRAVELER

NONE

LEGEND:

- (8E) CAPBEAM NUMBER/PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ – INDICATES PRIORITY REPAIRS
- – INDICATES SAFETY REPAIRS
- – INDICATES ROUTINE REPAIRS
- □ – INDICATES FINDINGS WITH NO RECOMMENDATION
- PHOTO TAKEN ABOVE DECK
- PHOTO TAKEN BELOW DECK
- ø – INDICATES HORIZONTAL CRACK IN TOP OF STRINGER WEB ABOVE SPLICE PLATE. (SEE PRIORITY REPAIR 17)
- ø – INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)
- – DETERIORATED STAY-IN-PLACE FORMS
- – POTHOLE/SPALL
- – AREA OF SEVERE RAVELING IN ASPHALT WEARING SURFACE
- L – LIGHT FIXTURE
- CONDUIT
- LOOSE NET STRAP BOLTS (SEE SAFETY REPAIR 16)
- DETERIORATED STEEL FRAMING

W – WIDE
DP – DEEP
L – LENGTH
F.W. – FULL WIDTH
F.L. – FULL LENGTH

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BIN 5522507

LOWER LEVEL

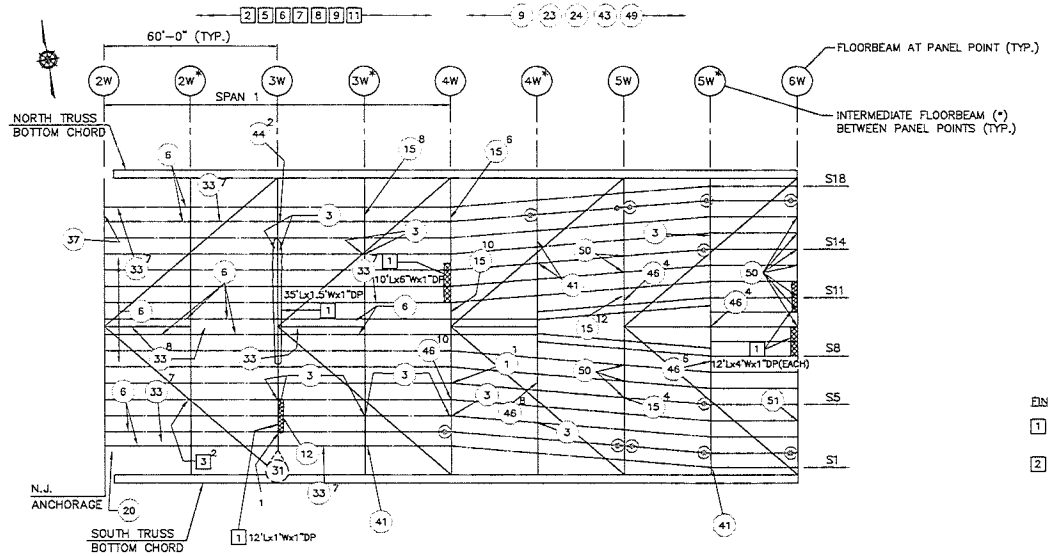
MAIN SPAN
KEY CONDITION NOTES
& LEGEND - 3

DS	DG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number L-3



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⊕ OR ⊗ DENOTES CRACK WITH OR WITHOUT HOLES. SEE LEGEND BELOW)

SAFETY REPAIRS

1 REPLACE SEVERELY DETERIORATED STEEL KNEE BRACE SUPPORT BRACKET FOR TWO 3-INCH DIAMETER ELECTRICAL CONDUITS AT STRINGER S2, WEST OF FLOORBEAM 3W AT SPAN 1.

ROUTINE REPAIRS

1 X REPLACE THE MISSING RIVETS OR BOLTS AT THE TOP AND/OR BOTTOM FLANGE OF THE FLOORBEAMS, TOP AND/OR BOTTOM OF THE BOTTOM TRUSS CHORD, OR THE BOTTOM TRUSS CHORD GUSSET PLATE. 'X' INDICATES THE NUMBER OF MISSING BOLTS OR RIVETS.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

6 REMOVE THE ROADWAY DEBRIS ACCUMULATION THAT IS PARTIALLY COVERING THE HEAVILY RUSTED BEARINGS AT THE NEW JERSEY BRIDGE SEAT AND REPAIR THE TOP OF THE SEVERELY RUSTED BOTTOM FLANGE AND WEB, WITH UP TO 1/8" PITTING, OF THE STRINGER AT THE NEW JERSEY BACK SPAN.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

12 X TIGHTEN THE LOOSE BOLTS AT THE TOP OR BOTTOM FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF LOOSE BOLTS.

15 X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

20 REPAIR THE DETERIORATED STONE MASONRY AT THE SOUTH END OF THE NEW JERSEY ABUTMENT.

ROUTINE REPAIRS (CONTINUED)

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

33 X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

37 DIVERT FLOW FROM THREE ABANDONED WATER PIPE SLEEVES AT NORTH END OF THE NEW JERSEY ABUTMENT BACKWALL TO PREVENT WATER FROM BEING DISCHARGED ONTO THE BRIDGE SEAT.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44 X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

46 X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

1 EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

– INDICATES PRIORITY REPAIRS

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

– INDICATES FINDINGS WITH NO RECOMMENDATION

⊕ – INDICATES HORIZONTAL CRACK IN TOP OF STRINGER WEB ABOVE SPLICE PLATE. (SEE PRIORITY REPAIR 17.)

⊗ – INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17.)

– DETERIORATED STAY-IN-PLACE FORMS

W – WIDE
DP – DEEP
L – LENGTH

Sheet 4 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

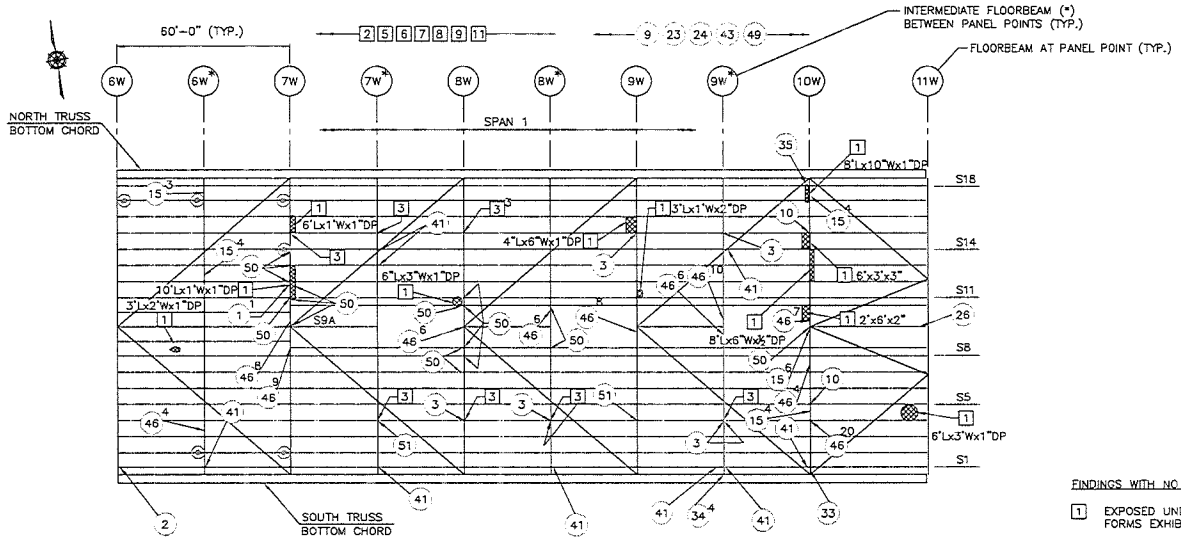
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 2W TO PP 6W

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-1



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⌀ OR ⊚ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

(X) REPLACE THE MISSING RIVETS OR BOLTS AT THE TOP AND/OR BOTTOM FLANGE OF THE FLOORBEAMS, TOP AND/OR BOTTOM OF THE BOTTOM TRUSS CHORD, OR THE BOTTOM TRUSS CHORD GUSSET PLATE. 'X' INDICATES THE NUMBER OF MISSING BOLTS OR RIVETS.

(2*) REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(15X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(26) REMOVE THE DEBRIS ON THE WINDLOCK AND CLEAN AND PAINT THE MODERATELY TO SEVERELY CORRODED WINDLOCK MEMBERS.

ROUTINE REPAIRS (CONTINUED)

(33X) REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

(34X) REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(35) REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(46X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[1] EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

△ – INDICATES PRIORITY REPAIRS

◯ – INDICATES ROUTINE REPAIRS

□ – INDICATES FINDINGS WITH NO RECOMMENDATION

⊚ – INDICATES 3/4"⌀ HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

– DETERIORATED STAY-IN-PLACE FORMS

W – WIDE
DP – DEEP
L – LENGTH

Sheet 5 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 6W TO PP 11W

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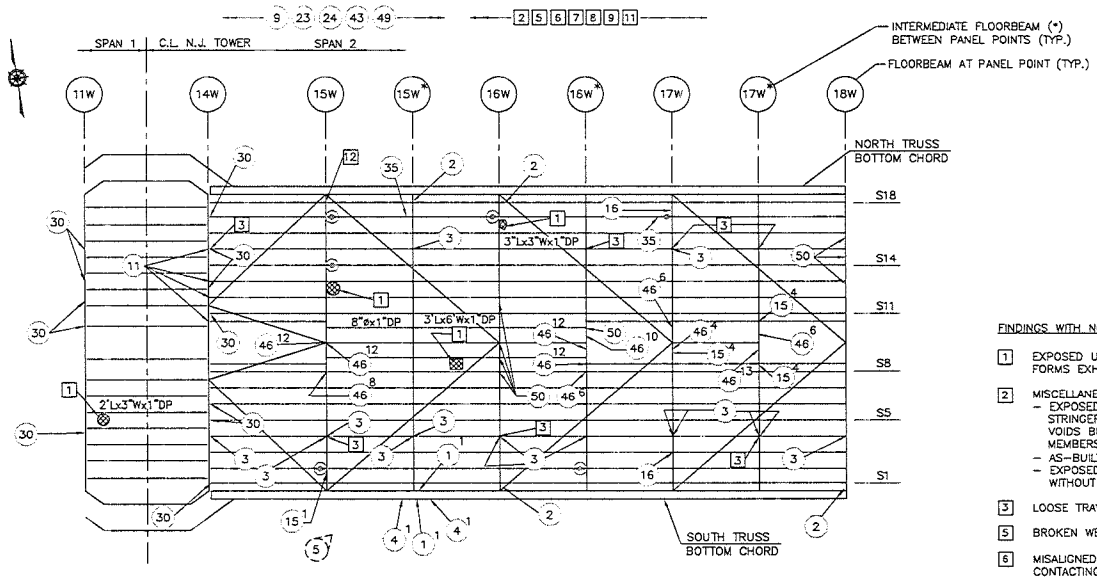
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-2



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (* OR ⊗ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

1 X REPLACE THE MISSING RIVETS OR BOLTS AT THE TOP AND/OR BOTTOM FLANGE OF THE FLOORBEAMS, TOP AND/OR BOTTOM OF THE BOTTOM TRUSS CHORD, OR THE BOTTOM TRUSS CHORD GUSSET PLATE. 'X' INDICATES THE NUMBER OF MISSING BOLTS OR RIVETS.

2 * REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

4 X REPLACE THE SHEARED, FRACTURED OR MISSING BOLTS AT THE BOTTOM TRUSS CHORD. 'X' INDICATES THE NUMBER OF SHEARED, FRACTURED OR MISSING BOLTS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

11 REPAIR THE CRACKED WELDS BETWEEN A FINGER AND A FINGER BAR OR A CRACKED FINGER BAR AT THE TOWER DECK JOINTS.

15 X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

16 REPAIR THE HEAVY CORROSION WITH RANDOM HOLES IN CHANNEL SUPPORTS OF ABANDONED PLATFORMS ATTACHED TO THE BOTTOM OF THE FLOORBEAMS (ALTERNATELY REMOVE THE PLATFORMS).

ROUTINE REPAIRS (CONTINUED)

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

30 CLEAN AND PAINT THE MODERATELY RUSTED BEARINGS WITH UP TO 1/2" UPLIFT OF THE STRINGER (1/2" MAXIMUM MEASURED UPLIFT OF STRINGER S5 AT THE 14E BEARING) DUE TO PACK RUST AT THE TOWERS.

35 REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

46 X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

FINDINGS WITH NO RECOMMENDATION

1 EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

12 PIN CONNECTION WAS PREVIOSULY LOOSE AND TIGHTENED WITH SOUTH NUT WELDED TO PIN AND NORTH END OF PIN HAMMERED TO RESTRICT MOVEMENT OF NORTH WASHER.

LEGEND:

BE PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

– INDICATES PRIORITY REPAIRS

– INDICATES ROUTINE REPAIRS

– INDICATES FINDINGS WITH NO RECOMMENDATION

* – INDICATES HORIZONTAL CRACK IN TOP OF STRINGER WEB ABOVE SPLICE PLATE. (SEE PRIORITY REPAIR 17)

⊗ – INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

– DETERIORATED STAY-IN-PLACE FORMS

W – WIDE
DP – DEEP
L – LENGTH

Sheet 6 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 11W TO PP 18W

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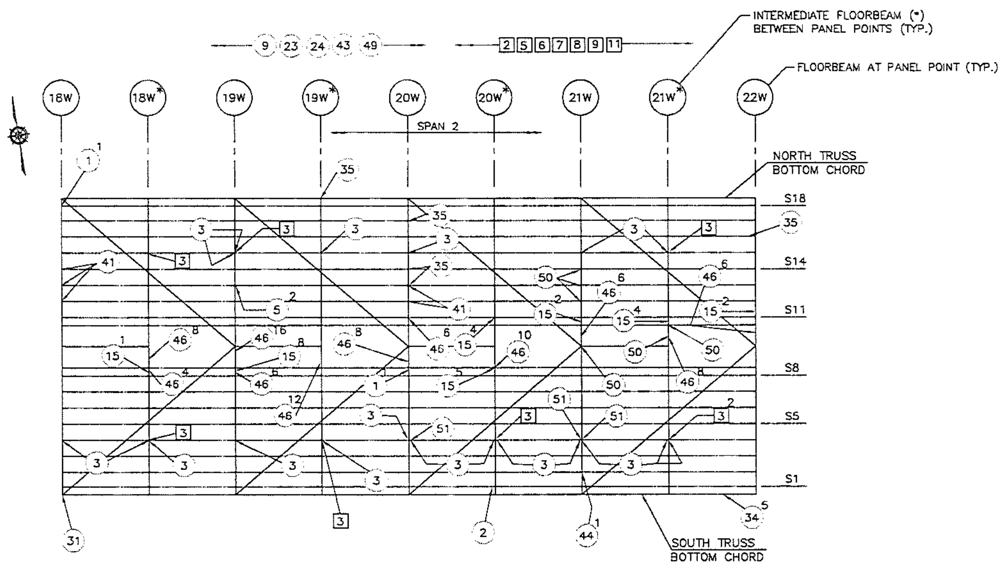
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-3



ROUTINE REPAIRS

(1)X REPLACE THE MISSING RIVETS OR BOLTS AT THE TOP AND/OR BOTTOM FLANGE OF THE FLOORBEAMS, TOP AND/OR BOTTOM OF THE BOTTOM TRUSS CHORD, OR THE BOTTOM TRUSS CHORD GUSSET PLATE. 'X' INDICATES THE NUMBER OF MISSING BOLTS OR RIVETS.

(2)* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(5)X TIGHTEN THE LOOSE BOLTS AND REPLACE MISSING NUTS AND BOLTS AT STRINGER WEB CONNECTIONS TO THE FLOORBEAMS (5 BOLTS PER CONNECTION EXCEPT 4 BOLTS PER CONNECTION WHERE THE STRINGER TIE-DOWN HAS BEEN MODIFIED). 'X' INDICATES THE NUMBER OF LOOSE BOLTS, MISSING BOLTS AND NUTS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(15)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(31) REPLACE THE MISSING DRAINPIPE AT DRAIN HOLE IN TOP FLANGE OF BOTTOM CHORD OF STIFFENING TRUSS.

ROUTINE REPAIRS (CONTINUED)

(34)X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(35) REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44)X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(46)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

( ) - INDICATES ROUTINE REPAIRS

[ ] - INDICATES FINDINGS WITH NO RECOMMENDATION

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

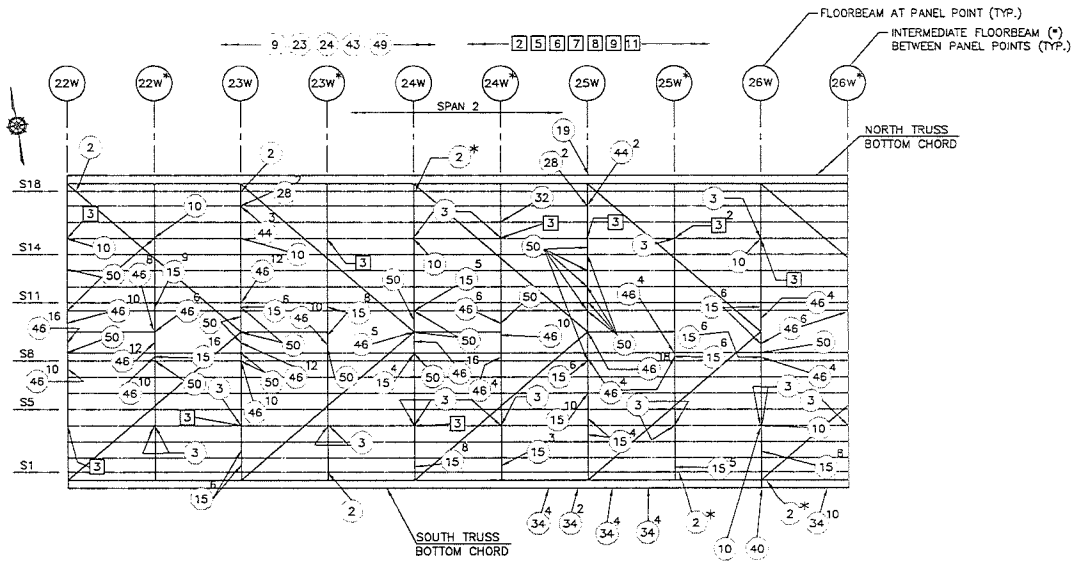
BIN 5522507
LOWER LEVEL
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 18W TO PP 22W

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-4



ROUTINE REPAIRS

(2)* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(15)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(19) REPAIR DETACHED FLANGE CLIPS, REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(28)X REPLACE THE SHEARED OF RIVETS IN THE STRINGER SPLICE PLATE DUE TO PACK RUST. 'X' INDICATES THE NUMBER OF SHEARED OFF RIVETS.

(32) REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

ROUTINE REPAIRS (CONTINUED)

(34)X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(40) REPAIR THE 2 INCH DIAMETER HOLE IN THE TOP PLATE OF THE BOTTOM CHORD OF THE STIFFENING TRUSS.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44)X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(46)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

FINDINGS WITH NO RECOMMENDATION

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

( ) - INDICATES ROUTINE REPAIRS

[ ] - INDICATES FINDINGS WITH NO RECOMMENDATION

Sheet 8 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

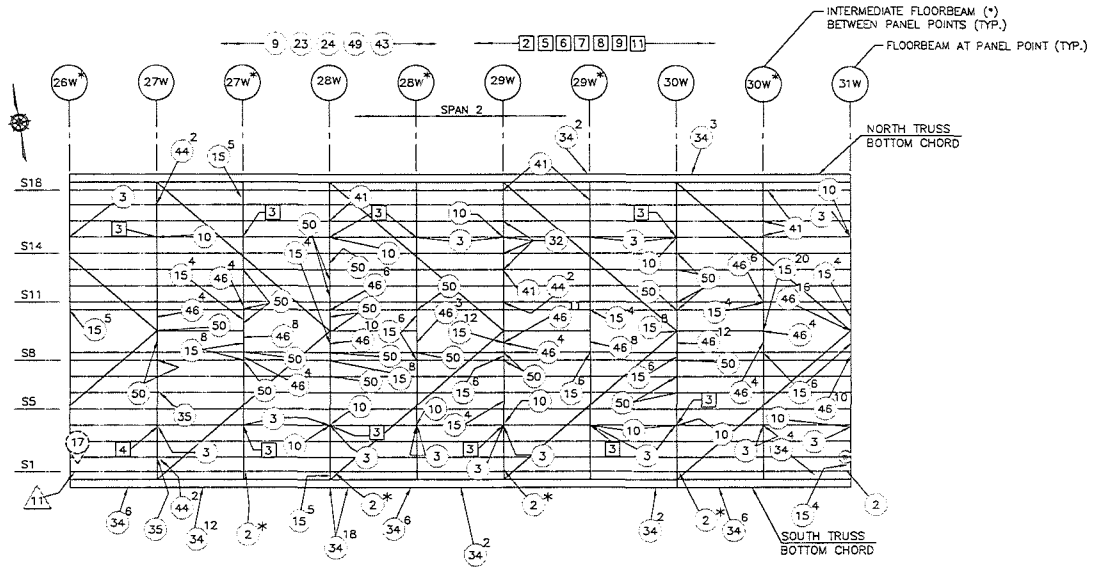
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 22W TO PP 26W*

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-5



PRIORITY REPAIRS

(11) REPAIR THE SEVERELY CORRODED STRINGER WEB, WITH HOLES AROUND THE BEARING STIFFENING ANGLES, OF STRINGER S1 AT THE EAST SIDE OF PANEL POINT 26W*.

(17) REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (ø OR ⊗ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

(2)* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(15)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(32) REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

ROUTINE REPAIRS (CONTINUED)

(34)X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(35) REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44)X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(46)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

FINDINGS WITH NO RECOMMENDATION

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[4] PACK RUST AT THE CONNECTION OF THE HANGER TEE TO THE FLOORBEAM AT SOUTH CONNECTION AT WEST SIDE OF FLOORBEAM 27W.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

△ - INDICATES PRIORITY REPAIRS

○ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

⊗ - INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR (17))

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

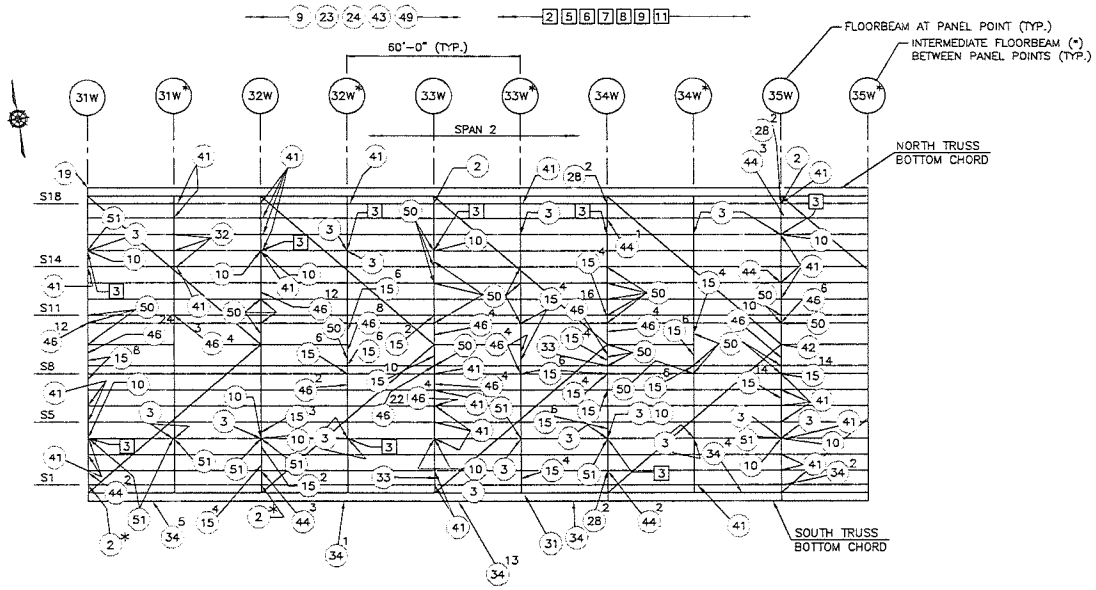
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 28W* TO PP 31W

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-6



ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

19 REPAIR DETACHED FLANGE CLIPS, REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS. PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

28X REPLACE THE SHEARED OF RIVETS IN THE STRINGER SPLICE PLATE DUE TO PACK RUST. 'X' INDICATES THE NUMBER OF SHEARED OFF RIVETS.

31 REPLACE THE MISSING DRAINPIPE AT DRAIN HOLE IN TOP FLANGE OF BOTTOM CHORD OF STIFFENING TRUSS.

32 REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

ROUTINE REPAIRS (CONTINUED)

33X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

42 REPAIR SEVERELY CORRODED DIAPHRAGM WITH HOLE FOR THE CROSSWALK.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

46X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

◯ – INDICATES ROUTINE REPAIRS

□ – INDICATES FINDINGS WITH NO RECOMMENDATION

Sheet 10 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 31W TO PP 35W*

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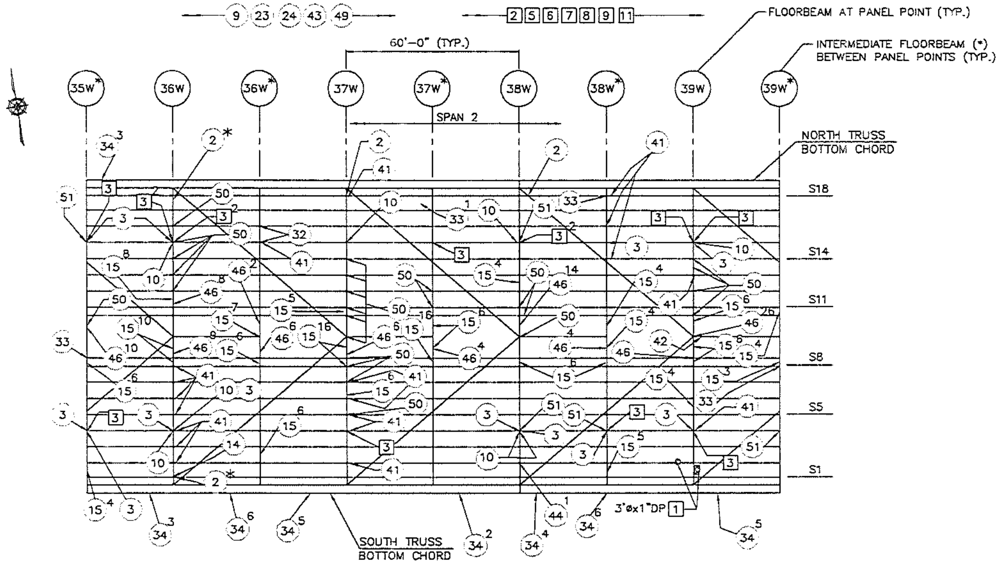
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-7



ROUTINE REPAIRS

(2)* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. * INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE, CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(14) REPLACE THE SHEARED OFF AND MISSING BOLT AT THE STINGER TO FLOORBEAM CONNECTION.

(15)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(32) REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

(33)X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

ROUTINE REPAIRS (CONTINUED)

(34)X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(42) REPAIR SEVERELY CORRODED DIAPHRAGM WITH HOLE FOR THE CROSSWALK.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44)X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(46)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[1] EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

( ) - INDICATES ROUTINE REPAIRS

[ ] - INDICATES FINDINGS WITH NO RECOMMENDATION

DP - DEEP

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

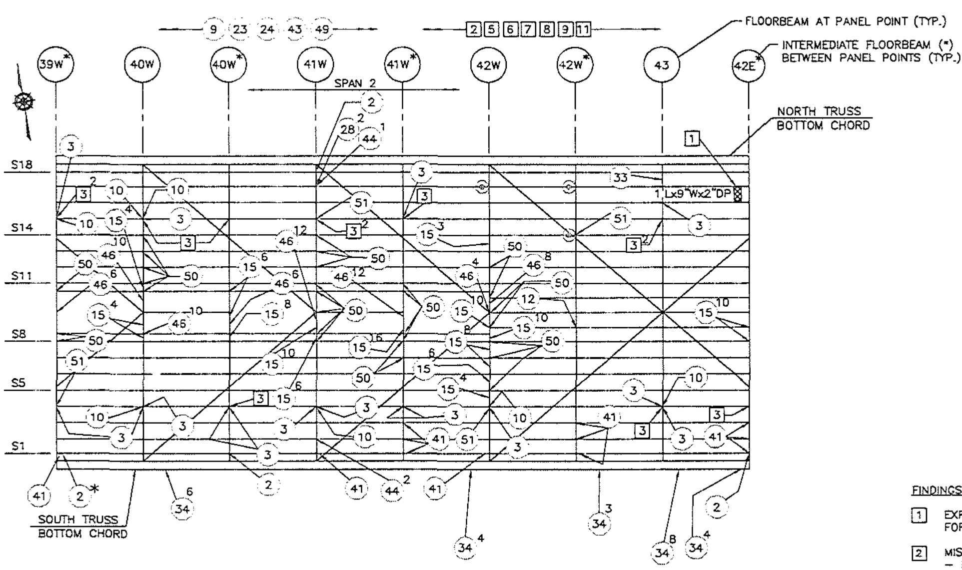
BIN 5522507
LOWER LEVEL
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 35W* TO PP 39W*

Designed by	Drawn by	Checked by
DS	RQ	GA

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-8



PRIORITY REPAIRS

17 (priority) REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (◈ OR ◎ DENOTES CRACK WITH OR WITHOUT HOLES. SEE LEGEND BELOW)

ROUTINE REPAIRS

(2)* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(12)X TIGHTEN THE LOOSE BOLTS AT THE TOP OR BOTTOM FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF LOOSE BOLTS.

(15)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

ROUTINE REPAIRS (CONTINUED)

(28)X REPLACE THE SHEARED OF RIVETS IN THE STRINGER SPLICE PLATE DUE TO PACK RUST. 'X' INDICATES THE NUMBER OF SHEARED OFF RIVETS.

(33)X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

(34)X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44)X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(46)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[1] EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

△ - INDICATES PRIORITY REPAIRS

○ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

◎ - INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

(hatched) - DETERIORATED STAY-IN-PLACE FORMS

W - WIDE
DP - DEEP
L - LENGTH

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

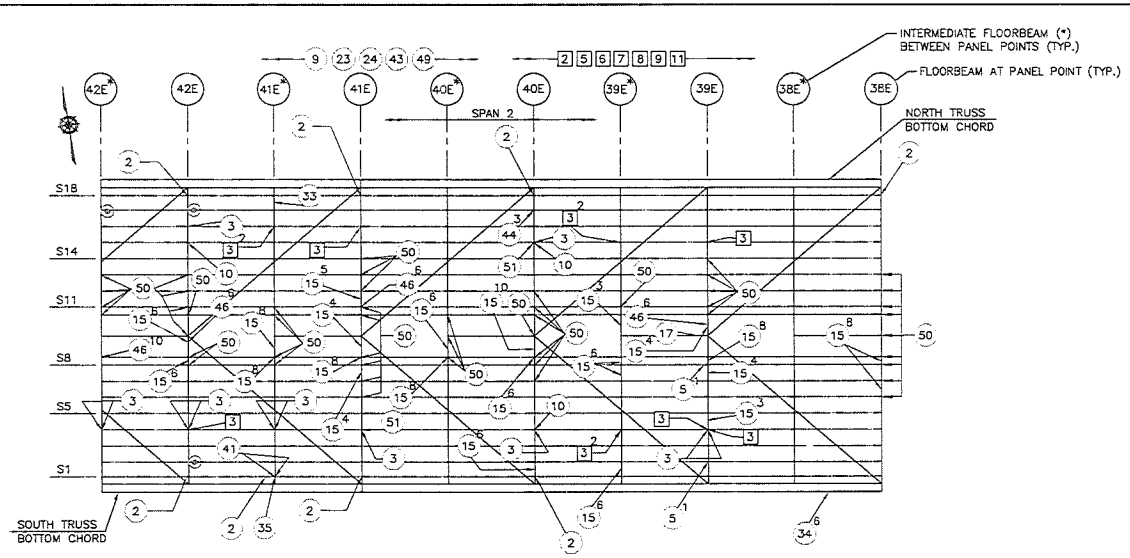
Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE
BIN 5522507
LOWER LEVEL
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 39W* TO PP 42E*

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-9



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (ø OR ⊗ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

5X TIGHTEN THE LOOSE BOLTS AND REPLACE MISSING NUTS AND BOLTS AT STRINGER WEB CONNECTIONS TO THE FLOORBEAMS (5 BOLTS PER CONNECTION EXCEPT 4 BOLTS PER CONNECTION WHERE THE STRINGER TIE-DOWN HAS BEEN MODIFIED). 'X' INDICATES THE NUMBER OF LOOSE BOLTS, MISSING BOLTS AND NUTS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

17 REPAIR THE HEAVY RUST WITH SMALL HOLES IN THE LATERAL BRACING BETWEEN FLOORBEAMS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

ROUTINE REPAIRS (CONTINUED)

33X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

35 REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

46X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

△ – INDICATES PRIORITY REPAIRS

○ – INDICATES ROUTINE REPAIRS

□ – INDICATES FINDINGS WITH NO RECOMMENDATION

⊗ – INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

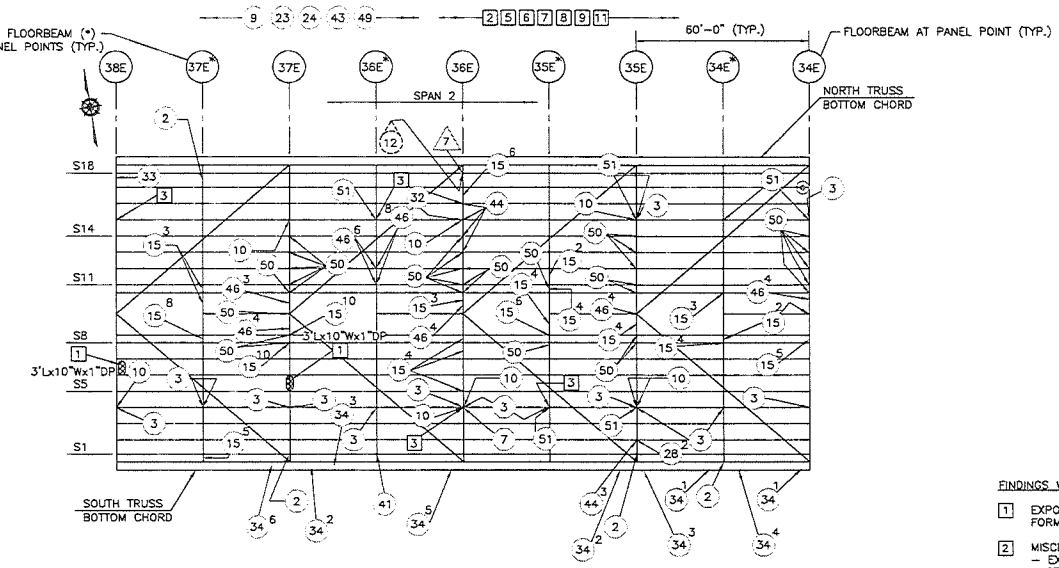
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 42E* TO PP 38E

DS	RQ	QA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-10



PRIORITY REPAIRS

7 REPAIR THE SEVERELY CORRODED WEB, WITH HOLES AROUND THE BEARING STIFFENING ANGLES, OF STRINGER S18 AT THE WEST SIDE OF PANEL POINT 36E.

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⊕ OR ⓔ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

7 REPAIR HOLE IN THE INSULATING PLASTIC COVER OF THE POWER SUPPLY LINE FOR THE TRAVELER NEAR PANEL POINT 36E.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

ROUTINE REPAIRS (CONTINUED)

28X REPLACE THE SHEARED OF RIVETS IN THE STRINGER SPLICE PLATE DUE TO PACK RUST. 'X' INDICATES THE NUMBER OF SHEARED OFF RIVETS.

32 REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

33X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

46X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

1 EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

△ - INDICATES PRIORITY REPAIRS

○ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

ⓔ - INDICATES 3/4"⌀ HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

- DETERIORATED STAY-IN-PLACE FORMS

W - WIDE
DP - DEEP
L - LENGTH

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 38E TO PP 34E

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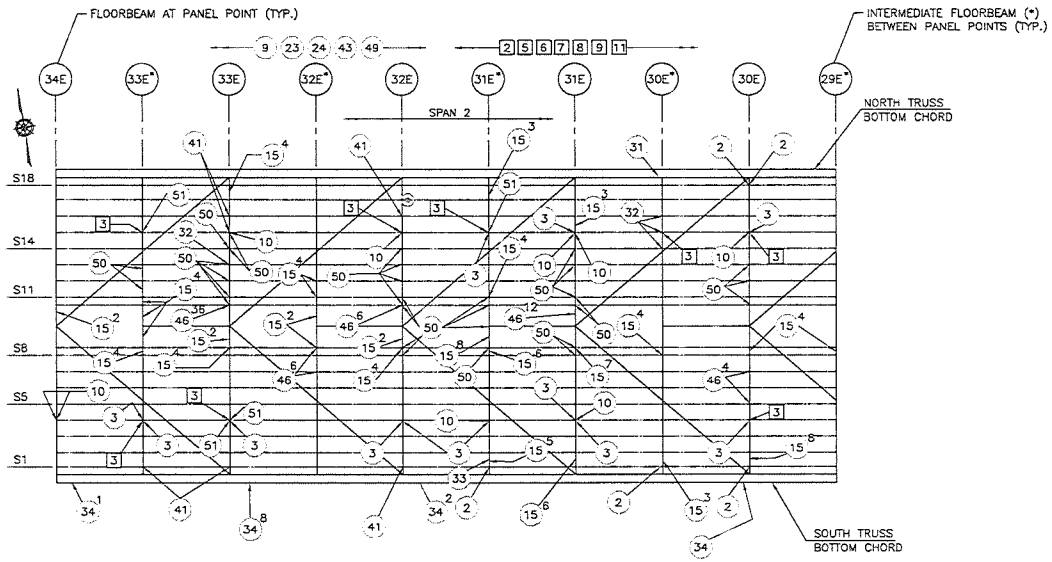
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-11



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⊕ OR ⓑ DENOTES CRACK WITH OR WITHOUT HOLES. SEE LEGEND BELOW)

ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

31 REPLACE THE MISSING DRAINPIPE AT DRAIN HOLE IN TOP FLANGE OF BOTTOM CHORD OF STIFFENING TRUSS.

ROUTINE REPAIRS (CONTINUED)

32 REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

33X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

46X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

△ - INDICATES PRIORITY REPAIRS

○ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

ⓑ - INDICATES 3/4"⊘ HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

Sheet 15 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

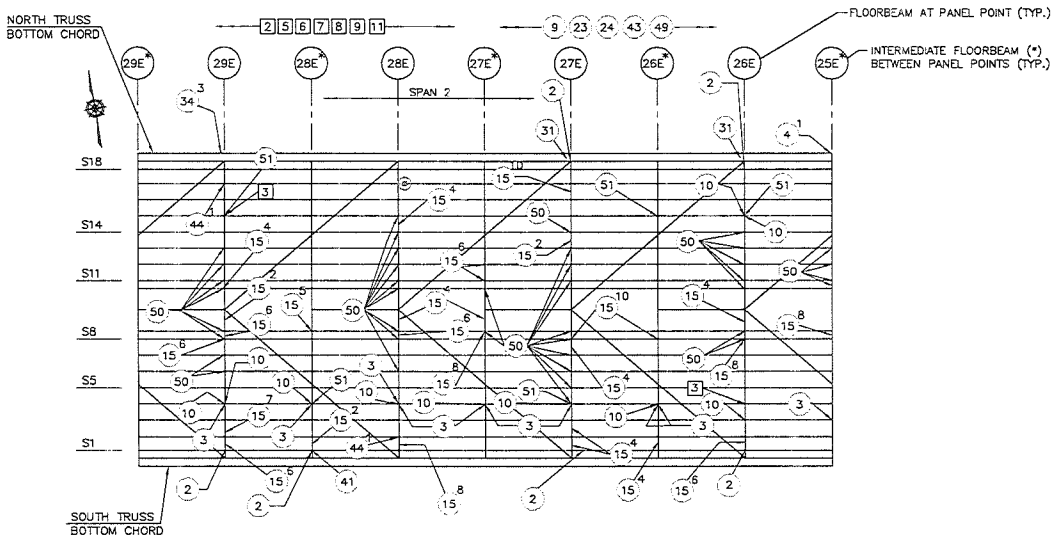
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 34E TO PP 29E*

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-12



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (ø OR ⓔ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

4X REPLACE THE SHEARED, FRACTURED OR MISSING BOLTS AT THE BOTTOM TRUSS CHORD. 'X' INDICATES THE NUMBER OF SHEARED, FRACTURED OR MISSING BOLTS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

31 REPLACE THE MISSING DRAINPIPE AT DRAIN HOLE IN TOP FLANGE OF BOTTOM CHORD OF STIFFENING TRUSS.

ROUTINE REPAIRS (CONTINUED)

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

48 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

△ - INDICATES PRIORITY REPAIRS

○ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

ⓔ - INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17.)

Sheet 16 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

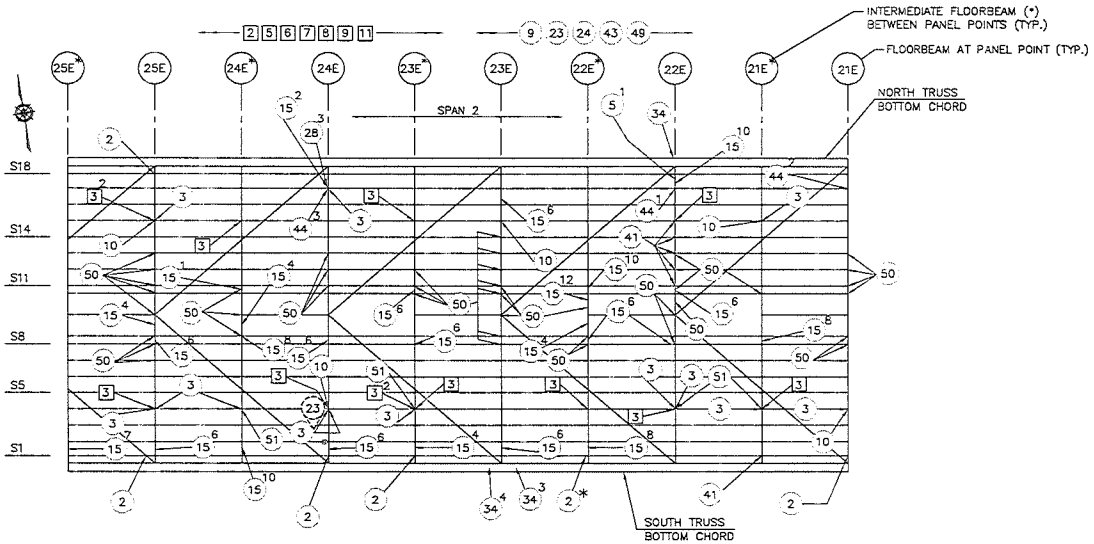
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 29E* TO PP 25E*

DS	RO	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-13



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (• OR ⊗ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

5X TIGHTEN THE LOOSE BOLTS AND REPLACE MISSING NUTS AND BOLTS AT STRINGER WEB CONNECTIONS TO THE FLOORBEAMS (5 BOLTS PER CONNECTION EXCEPT 4 BOLTS PER CONNECTION WHERE THE STRINGER TIE-DOWN HAS BEEN MODIFIED). 'X' INDICATES THE NUMBER OF LOOSE BOLTS, MISSING BOLTS AND NUTS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

28X REPLACE THE SHEARED OF RIVETS IN THE STRINGER SPLICE PLATE DUE TO PACK RUST. 'X' INDICATES THE NUMBER OF SHEARED OFF RIVETS.

ROUTINE REPAIRS (CONTINUED)

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

△ – INDICATES PRIORITY REPAIRS

– INDICATES ROUTINE REPAIRS

□ – INDICATES FINDINGS WITH NO RECOMMENDATION

⊗ – INDICATES HORIZONTAL CRACK IN TOP OF STRINGER WEB ABOVE SPLICE PLATE. (SEE PRIORITY REPAIR 17)

Sheet 17 of 40

THE PORT AUTHORITY OF NY&NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 25E* TO PP 21E

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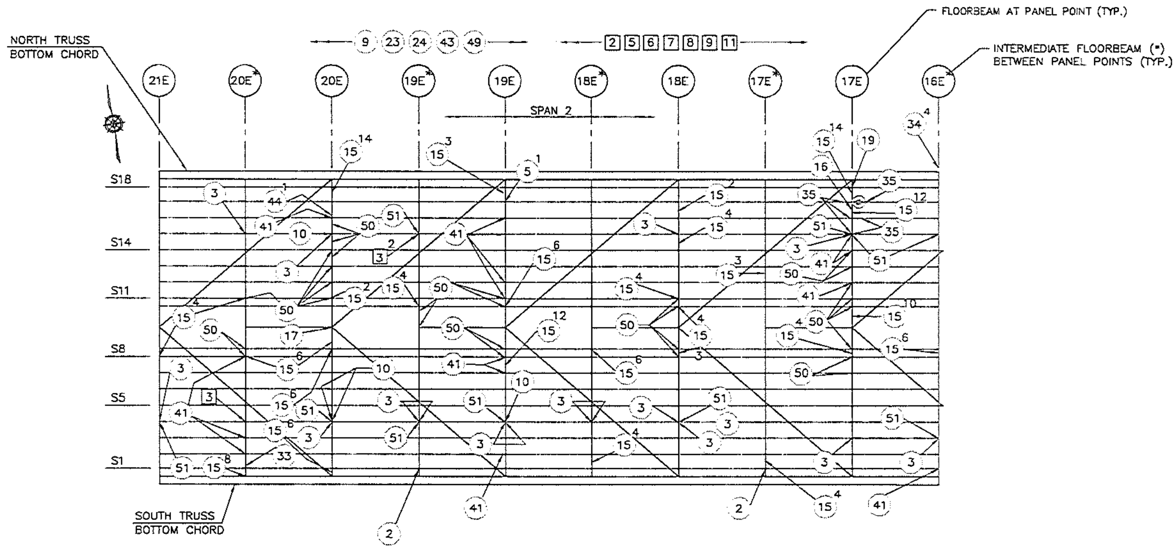
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-14



THE PORT AUTHORITY OF NY & NJ

PRIORITY REPAIRS

△17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⊛ OR ⓒ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

(2)* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. * INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(5)X TIGHTEN THE LOOSE BOLTS AND REPLACE MISSING NUTS AND BOLTS AT STRINGER WEB CONNECTIONS TO THE FLOORBEAMS (5 BOLTS PER CONNECTION EXCEPT 4 BOLTS PER CONNECTION WHERE THE STRINGER TIE-DOWN HAS BEEN MODIFIED). 'X' INDICATES THE NUMBER OF LOOSE BOLTS, MISSING BOLTS AND NUTS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(15)X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(16) REPAIR THE HEAVY CORROSION WITH RANDOM HOLES IN CHANNEL SUPPORTS OF ABANDONED PLATFORMS ATTACHED TO THE BOTTOM OF THE FLOORBEAMS (ALTERNATELY REMOVE THE PLATFORMS).

(17) REPAIR THE HEAVY RUST WITH SMALL HOLES IN THE LATERAL BRACING BETWEEN FLOORBEAMS.

(19) REPAIR DETACHED FLANGE CLIPS, REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.

ROUTINE REPAIRS (CONTINUED)

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(33)X REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

(34)X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(35) REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44)X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

△ - INDICATES PRIORITY REPAIRS

◯ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

ⓒ - INDICATES 3/4"⌀ HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR △17)

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

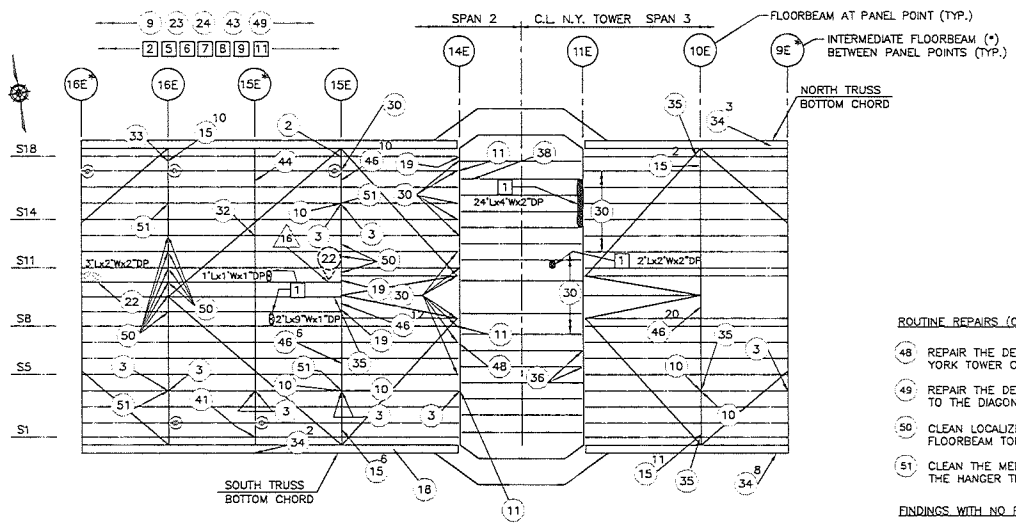
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 21E TO PP 16E*

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-15



PRIORITY REPAIRS

(16) REPAIR BOTTOM OF STRINGER S10 WEB AT THE WEST SIDE OF FLOORBEAM 15E CONNECTION WHICH EXHIBITS SEVERE CORROSION AND SECTION LOSS WITH 4"X1" AND 2"X1" HOLES AND A 3" CRACK IN BETWEEN.

(17) REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⊖ OR ⊗ DENOTES CRACK WITH OR WITHOUT HOLES. SEE LEGEND BELOW)

ROUTINE REPAIRS

(2*) REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. '*' INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(10) REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

(11) REPAIR THE CRACKED WELDS BETWEEN A FINGER AND A FINGER BAR OR A CRACKED FINGER BAR AT THE TOWER DECK JOINTS.

(15X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(18) REPAIR THE 3 INCH X 1 INCH HOLE IN THE TOP PLATE OF THE STIFFENING TRUSS BOTTOM CHORD BETWEEN PANEL POINTS 14E AND 15E.

(19) REPAIR DETACHED FLANGE CLIPS, REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.

(22) REPAIR THE SPALLED CONCRETE IN UNDERSIDE OF CONCRETE FILLED STEEL DECK GRATING.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

ROUTINE REPAIRS (CONTINUED)

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(30) CLEAN AND PAINT THE MODERATELY RUSTED BEARINGS WITH UP TO 1/2" UPLIFT OF THE STRINGER (1/2" MAXIMUM MEASURED UPLIFT OF STRINGER S5 AT THE 14E BEARING) DUE TO PACK RUST AT THE TOWERS.

(32) REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

(33X) REPAIR THE SEVERELY CORRODED DIAPHRAGM (WITH OR WITHOUT HOLES AND UP TO 1/8" LOSS) THAT SUPPORT THE SAFETY WALK OR MEDIAN. 'X' INDICATES THE NUMBER DIAPHRAGMS BETWEEN THE STRINGERS.

(34X) REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(35) REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.

(36) REPAIR THE CRACKED WELD BETWEEN THE BOTTOM FLANGE OF STRINGERS S4 TO S6 AND THE BEARING PLATE AT PANEL POINT 11E.

(38) REPLACE THE SHEARED TIE DOWN BOLTS FOR THE DECK FINGER JOINT.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(44X) REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

(46X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

ROUTINE REPAIRS (CONTINUED)

(48) REPAIR THE DETACHED SECTION OF LOWER RAIL OF TWO RAIL SYSTEM AT WEST NEW YORK TOWER CATWALK.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[1] EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

△ – INDICATES PRIORITY REPAIRS

○ – INDICATES ROUTINE REPAIRS

□ – INDICATES FINDINGS WITH NO RECOMMENDATION

⊗ – INDICATES 3/4"⊖ HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

– POTHOLE/SPALL

– DETERIORATED STAY-IN-PLACE FORMS

W – WIDE
DP – DEEP
L – LENGTH

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

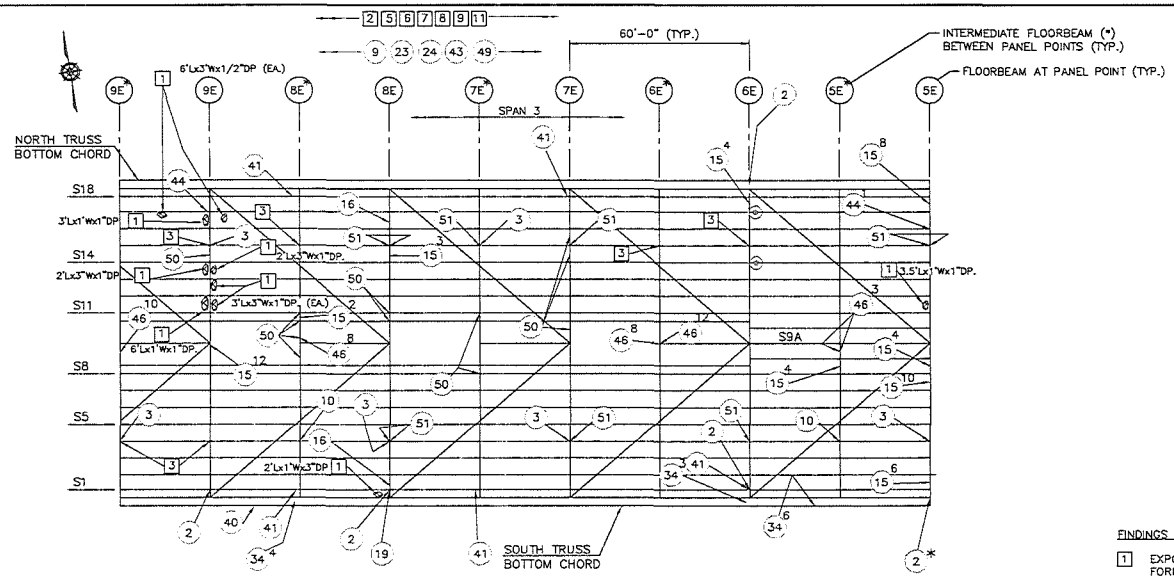
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 16E* TO PP 9E

DS	DG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-16



PRIORITY REPAIRS

17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (◦ OR ⊚ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

2* REPAIR THE CRACKS AND HOLES IN THE FASCIA STRINGER WEBS, S1 AND S18, BELOW THE STRINGER SUPPORT ANGLE, DIAPHRAGMS OR VERTICAL FLOORBEAM STIFFENERS. * INDICATES LOCATION WITH DRILLED ARRESTOR HOLE.

3 REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

9 CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE, CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

10 REPAIR OR REPLACE THE HEAVILY RUSTED HORIZONTAL STIFFENER PLATES WITH MORE THAN 50% AREAS OF SECTION LOSS ADJACENT TO THE TRAVELER HANGER TEE.

15X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

16 REPAIR THE HEAVY CORROSION WITH RANDOM HOLES IN CHANNEL SUPPORTS OF ABANDONED PLATFORMS ATTACHED TO THE BOTTOM OF THE FLOORBEAMS (ALTERNATELY REMOVE THE PLATFORMS).

19 REPAIR DETACHED FLANGE CLIPS, REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.

23 CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

24 CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

ROUTINE REPAIRS (CONTINUED)

34X REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

40 REPAIR THE 2 INCH DIAMETER HOLE IN THE TOP PLATE OF THE BOTTOM CHORD OF THE STIFFENING TRUSS.

41 REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

43 CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

44X REMOVE AND REPLACE THE WARPED/ BULGING CONNECTION PLATES, DUE TO PACK RUST, BETWEEN STRINGER WEBS OVER FLOORBEAMS. CLEAN AND PAINT STEEL SURFACES AND REASSEMBLE THE CONNECTIONS WITH NEW BOLTS. 'X' INDICATES THE NUMBER OF MISSING BOLTS.

46X REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

49 REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

50 CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

51 CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

1 EXPOSED UNDERSIDE OF STEEL GRID DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS EXHIBITS DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION.

2 MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

3 LOOSE TRAVELER HANGER RODS.

5 BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

6 MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

7 AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

8 HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

9 EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

11 HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

△ - INDICATES PRIORITY REPAIRS

◯ - INDICATES ROUTINE REPAIRS

□ - INDICATES FINDINGS WITH NO RECOMMENDATION

⊚ - INDICATES 3/4"ø HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR 17)

▨ - DETERIORATED STAY-IN-PLACE FORMS

W - WIDE
DP - DEEP
L - LENGTH

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN PP 9E* TO PP 5E

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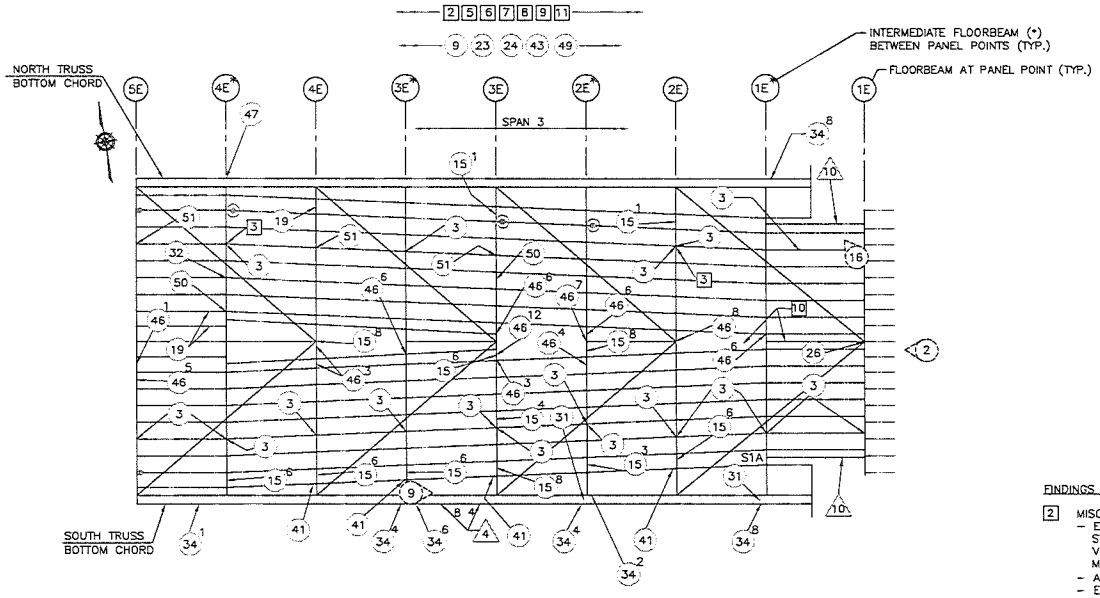
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-17



PRIORITY REPAIRS

△4 REPAIR TWELVE (12) UP TO 6" X 2" HOLES IN THE TOP PLATE OF THE SOUTH BOTTOM TRUSS CHORD BETWEEN PANEL POINTS 3E* AND 3E. TEMPORARY REPAIR PERFORMED BY FILLING HOLES WITH CAULK AND REPAINTING.

△10 REPAIR THE SEVERELY CORRODED STRINGERS S1 AND S1B WITH WEB HOLES AND 50% SECTION LOSS OF BOTTOM FLANGE NEAR THE 1/3 SPAN BETWEEN PANEL POINTS 1E* AND 1E.

△17 REPAIR TOP OF THE INTERIOR STRINGER WEBS WHICH EXHIBIT SEVERE CORROSION AND SECTION LOSS WITH CRACKS (WITH OR WITHOUT ARRESTOR DRILL HOLES) ABOVE THE SPLICE PLATES OVER THE BEARING AREA AT THE FLOORBEAM CONNECTIONS. (⌀ OR ⓔ DENOTES CRACK WITH OR WITHOUT HOLES, SEE LEGEND BELOW)

ROUTINE REPAIRS

(3) REPAIR OR REPLACE BROKEN OR BENT DAMPER BOLTS, LOOSE NUTS ON DAMPER BOLTS AND BROKEN BOLT SPRINGS.

(9) CLEAN THE LIGHT TO MEDIUM RUST FROM TOP FLANGE OF BOTH TRAVELER BEAMS AND PAINT THE TOP OF THE BEAM. REMOVE PROTECTIVE PLASTIC TAPE WHERE APPROPRIATE. CLEAN THE LIGHT TO HEAVY RUST AND PAINT THE HANGER ROD ASSEMBLIES.

(15X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE TOP FLANGE OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(19) REPAIR DETACHED FLANGE CLIPS. REPLACE MISSING FLANGE CLIPS AND REPAIR DETACHED 1-1/2" CHANNEL SUPPORT FOR ELECTRICAL CONDUITS.

(23) CLEAN AND PAINT THE MODERATE PITTING, CORROSION AND PACK RUST OF STEEL ANGLES OF DIAGONAL, LONGITUDINAL BRACING MEMBERS BETWEEN FLOORBEAMS OR BRACING AT GUSSET PLATE CONNECTION TO FLOORBEAMS PARTICULARLY BELOW SAFETY WALKS AND OPEN MEDIAN.

(24) CLEAN AND PAINT THE MODERATE TO SEVERE RUSTING AND PITTING WITH MINOR SECTION LOSS, PAINT FAILURE AT STRINGERS, STRINGER WEB CONNECTION PLATES, DIAPHRAGMS, PIN SUPPORTS AT CAP BEAMS (NEW YORK ANCHORAGE) BENEATH THE MEDIAN OPENINGS AND AT THE OUTER CURB LINES.

(26) REMOVE THE DEBRIS ON THE WINDLOCK AND CLEAN AND PAINT THE MODERATELY TO SEVERELY CORRODED WINDLOCK MEMBERS.

ROUTINE REPAIRS (CONTINUED)

(31) REPLACE THE MISSING DRAINPIPE AT DRAIN HOLE IN TOP FLANGE OF BOTTOM CHORD OF STIFFENING TRUSS.

(32) REPAIR THE AREAS OF MUTUAL WEAR BETWEEN THE STRINGER LOWER FLANGE AND BEARING PLATE OVER THE FLOORBEAM WITH UP TO 1/8" GAP AND MINOR VERTICAL MOVEMENT OF THE STRINGER UNDER LIVE LOAD.

(34X) REPLACE RIVETS WITH GREATER THAN 50% SECTION LOSS ALONG BOTTOM CHORD OF THE STIFFENING TRUSS OR GUSSET PLATES AT CONNECTIONS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVET HEADS.

(41) REMOVE AND REPLACE CRACKED AND BULGING BEARING NEOPRENE PADS BETWEEN THE STRINGER AND FLOORBEAM.

(43) CLEAN PACK RUST CAUSING BULGING BETWEEN THE BOTTOM COVER PLATES AND FLANGE ANGLES OF STIFFENING TRUSS BOTTOM CHORD AND PAINT.

(46X) REPLACE RIVETS OR BOLTS WITH GREATER THAN 50% SECTION LOSS AT THE BOTTOM FLANGES OF THE FLOORBEAMS. 'X' INDICATES THE NUMBER OF DETERIORATED RIVETS OR BOLTS.

(47) REPAIR THE RANDOM LOOSE OR DETERIORATED BOLTS AT THE GUSSET PLATES OF THE NORTH STIFFENING TRUSSES AT PANEL POINT 4E*.

(49) REPAIR THE DETERIORATED GUSSET PLATE AT THE CONNECTION OF THE BOTTOM CHORD TO THE DIAGONALS OF THE STIFFENING TRUSS.

(50) CLEAN LOCALIZED PACK RUST UP TO 3/4" THICK BETWEEN THE COVER PLATES OF FLOORBEAM TOP FLANGE.

(51) CLEAN THE MEDIUM TO HEAVY RUST WITH MINOR SECTION LOSS FROM THE WEB OF THE HANGER TEE OR HANGER RODS.

FINDINGS WITH NO RECOMMENDATION

[2] MISCELLANEOUS UNDERSIDE OF DECK DEFICIENCIES:
- EXPOSED UNDERSIDE OF DECK AT THE CANTILEVERS OF THE DECK BEYOND THE STRINGERS, DUE TO DETERIORATED STAY-IN-PLACE FORMS, EXHIBIT DECK VOIDS BUT WITHOUT CONCRETE DETERIORATION. EMBEDDED STEEL GRID DECK MEMBERS, EXPOSED AT RANDOM LOCATIONS, EXHIBIT LIGHT TO MODERATE RUST.
- AS-BUILT STAY-IN-PLACE FORM BLOW OUTS (FAILURES).
- EXPOSED UNDERSIDE OF DECK DUE TO DETERIORATED STAY-IN-PLACE FORMS WITHOUT VOIDS OR NOTABLE CONCRETE DETERIORATION.

[3] LOOSE TRAVELER HANGER RODS.

[5] BROKEN WELDS AT SQUARE WASHERS OF HANGER ROD CONNECTIONS.

[6] MISALIGNED "NON-VERTICAL" TRAVELER HANGER DAMPER BOLTS THAT REMAIN CONTACTING THE BASE PLATE.

[7] AS-BUILT CUT AT COPE IN STEMS OF HANGER TEES.

[8] HEAVY RUST OF THE SHORT LEG OF THE ANGLE SUPPORT FOR THE STEEL CURB WITH UP TO 100% LOSS OF SECTION AT THE DECK ELEVATION.

[9] EXTRA LENGTHS OF JOINT FILLER EXTEND BEYOND EDGE OF DECK.

[10] STEEL STRAPS WELDED TO THE UNDERSIDE OF THE STEEL PLATE MEDIAN COVER ALONG THE BRIDGE CENTERLINE ARE MISSING OR PARTIALLY DETACHED AT FOUR LOCATIONS BETWEEN FLOORBEAMS 2E AND 1E ELEVATION.

[11] HEAVY PACK RUST AT STRINGER WEB CONNECTION PLATES AND BUILT-UP SAFETY WALK GRATE SUPPORTS.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

△ – INDICATES PRIORITY REPAIRS

○ – INDICATES ROUTINE REPAIRS

□ – INDICATES FINDINGS WITH NO RECOMMENDATION

⌀ – INDICATES HORIZONTAL CRACK IN TOP OF STRINGER WEB ABOVE SPLICE PLATE. (SEE PRIORITY REPAIR △17)

ⓔ – INDICATES 3/4"⌀ HOLE DRILLED AT END OF CRACK IN STRINGER WEB. (SEE PRIORITY REPAIR △17)

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THE PORT AUTHORITY OF NY & NJ

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
PP 5E TO PP 1E

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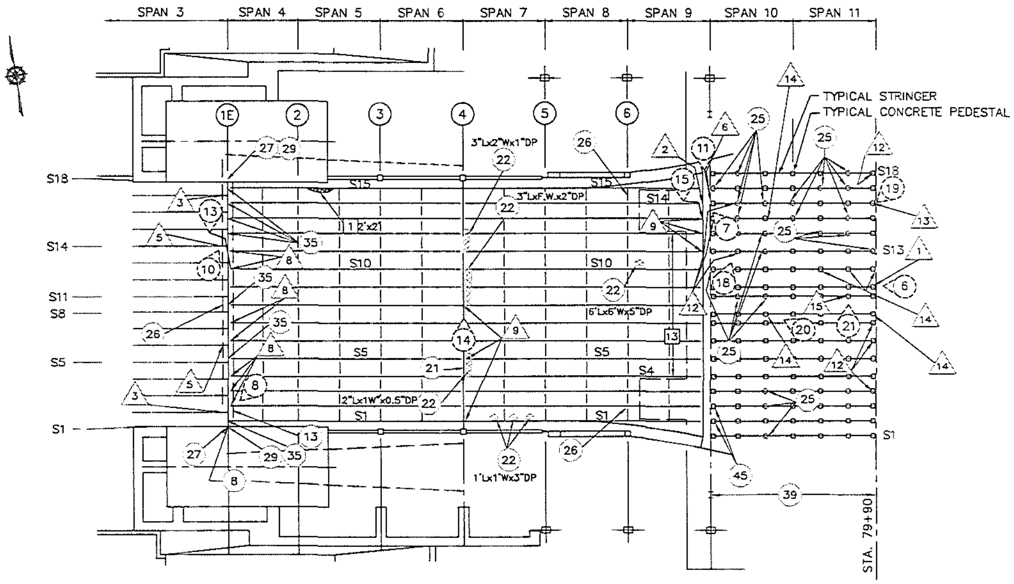
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-18



NEW YORK ANCHORAGE

PRIORITY REPAIRS

1. REPAIR SPALLED CONCRETE PEDESTAL AT THE EAST END OF SPAN 11 IN THE NEW YORK ANCHORAGE.
2. REPAIR SEVERELY CORRODED WEB, WITH HOLE NEAR THE BEARING OF STRINGER S14 LOCATED AT THE EAST END OF SPAN 9.
3. REPAIR SEVERELY CORRODED STRINGER WEBS WITH HOLES ABOVE THE BEARINGS AT STRINGERS S2 AND S17 ABOVE PANEL POINT 1E.
5. REPAIR SEVERELY CORRODED STRINGER WEBS WITH HOLES ABOVE THE BEARINGS AT STRINGERS S6 AND S14 ABOVE PANEL POINT 1E.
6. REPAIR SPALLED AND CRACKED CONCRETE PEDESTAL CAUSING MINOR UNDERMINING OF THE BEARING UNDER STRINGER S16 AT THE WEST END OF SPAN 10.
8. REPAIR THE SEVERELY CORRODED TOP FLANGE AND WEB WITH HOLES IN THE WEB AT THE BEARINGS OF STRINGERS S2, S3, S4, S6, S7, S10, AND S11, LOCATED AT THE EAST SIDE OF FLOORBEAM 1E.
9. REPAIR THE SEVERELY CORRODED WEBS, WITH HOLE NEAR THE BEARING, OF STRINGERS S1, S5, AND S8 LOCATED AT THE WEST END OF SPAN 7 AND AT STRINGERS S11, S12, AND S13, INCLUDING AN ADJACENT CORROSION CRACK AT STRINGER S12, LOCATED AT THE EAST END OF SPAN 9.
12. REPAIR CRACKED AND SPALLED CONCRETE PEDESTALS CAUSING UNDERMINING OF THE BEARING UNDER STRINGER S13, S15 AND S16 AT THE WEST END OF SPAN 10 AND UNDER STRINGER S4, S7, S8, & S18 AT THE EAST END OF SPAN 11.
13. REPAIR THE 2 OF 4 BROKEN ANCHOR BOLTS AT THE BEARING OF STRINGER S16 LOCATED AT THE EAST END OF SPAN 11.
14. REPAIR SPALLED AND CRACKED CONCRETE PEDESTALS, WITH OR WITHOUT EXPOSED ANCHOR BOLTS AND/OR REBAR, CAUSING MINOR UNDERMINING OF THE BEARING UNDER STRINGERS S9 AND S15 OF SPAN 10, UNDER STRINGER S9 AT EAST END OF SPAN 11, AND AT 3 LOCATIONS UNDER STRINGER S12 IN SPAN 11.
15. REPAIR SPALLED AND CRACKED CONCRETE PEDESTALS CAUSING MINOR UNDERMINING OF THE BEARING UNDER STRINGER S10 AT THE EAST END OF SPAN 11.

ROUTINE REPAIRS

8. RECONNECT THE BEARING STRAP PLATE AT THE SOUTH BEARING OF FLOORBEAM 1E.
13. REPAIR THE BROKEN AND DISCONNECTED DRAINAGE TROUGH.
21. REPAIR THE AREAS OF SECTION LOSS WITH UP TO 1/4" DIAMETER HOLES IN THE BASE OF THE WEB OF FLOORBEAM 4 AT SPANS 6 AND 7 BETWEEN STRINGERS S4 TO S6.
22. REPAIR THE SPALLED CONCRETE IN UNDERSIDE OF CONCRETE FILLED STEEL DECK GRATING.
25. REPAIR THE CRACKED AND/OR SPALLED CONCRETE PEDESTALS WITH LESS THAN 10% UNDERMINING OF THE BASE PLATES IN SPANS 10 AND 11 AT THE NEW YORK ANCHORAGE.
26. REMOVE THE DEBRIS ON THE WINDLOCK AND CLEAN AND PAINT THE MODERATELY TO SEVERELY CORRODED WINDLOCK MEMBERS.
27. CLEAN DEBRIS AND CLEAN AND PAINT THE MODERATELY TO SEVERELY RUSTED BEARINGS AT THE NORTH AND SOUTH ENDS OF CAP BEAM 1E AT THE NEW YORK ANCHORAGE.
29. REPAIR THE 2.5 FT WIDE X 1.0 FT LONG X 1.0 FT DEEP SPALL AT THE SOUTH PEDESTAL AND NORTH PEDESTAL UNDER CAP BEAM 1E AT THE NEW YORK ANCHORAGE (NO UNDERMINING OF THE BEARING WAS NOTED).
35. REPAIR THE DETERIORATED WEB AREA WITH OR WITHOUT SMALL CORROSION HOLES AND UP TO 1/16" SECTION LOSS AT THE BOTTOM OF THE STRINGER AT THE FLOORBEAM CONNECTION.
39. SEAL THE HOLES AT THE ANCHOR BOLTS CONNECTING THE JERSEY BARRIER TO THE DECK IN SPANS 10 AND 11 TO PREVENT WATER INTRUSION INTO THE DECK.
45. REPAIR ONE OF FOUR BROKEN ANCHOR BOLTS AT THE BEARING OF STRINGERS S2 AND S3 AT THE WEST END OF SPAN 10.

FINDINGS WITH NO RECOMMENDATION

13. CRACKED WELDED COVER PLATES AT EAST END OF STRINGERS S4 TO S11 IN SPAN 9 DUE TO PACK RUST. COVER PLATE AT STRINGER S12 HAS FALLEN OFF.

LEGEND:

- (8E) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- △ – INDICATES PRIORITY REPAIRS
- ◯ – INDICATES ROUTINE REPAIRS
- □ – INDICATES FINDINGS WITH NO RECOMMENDATION
- DETERIORATED STAY-IN-PLACE FORMS
- POTHOLE/SPALL
- W – WIDE
- DP – DEEP
- L – LENGTH
- F.W. – FULL WIDTH

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

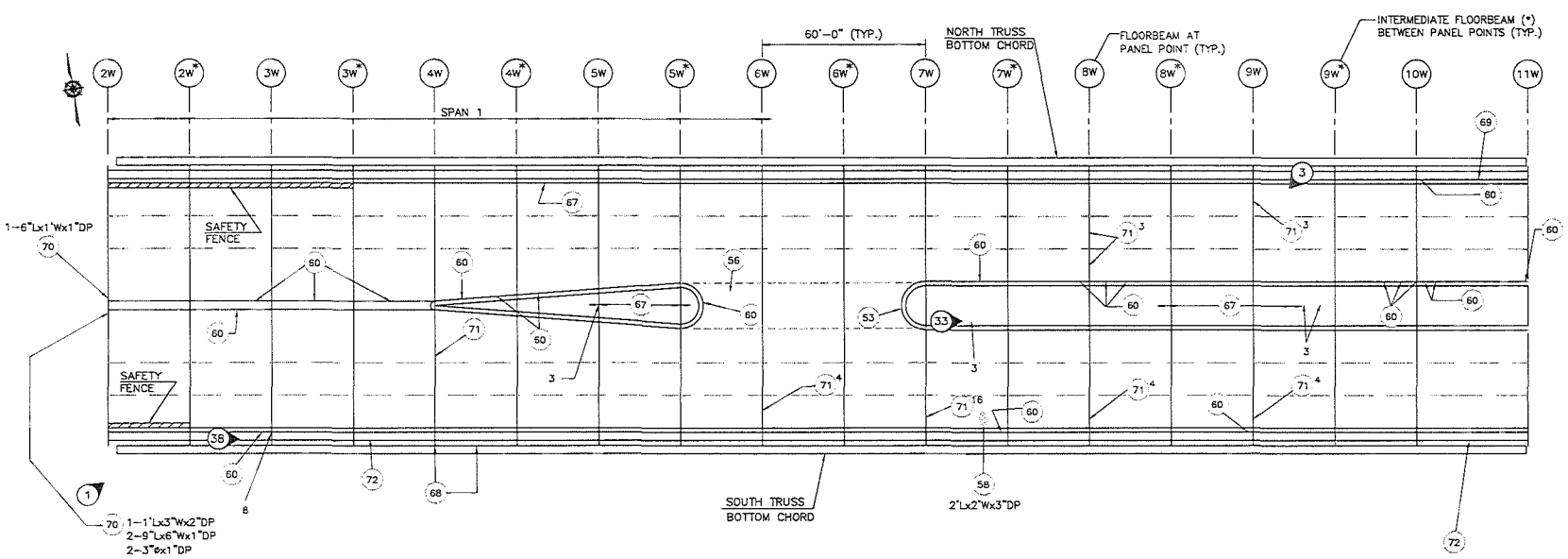
BIN 5522507
LOWER LEVEL
SUPERSTRUCTURE & DECK UNDERSIDE DEFICIENCY & PHOTO LOCATION PLAN
NEW YORK ANCHORAGE

Designed by	Drawn by	Checked by
DS	RQ	GA

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SDU-19



SAFETY REPAIRS

3 REPAIR OR REPLACE MEDIAN SAFETY NETTING WITH LARGE HOLES.

8 REPAIR OR REPLACE THE MISSING OR LOOSE COVER TO THE ELECTRICAL PANEL BOX WITH EXPOSED WIRES ATTACHED TO THE BACK OF THE BARRIER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS) ALONG THE NORTH AND SOUTH SAFETY WALKS.

ROUTINE REPAIRS

53 REPLACE MISSING CURB PLATE.

56 REPLACE THE MISSING BOLLARDS.

58 REPAIR THE POTHOLES OR SEVERE RAVELING IN THE ASPHALT WEARING SURFACE.

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

69 REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

70 REPAIR SPALLS WITH OR WITHOUT EXPOSED RUSTED STEEL REINFORCEMENT AT CONCRETE CURBS OR PAVEMENT.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

– POTHOLE/SPALL

W – WIDE

DP – DEEP

L – LENGTH

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

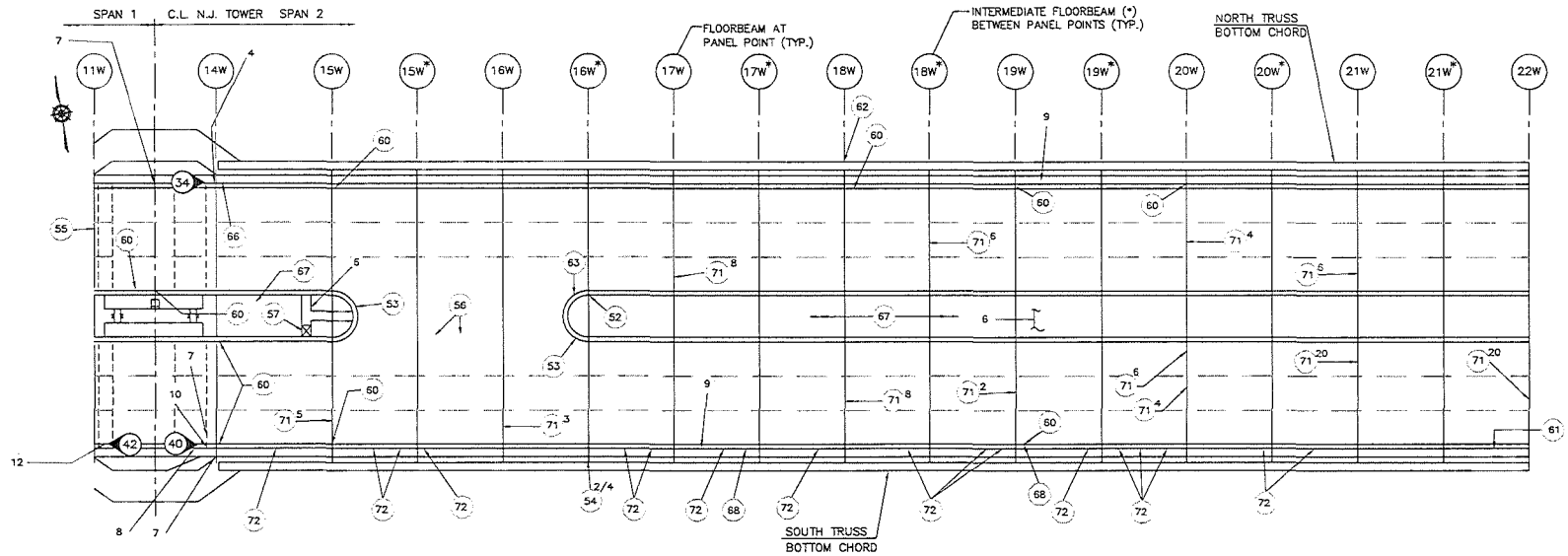
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 2W TO PP 11W

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-1



SAFETY REPAIRS

4 REPAIR OR REPLACE THE 2'X1' OPENING IN THE NORTH SAFETY WALK DUE TO REMOVED CONDUITS AND 2' LONG X 4" WIDE SECTION OF REMOVED SAFETY WALK GRATING AT THE NEW JERSEY TOWER.

6 REPLACE THE MISSING OR PARTIALLY MISSING RAILINGS AT THE CROSSOVER WALKWAYS OVER THE OPEN MEDIAN AREAS.

7 REPAIR THE DETACHED CONNECTIONS OF THE SAFETY WALK OR BRIDGE RAILINGS.

8 REPAIR OR REPLACE THE MISSING OR LOOSE COVER TO THE ELECTRICAL PANEL BOX WITH EXPOSED WIRES ATTACHED TO THE BACK OF THE BARRIER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS) ALONG THE NORTH AND SOUTH SAFETY WALKS.

9 REPAIR OR REPLACE CORRODED/UPLIFTED DIAMOND PLATE (CREATING A TRIPPING HAZARD) SAFETY WALK GRATING.

10 REPAIR SEVERELY DETERIORATED AND COLLAPSED SECTION OF STEEL CURB AT THE SOUTH SIDE OF THE EASTBOUND ROADWAY.

12 REPAIR BROKEN CONDUIT AT THE SOUTH SAFETY WALK OF THE NEW JERSEY TOWER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS).

ROUTINE REPAIRS

52 REPAIR BROKEN WELD OR COUPLING AT CORNER CONNECTION OF DEBRIS NET FENCE SUPPORT RAILS.

53 REPLACE MISSING CURB PLATE.

54 X REPAIR OR REPLACE MISSING AND BROKEN SUPPORT STRAPS FOR TRAFFIC SIGNS. "X" INDICATES RATIO OF BROKEN MISSING SUPPORT STRAP TO TOTAL NUMBER OF REQUIRED SUPPORT STRAPS.

55 REPAIR THE 1" HEIGHT DIFFERENTIAL IN THE FINGER JOINT AT PANEL POINT 11W.

56 REPLACE THE MISSING BOLLARDS.

57 REPAIR BROKEN HINGE TO ACCESS LADDER HATCH AT MEDIAN BETWEEN PANEL POINTS 14W–15W.

ROUTINE REPAIRS (CONTINUED)

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

61 REPAIR IMPACT DAMAGE TO SOUTH BRIDGE RAIL POST NEAR PANEL POINT 22W.

62 REPLACE 3 MISSING BOLTS AT BOTTOM PLATE CONNECTION OF DOWNSPOUT TUBE AT PANEL POINT 18W.

63 REPAIR IMPACT DAMAGE TO STEEL MEDIAN BARRIER.

66 PROVIDE SUPPORT FOR UNSUPPORTED BRIDGE RAILING.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. "X" INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

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GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

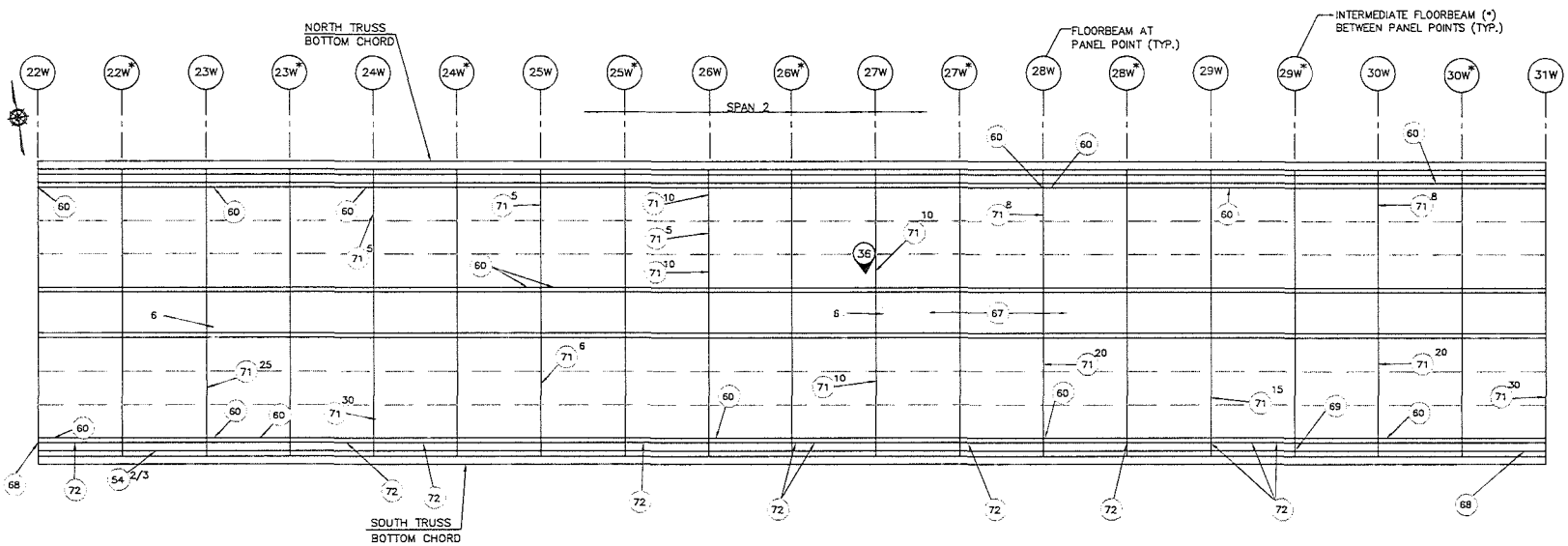
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 11W TO PP 22W

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-2



SAFETY REPAIRS

6 REPLACE THE MISSING OR PARTIALLY MISSING RAILINGS AT THE CROSSOVER WALKWAYS OVER THE OPEN MEDIAN AREAS.

ROUTINE REPAIRS

54 (X) REPAIR OR REPLACE MISSING AND BROKEN SUPPORT STRAPS FOR TRAFFIC SIGNS. 'X' INDICATES RATIO OF BROKEN MISSING SUPPORT STRAP TO TOTAL NUMBER OF REQUIRED SUPPORT STRAPS.

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

69 REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

71 (X) REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

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GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

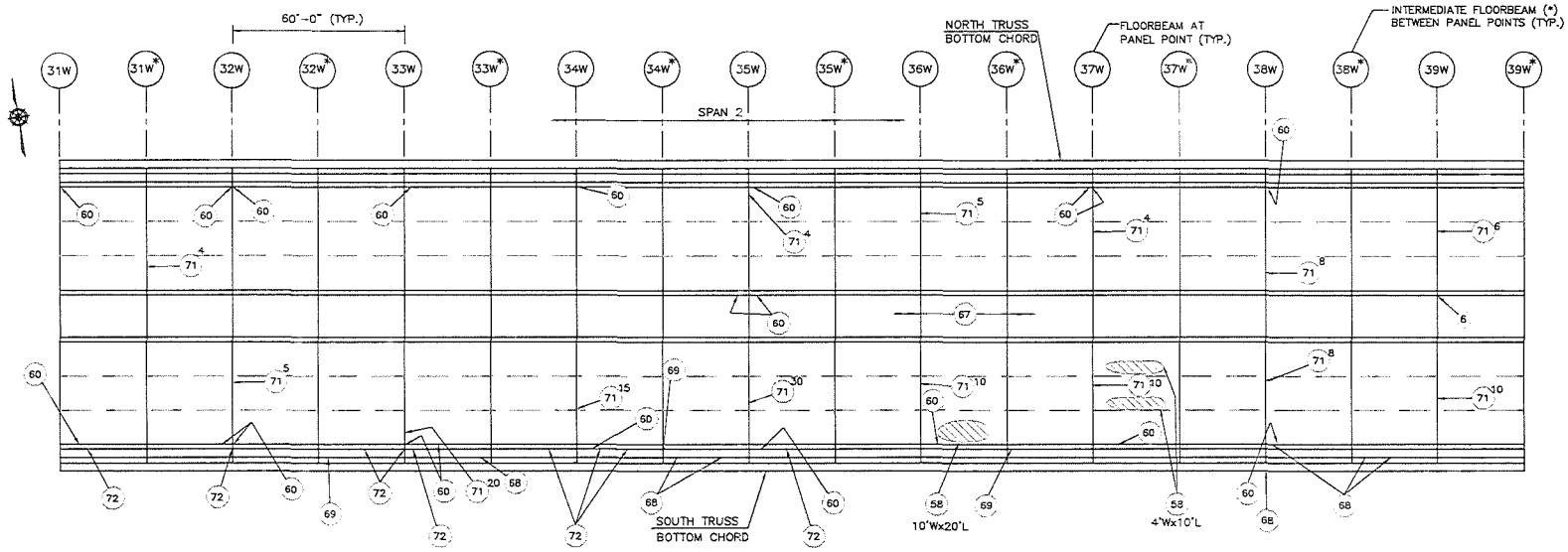
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 22W TO PP 31W

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-3



SAFETY REPAIRS

6 REPLACE THE MISSING OR PARTIALLY MISSING RAILINGS AT THE CROSSOVER WALKWAYS OVER THE OPEN MEDIAN AREAS.

ROUTINE REPAIRS

58 REPAIR THE POTHOLES OR SEVERE RAVELING IN THE ASPHALT WEARING SURFACE.

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

69 REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

BE PANEL POINT (AS PER PANY&NJ SYSTEM)

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

– POTHOLE/SPALL

– AREA OF SEVERE RAVELING IN ASPHALT WEARING SURFACE

W – WIDE

L – LENGTH

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QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

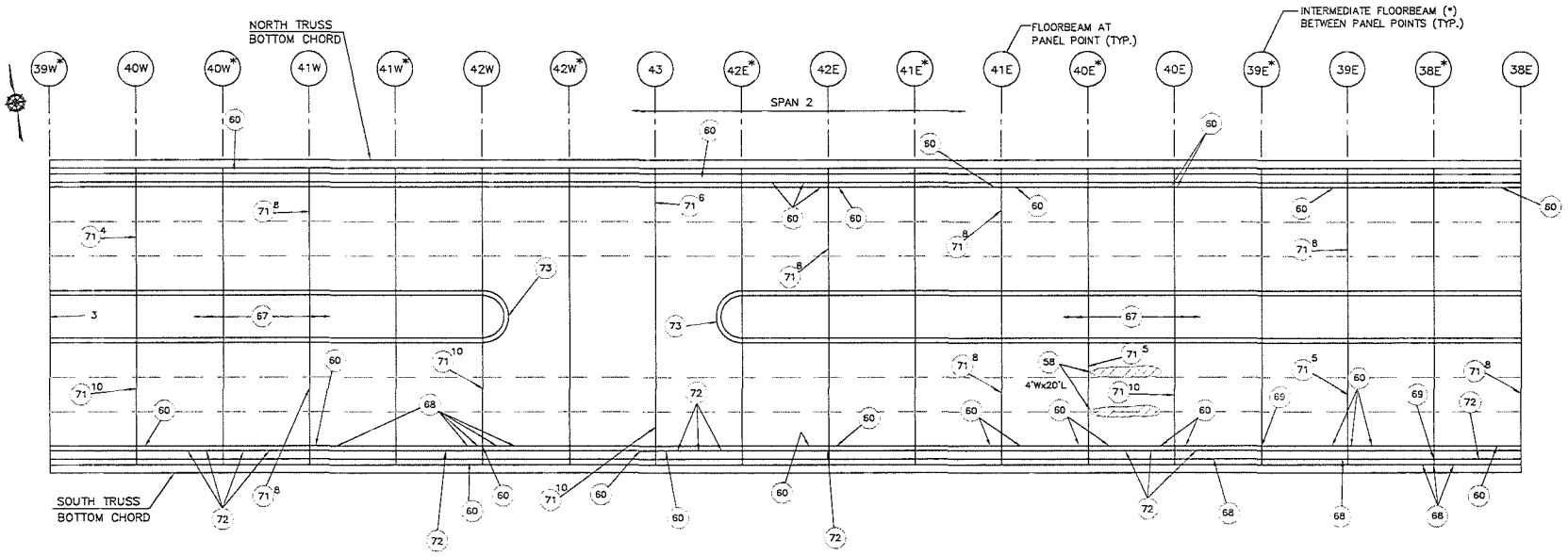
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 31W TO PP 39W*

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-4



SAFETY REPAIRS

3 REPAIR OR REPLACE MEDIAN SAFETY NETTING WITH LARGE HOLES.

ROUTINE REPAIRS

58 REPAIR THE POTHOLES OR SEVERE RAVELING IN THE ASPHALT WEARING SURFACE.

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

69 REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

73 REPAIR LOOSE BOLT AT BOTTOM OF TRAFFIC SIGN CONNECTION TO CURB.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

– POTHOLE/SPALL

– AREA OF SEVERE RAVELING IN ASPHALT WEARING SURFACE

W – WIDE

L – LENGTH

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

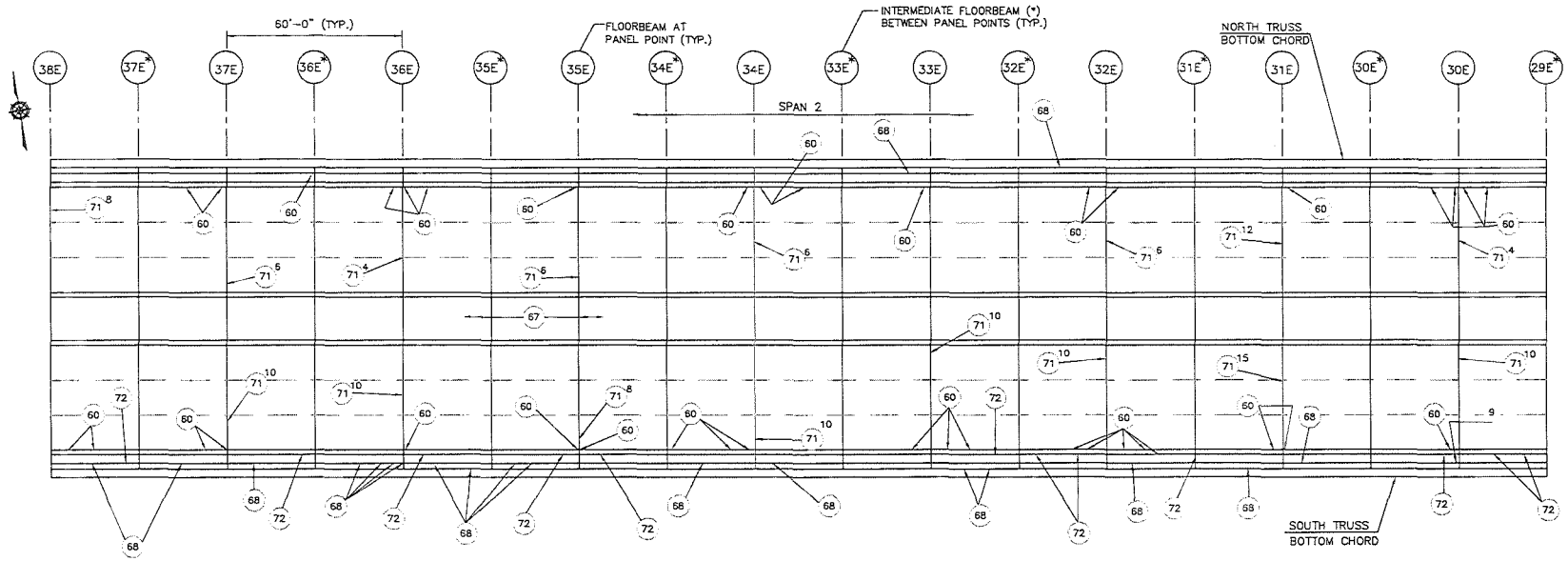
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP39W* TO PP 38E

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-5



SAFETY REPAIRS

9 REPAIR OR REPLACE CORRODED/UPLIFTED DIAMOND PLATE (CREATING A TRIPPING HAZARD) SAFETY WALK GRATING.

ROUTINE REPAIRS

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

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GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

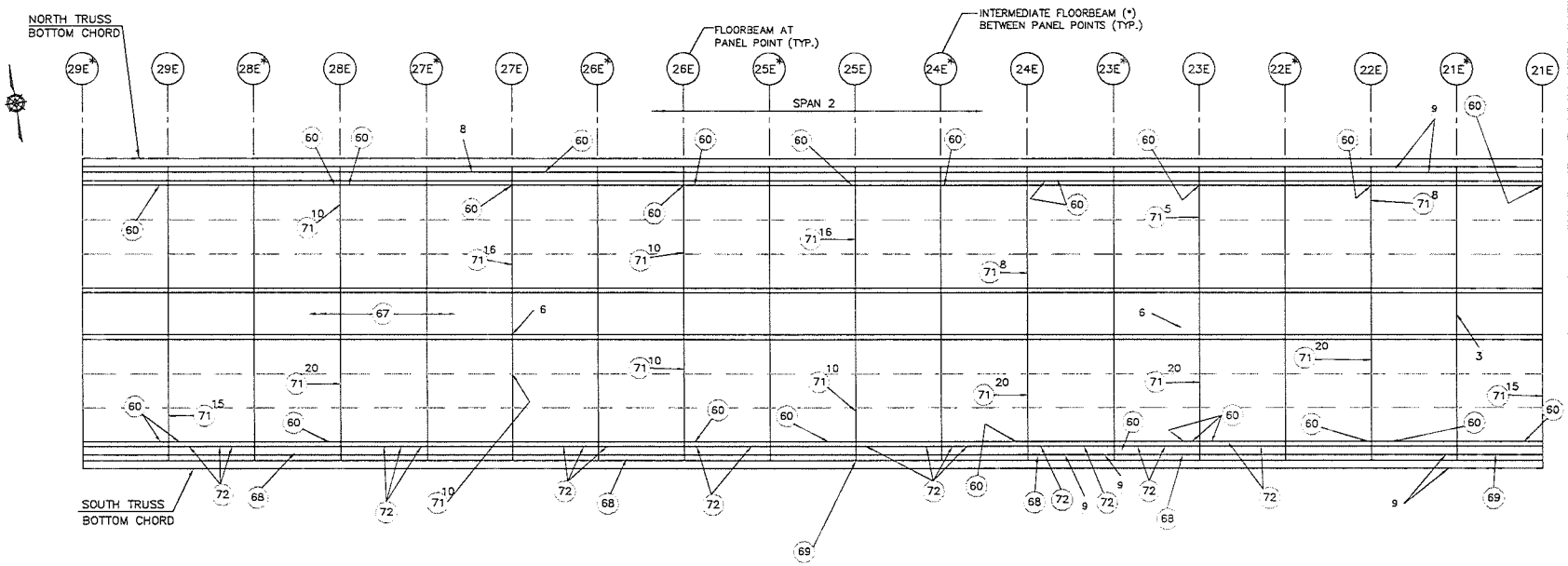
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 38E TO PP 29E*

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-6



SAFETY REPAIRS

3 REPAIR OR REPLACE MEDIAN SAFETY NETTING WITH LARGE HOLES.

6 REPLACE THE MISSING OR PARTIALLY MISSING RAILINGS AT THE CROSSOVER WALKWAYS OVER THE OPEN MEDIAN AREAS.

8 REPAIR OR REPLACE THE MISSING OR LOOSE COVER TO THE ELECTRICAL PANEL BOX WITH EXPOSED WIRES ATTACHED TO THE BACK OF THE BARRIER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS) ALONG THE NORTH AND SOUTH SAFETY WALKS.

9 REPAIR OR REPLACE CORRODED/UPLIFTED DIAMOND PLATE (CREATING A TRIPPING HAZARD) SAFETY WALK GRATING.

ROUTINE REPAIRS

(60) REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

(67) REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

(68) REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

(69) REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

(71X) REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

(72) REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

(8E) PANEL POINT (AS PER PANY&NJ SYSTEM)

– INDICATES SAFETY REPAIRS

◯ – INDICATES ROUTINE REPAIRS

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QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

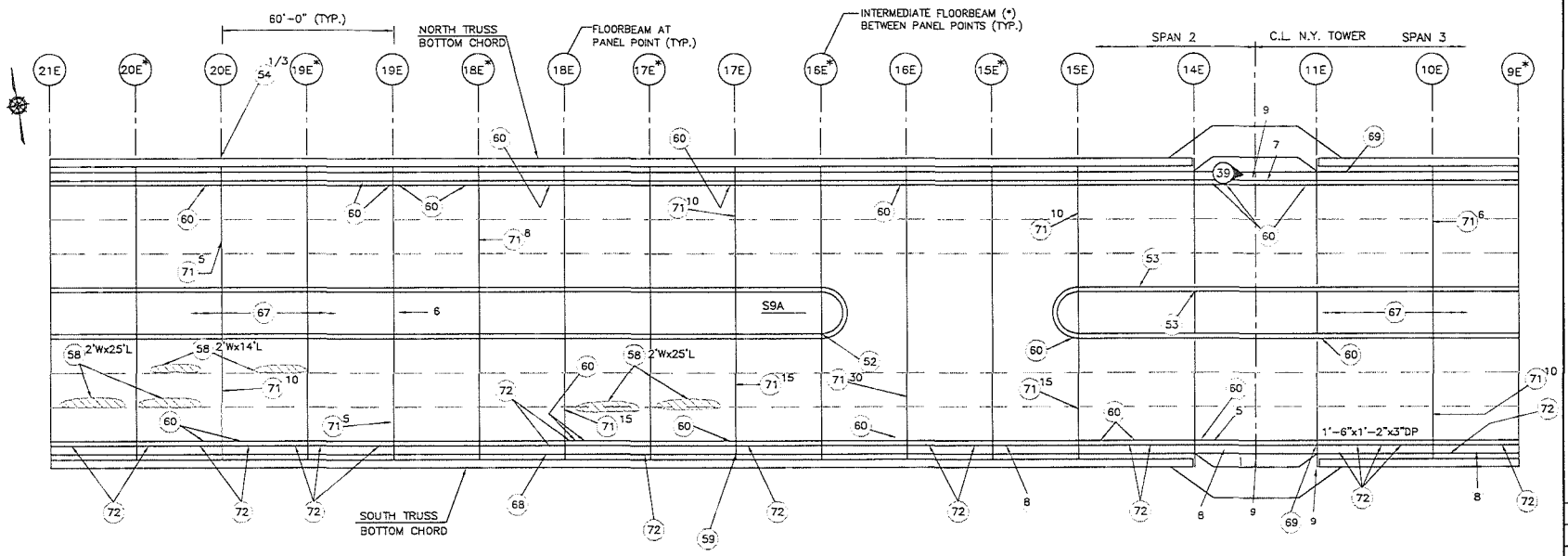
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 29E* TO PP 21E

DS	RO	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-7



SAFETY REPAIRS

5 REMOVE PARTIALLY DETACHED STEEL CURB PLATE ALONG THE ROADWAY BARRIER.

6 REPLACE THE MISSING OR PARTIALLY MISSING RAILINGS AT THE CROSSOVER WALKWAYS OVER THE OPEN MEDIAN AREAS.

7 REPAIR THE DETACHED CONNECTIONS OF THE SAFETY WALK OR BRIDGE RAILINGS.

8 REPAIR OR REPLACE THE MISSING OR LOOSE COVER TO THE ELECTRICAL PANEL BOX WITH EXPOSED WIRES ATTACHED TO THE BACK OF THE BARRIER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS) ALONG THE NORTH AND SOUTH SAFETY WALKS.

9 REPAIR OR REPLACE CORRODED/UPLIFTED DIAMOND PLATE (CREATING A TRIPPING HAZARD) SAFETY WALK GRATING.

ROUTINE REPAIRS

52 REPAIR BROKEN WELD OR COUPLING AT CORNER CONNECTION OF DEBRIS NET FENCE SUPPORT RAILS.

53 REPLACE MISSING CURB PLATE.

54 X REPAIR OR REPLACE MISSING AND BROKEN SUPPORT STRAPS FOR TRAFFIC SIGNS. 'X' INDICATES RATIO OF BROKEN MISSING SUPPORT STRAP TO TOTAL NUMBER OF REQUIRED SUPPORT STRAPS.

58 REPAIR THE POTHOLES OR SEVERE RAVELING IN THE ASPHALT WEARING SURFACE.

59 REPLACE MISSING DOWNSPOUT ANCHOR BOLT AT SOUTH SAFETY WALK AT PANEL POINT 17E.

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

69 REPLACE BROKEN OR DETACHED CLIPS AND/OR SCREWS ATTACHING THE SAFETY WALK GRATING TO THE STEEL FRAMING BELOW.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

– AREA OF SEVERE RAVELING IN ASPHALT WEARING SURFACE

W – WIDE

DP – DEEP

L – LENGTH

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

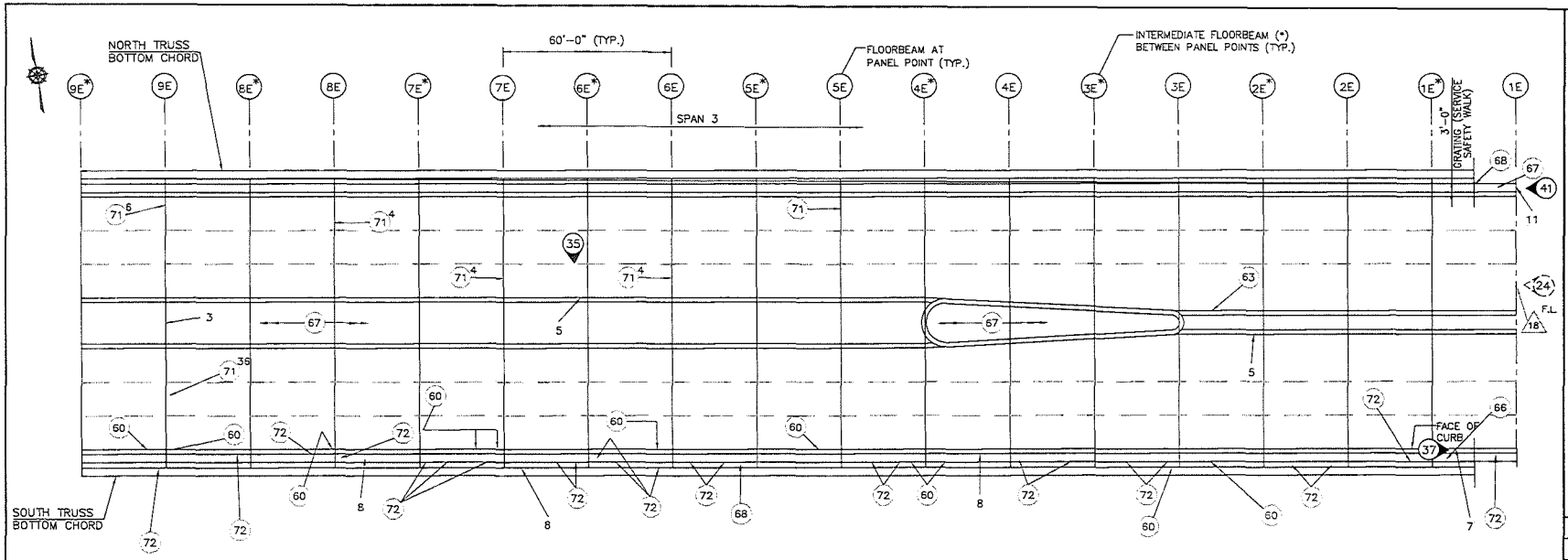
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 21E TO PP 9E*

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-8



PRIORITY REPAIRS

18 REPAIR THE JAMMED FINGER JOINT PLATES AT PANEL POINT 1E.

SAFETY REPAIRS

3 REPAIR OR REPLACE MEDIAN SAFETY NETTING WITH LARGE HOLES.

5 REMOVE PARTIALLY DETACHED STEEL CURB PLATE ALONG THE ROADWAY BARRIER.

7 REPAIR THE DETACHED CONNECTIONS OF THE SAFETY WALK OR BRIDGE RAILINGS.

8 REPAIR OR REPLACE THE MISSING OR LOOSE COVER TO THE ELECTRICAL PANEL BOX WITH EXPOSED WIRES ATTACHED TO THE BACK OF THE BARRIER (ACCESSIBLE TO PUBLIC/STRANDED MOTORISTS) ALONG THE NORTH AND SOUTH SAFETY WALKS.

11 REPLACE BENT AND BROKEN DIAMOND END PLATE AT THE END OF NORTH SAFETY WALK AT 1E (CREATING A TRIPPING HAZARD).

ROUTINE REPAIRS

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

63 REPAIR IMPACT DAMAGE TO STEEL MEDIAN BARRIER.

66 PROVIDE SUPPORT FOR UNSUPPORTED BRIDGE RAILING.

67 REPAIR MISSING, DAMAGED AND DETACHED DEBRIS NETTING IN MEDIAN AREA.

68 REPAIR HOLES AT TOP OF RAILING/GUIDERAIL SUPPORT.

71 X REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

72 REPAIR WATER MAIN TIE DOWN CONNECTIONS WITH LOOSE OR MISSING NUTS AND/OR BOLTS AT SOUTH SAFETY WALK.

LEGEND:

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

PHOTO TAKEN BELOW DECK

– INDICATES PRIORITY REPAIRS

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

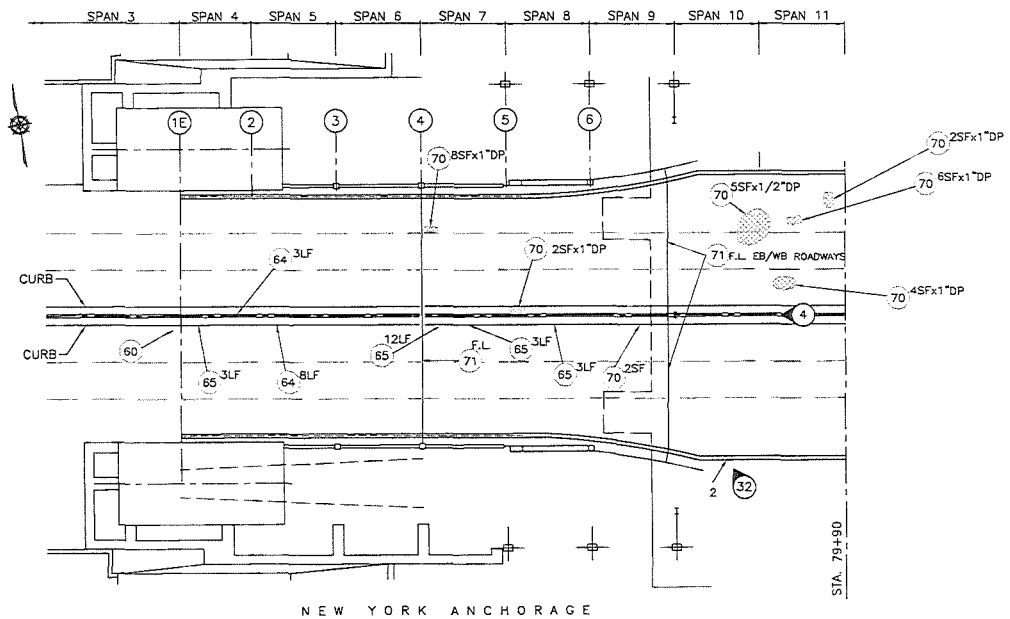
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 9E TO PP 1E

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-9



NEW YORK ANCHORAGE

SAFETY REPAIRS

2 REPLACE THE MISSING BOTTOM RAIL OF THE CHAIN LINK FENCE PANEL AT SPAN 10, ALONG THE SOUTH SAFETY WALK.

ROUTINE REPAIRS

60 REPAIR HOLES AND SECTION LOSS TO STEEL RAILINGS, CURBS AND VERTICAL TRAFFIC BARRIERS.

64 REPAIR CRACKS IN CONCRETE CURB AT MEDIAN.

65 REPAIR CRACKS AT SOUTH FACE OF CONCRETE MEDIAN AT THE NEW YORK ANCHORAGE.

70 REPAIR SPALLS WITH OR WITHOUT EXPOSED RUSTED STEEL REINFORCEMENT AT CONCRETE CURBS OR PAVEMENT.

71 REPLACE MISSING OR DETERIORATED JOINT FILLER. 'X' INDICATES THE TOTAL LINEAR FEET OF JOINT MATERIAL TO BE REPLACED.

LEGEND:

8E CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

– POTHOLE/SPALL

W – WIDE
DP – DEEP
L – LENGTH
F.L. – FULL LENGTH

Sheet 32 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

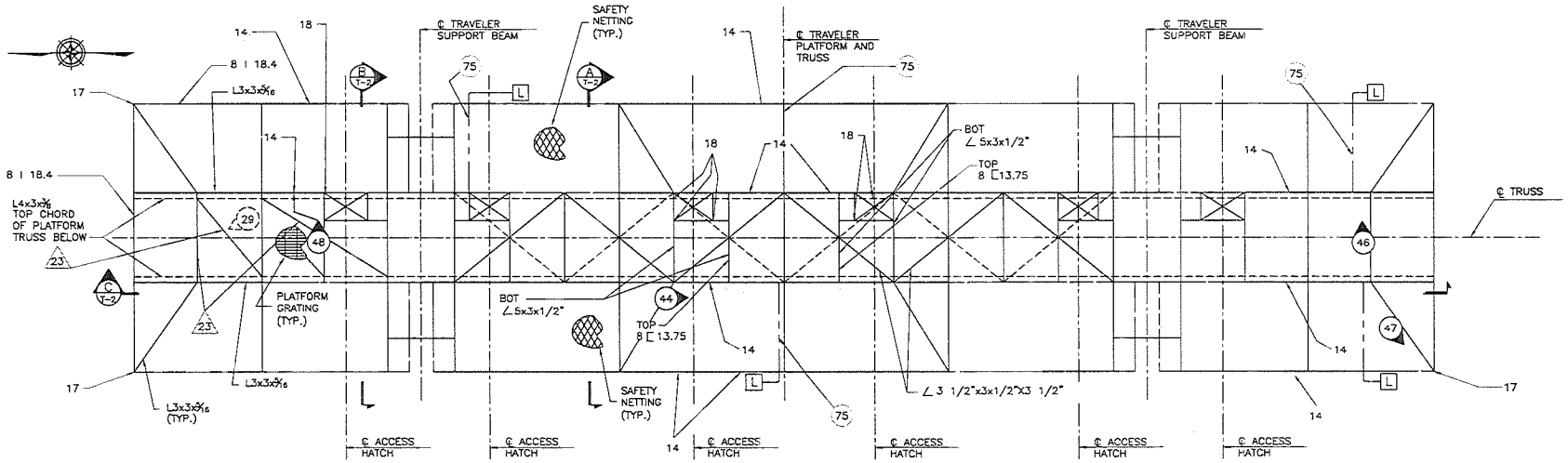
TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN SPANS 4 TO 11

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TD-10



PLAN
N.T.S.

PRIORITY REPAIRS

23 NEW JERSEY BACK SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

SAFETY REPAIRS

14 REPAIR THE MODERATE TO SEVERE SECTION LOSS OF WB'S AND 3" X 3" L'S THAT SUPPORT THE SAFETY NETTING OF TRAVELERS.

16 TIGHTEN OR REPLACE LOOSE OR MISSING BOLTS FOR SAFETY NETTING STRAPS AND REPLACE THE MISSING SAFETY NETTING STRAPS AND BOLTS.

17 REPAIR BROKEN ALUMINUM FENCE POST, RAILS AND WELDS BETWEEN THE FENCE FABRIC CONNECTION PLATES AND THE POSTS.

18 REPLACE MISSING OR BROKEN HINGES OR HINGE SCREWS AT FLOOR ACCESS HATCH OF THE TRAVELERS.

ROUTINE REPAIRS

75 REPAIR ELECTRICAL CONDUIT SUSPENDED WITH ROPE HANGER, DETACHED FLANGE CLIPS AND UNSUPPORTED OVER 8 FEET LONG SECTION.

LEGEND:

PHOTO TAKEN ABOVE DECK

PHOTO TAKEN BELOW DECK

– INDICATES PRIORITY REPAIRS

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

L – LIGHT FIXTURE

CONDUIT

LOOSE NET STRAP BOLTS (SEE SAFETY REPAIR 16)

DETERIORATED STEEL FRAMING

THE PORT AUTHORITY OF NY & NJ

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GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

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2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

NEW JERSEY BACK SPAN TRAVELER: 1 OF 2
PLAN
DEFICIENCY & PHOTO LOCATION PLAN

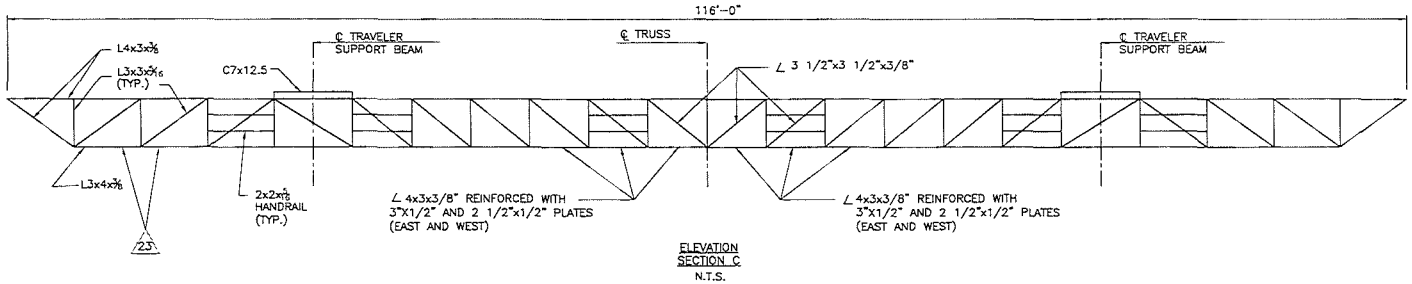
Designed by	Drawn by	Checked by
BS	RO	CA

Date DECEMBER, 2013

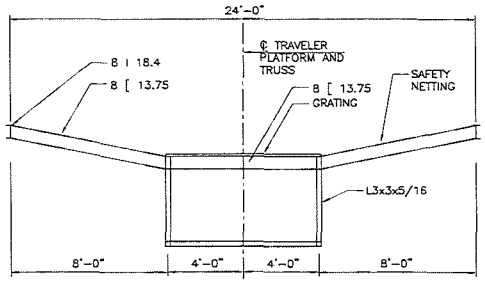
Contract Number 405-13-005

Drawing Number T-1

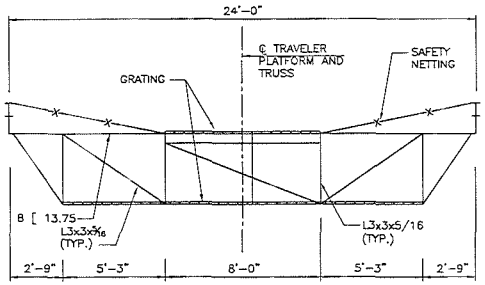
THE PORT AUTHORITY OF NY & NJ



ELEVATION SECTION C
N.T.S.



SECTION A
N.T.S.



SECTION B
N.T.S.

PRIORITY REPAIRS

23 NEW JERSEY BACK SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

LEGEND:

△ – INDICATES PRIORITY REPAIRS

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

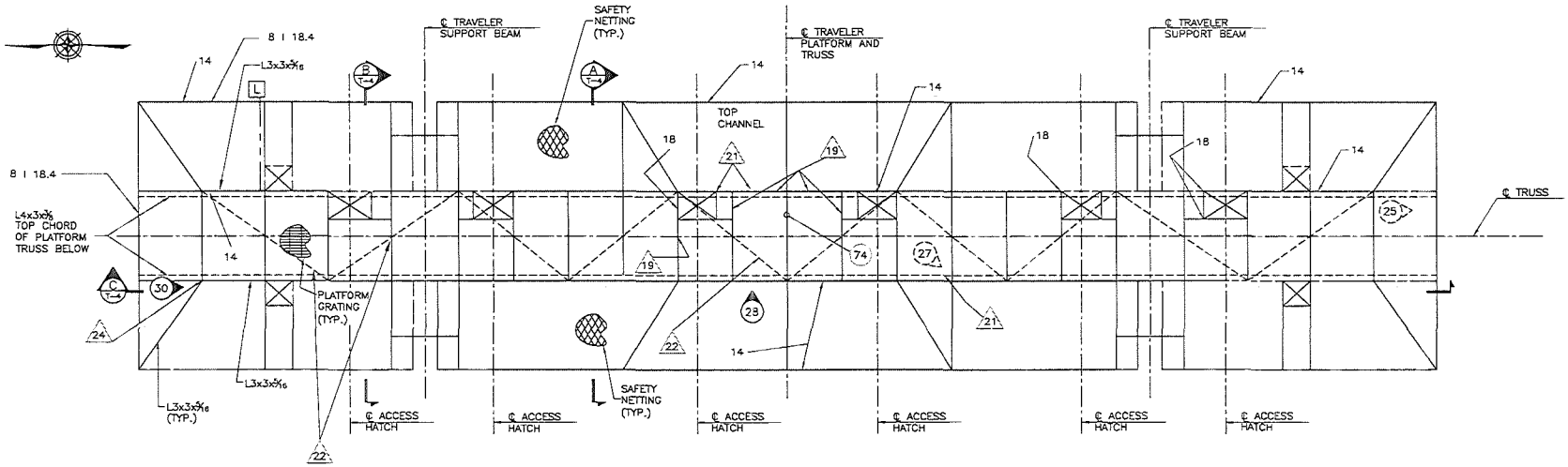
NEW JERSEY BACK SPAN TRAVELER: 2 OF 2
ELEVATION & CROSS-SECTION DEFICIENCY & PHOTO LOCATION PLAN

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-2



PLAN
N.T.S.

PRIORITY REPAIRS

19 NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

21 NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

22 NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT CROSS BRACING BETWEEN MAIN SUPPORT TRUSS TOP CHORDS.

24 NEW JERSEY MAIN SPAN TRAVELER – REPLACE THE MISSING 3 OF 3 CONNECTION BOLTS AT THE FRAME BRACING GUSSET PLATE.

SAFETY REPAIRS

14 REPAIR THE MODERATE TO SEVERE SECTION LOSS OF WB'S AND 3" X 3" L'S THAT SUPPORT THE SAFETY NETTING OF TRAVELERS.

16 TIGHTEN OR REPLACE LOOSE OR MISSING BOLTS FOR SAFETY NETTING STRAPS AND REPLACE THE MISSING SAFETY NETTING STRAPS AND BOLTS.

18 REPLACE MISSING OR BROKEN HINGES OR HINGE SCREWS AT FLOOR ACCESS HATCH OF THE TRAVELERS.

ROUTINE REPAIRS

74 REPLACE APPROXIMATELY 10 SF OF DAMAGED FLOOR GRATE AT CENTER OF THE NEW JERSEY MAIN SPAN TRAVELER.

LEGEND:

PHOTO TAKEN ABOVE DECK

PHOTO TAKEN BELOW DECK

– INDICATES PRIORITY REPAIRS

– INDICATES SAFETY REPAIRS

– INDICATES ROUTINE REPAIRS

L – LIGHT FIXTURE

CONDUIT

LOOSE NET STRAP BOLTS (SEE SAFETY REPAIR 16)

DETERIORATED STEEL FRAMING

Sheet 35 of 40

THE PORT AUTHORITY OF NY & NJ

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GEORGE WASHINGTON BRIDGE

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FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

NEW JERSEY MAIN SPAN TRAVELER: 1 OF 2
PLAN
DEFICIENCY & PHOTO LOCATION PLAN

DS	RO	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-3

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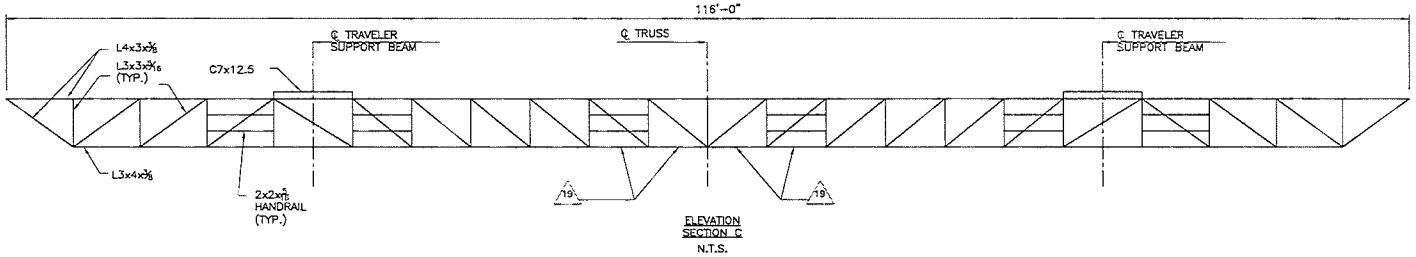
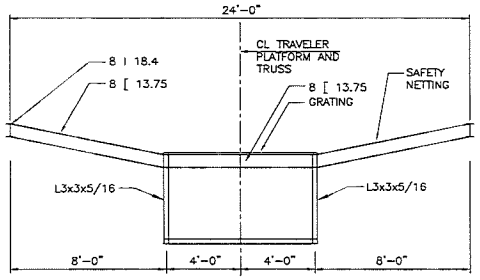
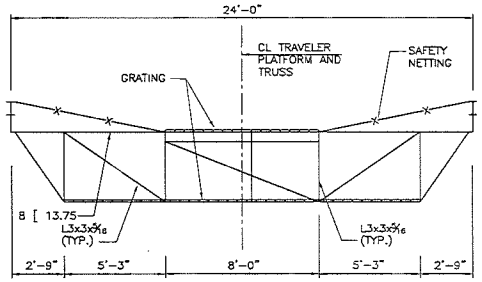


ELEVATION SECTION C
N.T.S.



SECTION A
N.T.S.



SECTION B
N.T.S.

PRIORITY REPAIRS

19 NEW JERSEY MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

LEGEND:

△ – INDICATES PRIORITY REPAIRS

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

NEW JERSEY MAIN SPAN TRAVELER: 2 OF 2
ELEVATION & CROSS-SECTION DEFICIENCY & PHOTO LOCATION PLAN

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DS	RD	GA
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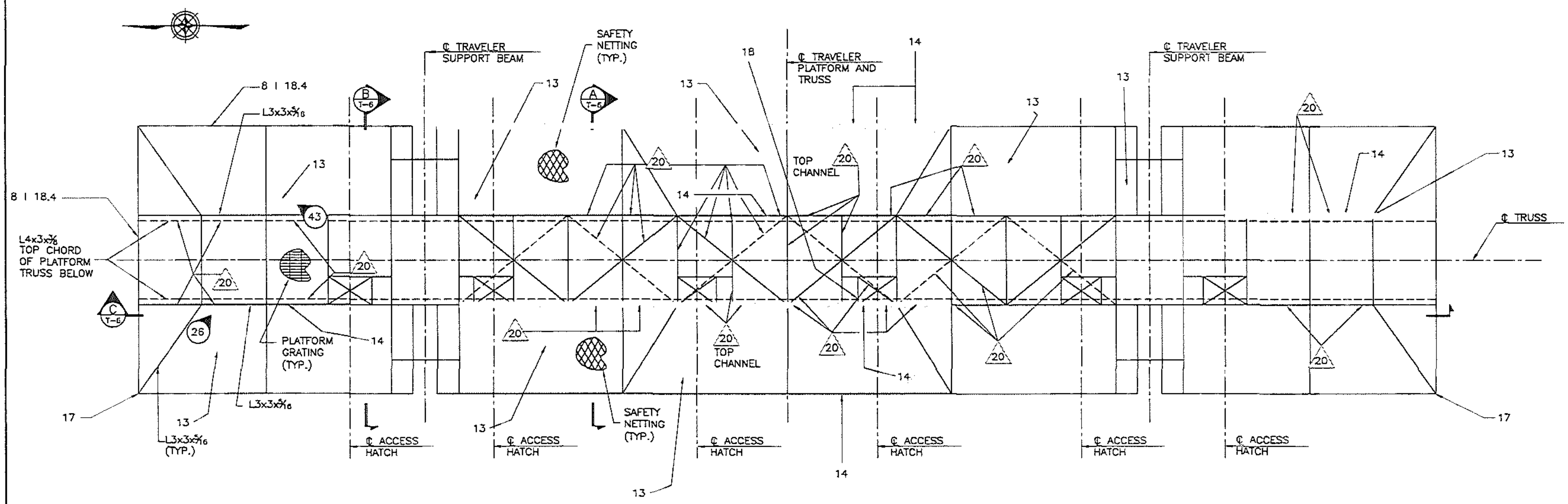
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-4



PLAN
N.T.S.

PRIORITY REPAIRS

20 NEW YORK MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

SAFETY REPAIRS

13	REPAIR OR REPLACE THE SAFETY NETTING WITH LARGE HOLES AT NEW YORK MAIN SPAN TRAVELER.
14	REPAIR THE MODERATE TO SEVERE SECTION LOSS OF W8'S AND 3" X 3" L'S THAT SUPPORT THE SAFETY NETTING OF TRAVELERS.
16	TIGHTEN OR REPLACE LOOSE OR MISSING BOLTS FOR SAFETY NETTING STRAPS AND REPLACE THE MISSING SAFETY NETTING STRAPS AND BOLTS.
17	REPAIR BROKEN ALUMINUM FENCE POST, RAILS AND WELDS BETWEEN THE FENCE FABRIC CONNECTION PLATES AND THE POSTS.
18	REPLACE MISSING OR BROKEN HINGES OR HINGE SCREWS AT FLOOR ACCESS HATCH OF THE TRAVELERS.

LEGEND:

- PHOTO TAKEN ABOVE DECK
- – INDICATES PRIORITY REPAIRS
- – INDICATES SAFETY REPAIRS
- – LIGHT FIXTURE
- CONDUIT
- LOOSE NET STRAP BOLTS (SEE SAFETY REPAIR 16)
- DETERIORATED STEEL FRAMING

Sheet 37 of 40

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

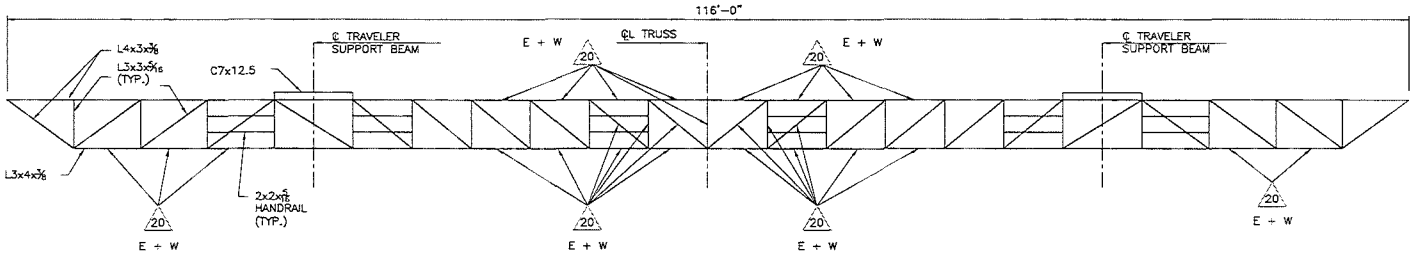
BIN 5522507
LOWER LEVEL
NEW YORK MAIN SPAN
TRAVELER: 1 OF 2
PLAN
DEFICIENCY & PHOTO LOCATION PLAN

Designed by	Drawn by	Checked by
DS	RQ	GA

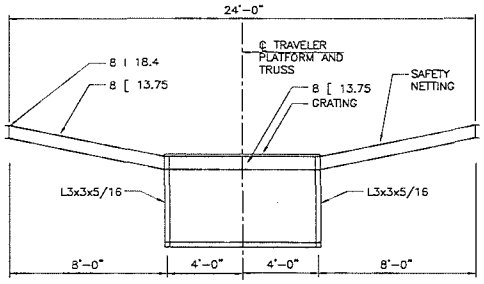
Date DECEMBER, 2013

Contract Number 405-13-005

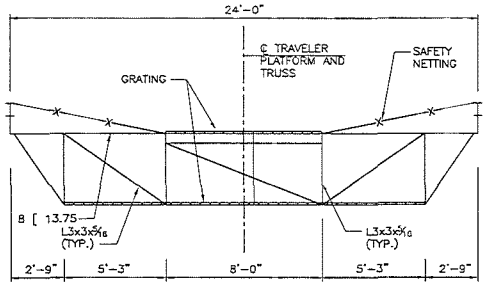
Drawing Number T-5



ELEVATION
SECTION C
N.T.S.



SECTION A
N.T.S.



SECTION B
N.T.S.

PRIORITY REPAIRS

20 NEW YORK MAIN SPAN TRAVELER – REPAIR MODERATE TO SEVERE SECTION LOSS AT MAIN SUPPORT TRUSS MEMBERS.

LEGEND:

△ – INDICATES PRIORITY REPAIRS

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

NEW YORK MAIN SPAN
TRAVELER: 2 OF 2
ELEVATION & CROSS-SECTION
DEFICIENCY & PHOTO
LOCATION PLAN

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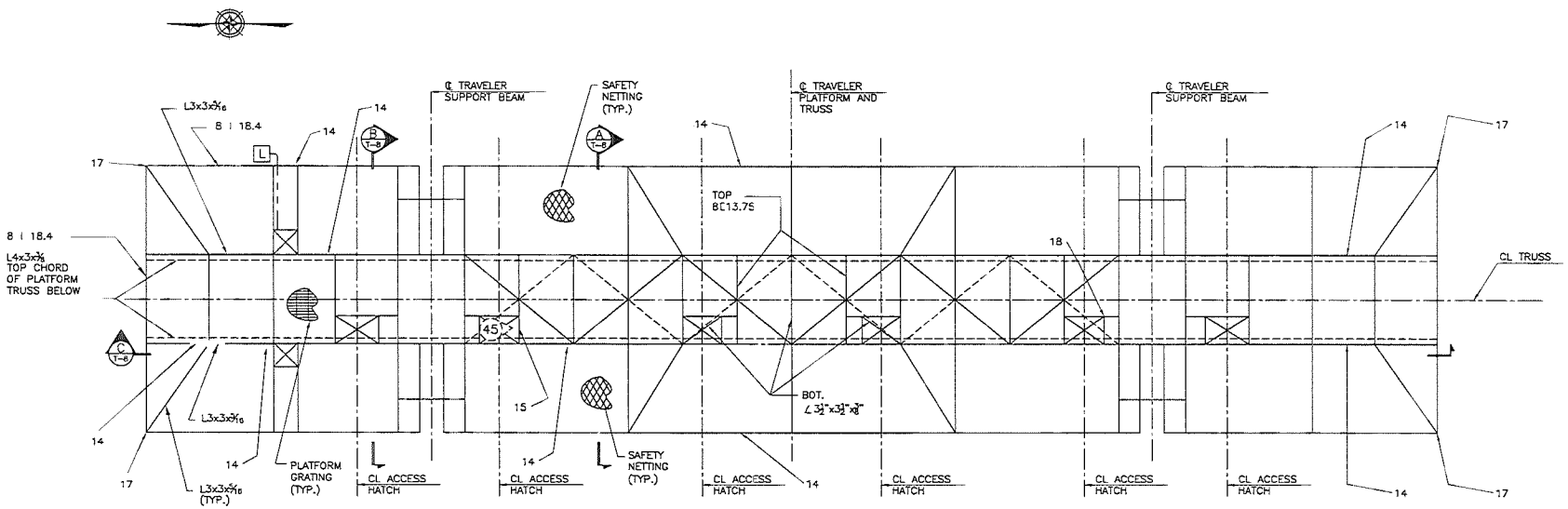
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-6



PLAN
N.T.S.

SAFETY REPAIRS

14 REPAIR THE MODERATE TO SEVERE SECTION LOSS OF WB'S AND 3" X 3" L'S THAT SUPPORT THE SAFETY NETTING OF TRAVELERS.

15 REPLACE THE MISSING HORIZONTAL RAIL ANGLE AT THE NEW YORK BACK SPAN TRAVELER TRUSS PLATFORM BELOW THE FLOOR ACCESS HATCH.

16 TIGHTEN OR REPLACE LOOSE OR MISSING BOLTS FOR SAFETY NETTING STRAPS AND REPLACE THE MISSING SAFETY NETTING STRAPS AND BOLTS.

17 REPAIR BROKEN ALUMINUM FENCE POST, RAILS AND WELDS BETWEEN THE FENCE FABRIC CONNECTION PLATES AND THE POSTS.

18 REPLACE MISSING OR BROKEN HINGES OR HINGE SCREWS AT FLOOR ACCESS HATCH OF THE TRAVELERS.

LEGEND:

PHOTO TAKEN BELOW DECK

– INDICATES SAFETY REPAIRS

L – LIGHT FIXTURE

CONDUIT

LOOSE NET STRAP BOLTS (SEE SAFETY REPAIR 16)

DETERIORATED STEEL FRAMING

Sheet 39 of 40

THE PORT AUTHORITY
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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE
WASHINGTON
BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

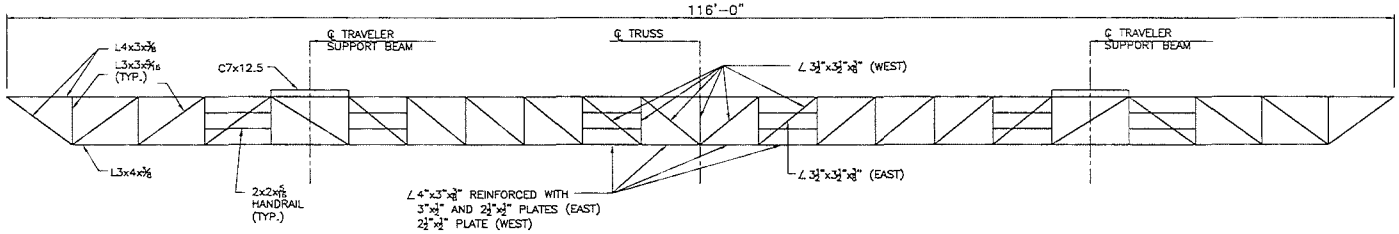
NEW YORK BACK SPAN
TRAVELER: 1 OF 2
PLAN
DEFICIENCY & PHOTO
LOCATION PLAN

DS	RQ	CA
Designed by	Drawn by	Checked by

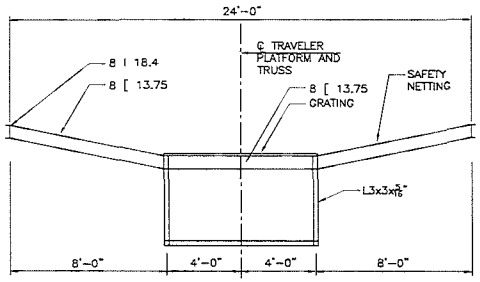
Date DECEMBER, 2013

Contract Number 405-13-005

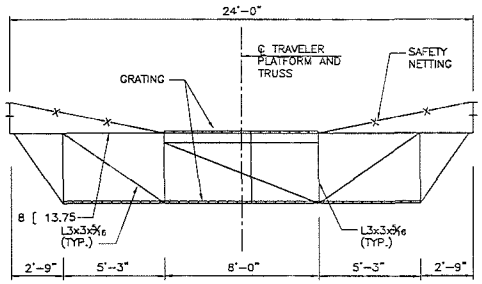
Drawing Number T-7



ELEVATION
SECTION C
N.T.S.



SECTION A
N.T.S.



SECTION B
N.T.S.

Sheet 40 of 40

THE PORT AUTHORITY
OF NY & NJ

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522507

LOWER LEVEL

NEW YORK BACK SPAN
TRAVELER: 2 OF 2
ELEVATION & CROSS-SECTION
DEFICIENCY & PHOTO
LOCATION PLAN

DS	RQ	CA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-8

V. Photographs

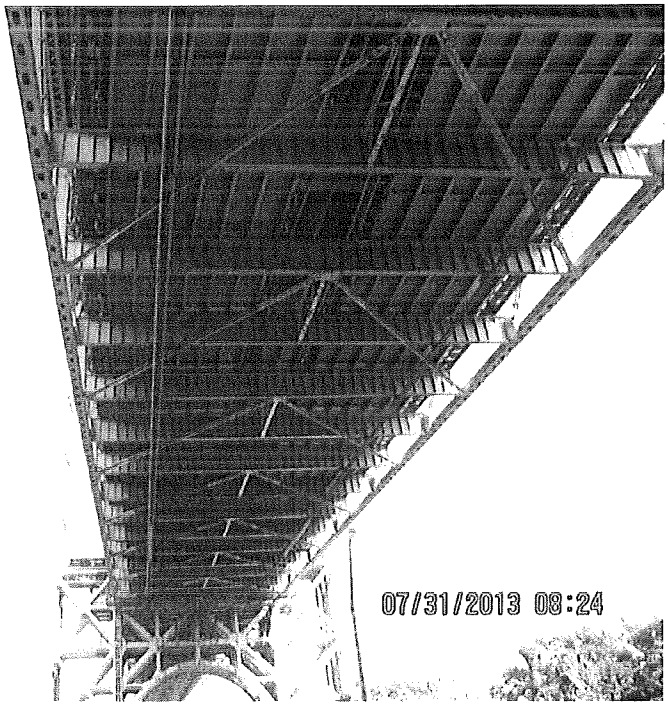
Photo No.: 1. **Location:** South elevation, looking northeast. **Description:** General view.	
Photo No.: 2. **Location:** New York Back Span, underside of deck, superstructure and traveler, looking west and up. **Description:** General view.	

Photo No.: 3.

Location: Top of deck in Spans 1 and 2, westbound roadway, looking southwest.

Description: General view from Panel Point 9W.

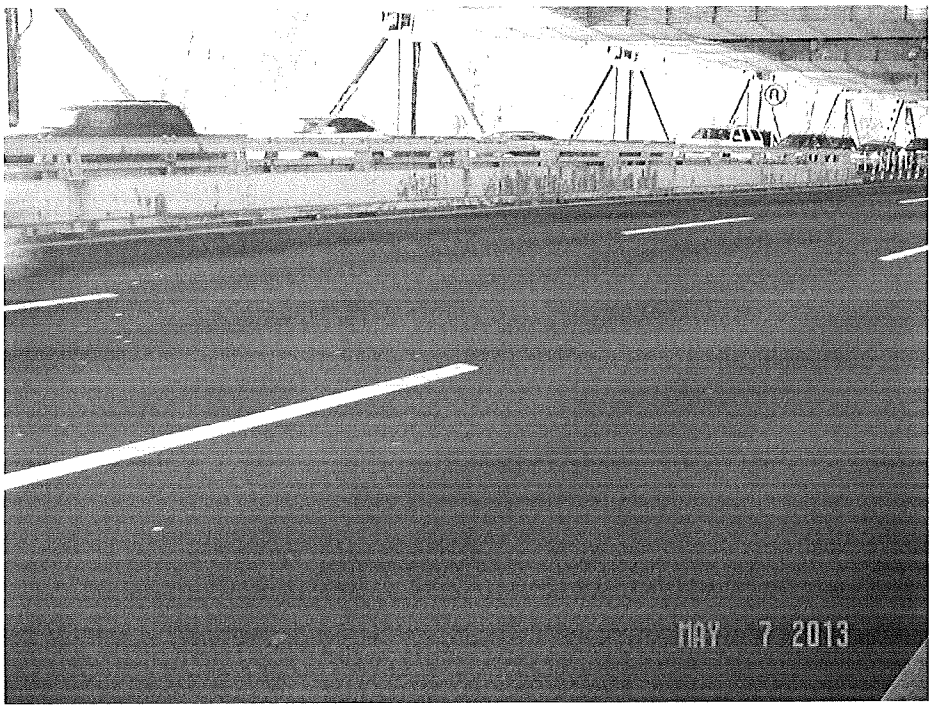


Photo No.: 4.

Location: Top of deck in Spans 9, 10 and 11, looking west.

Description: General view from Span 11.

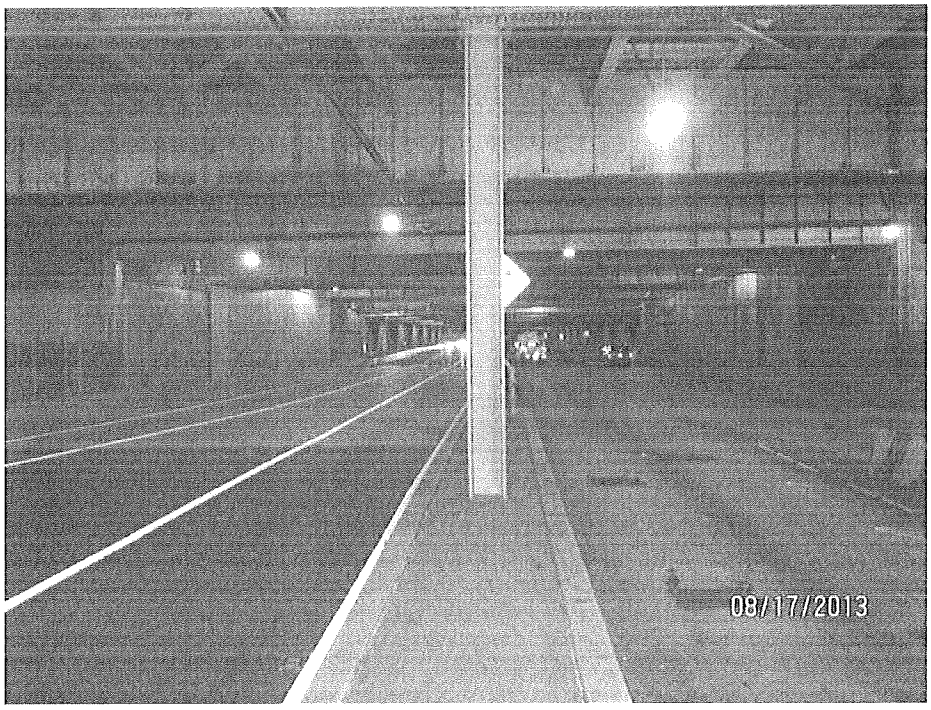


Photo No.: 5.

Location: Span 2, south stiffening truss at Floorbeam 15W*, looking northeast.

Description: General view of bolted gusset plate along the bottom chord of the stiffening truss.

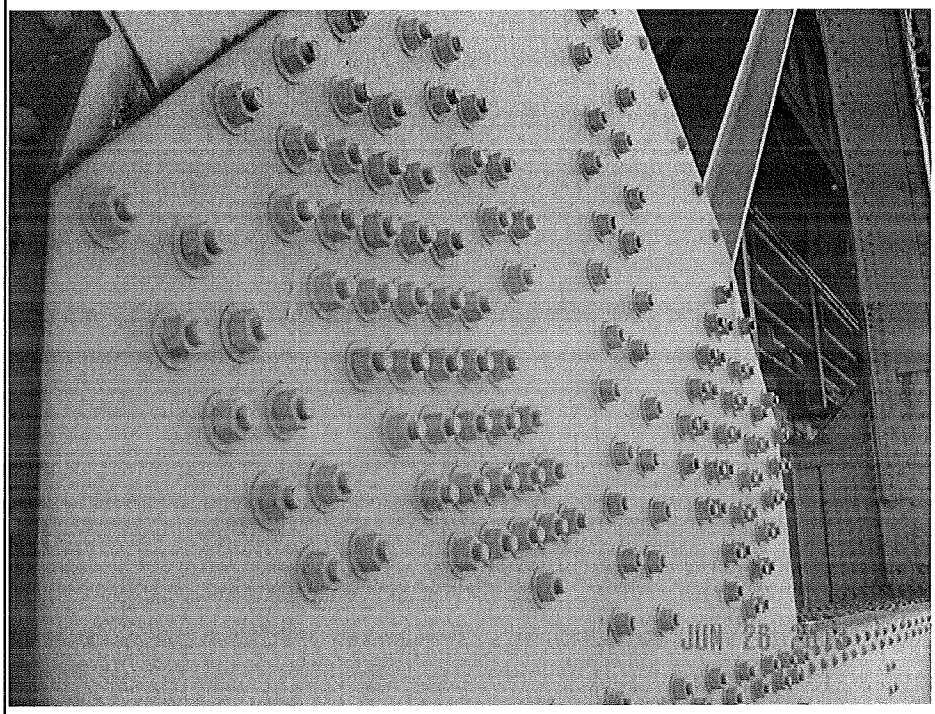


Photo No.: 6.

Location: Span 11, concrete pedestal at the east end of Stringer 11, looking west.

Description: Pedestal exhibits a large spall with exposed and corroded rebar causing minor undermining of the bearing.

(Priority Repair 1)

Photo No.: 7.

Location: Span 9, at east end of Stringer S14, looking northwest.

Description: The end of stringer exhibits severe corrosion with a 6" x 3" hole in the web above the bearing.

(Priority Repair 2)

Photo No.: 8.

Location: Span 3, east end of Stringer S2 at Floorbeam 1E, looking southwest.

Description: The end of the stringer exhibits severe corrosion with two 1" holes in the middle of the web.

(Priority Repair 3)

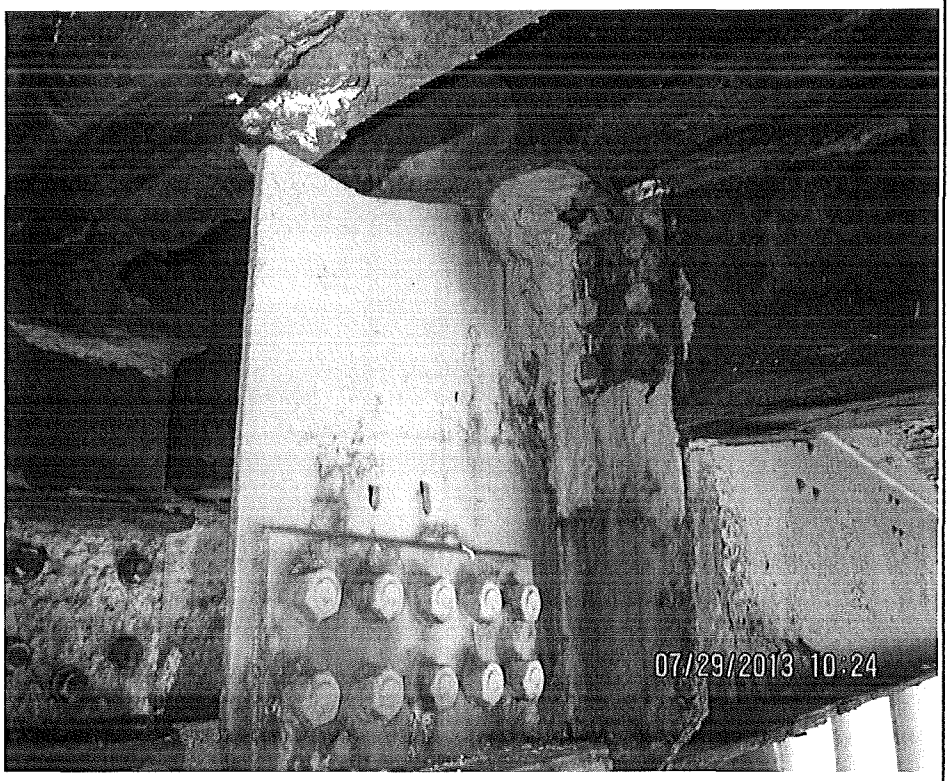


Photo No.: 9.

Location: Span 3, top of bottom chord between Panel Points 3E* and 3E of the south stiffening truss, looking east.

Description: The top plate is severely pitted with twelve (12) holes up to 6" long x 2" wide filled by caulking.

(Priority Repair 4)

Photo No.: 10.

Location: Span 3, east end of Stringer S14 at Floorbeam 1E, looking northeast.

Description: The web at the end of stringer exhibits severe corrosion with holes, including a 3" x 1" hole near the top of the web.

(Priority Repair 5)

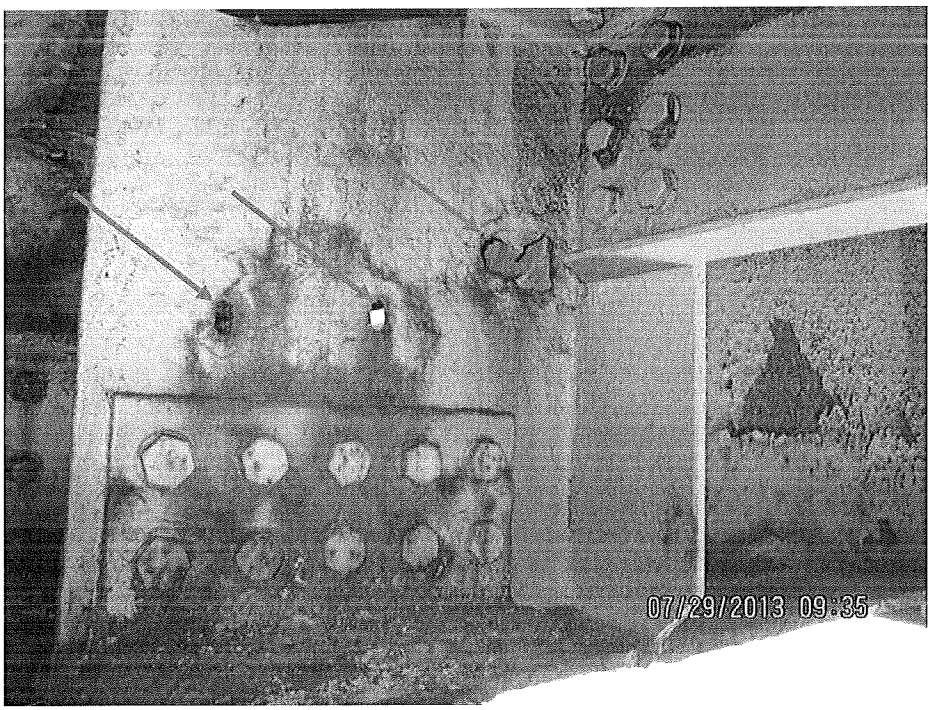


Photo No.: 11.

Location: West end of Span 10, under Stringer S16, looking south.

Description: The pedestal is severely cracked and spalled exposing bearing anchor bolts causing undermining of the bearing plate.

(Priority Repair 6)

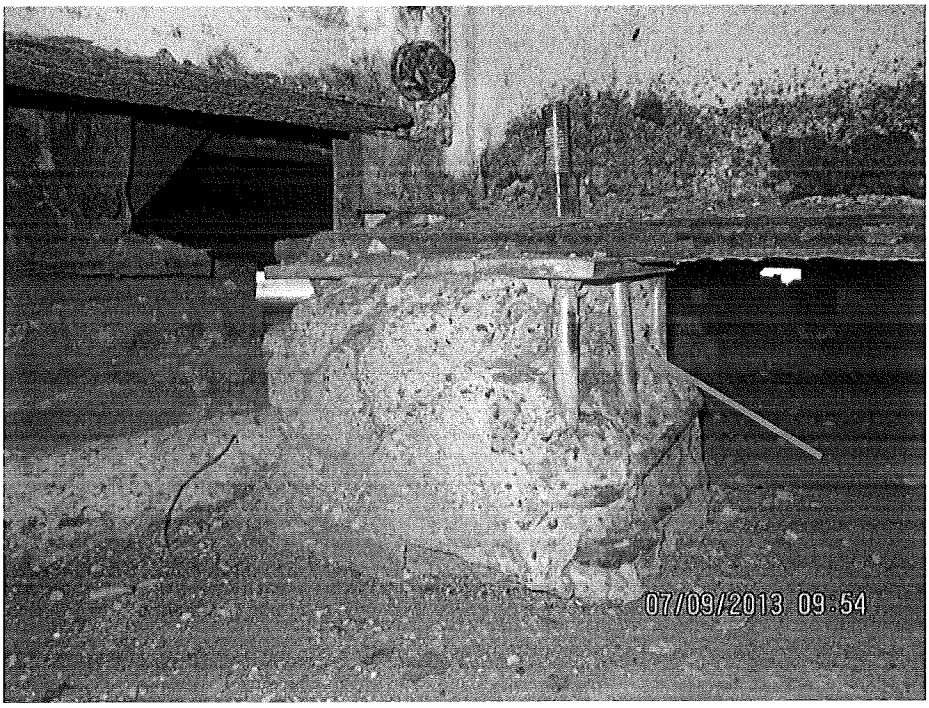


Photo No.: 12.

Location: Span 2, fascia Stringer S18 at the west side of Floorbeam 36E, looking north.

Description: The stringer web exhibits severe corrosion with section loss and holes along the bearing stiffening angle at the floorbeam connection. Two 3/4" crack arrestor holes were drilled at this location.

(Priority Repair 7)

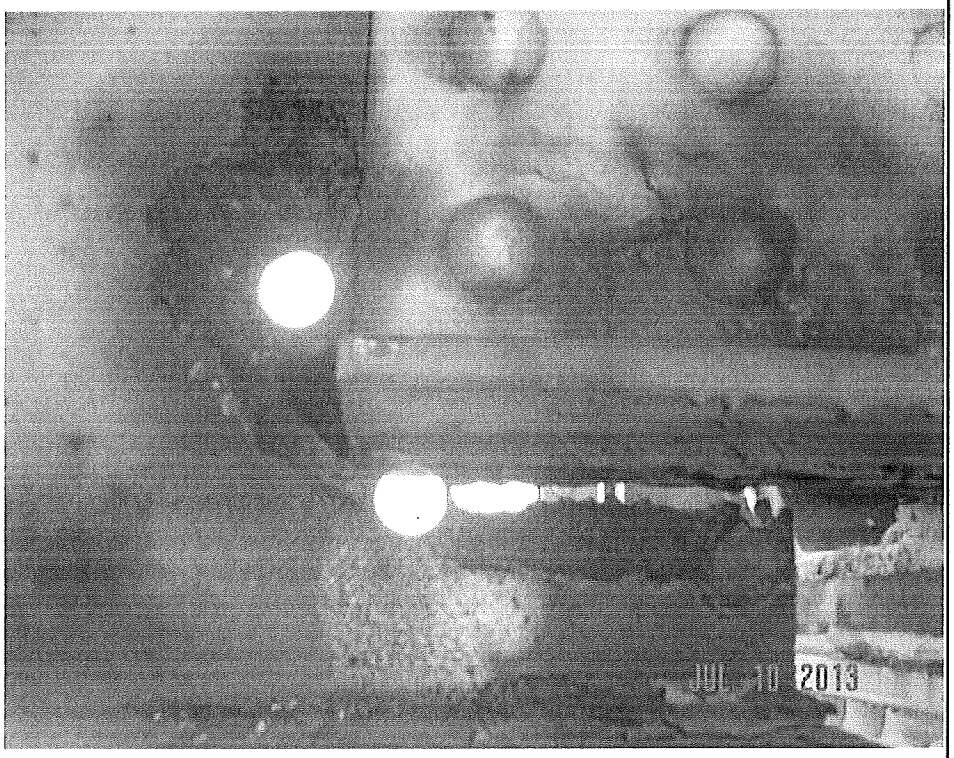


Photo No.: 13.

Location: Span 4, west end of Stringer S10 over Floorbeam 1E, looking south.

Description: The web and top flange are severely corroded with large holes including a 1" high x 6" wide hole in the top of the web and a 2" diameter hole near the middle of the web.

(Priority Repair 8)

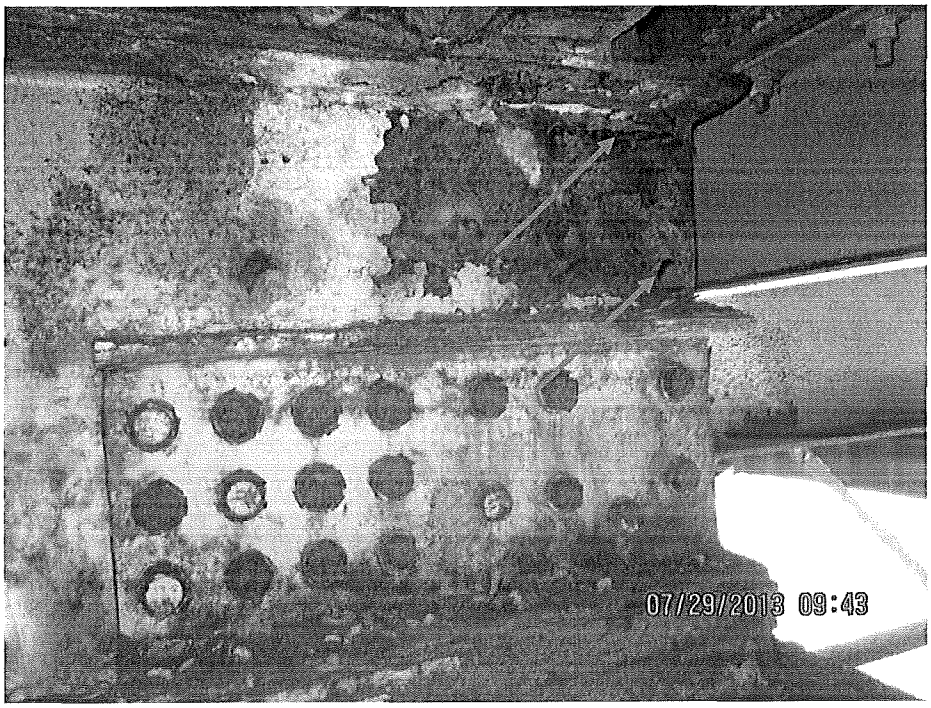


Photo No.: 14.

Location: Span 7, Stringer S8 at Capbeam 4, looking north.

Description: The end of stringer exhibits severe corrosion with a 4" x 11" hole in the web above the bearing.

(Priority Repair 9)

Photo No.: 15.

Location: Span 9, east end of Stringer S13, looking south.

Description: The bottom of the web exhibits severe corrosion with a 2" x 4" hole and an adjacent 5" long corrosion crack above the bearing.

(Priority Repair 9)

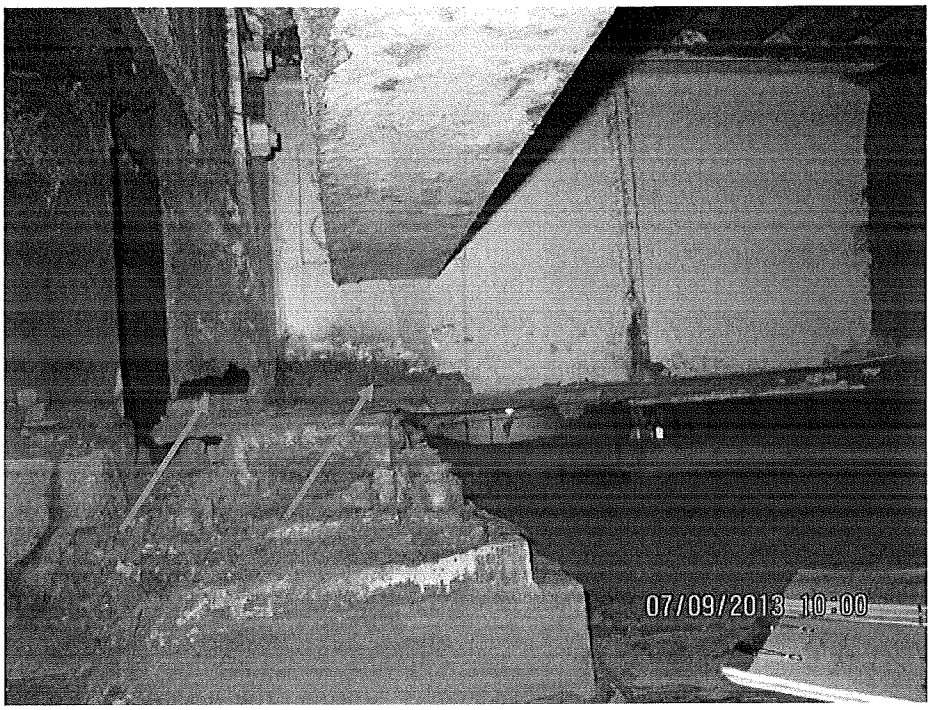


Photo No.: 16.

Location: Span 3, Stringer S18 between Panel Points 1E* and 1E, looking northwest.

Description: Fascia stringer S18 exhibits 50% section loss of both flanges along with large holes at the bottom of the web.

(Priority Repair 10)

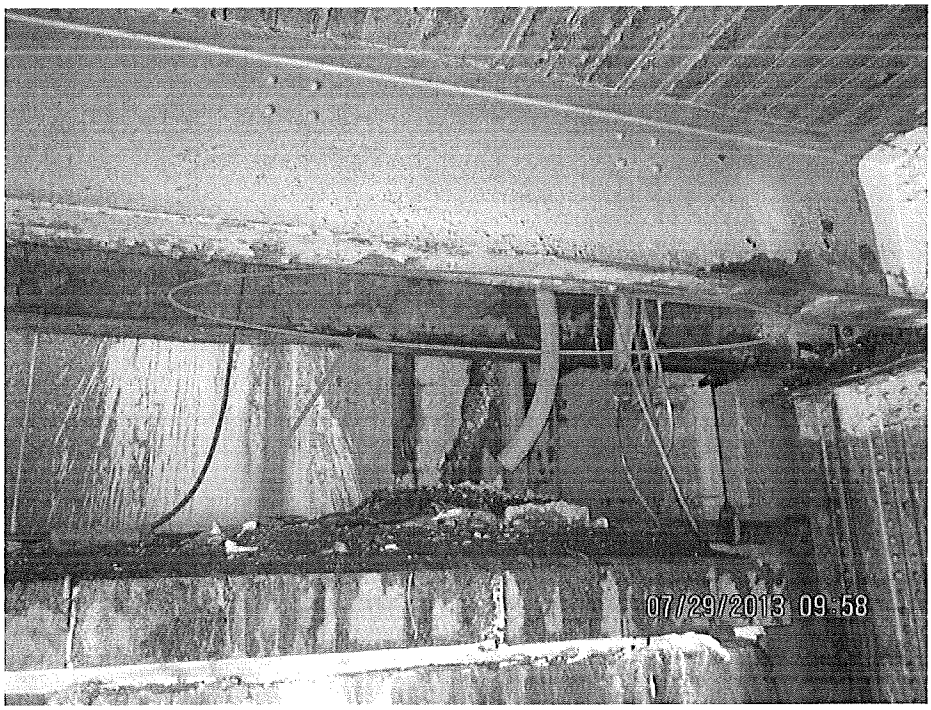


Photo No.: 17.

Location: Span 2, fascia Stringer S1 at the east side of Floorbeam 26W*, looking south.

Description: The stringer web exhibits severe corrosion with section loss and holes along the bearing stiffening angle at the floorbeam connection. Two 3/4" crack arrestor holes were drilled at this location.

(Priority Repair 11)

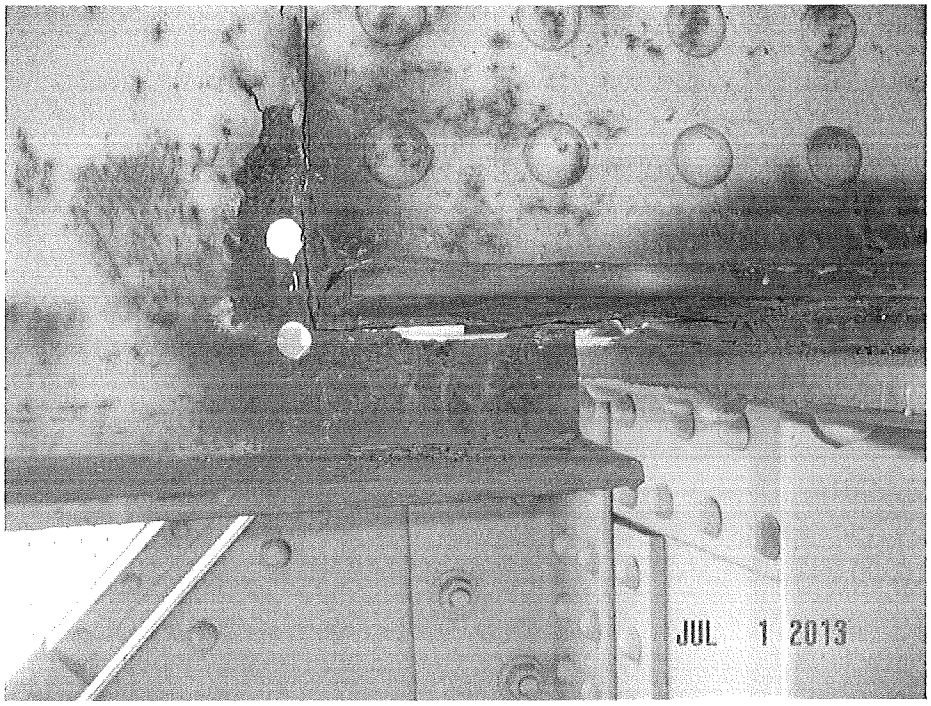


Photo No.: 18.

Location: Span 10, concrete pedestal at the west end of Stringer S13, looking north.

Description: The pedestal exhibits spalled concrete with voids, causing minor undermining of the bearing plate under the stringer.

(Priority Repair 12)

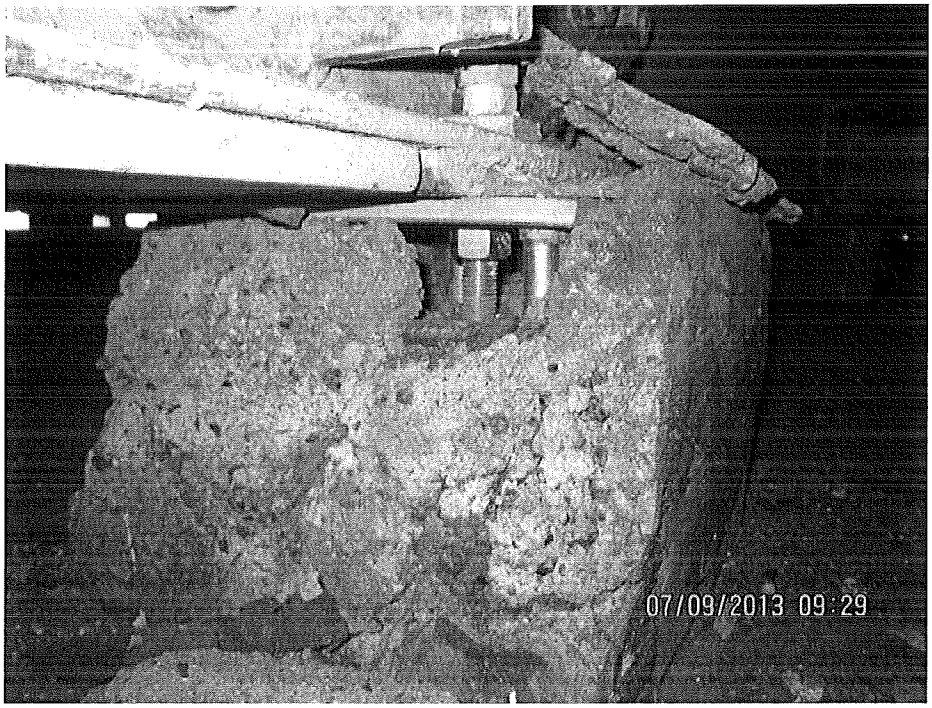


Photo No.: 19.

Location: Span 11, concrete pedestal at the east end of Stringer S16, looking southwest.

Description: One out of two anchor bolts is sheared off on the south side of stringer. Also, one out of two anchor bolts is sheared off on the north side.

(Priority Repair 13)

Photo No.: 20.

Location: Span 10, concrete pedestal for Stringer S9 bearing at Pedestal 3 from west, looking northwest.

Description: Spalled concrete pedestal below stringer bearing with exposed rusted rebar.

(Priority Repair 14)

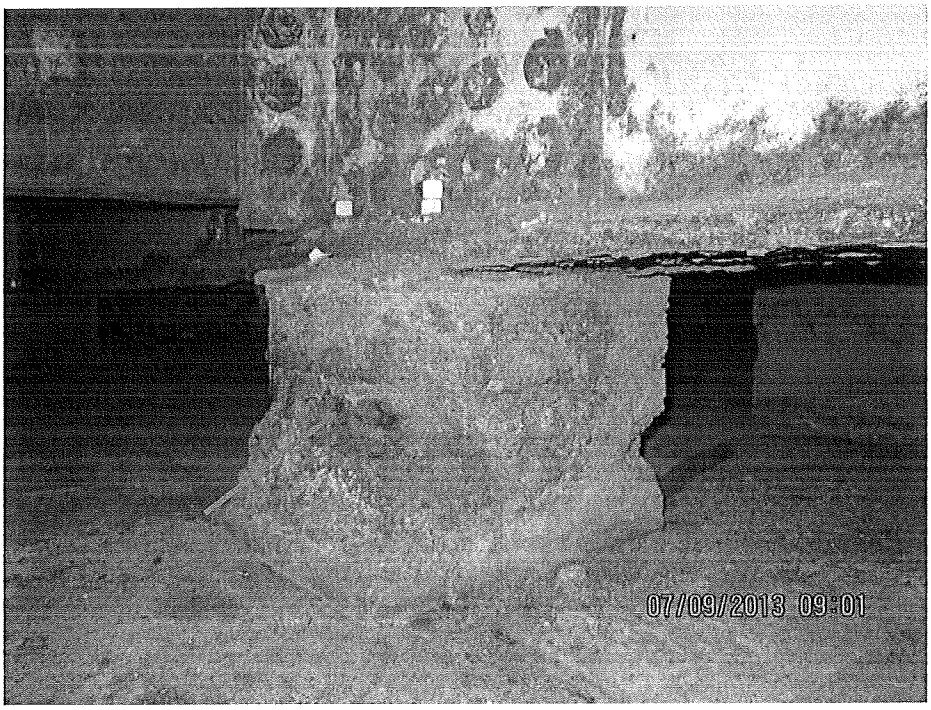


Photo No.: 21.

Location: Span 11, concrete pedestal at east end of Stringer S10, looking north.

Description: The pedestal exhibits spalled concrete with voids, causing minor undermining of the bearing plate under the stringer.

(Priority Repair 15)

Photo No.: 22.

Location: Span 2, Stringer S10 at the west side of Floorbeam 15E, looking south.

Description: The bottom of the stringer web exhibits severe corrosion and section loss with 4"x1" and 2"x1" holes and a 3" crack in between over the bearing area at the floorbeam connection.

(Priority Repair 16)

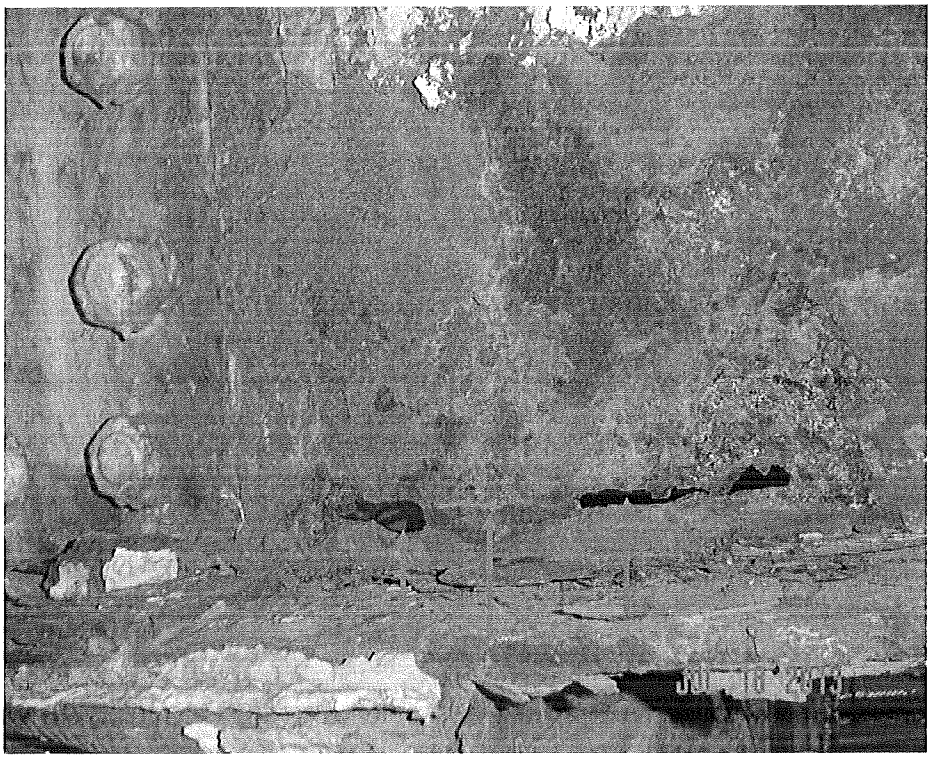


Photo No.: 23.

Location: Span 2, Stringer S2 at the west side of Floorbeam 24E, looking south.

Description: The top of the stringer web exhibits severe corrosion and section loss with a 1-1/2" crack above the splice plate over the bearing area at the floorbeam connection.

(Priority Repair 17)

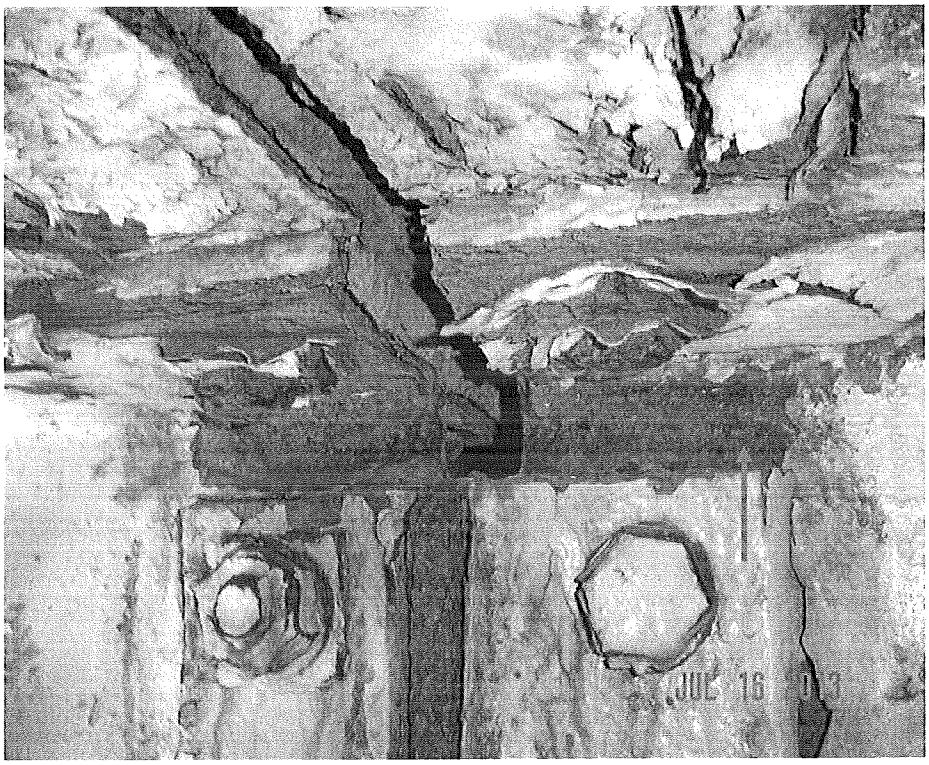


Photo No.: 24.

Location: Span 3, underside of steel finger joint below the eastbound roadway at Panel Point 1E, looking west and up.

Description: The finger joint plates are shifted and jammed against each other, restricting movement.

(Priority Repair 18)

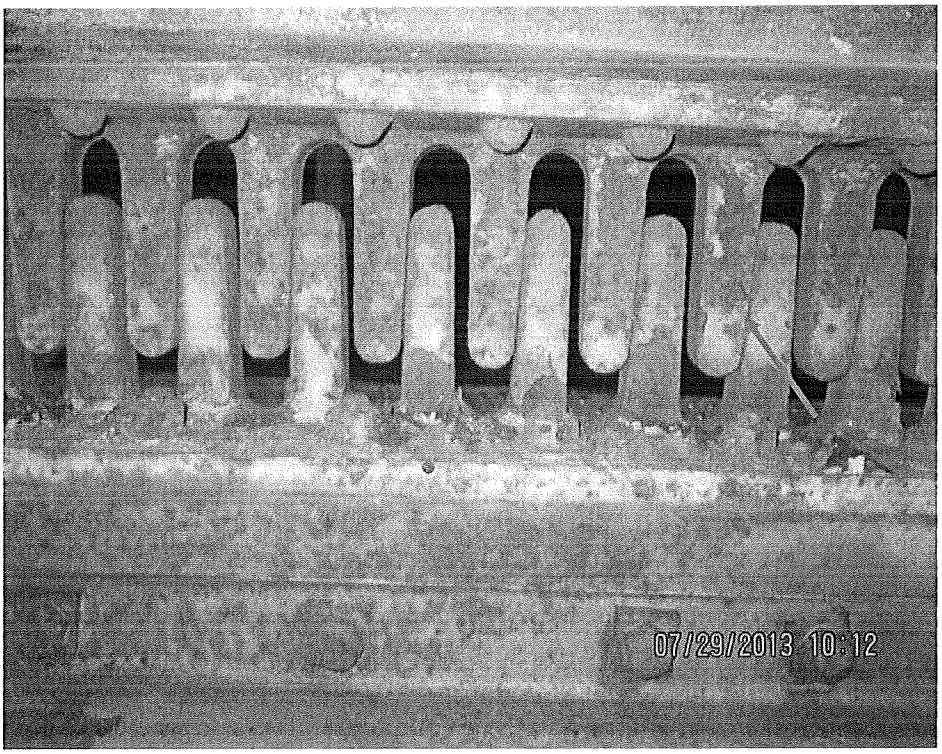


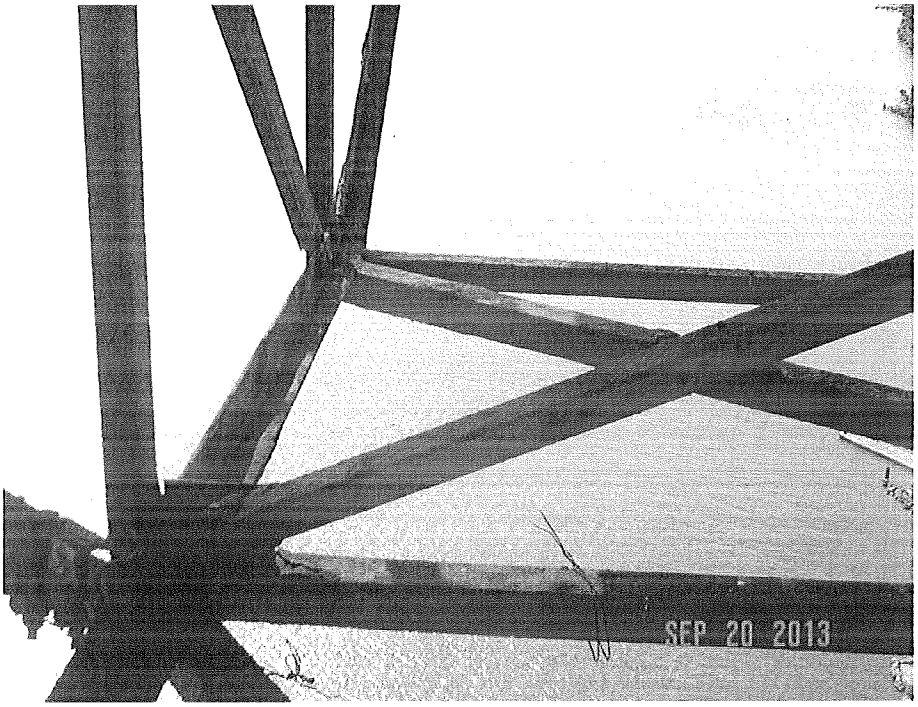
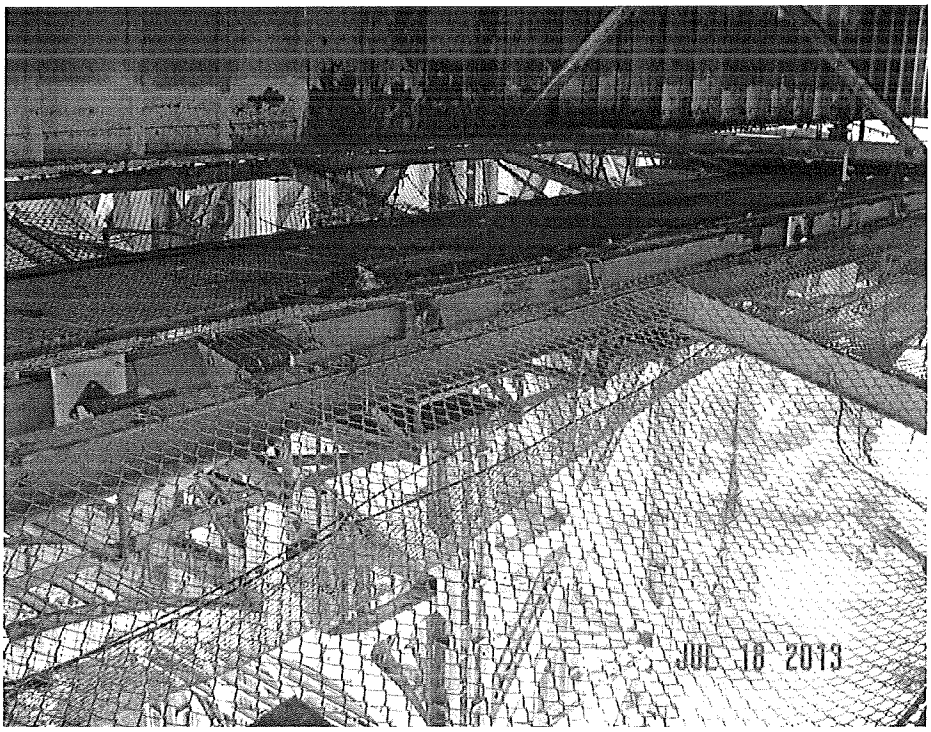
Photo No.: 25. **Location:** New Jersey Main Span Traveler, looking south. **Description:** Moderate to severe section loss and corrosion at east bottom main support truss members. **(Priority Repair 19)**	
Photo No.: 26. **Location:** New York Main Span Traveler, looking southeast. **Description:** General View. The traveler is not operational and is enclosed by netting to prevent falling debris. The traveler exhibits moderate to severe corrosion and section loss to main support truss members. **(Priority Repair 20)**	

Photo No.: 27.

Location: New Jersey Main Span Traveler, looking southwest

Description: Moderate to severe section loss and corrosion at west bottom main support truss members.

(Priority Repair 21)

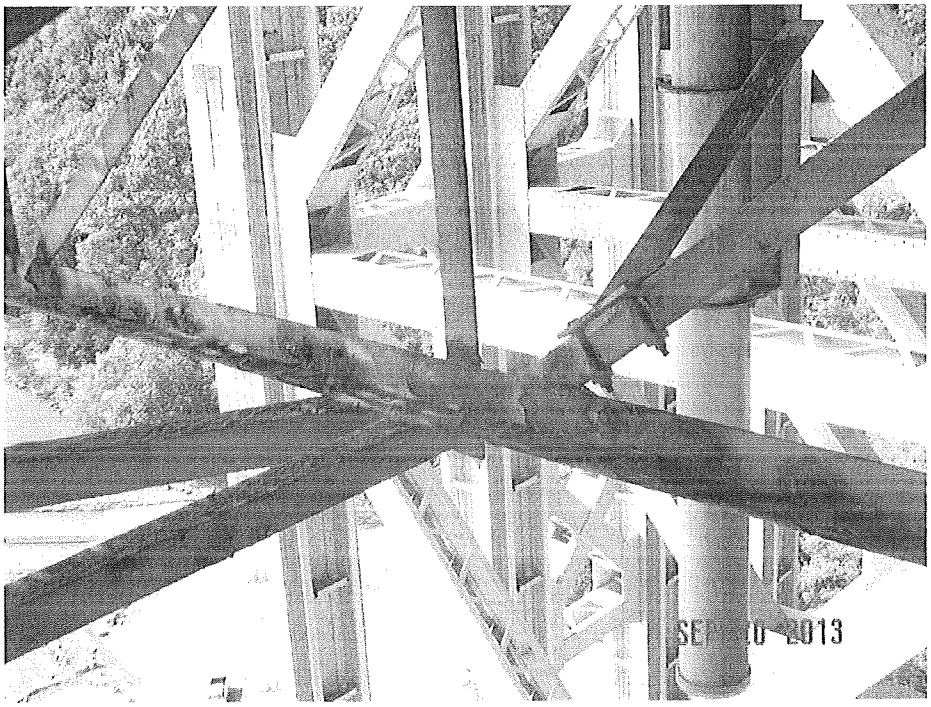


Photo No.: 28.

Location: New Jersey Main Span Traveler, looking east and down

Description: The bracing angle for the top chord of the traveler truss is severely corroded with large holes.

(Priority Repair 22)

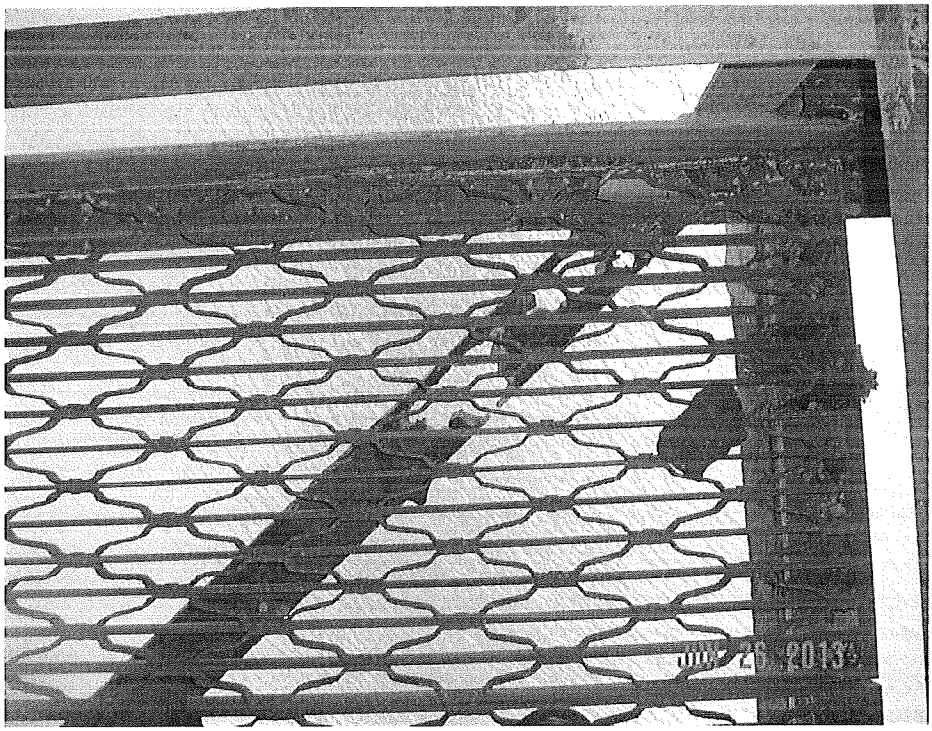


Photo No.: 29.

Location: New Jersey Back Span Traveler, looking northwest.

Description: Moderate to severe section loss at main support truss members.

(Priority Repair 23)

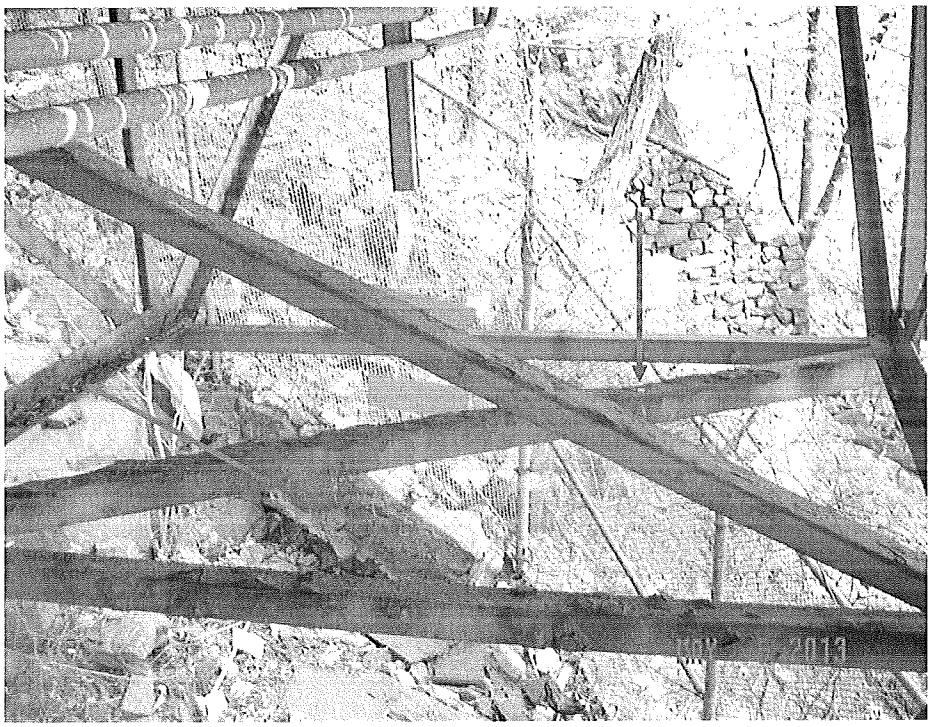


Photo No.: 30.

Location: New Jersey Main Span Traveler, looking south and down.

Description: Missing 3 of 3 connection bolts at the frame bracing gusset plate.

(Priority Repair 24)

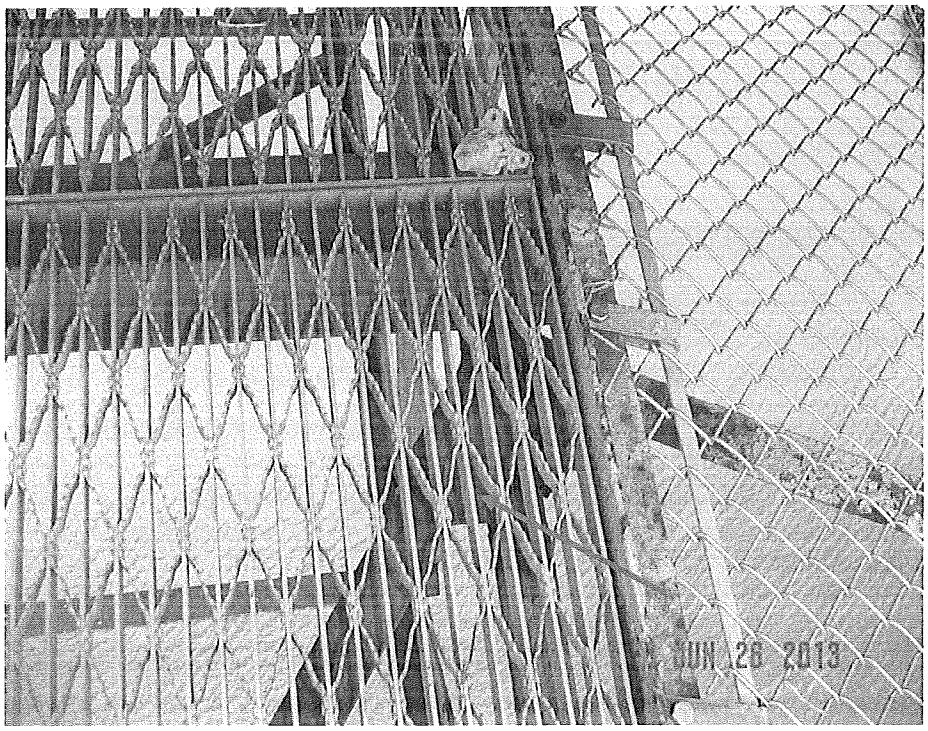


Photo No.: 31.

Location: Span 1, west face of Floorbeam 3W under Stringer S2, looking north.

Description: The conduit knee brace support exhibits severe corrosion with up to 90% section loss to the horizontal support member. One of the conduits is severely corroded.

(Safety Repair 1)

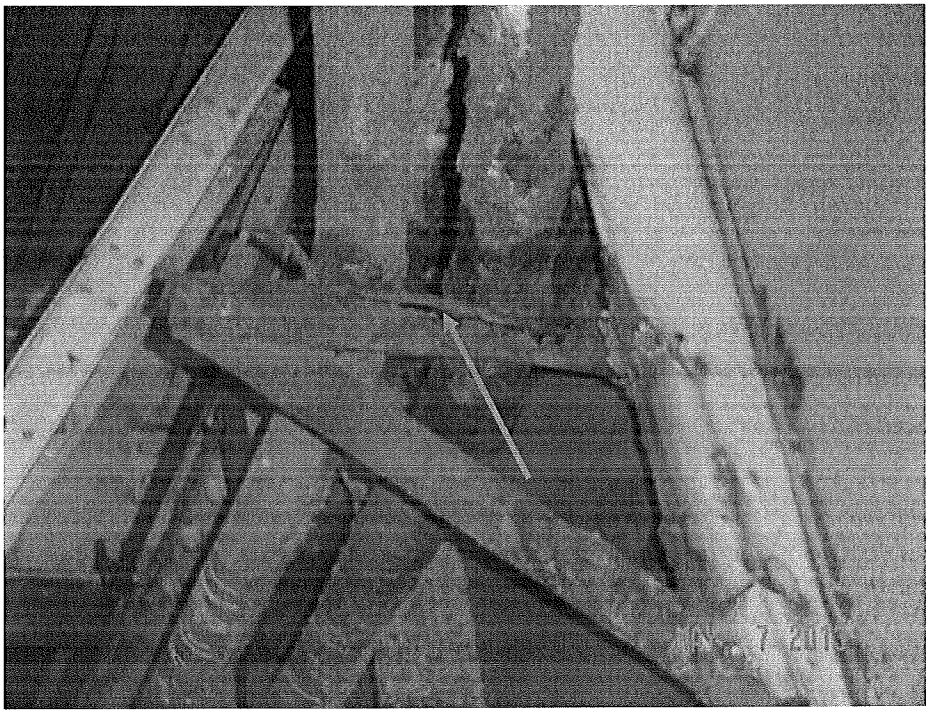


Photo No.: 32.

Location: Span 10, at the south safety walk, looking northwest.

Description: Bottom rail of the chain link fence panel is missing.

(Safety Repair 2)

Photo No.: 33.

Location: Span 1, median safety netting between Panel Points 7W and 7W*, looking east and down.

Description: The netting exhibits a 10' long x 4' wide hole.

(Safety Repair 3)

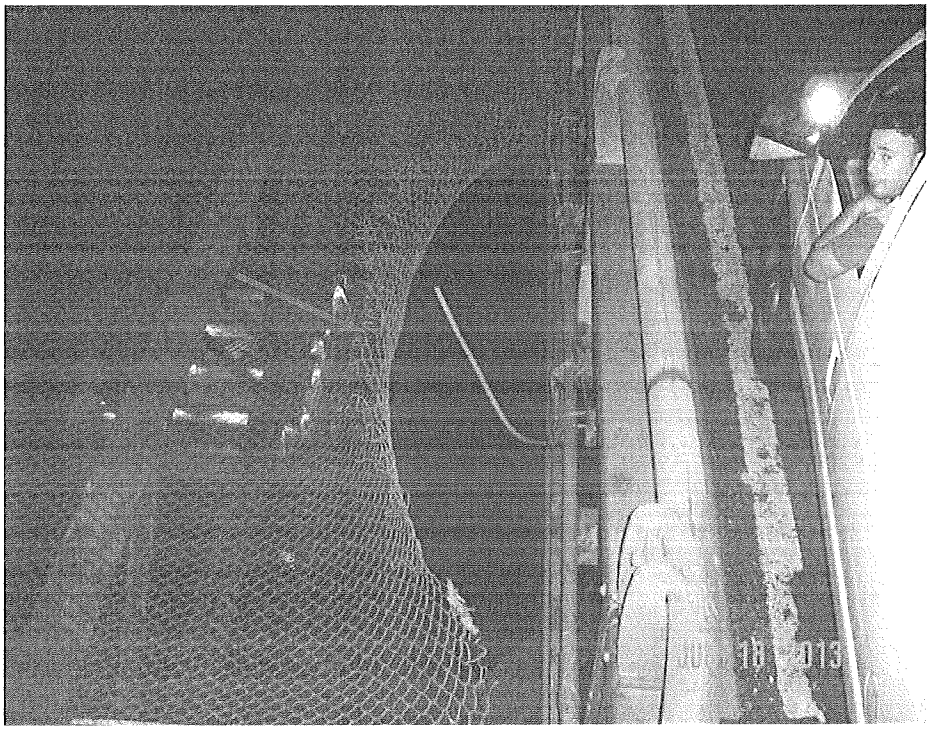


Photo No.: 34.

Location: New Jersey Tower north safety walk, looking east.

Description: 2' x 1' opening in the safety walk, and 2' long x 4" wide cut out area of safety walk grating for conduits.

(Safety Repair 4)

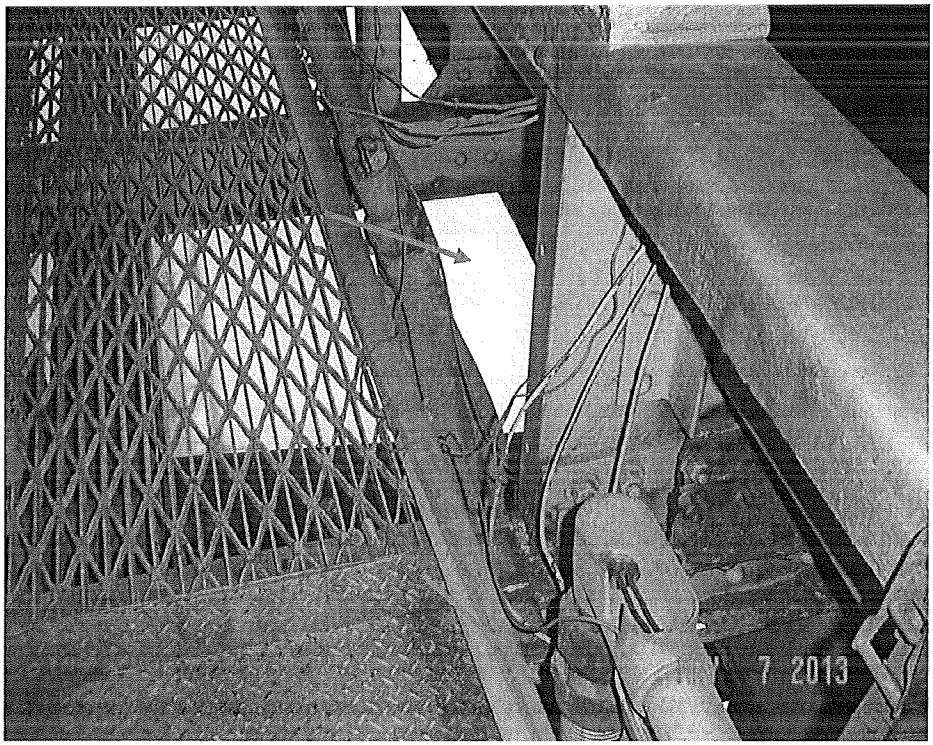
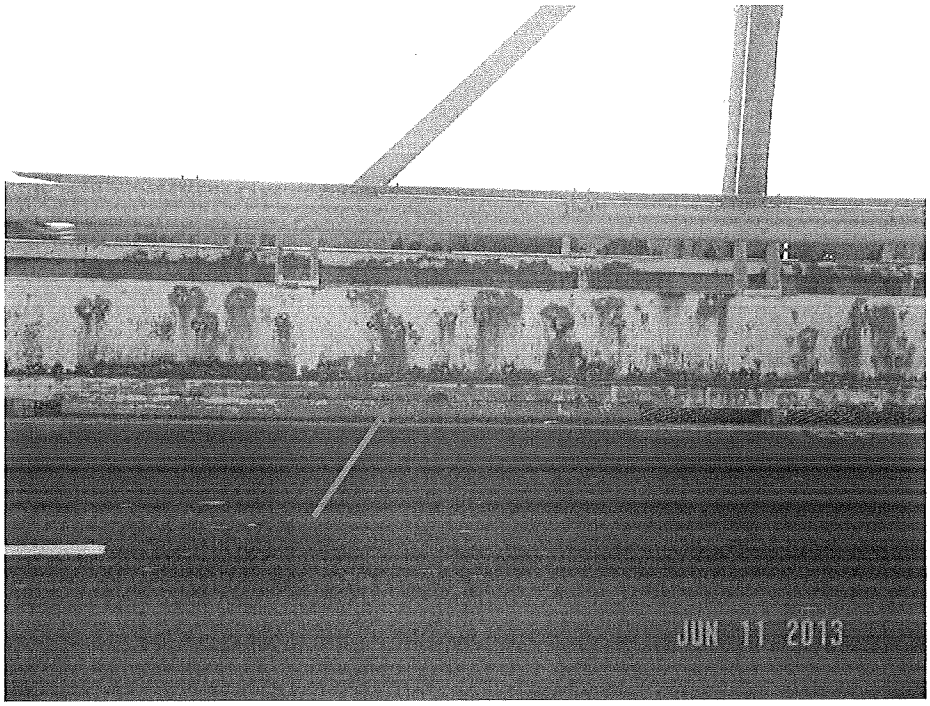


Photo No.: 35.

Location: Span 3, north median curb, along west bound roadway between Panel Points 7E and 6E*, looking south.

Description: Section of steel curb plate has been partially detached along the median barrier.

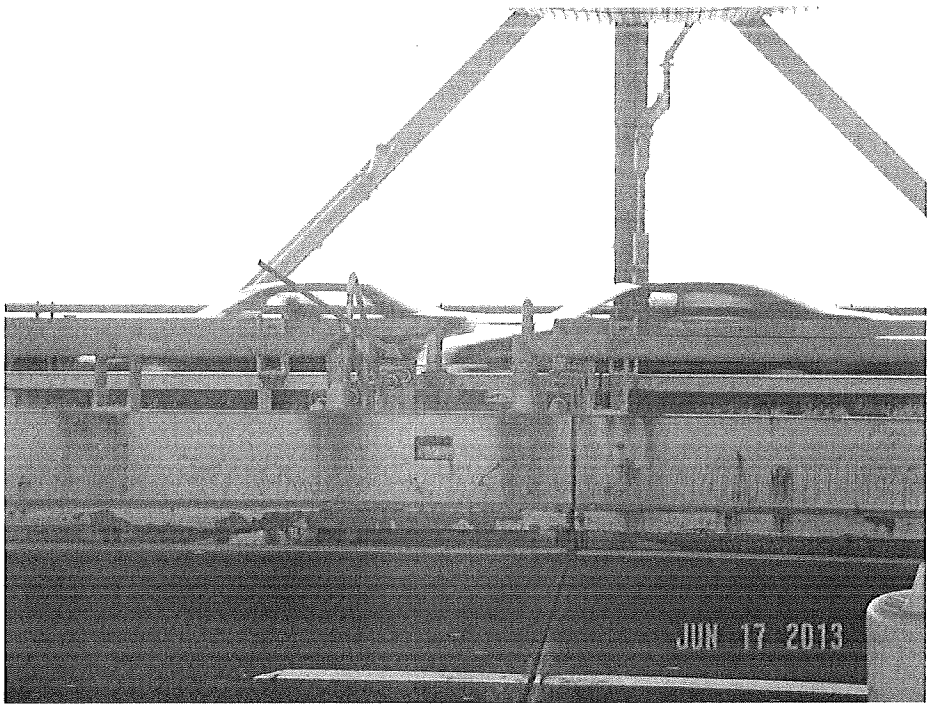


(Safety Repair 5)

Photo No.: 36.

Location: Span 2, crossover walkway at Panel Point 27W, looking south.

Description: The southeast handrail (one of four) is missing at the stairs from the median barrier to the access catwalk.



(Safety Repair 6)

Photo No.: 37.

Location: Span 3, bridge railing of south safety walk at Panel Point 1E, looking east.

Description: Railing is detached from the post connection along the top of the roadway barrier.

(Safety Repair 7)

Photo No.: 38.

Location: Span 1, south safety walk at Panel Point 3W, looking east and down.

Description: Missing electrical box cover with exposed wires attached to the back of roadway barrier (Accessible to public/stranded motorists).

(Safety Repair 8)

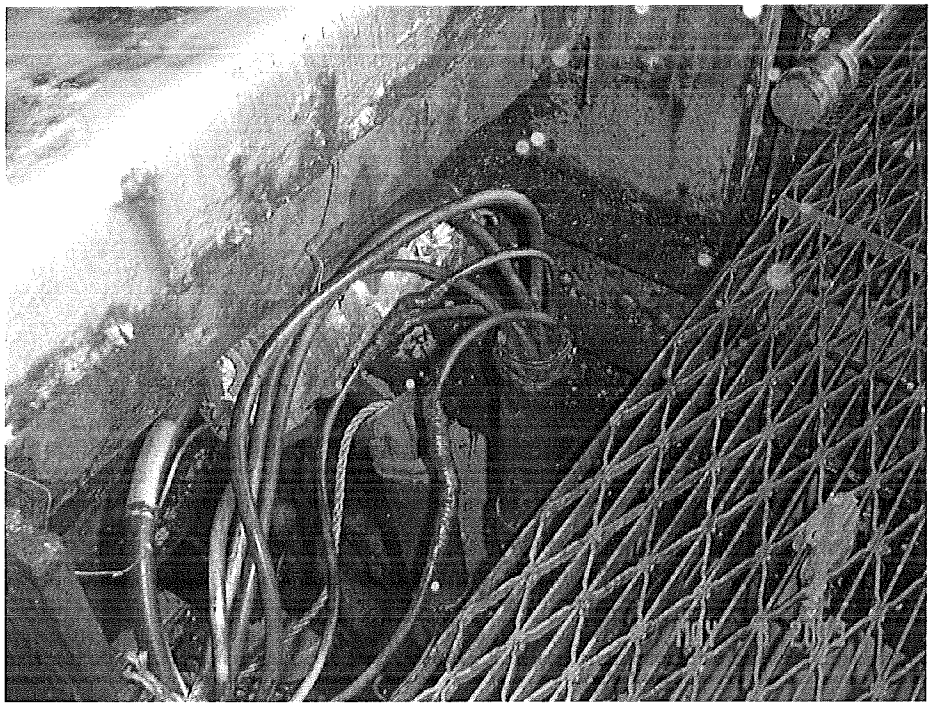


Photo No.: 39.

Location: Span 2, north safety walk at New York Tower, looking east and down.

Description: The west edge of the safety walk diamond plate is uplifted 1.5" causing a tripping hazard.

(Safety Repair 9)

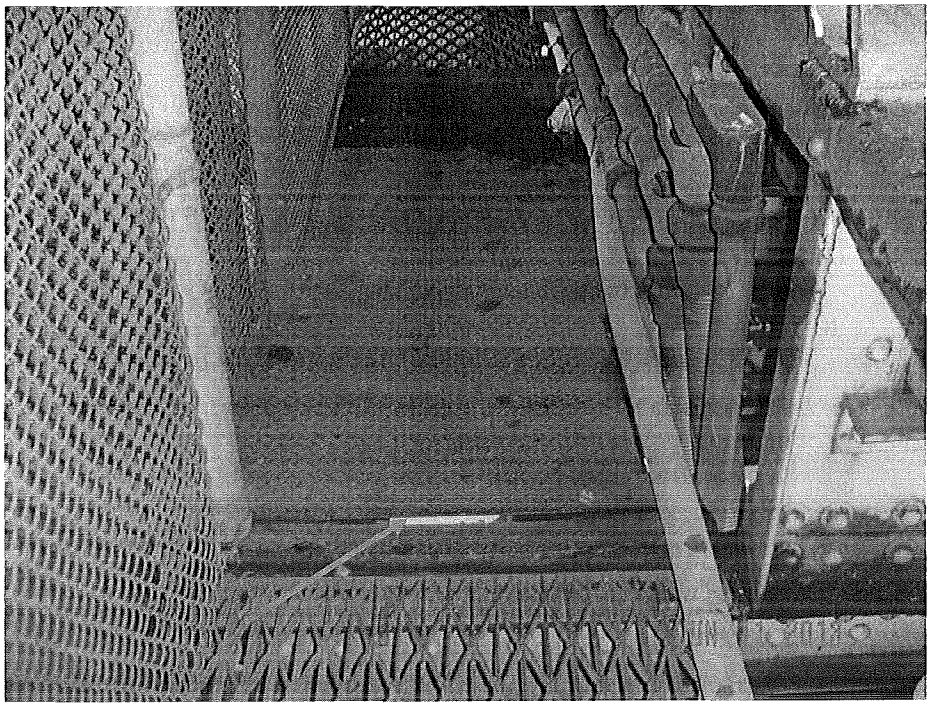


Photo No.: 40.

Location: Span 2, south curb of eastbound roadway at NJ tower (Panel Point 14W) finger joint, looking east and down.

Description: A four feet long section of steel curb is severely corroded with numerous holes.

(Safety Repair 10)

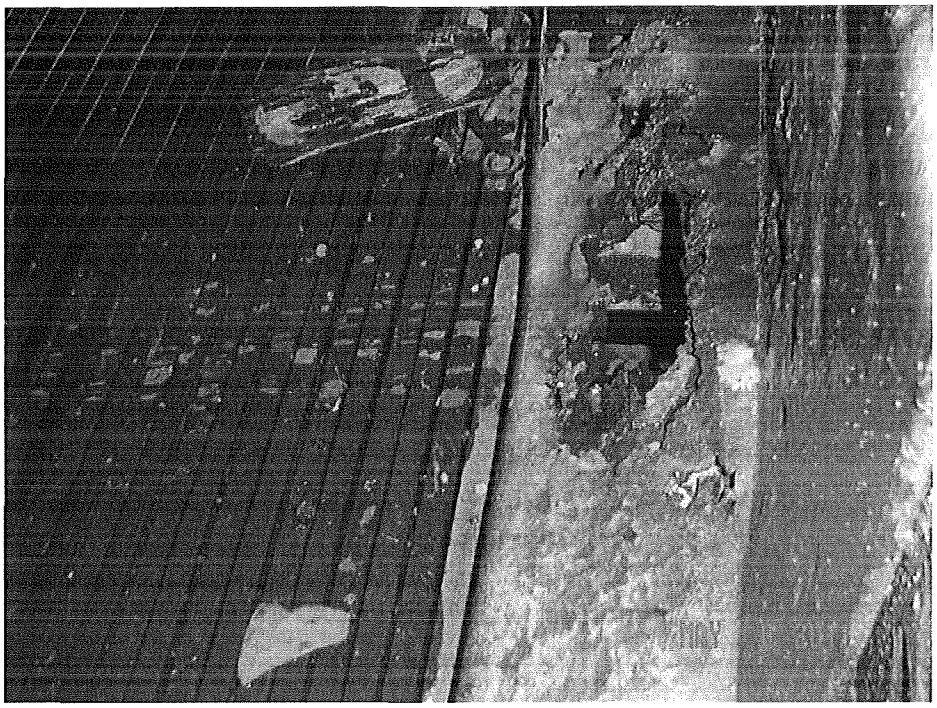


Photo No.: 41.

Location: Span 3, north safety walk, at Panel Point 1E, looking west and down.

Description: There is a bent and broken end plate at the end of the safety walk (creating a tripping hazard).

(Safety Repair 11)

Photo No.: 42.

Location: South safety walk at the New Jersey Tower, looking west and down.

Description: Broken conduit coupling connection with exposed wires along the safety walk (Accessible to public / stranded motorists).

(Safety Repair 12)

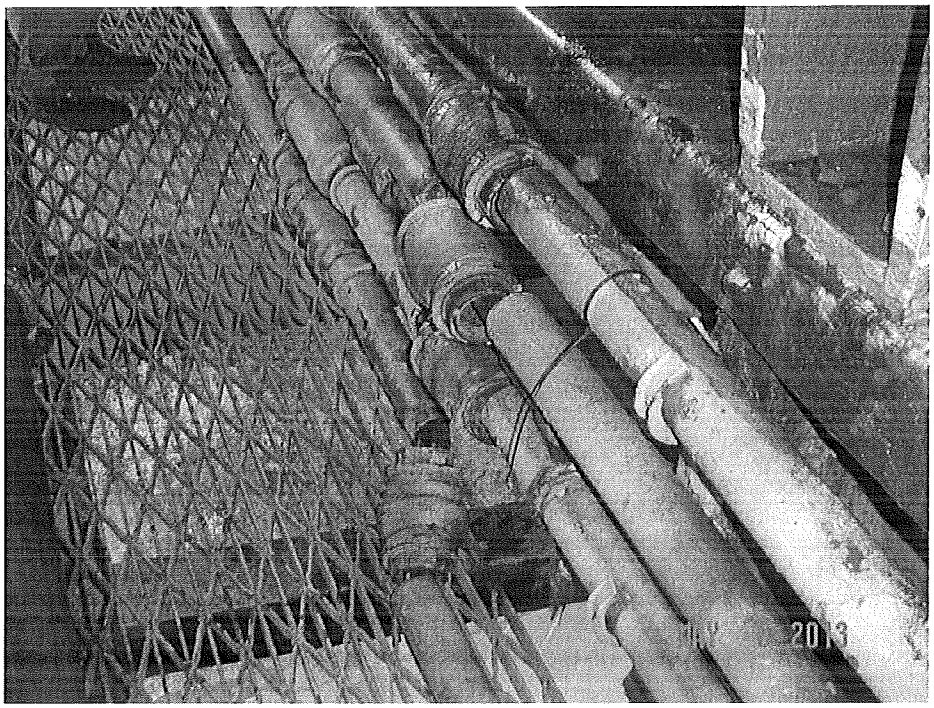


Photo No.: 43.

Location: New York Main Span Traveler, looking northeast and down.

Description: Large hole in the safety netting with inadequate wire mesh.

(Safety Repair 13)

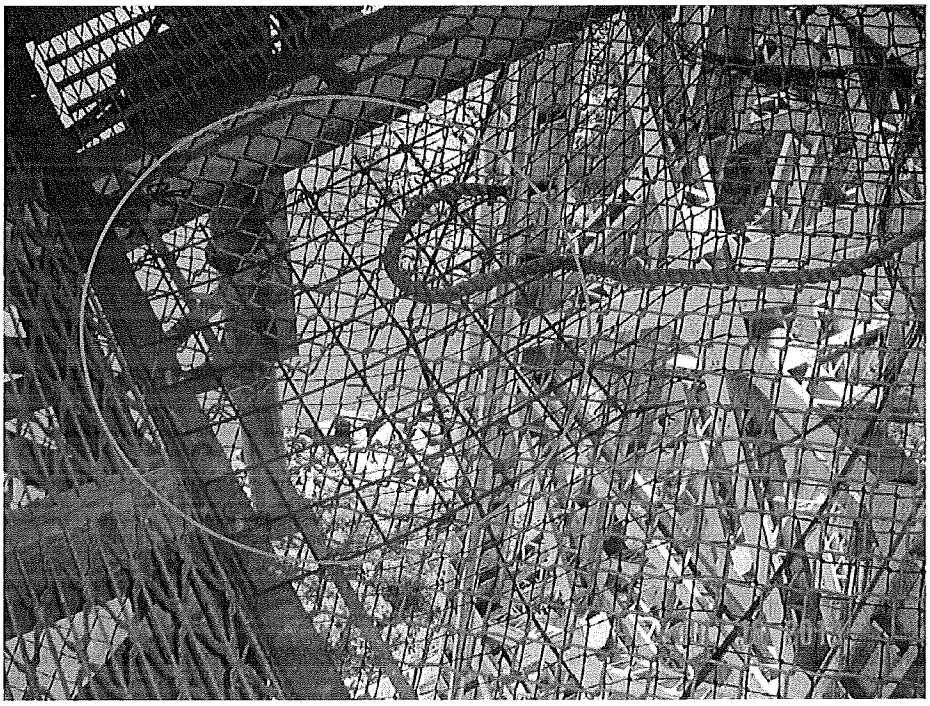


Photo No.: 44.

Location: New Jersey Back Span Traveler, looking south.

Description: The 3" x 3" angle supporting the safety netting is severely corroded with holes in horizontal and vertical legs.

(Safety Repair 14)

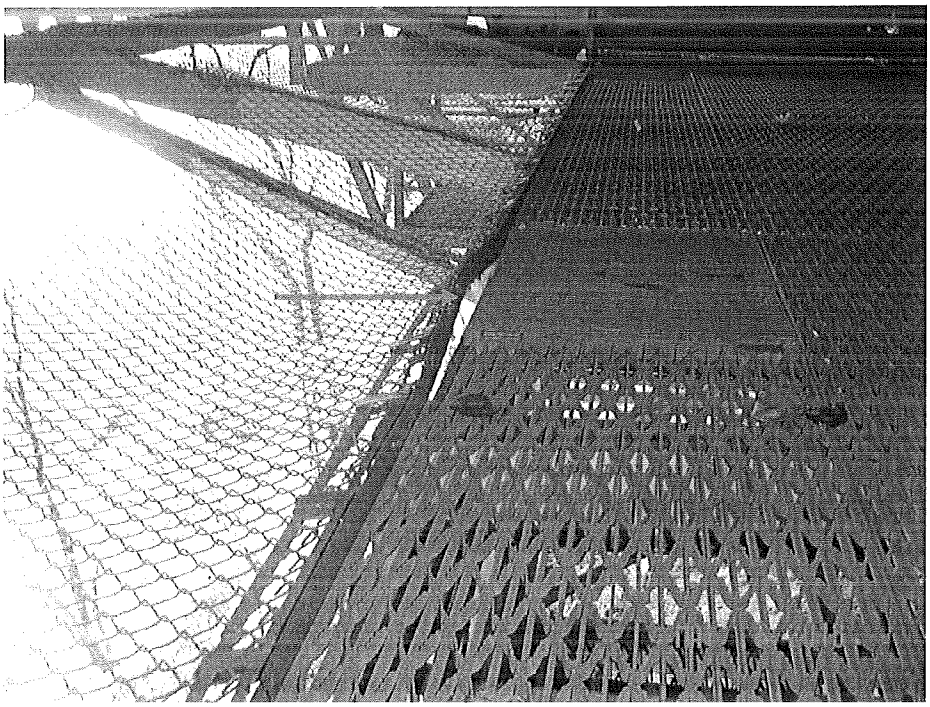


Photo No.: 45.

Location: New York Back Span Traveler, looking south.

Description: Missing horizontal rail angle for platform below traveler floor access hatch.

(Safety Repair 15)

Photo No.: 46.

Location: New Jersey Back Span Traveler, looking east.

Description: Missing strap attachment bolt connecting traveler floor to safety netting fence fabric.

(Safety Repair 16)

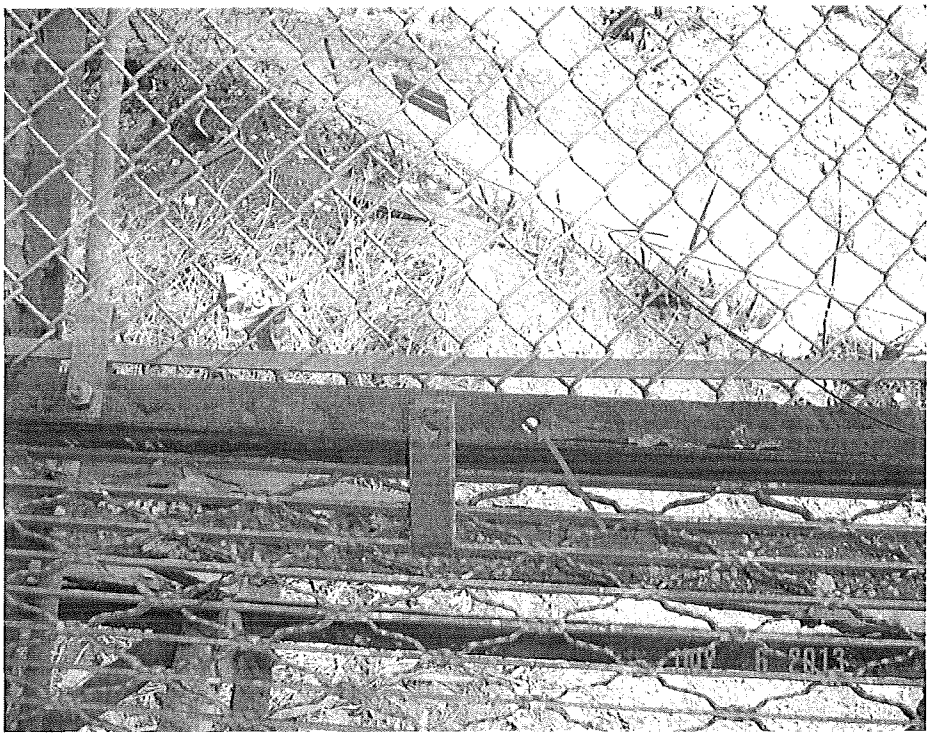


Photo No.: 47.

Location: Southwest corner of New Jersey Back Span Traveler, looking southwest.

Description: The weld between the fence fabric connection plate and the aluminum post is broken.

(Safety Repair 17)

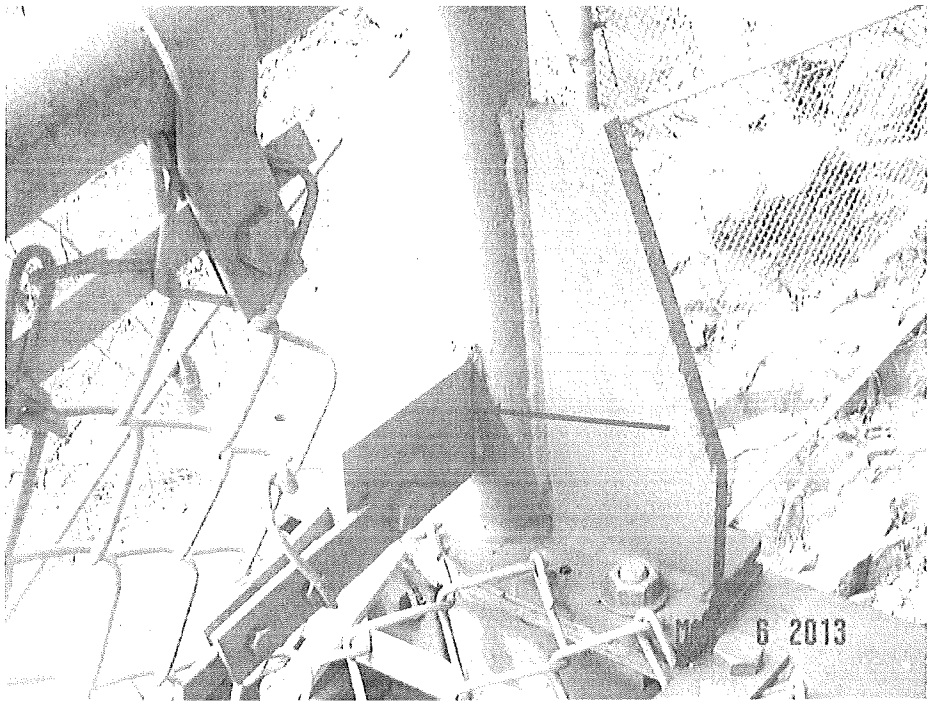
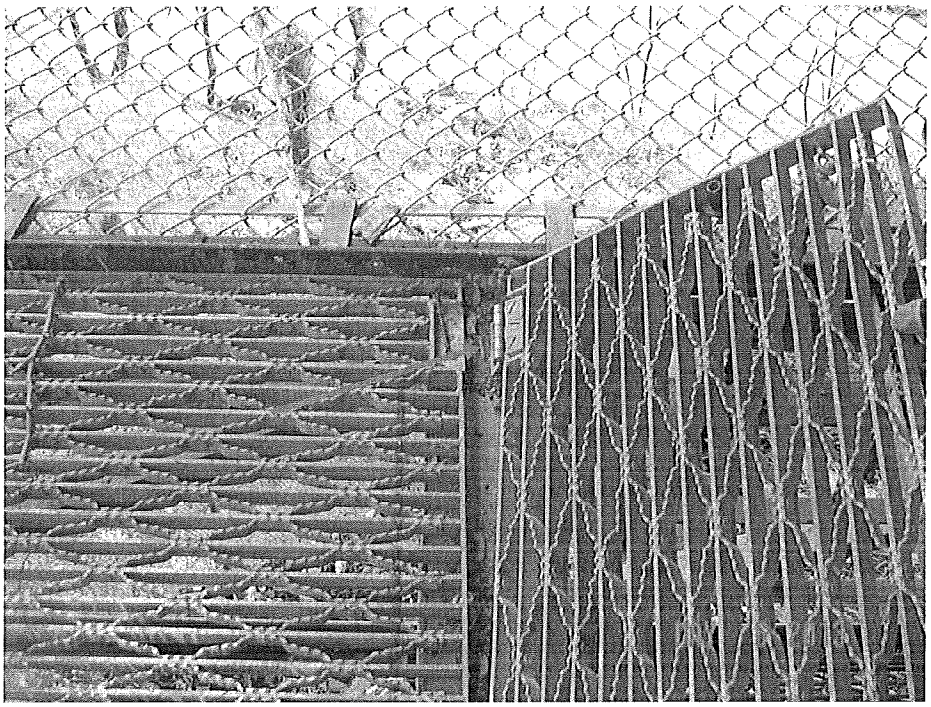


Photo No.: 48.

Location: East side of New Jersey Back Span Traveler, looking east.

Description: The connection screws for the access hatch hinge are missing at the north side of the floor grating.

(Safety Repair 18)



VI. Appendices

Appendix A
Table of Horizontal Cracks

APPENDIX A

TABLE OF HORIZONTAL CRACKS

FLOORBEAM	STRINGER (E/W)	CRACK LENGTH	CRACK LENGTH
		2011	2013
5W	S17(W)	1-3/8″	1-3/8″
24E	S2(W)	1-1/2″	1-1/2″
17W(See Note 2)	S17(W)	1/2"	1/2"
5E	S2(E)	2″	2″
5E	S17(E)	1″	1″

(E/W) denotes: Stringer on east or west side of floorbeam.

Notes:

1. The crack length development at the stringer webs along the top flange has not changed since the previous inspection in 2011.

2. This crack was previously noted and extends beyond a 2" x ½" corrosion hole at the end of the stringer web.

Appendix B
Table of Drilled Holes

APPENDIX B

GWB LOWER LEVEL

LOCATIONS OF ARRESTOR HOLES DRILLED IN WEBS OF FASCIA STRINGER

Span No.	Stringer No.	Panel Point	East / West Side	Size of Web Deterioration	Repair
2	S18	24W	East Side	1" Diameter Horizontal Hole	ROUTINE
	S1	25W*	East Side	1/2" x 2-3/4" Horizontal Hole	ROUTINE
	S1	26W	East Side	1/2" x 5" Horizontal Hole	ROUTINE
	S1	26W*	East Side	5/8" x 6" Horizontal Hole & 1/8" x 1" Vertical Hole	PRIORITY
	S1	27W*	East Side	1/2" x 2-1/2" Horizontal Hole	ROUTINE
	S1	28W	East Side	3/8" x 5" Horizontal Hole	ROUTINE
	S1	29W	East Side	5/8" x 6" Horizontal Hole	ROUTINE
	S1	30W	East Side	1/2" x 3-1/2" Horizontal Hole	ROUTINE
	S1	31W	East Side	3/8" x 4-1/2" Horizontal Hole	ROUTINE
	S1	32W	East Side	3/8" x 4" Horizontal Hole	ROUTINE
	S1	36W	East Side	3/8" x 4" Horizontal Hole	ROUTINE
	S18	36W	East Side	3/4" x 4" Horizontal Hole	ROUTINE
	S1	39W*	East Side	3/8" x 2-3/4" Horizontal crack propagated past 1st drilled hole	ROUTINE
	S18**	36E	West Side	3/4" x 5" Horizontal Hole & 2" Vertical Crack	PRIORITY
	S1	22E*	West Side	1/2" x 2" Horizontal Hole	ROUTINE
	S1	5E	West Side	1/2" Diameter Horizontal Hole	ROUTINE

** New location of drilled arrestor holes noted in this report.

Note:
1. For detailed description of deficiencies and repair recommendations see Page No. 13.

Appendix C
Immediate Action Correspondence

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

May 28, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels**
PA Agreement No. 405-13-005; P.O. 4900009127

Subject: **Immediate Action – Severe deterioration of Stringer S1 between PP 7E* & PP 8E**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Lower Level, the following condition was found at stringer S1 between Panel Points 7E* & 8E requiring immediate action.

Approximately 3'-6" long by up to 4" high section of the web exhibits severe corrosion with a 3" long crack and hole thru near the bottom flange starting approximately 5' west of PP7E* floorbeam. At the same location, the bottom flange exhibits up to 70% section loss with several rusted thru holes in the north leg. In addition, a 10" (L) x 2" (W) portion of the top flange south leg above the deteriorated web area exhibits severe corrosion with hole thru and up to 50% section loss. See attached location plan and photos.

Stringer S1 is a fascia stringer and primarily is supporting safety walk above as well as providing partial support to the roadway barrier.

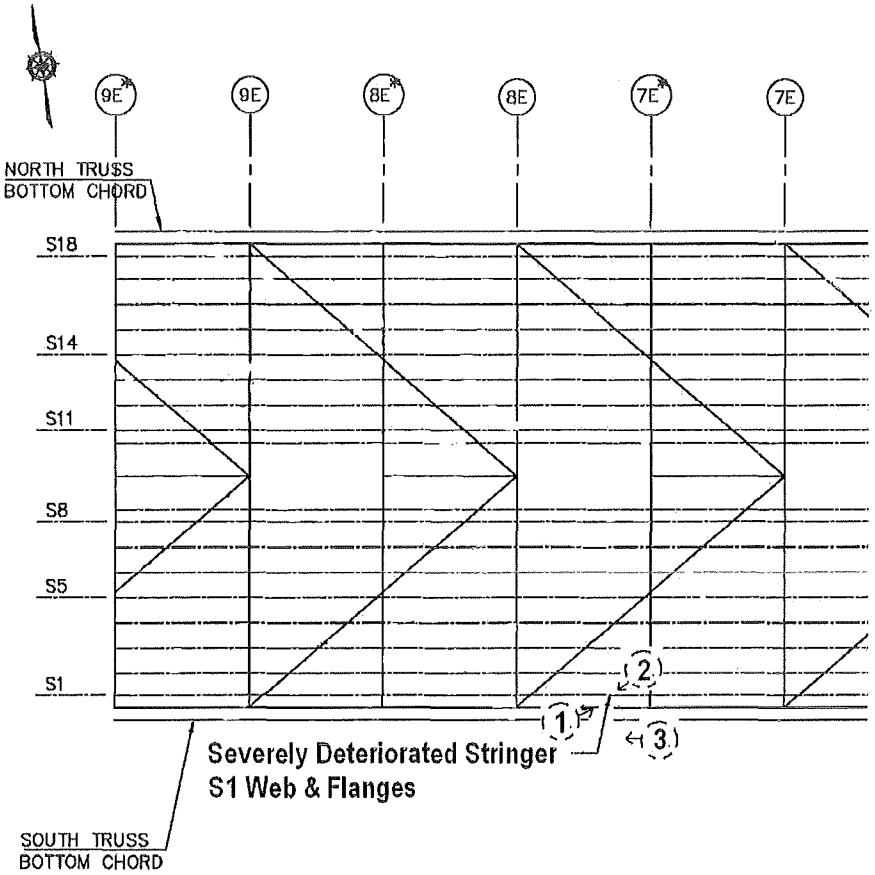
The above deterioration compromises the structural integrity of the stringer. Therefore, it is recommended to repair the deteriorated S1 Stringer section on an immediate basis. It is also recommended that a 1" diameter hole to be drilled at the end of web crack on an immediate basis while the repair details are being prepared.

If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com



GWB Lower Level NY Back Span

LOCATION PLAN

Photo No.: 1

Location:
New York Side Span, Stringer S1 (South face) between Panel Points 7E* & 8E.
(Looking Northeast)

Description:
Severely deteriorated web bottom with holes up to 4" high. Also, 10" (L) x 2" (W) hole thru in the top flange.

Photo No.: 2

Location:
New York Side Span, Stringer S1 (North face) between Panel Points 7E* & 8E.
(Looking Southwest)

Description:
Severely deteriorated web bottom with holes up to 4" high. Also, rusted thru holes in the bottom flange.

Photo No.: 3 **Location:** New York Side Span, Stringer S1 (North face) between Panel Points 7E* & 8E. (Looking Up & West) **Description:** Severely deteriorated bottom flange North side with rusted thru holes.	
Photo No.: **Location:** **Description:**	**Not Used**

Appendix D
Bridge Data Summary

BRIDGE DATA SUMMARY

BIN NO.	NAME	SPANS	LENGTH	YEAR	STRUCTURE TYPE	FCM	LAST INSPECTION	CONTRACT DWGS
5522507	Main Span	11	5062′	1962	Steel Suspension	Y (spans 1 to 9)	October 2011	HRB-5 HRB-5A HRB-5B GWB-190.008 GWB-190.040 GWB-244.056 GWB-244.114 CJ4375

Engineering Quality
Assurance Division
B04-925.103

Port Authority Facility Condition Survey Program

George Washington Bridge Main Span Upper Level 2011 Biennial Inspection

Volume 1 of 2

December 2011

Engineering Department

THE PORT AUTHORITY OF NY & NJ

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HNTB

January 23, 2012

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

2011 FINAL Condition Survey Report / GWB Upper Level

Gentlemen,

We are pleased to submit twelve (12) copies of the Final Condition Survey Report (Volumes 1 & 2) for the 2011 Biennial Inspection of the George Washington Bridge Main Span Upper Level in accordance with Agreement # 405-11-002.

The thoroughness and accuracy of all work on this project has been ensured by independent quality control performed by our senior technical and management staff.

We trust you find this submission to your satisfaction, and please feel free to contact us at 201-528-9067 with any questions regarding this report.

We thank you for the opportunity to provide professional services associated with this project.

Sincerely,

A.Wm Rutherford

A.William Rutherford, P.E.
Principal-in-Charge

EXECUTIVE SUMMARY

HNTB Corporation in association with PK Engineering, P.C. (PKE), PKB Engineering Corporation (PKB), and Mega Engineering, Inc. (MEGA), performed the 2011 Biennial Inspection of the George Washington Bridge Upper Level (BIN 5522508), from May through October of 2011. The inspection was performed with the assistance of SEMAC personnel. The inspection included upper level roadway and framing, the stiffening trusses (except for the bottom gusset plates and bottom chord members which were included in the George Washington Bridge Lower Level inspection), the main cables, suspender ropes, towers, anchorages, and a diving inspection and mechanized flag hoisting and storage system inspection at the New Jersey Tower. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The George Washington Bridge Upper Level is in overall good condition. All major structural components were found in good condition with the exception of the steel orthotropic deck and suspender ropes which were found in fair condition due to severely corroded and cracked orthotropic deck ribs occurring primarily adjacent to the deck joint areas and broken wire strands noted at the lower suspender rope socket areas.

During the inspection, there were 10 conditions found that required immediate action. Repairs have been completed at 6 of the 10 immediate conditions involving repair of loose secondary floorbeam to stringer connections, cracked welds of consecutive deck ribs, cracked steel deck plate and two deck ribs, a loose stringer to main floorbeam connection, a cracked lateral bracing connection plate and improperly seated finger joint plates at the towers. Work is currently in progress for the 4 remaining immediate actions including repair of cracked webs of consecutive riser beams at seventeen Panel Points, a cracked secondary floorbeam between Panel Points 5W-6W, drilling of arrestor holes at the end of cracks found in the webs of sixty secondary floorbeams and the removal of cracked and delaminated concrete along the south sidewalk fascia (See Appendix B for correspondence).

Out of a total of 40 priority repair recommendations at 3,387 locations identified in the previous inspection report 13 priority repairs at 31 locations have been completed and 9 priority repairs were partially completed at 661 locations. In addition, 12 new priority repairs at 2,672 locations were found. Therefore, there are a total of 39 priority repairs at 5,367 locations recommended for repair in this report. The majority of these recommendations include the repair of cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeams, missing tie down bolts and plates that connect the deck strap plate to the secondary floorbeams, missing or sheared rivets or bolts at the secondary floorbeam to stringer connections, cracked and/or holed webs of secondary floorbeams, orthotropic deck ribs (tees) and riser beams.

There are also 17 non-structural safety repairs recommended at 85 locations and 141 routine repairs recommended at 3,644 locations. All conditions are listed in the Inspection Findings and Recommendations section and are located on the Deficiency Location Plans.

An in-depth inspection of all gusset plate connections at the upper chord of the stiffening truss was performed and all gusset plates were found to be in good overall condition.

The report contains conclusions concerning the causes of the noted deterioration and recommendations for the rehabilitation of the structure. The repair procedures contained in the recommendation section of the report outline the general extent of the required rehabilitation work. The presentation of these conceptual repairs does not preclude the necessity of performing further investigation and preliminary design work for the purpose of establishing the complete scope of work and the final rehabilitation design.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Top of Deck				
	None		None	
Underside of Deck				
GWB-BR002-054	Repair the severely spalled pedestal of south sidewalk stringer bearing between Cap Beams 2 and 3 and pedestal of floorbeam at Panel Point 1E of the New York Anchorage. Additional new location at pedestal of stringer S1 at Cap Beam 10 of the New York Anchorage.	Outstanding (3 Locations)	Repair the severely spalled pedestal of south sidewalk stringer bearing between Cap Beams 2 and 3, pedestal of floorbeam at Panel Point 1E and pedestal of stringer S1 at Cap Beam 10 of the New York Anchorage.	U-6 *(Photo A3)*
GWB-BR002-122 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-104)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	Repaired (535 Locations) Outstanding (1,903 Locations)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	U-2 thru U-5 *(Photo A4)*
GWB-BR002-155	------	New (2,518 Locations)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	U-2 thru U-5 *(Photo A6)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Underside of Deck (cont'd)				
GWB-BR002-123 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-105)	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 4W-8W, 11W, 14W, 15W, 17W, 18W, between 18W-19W, 20W-23W, 29W, 32W-34W, 36W, 39W, 40W, 41W, 42E, 37E, 36E, 24E, 21E, 19E, 18E, 16E, 15E, 14E, 11E, 10E, 8E, 7E, 6E, 5E, 4E & 2E. Additional new locations at or near Panel Points 3W, 4W, 5W, 6W, 7W, 8W, 9W, 11W, 15W, 18W, 24W, 26W, 30W, 32W, 42W, 38E, 36E, 34E, 32E, 30E, 29E, 26E, 25E, 23E, 17E, 10E, 9E, 7E-5E, 3E and 2E.	Repaired (31 Locations, 30 Bolts) Outstanding (106 Locations,212 Bolts)	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, between 18W-19W, 20W, 22W, 23W, 24W, 26W, 29W, 30W, 32W-34W, 36W, 39W, 40W, 41W, 42W, 42E, 37E, 36E, 34E, 30E, 29E, 26E, 25E, 23E, 21E, 19E, 18E, 17E, 16E, 15E, 14E, 11E, 10E, 9E, 8E, 7E, 6E, 5E, 4E & 2E.	U-2 thru U-5 *(Photo A5)*
GWB-BR002-156	------	New (55 Locations, 100 Bolts)	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, 20W, 21W, 24W, 31W, 34W, 36W, 40W, 41W, 42W, 38E, 37E, 36E, 32E, 31E, 30E, 25E, 20E, 19E, 18E, 16E, 15E, 11E, 10E, 7E, 6E and 3E.	U-2 thru U-5 *(Photo A7)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
		Underside of Deck (cont'd)		
GWB-BR002-141	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 2W, 11W, 14W, 19W, 22W, 15E, 14E and 11E. Additional new locations at Panel Points 11W, 14E & 11E. In addition to the cracked or holed through ribs at Panel Point 19W, Ribs 17 to 19, 21 to 25 and 27 to 32 require shimming at the support.	Repaired (16 Locations and shimming of ribs at PP19W) Outstanding (72 Locations)	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 2W, 11W, 14W, 19W, 22W, 15E, 14E and 11E.	U-2 and U-5 *(Photo A1)*
GWB-BR002-157	------	New (13 Locations)	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 7W, 19W, 22W, 43, 36E, 15E, 11E, 6E and 4E.	U-2, U-4 and U-5 *(Photo A14)*
GWB-BR002-142	Repair the severely corroded supports for the access catwalk at the New Jersey Tower.	Outstanding (1 Location)	Repair the severely corroded support for the access catwalk at the New Jersey Tower.	U-2 *(Photo A2)*
		Superstructure Steel		
GWB-BR002-127 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-059, GWB-BR002-109)	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 4W, 10W, 15W, 25W, 28W, 30W, 32W, 34W, 35W, 37W, 39W, 40W, 36E, 30E, 25E, 24E, 23E, 22E, 19E, 17E, 10E, 8E and 6E-3E. Additional new locations at Panel Points 3W, 4W, 5W, 7W, 8W, 10W, 15W,17W, 26W, 27W, 35W, 43, 38E, 37E & 7E.	Repaired (22 Locations) Outstanding (26 Locations)	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 7W, 10W, 15W, 17W, 25W, 27W, 28W, 32W, 34W, 35W, 39W, 38E, 36E, 24E, 19E, 10E, 8E, 7E and 6E-3E.	S-2 thru S-7 *(Photo A8)*
GWB-BR002-158	------	New (23 Locations)	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 9W,17W, 20W, 21W, 25W, 34W, 37W, 40W, 42E, 27E, 23E, 21E, 19E, 9E and 6E-3E.	S-2 thru S-7 *(Photo A16)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-128 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-014, GWB-BR002-057, GWB-BR002-089, GWB-BR002-110)	Repair the stringers that exhibit thru holes with moderate corrosion in the web over the bearings at the following locations: Web of S5 west of girder G5 of New Jersey anchorage, Web of S1 east of 10W, Web of S2 west of 11W, Web of S3 west of 14W, Web of S7 west of 14W, Web of S1 east of 26W, Web of S8 east of 37W, Web of S1 east of 40W, Web of S3 east of 40W, Web of S1 west of 31E, Web of S1 west of 30E , Web of S1 west of 28E, Web of S1 west of 27E, Web of S1 west of 25E, Web of S1 & S8 east of 15E, Web of S1 & S3 west of 14E, Web of S1, S3 through S7 east of 14E, Web of S1 west of 11E, Web of S1 west of 9E, Web of S8 east of 2E, Web of S8 west of 1E, Web of S17 east of 1E and Webs of S8, S10 & S11 west of Capbeam 4, S5 to S8 east of Capbeam 7 and S10 & S12 west of Capbeam 10 of the New York anchorage. Additional new location at web of S1 west of 1E.	Outstanding (38 Locations, Previous condition at S5 west of girder G5 in New Jersey Anchorage was not found)	Repair the stringers that exhibit thru holes with moderate corrosion in the web over the bearings at the following locations: Web of S1 east of 10W, Web of S2 west of 11W, Web of S3 west of 14W, Web of S7 west of 14W, Web of S1 east of 26W, Web of S8 east of 37W, Web of S1 east of 40W, Web of S3 east of 40W, Web of S1 west of 31E, Web of S1 west of 30E , Web of S1 west of 28E, Web of S1 west of 27E, Web of S1 west of 25E, Web of S1 & S8 east of 15E, Web of S1 & S3 west of 14E, Web of S1, S3 through S7 east of 14E, Web of S1 west of 11E, Web of S1 west of 9E, Web of S8 east of 2E, Web of S1 & S8 west of 1E, Web of S17 east of 1E and Webs of S8, S10 & S11 west of Capbeam 4, S5 to S8 east of Capbeam 7 and S10 & S12 west of Capbeam 10 of the New York anchorage.	S-2 and S-4 thru S-8 *(Photo A9)*
GWB-BR002-159	------	New (1 Location)	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S2 east of 14E.	S-6 *(Photo A19)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-124 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-106)	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	Repaired (35 Locations) Outstanding (283 Locations)	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	S-2 thru S-8 *(Photo A10)*
GWB-BR002-160	------	New (31 Locations)	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	S-2 thru S-7 *(Photo A20)*
GWB-BR002-062	Repair the severe rust and hole in the bearing stiffener and the bottom plate of the bearing system of S7, east of PP 14E. One additional location at S6, east of PP 14E.	Outstanding (2 Locations)	Repair the severe rust and hole in the bearing stiffener and the bottom flange of the bearing system of Stringers S6 and S7, east of PP 14E.	S-6 *(Photo A11)*
GWB-BR002-134	Repair the connection angle between the main floorbeam and the deck truss top chord which exhibits a crack and extensive section loss at Panel Points 22E, 16E and 15E.	Outstanding (5 Locations)	Repair the connection angle between the main floorbeam and the deck truss top chord which exhibits a crack and extensive section loss at Panel Points 22E, 16E and 15E.	S-6 *(Photo A12)*
GWB-BR002-025	Replace sheared rivets of the restraining angle connecting the cap beam to column at the New York Anchorage.	Repaired	------	

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-133	Repair the main floorbeam/capbeam with extensive section loss and/or holes in web at the following locations: Panel Points 2W, 10W, 40W, 36E, 3E, 1E and Capbeams 4, 7 & 10 of the New York Anchorage. One additional location at Panel Point 1E.	Outstanding (11 Locations)	Repair the main floorbeam/capbeam with extensive section loss and/or holes in web at the following locations: Panel Points 2W, 10W, 40W, 36E, 3E, 1E and Capbeams 4, 7 & 10 of the New York Anchorage.	S-2, S-4,S-5, S-7 and S-8 *(Photo A15)*
GWB-BR002-130 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-091)	Replace missing, tighten and secure loose tie down bolts at girder bearing seated connection with Capbeams 4 and 7 of the New York Anchorage at the following locations: S9 and S11 at Capbeam 4; S19 and S20 at Capbeam 7.	Repaired	------	
GWB-BR002-129 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-027, GWB-BR002-111)	Replace the anchor bolt nuts which exhibit severe corrosion at the following locations: north and south interior columns and south girder bearing at Capbeam 4, north and south columns at Capbeam 7 and south column at Capbeam 8 in the New York Anchorage and Girder G7 adjacent to S21 in the New Jersey Anchorage.	Repaired (5 Locations) Outstanding (2 Locations)	Replace the sheared anchor bolts and anchor bolt nuts which exhibit severe corrosion at the following locations: south column at Capbeams 4 & 8 in the New York Anchorage.	S-8 *(Photo A17)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-132	Repair the pin that connects the stringer to the main floorbeam which exhibits 1/4" section loss at Panel Points 3W, 10W, 15W, 15E, 10E and 2E. Additional location at Panel Pont 3E.	Outstanding (7 Locations, Previous condition at PP3E was incorrectly located, no pins at PP3E)	Repair the pin that connects the stringer to the main floorbeam which exhibits 1/4" section loss at Panel Points 3W, 10W, 15W, 15E, 10E and 2E.	S-2, S-3,S-6 and S-7 *(Photo A18)*
GWB-BR002-161	------	New (1 Location)	Repair the pin that connects Stringer S1 to the main floorbeam which exhibits 1/4" section loss at Panel Point 2E.	S-7 *(Photo A26)*
GWB-BR002-116	Repair the concrete deck that is separated from the top flange of Stringer S20, between G9 and the West Abutment, causing the deck to bounce under live load.	Repaired	------	
GWB-BR002-117	Repair the column flanges near the base angles, which exhibit severe corrosion at G4 in the New Jersey Anchorage.	Repaired	------	
GWB-BR002-131 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-114)	Repair the stringer bearings that have the bearing sliding plate bouncing under live load and/or are frozen due to pack rust at Panel Points 25W, 27W and 1E. Additional new locations at Panel Point 1E.	Outstanding (9 Locations)	Repair the stringer bearings that have the bearing sliding plate bouncing under live load and/or are frozen due to pack rust at Panel Points 25W, 27W and 1E.	S-4 and S-7 *(Photo A21)*
GWB-BR002-162	------	New (1 Location)	Repair Stringer S8 bearing that has the bearing sliding plate bouncing under live load and is frozen due to pack rust at Panel Point 1E.	S-7 *(Photo A28)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-113	Repair the diagonal brace which exhibits over 50% section loss and holes in the web or flanges at Bents 3 and 4 of the New York Anchorage.	Outstanding (3 Locations)	Repair the diagonal brace which exhibits over 50% section loss and holes in the web or flanges at Bents 3 and 4 of the New York Anchorage.	S-8 *(Photo A22)*
GWB-BR002-066	Replace fractured rivets at vertical stiffeners that connect Girder S9 to the east face of G5, Girder S14 to the west face of G1, Girder S14 to the west face of G2 and Girders S14 and S15 to the east face of G5 in the New Jersey Anchorage.	Repaired	------	
GWB-BR002-125 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-107)	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points of the main span: 3W-5W, 7W-9W, 15W-18W, 21W, 22W, 27W, 31W, 32W, 36W, 37W, 39W – 42W, 43, 42E, 40E, 38E, 34E, 30E, between 30E-29E, 28E, 27E, 26E, 25E, 21E, 20E, 19E, 16E, between 15E-14E, 9E, between 9E-8E, 8E, 5E, 4E and 2E. Additional new locations at Panel Points 6W, 17W, 20W, 26W, 29W, 41E, 39E, 29E and 17E.	Repaired (9 Repaired) Outstanding (103 Locations)	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points of the main span: 3W, 4W, 5W, 6W, 7W, 8W, 9W, 15W, 16W, 17W, 18W, 20W, 21W, 22W, 26W, 27W, 29W, 31W, 32W, 36W, 37W, 39W, 40W, 41W, 42W, 43, 41E, 40E, 39E, 38E, 34E, 30E, 29E, 28E, 27E, 26E, 25E, 21E, 20E, 19E, 17E, 16E, between 15E-14E, 9E, 8E, 5E, 4E and 2E.	S-2 thru S-7 *(Photo A24)*
GWB-BR002-163	------	New (22 Locations)	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points 6W, 7W, 9W, 11W-14W, 22W, 26W, 29W, 37W-38W, 41W, 41E, 37E, 30E, 22E, 20E and 17E.	S-2 thru S-6 *(Photo A29)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-126 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-108)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	Repaired (6 Locations) Outstanding (50 Locations)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	S-3 thru S-8 *(Photo A25)*
GWB-BR002-164	------	New (1 Location)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	S-3 *(Photo A30)*
GWB-BR002-139 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-008)	Repair the north box column at Capbeams 9 and 10 of the New York Anchorage which exhibits pitted section loss up to 40% at the base just above the concrete fill.	Repaired	------	
GWB-BR002-143	Repair the base of the columns at Capbeam 10 of the New York Anchorage which exhibits up to 30% loss of section and up to 100% loss on anchor bolt nuts.	Repaired	------	
GWB-BR002-144	Repair the cracked connection angle on the longitudinal beam connection to Capbeam 9 at the New York Anchorage.	Repaired	------	

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Superstructure Steel (cont'd)				
GWB-BR002-145	Repair the cracked weld on the diagonal bracing connection to Capbeam 9 at the New York Anchorage.	Repaired	------	
GWB-BR002-138	Repair the finger joint plates at towers which are not properly seated across the center support beam and deflect/bang under live load.	Repaired	------	
GWB-BR002-146	Repair the bent angle on the girder bearing connection of Stringer S6 and S19 to Capbeam 7 and Stringer S8 at Capbeam 4 at New York Anchorage.	Repaired (1 Location) Outstanding (2 Locations, Previous Stringer S8 at Capbeam 4 was incorrectly located, should be S6)	Repair the bent angle on the girder bearing connection of Stringer S6 to Capbeam 7 and Stringer S6 at Capbeam 4 at the New York Anchorage.	S-8 *(Photo A13)*
GWB-BR002-165	------	New (1 Location)	Repair the bent angle on the girder bearing connection of Stringer S5 to Capbeam 7 at the New York Anchorage.	S-8 *(Photo A23)*
GWB-BR002-149	Repair one of the two connection plates at stringer S11 to Capbeam 7 of the New York Anchorage which exhibits a vertical crack and moderate to severe section loss.	Repaired	------	

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
		Superstructure Steel (cont'd)		
GWB-BR002-150	Repair the south connection angle of stringer S9 to Capbeam 4 of the New York Anchorage which exhibits a horizontal crack in the outstanding leg.	Repaired	------	
GWB-BR002-151	Repair the severely deteriorated seated bearing of stringer S4 at Capbeam 7 of the New York Anchorage with extensive pack rust and two sheared off tie-down bolts.	Outstanding (1 Location)	Repair the severely deteriorated seated bearing of stringer S4 at Capbeam 7 of the New York Anchorage with extensive pack rust and two sheared off tie-down bolts.	S-8 *(Photo A31)*
GWB-BR002-153	Repair the worn thru bottom flange of Stringer S2 at the diagonal bracing connection between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E.	Outstanding (4 Location)	Repair the worn thru bottom flange of Stringer S2 at the diagonal bracing connection between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E.	S-2, S-5 and S-6 *(Photo A27)*
GWB-BR002-154	Repair the cracked gusset plate and angle connection for the wind bracing between Panel Points 1E & 2E and Stringer S1 & the South Fascia Stringer.	Repaired	------	

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Towers				
GWB-BR002-147	Repair the severe corrosion and holes on the catwalk support member at Levels 3 and 3M on the south leg of the New Jersey Tower.	Outstanding (2 Locations)	Repair the severe corrosion and holes on the catwalk support member at Levels 3 and 3M on the south leg of the New Jersey Tower.	TW-1 *(Photo B1)*
Cables and Suspension Ropes				
[redacted]				

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2009 Inspection	Current Status	Repair Recommendation 2011 Inspection	Dwg. No. *(Photo No.)*
Cables and Suspension Ropes (cont'd)				
[redacted]				

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

Repair Recommendation - 2011 Inspection	**Dwg. No. (*Photo No.*)**
Main Span	
1. Replace the missing and/or secure the loose electrical box covers with exposed wires on the lighting standard. (3 Locations)	T-2, T-4 and T-6 *(Photo A32)*
2. Replace the missing, severely deteriorated and/or secure the disconnected rails from posts of the roadway and sidewalk railings. (10 Locations)	T-2, T-5 and T-6 *(Photo A33)*
3. Secure the railing post that is loose, cracked or disconnected at its base over the New York Anchorage. (4 Locations)	T-6 *(Photo A34)*
4. Repair the misaligned median barrier at Panel Point 11W. (1 Location)	T-2 *(Photo A35)*
5. Cover the exposed electrical wires at the base of the missing light standard on the north sidewalk over the New York Anchorage. (1 Location)	T-6 *(Photo A36)*
6. Clean out excessive amount of debris resting on the steel members at Panel Point 14E and Stringer S8. (1 Location)	U-5 *(Photo A37)*
7. Repair the severely deteriorated flooring at the mid-level of New York Anchorage. (2 Locations)	U-6 *(Photo A38)*
8. Replace the severly deteriorated maintenance platform grating at its south support below the south sidewalk access hatch between Panel Points 10W & 11W. (1 Location)	U-2 *(Photo A39)*
9. Secure the utility conduits and utility conduit supports which are not properly secured. (7 Locations)	U-2, U-3, U-5 and U-6 *(Photo A40)*
10. Secure the loose support for the underdeck lighting fixture at the New York Tower. (1 Location)	U-5 *(Photo A41)*
11. Repair the broken or severly corroded scupper downspout, drainage trough or supports at the New York Anchorage. (2 Locations)	U-6 *(Photo A42)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2011 Biennial Inspection of the George Washington Bridge Upper Level

Repair Recommendation - 2011 Inspection	**Dwg. No. (*Photo No.*)**
Main Span	
12. Repair the deteriorated section of catwalk grating inside the New York Anchorage . (1 Location)	U-6 *(Photo A43)*
Main Cables and	
13. Tighten the bolts connecting the stanchions to the cable bands that are not fully engaged. (42 Locations)	*(Photo C8)*
14. Replace the missing, loose or worn bolts/nuts that connect the messenger (utility) cable bracket to the main cable band at PP 37E, 36E, 35E, 23E, 21E and 18E on Cable A. (6 Locations)	*(Photo C9)*
15. Repair the safety rope stanchion at PP 8E of Cable D on the north side which is broken and disconnected. (1 Location)	*(Photo C10)*
16. Remove the hanging electrical wire between PP 10E-11E on Cable A. (1 Location)	*(Photo C11)*
17. Repair the loose fan-type security fence on Cable D between Panel Points 2E-1E . (1 Location)	*(Photo C12)*

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Volume 2

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LOCATION PLAN

Sheet of

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

BIN 5522508
UPPER LEVEL

LOCATION PLAN

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Designed by	Drawn by	Checked by

Date Dec. 2011

Contract Number 405-11-002

Drawing Number L-1

GENERAL PLAN, ELEVATION AND CROSS SECTION

I. SCOPE OF WORK, INSPECTION PROCEDURES AND INSPECTION TERMINOLOGY

Scope of Work, Inspection Procedures and Terminology

A. SCOPE OF WORK

HNTB Corporation in association with PK Engineering, P.C. (PKE), PKB Engineering Corporation (PKB), and Mega Engineering, Inc. (MEGA), performed the 2011 Biennial Inspection of the George Washington Bridge Upper Level (BIN 5522508), from May through October of 2011. The inspection was performed with the assistance of SEMAC personnel. The inspection included upper level roadway and framing, the stiffening trusses (except for the bottom gusset plates and bottom chord members which were included in the George Washington Bridge Lower Level inspection), the main cables, suspender ropes, towers, anchorages, and a diving inspection and mechanized flag hoisting and storage system inspection at the New Jersey Tower. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The limits of the condition survey for the George Washington Bridge Upper Level extends between the New York and New Jersey Anchorages at Stations 29+28 to Station 80+10.

The scope of work also included detailed electrical and mechanical inspections of the mechanized flag hoisting and storage system at the New Jersey Tower which were performed in-house by HNTB staff and included the inspection of the various components of the electrical and mechanical systems both at rest and during operation. The diving inspection at the New Jersey Tower was performed by an experienced diver under the direct supervision of a NY licensed engineer/diver from ECM Engineering, Inc. (For detailed inspection findings regarding the mechanized flag hoisting and storage system and underwater inspection, refer to the separate mechanized flag system condition survey report and state diving report submitted for this project).

The inspections were performed in compliance with the latest requirements of New York State Department of Transportation and included the preparation and the submittal of a state Biennial Bridge Inspection Report and a state Diving Inspection Report.

B. INSPECTION PROCEDURES

The structural inspections were performed between May and October 2011, utilizing at least two inspection teams each led by a NY licensed engineer. The field work included a 100% hands-on inspection of all non-redundant, fracture-critical members and fatigue prone details, including the underside of the orthotropic deck as well as a thorough visual inspection of all the remaining structural and non-structural elements. Dye penetrant tests were performed where cracks were suspected in critical areas. Additionally, all concrete elements, which included the underside of the sidewalks,

both fascias and portions of the anchorage walls, were sounded by hammer and all areas of loose concrete were removed during this inspection. All structural and non-structural deficiencies were recorded, photographed and located on the deficiency plans, which are included in this report.

This report is divided into four sections; upper level roadway and framing, towers, cables and suspender ropes and bridge mounted sign structures. Inspection access and procedures for each section is as follows:

1. Upper Level Roadway and Framing

The upper level roadway framing and upper truss chords and gusset plates were inspected using 35' and 55' bucket trucks, mostly during weeknights (see Photos 1 & 2). Several main floorbeams and the ends of several panels were inspected during the daytime, utilizing temporary scaffolding platform recently installed as part of ongoing Contract GWB-244.022 (see Photos 3 & 4). The temporary platforms are 15' wide and span between the north and south stiffening trusses below the main floorbeams between Panel Points 3W to 10W, 15W to 15E and 10E to 2E. A 100% hands-on inspection was performed on all non-redundant, fracture critical and primary structural elements of the bridge, including main floorbeams, stringers, secondary floorbeams, upper truss chords, verticals and diagonals, gusset plates, fatigue details, and the underside of the steel orthotropic deck and concrete sidewalks. The lower level roadways were typically closed to traffic by contractors during nighttime hours from 11:00 pm to 5:00 am for ongoing Contract GWB-244.022 and other concurrent bridge rehabilitation projects. These full roadway closures were utilized for the inspection of the upper level. Generators were used to provide sufficient lighting and a shadow vehicle with an impact attenuator and a flashing arrow board protected the inspection crews at all times. Inspection of the upper level roadway within the anchorage chambers was performed with step and extension ladders and by tethered climbing. A 120' manlift was used to inspect portions of the interior and exterior faces of the New York Anchorage walls (see Photo 6). The top of deck elements were inspected from both sidewalks and within day-time right lane closings on the upper level and night-time closings of the lower level roadway.

2. Towers

The tower framing was inspected visually and with binoculars from sidewalks, catwalks and upper and lower struts. A hands-on inspection was performed at localized areas with suspect deficiencies via tethered climbing. At the base of the tower, the eight main vertical box members comprising each of the four tower legs were inspected hands-on using an extension ladder. At select locations, the lowest hatch cover was removed and replaced by SEMAC personnel to inspect the interiors at the base of the columns (see Photo 5). The concrete encased steel pedestals and lower stone faced portions

of the tower pedestals were inspected above the waterline and the New Jersey tower was inspected below the waterline during the diving inspection.

3. Cables and Suspender Ropes

The four main cables were inspected hands-on by walking the entire length of each cable from anchorage to anchorage. The condition of the cable wrapping wire, cable bands, suspender ropes, safety ropes, stanchions, lighting components, as well as the condition of the protective paint coating throughout were assessed. The wire strands were inspected and assigned the appropriate corrosion Stage I through IV. The underside of the main cables, cable bands and upper portions of the suspender ropes were inspected utilizing tethered pole-mounted mirrors supplemented by additional inspections utilizing binoculars from the sidewalk level (see Photo 7). The cable wire wrapping was checked for soft spots, wire breaks, corrosion and general integrity. The cable bands were inspected for missing, ruptured or de-bonded caulking, rust or oil staining, water leakage and general integrity. The safety ropes, stanchions and lighting components were inspected for loose or missing connectors/hardware. The unwrapped portions of the main cables at the tower saddle assemblies and inside the anchorages from the splay saddles to the strand shoes were closely examined for any defects. Inside the anchorages, the cable strands were inspected hands-on at all strand shoes and eyebar connections. The lower portions of the cable strands were closely examined for wire breaks and corrosion by climbing (see Photo 8). Below sidewalk level, select suspender ropes, including lower socket areas, were inspected hands-on using a 55' bucket truck from the lower level roadway. The steel blast protection encasement at the lower suspender sockets were removed and replaced by Campbell Engineering Support Services, Inc. at selected locations during this inspection (see Photo 9).

4. Bridge Mounted Sign Structures

All bridge mounted sign structures were inspected as part of the bridge inspection survey. Only sign panels measuring 10SF or more received 100% hands-on inspection, including those of combined panels with directional value, and are included in the tables of Surveyed Sign Structures in Section D of this report. On the upper level roadway, all sign panels affixed to the lighting standards along both sidewalks and the overhead cantilever sign structure framed into at the New York tower were inspected. On the lower level, all sign panels and sign structures either attached to the upper level framing, vertical members of the stiffening truss and drainage downspouts, or lower level deck/median-grating framing were inspected. Inspection access was obtained either by walking or utilizing a 35' bucket truck with impact attenuator track within right lane closings on the upper level or lower level closings (see Photo 10).

Photo No.: 1

Location: Lower Level westbound roadway, looking west.

Description: Inspection of the underside of the Upper Level roadway using a 35' bucket truck with an attenuator truck.

Photo No.: 2

Location: Lower Level eastbound roadway, looking southeast.

Description: Inspection of the underside of the Upper Level sidewalk and fascia using a 55' bucket truck with an attenuator truck.

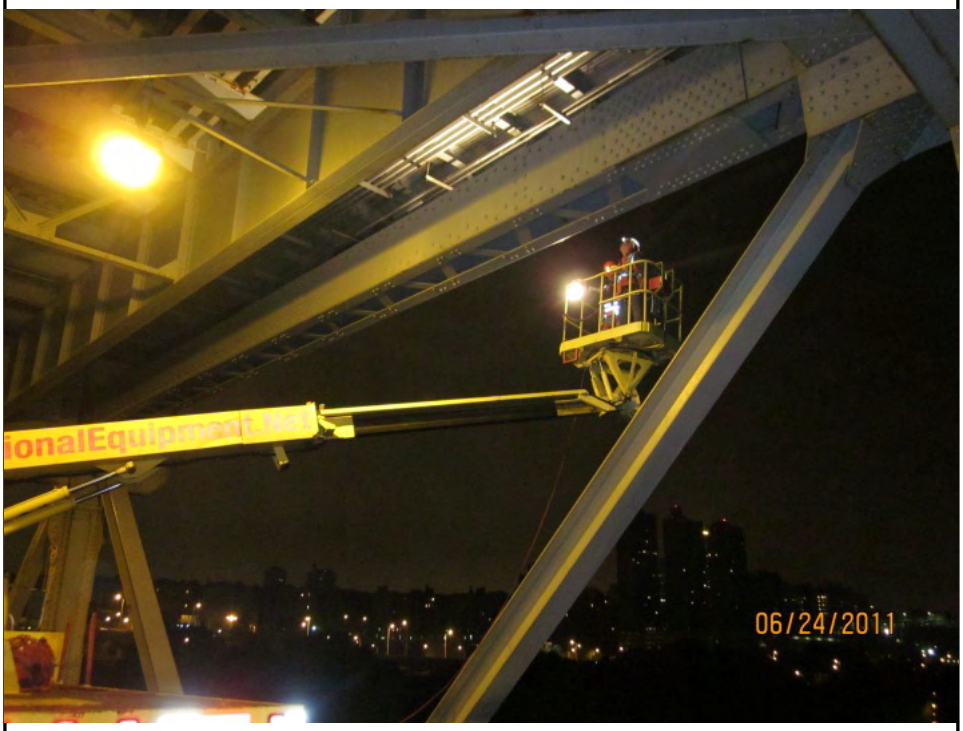

Photo No.: 3

Location: Lower Level westbound roadway at Panel Point 42W, looking east.

Description: Inspection of main floorbeam and end of stiffening truss panel utilizing temporary scaffolding accessed with an extension ladder.

Photo No.: 4

Location: Underside of Upper Level roadway at Panel Point 42W, looking north.

Description: Inspection of main floorbeam utilizing a step ladder from the temporary scaffolding platform.

Photo No.: 5

Location: South leg of New York Tower at northeast exterior column, looking northwest.

Description: Interior inspection of column base performed with SEMAC assistance involving removal and replacement of access hatches.

Photo No.: 6

Location: New York Anchorage, interior walls, looking east.

Description: Inspection of the concrete anchorage walls utilizing a 120' manlift.

Photo No.: 7 **Location:** Main Cables A & B of the Main Span, looking east. **Description:** Inspection of the main suspension cables using pole-mounted mirrors.	
Photo No.: 8 **Location:** New Jersey Anchorage, Cable D, looking northeast. **Description:** Inspection of the cable strands by climbing.	

Photo No.: 9

Location: Main Cable C, lower socket at Panel Point 16E, looking west.

Description: Inspection of lower suspender rope and socket area with assistance from contractor requiring removal of steel encasement door utilizing hand tools.

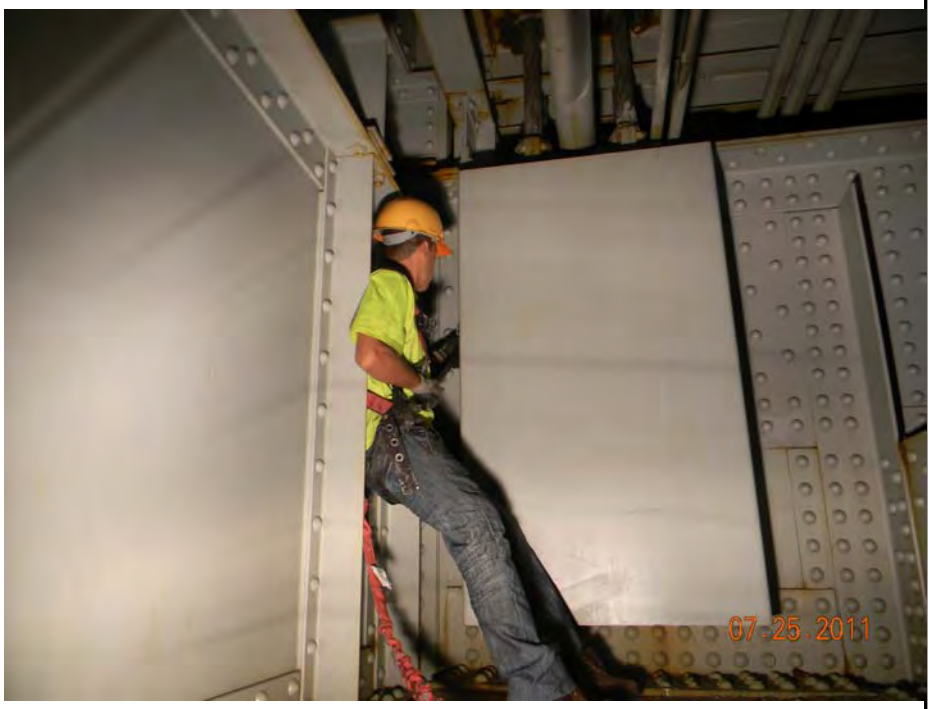

Photo No.: 10

Location: Upper Level roadway at Panel Point 6E, looking west.

Description: Hands-on inspection of sign structure utilizing 35' bucket truck and right lane closing with shadow truck.

C. CONDITION SURVEY DEFINITIONS AND TERMINOLOGY

DEFINITIONS OF RECOMMENDATION CATEGORIES

The inspection involves one of the following methods:

Hands-on Inspection Close-up inspection from no further away than arm's length where the member or element can be physically touched.

Visual Inspection The inspection from a reasonable distance of a member or element where initial determination of the condition can be made.

Four categories of recommendations are identified and defined as follows:

Immediate Requires immediate action including possible closing of the structure or areas affected for safety reasons until interim remedial measures, such as shoring or removal of potentially unsafe structures (or elements), can be implemented. These closings or interim remedial actions, if any, always require immediate action upon discovery.

Priority Conditions for which no immediate action may be required or for which immediate action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work.

Safety Conditions that present a potential hazard and which should be repaired as soon as possible.

Routine Conditions requiring further investigation or remedial work, which can be undertaken as part of a scheduled maintenance program, other scheduled project, or routine facility maintenance, depending on the action required.

RATING CRITERIA

Terms used to describe the condition of a structural system or component are listed and defined below. When the term is applied to an overall structure or system, this does not indicate that all elements of the structure or system are in the same condition.

Excellent "As New" Condition

Good The structure system is sound and performing its function, although it shows signs of wear and may require some minor repairs, mostly routine.

Fair The structure system is still performing adequately at this time, but needs "priority" and/or "routine" repair to prevent future deterioration and to restore it to good condition.

Poor The structure system cannot be relied upon to continue to perform its original function without "immediate" and/or "priority" repair.

INSPECTION TERMINOLOGY

The following terms may be used during inspection to describe the condition of structural members.

1) **STEEL MEMBERS**

a) **Corrosion**

- Minor (or Light) – A light surface rust.
- Moderate – Rust that is loose and flaking with some pitting. This scaling, or exfoliation, can be removed with some effort by use of a scraper or chipping hammer. Element exhibits measurable but not significant loss of section.
- Severe – Heavy, stratified rust or rust scales with extensive pitting. Removal requires exerted effort and may require mechanical means. Significant loss of section.

b) **Pack Rust** – Rust collected between two interfacing surfaces, usually two steel plates. Pack rust can be minor, moderate, or severe as described above. Pack rust can severely deform the steel members due to the expansive nature of rust.

c) **Pitting** – Formation of cavities due to corrosion. Minor, moderate, and severe pitting categories are used based upon depth and density of cavities.

- Minor – Typically less than ¼ inch diameter and $^{1}/_{32}$ inch deep.
- Moderate – ¼ inch to ½ inch diameter and up to $^{1}/_{8}$ inch deep.
- Severe – Greater than ½ inch diameter and over $^{1}/_{8}$ inch deep.

2) **CONCRETE MEMBERS**

a) **Cracking** – A separation into two or more parts with a space between the fractured concrete surfaces.

- Hairline- Crack width less than $^{1}/_{32}$ inch.
- Fine – Crack width between $^{1}/_{32}$ inch and $^{1}/_{16}$ inch.
- Medium – Crack width between $^{1}/_{16}$ inch and $^{1}/_{8}$ inch.
- Wide – Crack width greater than $^{1}/_{8}$ inch.

The above definitions for cracks can be modified, depending on the type of structural element. Other terminology, such as map cracking, pattern cracking, etc., may be used as appropriate.

b) **Efflorescence** – A white deposit caused by crystallization of soluble salts brought to the surface by moisture leaching through concrete.

c) **Delamination** – A layered separation of the concrete. When a delaminated area of concrete is struck (sounded) with a hammer, a hollow sound will be emitted.

d) **Leaching** – The dissolution and washing away of the calcium hydroxide in concrete. The moisture enters the concrete through exposed cracks in the surface.

e) **Spall** – A roughly circular, oval, or elongated depression in the surface of a concrete element caused by separation of a portion of the surface concrete.

- Small (Pop-out) – Less than 6 inches in diameter and 1 inch deep.
- Medium – Between 6 inches and 12 inches in diameter and up to 2 inches deep.
- Large – Over 12 inches in diameter and any depth.

f) **Scaling** – The gradual loss of surface mortar and aggregates.

- Light Scaling – Loss of surface mortar up to ¼ inch deep.
- Medium Scaling – Loss of surface mortar between ¼ inch and ½ inch deep, including loss between large aggregate.
- Heavy Scaling – Loss of mortar greater than ½ inch in depth significantly exposing large aggregate.

g) **Hollow area** – An area of concrete which emits a hollow sound when struck with a hammer and indicates the existence of a fracture plane beneath the surface.

h) **Honeycomb** – Typically small pocket voids formed by the entrapment of air during the placement of the concrete.

3) **TIMBER MEMBERS**

a) **Fungus decay** – generally appears as a moist area with stain or discoloration. Fungi produce conks, which are fruiting bodies, usually fan-like in shape, and which grow horizontally from the wood. They shed spores which propagate the fungus. Conks are a sure sign of advanced decay and they vary from a fraction of an inch to several inches in length. Sapstain fungi have small black, globular fruiting bodies which smear like soft carbon when brushed with the hand.

- Molds – cottony powdery circular growths varying from white or light colors to black. Molds themselves do not cause decay but their presence is an indication that conditions favorable to growth of fungi exist.
- Stains – specks, spots, streaks, or patches, varying in color, which penetrate the sap wood. Sapstain is harmless to wood. It is usually a surface phenomenon and like molds, implies conditions where harmful fungi can flourish.
- Soft rot – attack the wood, making it soft and spongy. Only the surface wood is affected, and thus it does not significantly weaken the member.
- Brown rot – feeds upon the cellulose and makes the wood dark brown and crumbly.
- White rot – feeds upon both the cellulose and the lignin and makes the wood white and stringy.

Brown and white rots are responsible for structural damage to wood, while the other fungi types simply provide a sign that favorable conditions exist for growth.

b) **Checks** – separation of the wood fibers, normally occurring across the annual growth rings.

c) **Splits** – similar to checks except the separations of the wood fibers extend completely through the piece of wood.

d) **Shakes** – separations along the grain, which usually occur between the annual growth rings.

e) **Damage by parasites** – damage is generally inside the surface of the wood and is therefore not visible, but sagging, crushing, small holes or the accumulation of sawdust may be observed.

Parasites tunnel in and hollow out the insides of timber members for food and shelter. Some common types of parasites include:

- Termites – termites are pale-colored, soft-bodied insects that feed on wood. All damage is inside the surface of the wood; hence it is not visible. The only visible signs of infestation are white mud shelter tubes or runways extending up from the earth to the wood and on the side of masonry substructures.

- Carpenter ants – Carpenter ants are large, black ants that gnaw galleries in soft or decayed wood. The ants may be seen in the vicinity of the infested wood, but the accumulation of sawdust on the ground at the base of the timber is also an indicator of their presence.

- Powder-post beetles – Powder-post beetles also hollow out the insides of timber members and leave the outer surface pierced with small holes about 1/16" in diameter filled with dry pulverized wood. Often a powdery wood dust is dislodged from the holes. The inside may be completely excavated.

h) **Honeycomb** – Typically small pocket voids formed by the entrapment of air during the placement of the concrete.

5) **CABLES**

a) **Corrosion Stages of Zinc-coated Wires as per National Cooperative Highway Research Program (NCHRP) Report 534 "Guidelines for Inspection and Strength Evaluation of Suspension Bridge Parallel Wire Cables (Section 1.4.2.2), dated 2004:**

Wire corrosion is categorized visually by corrosion stage. The four corrosion stages are characterized by the presence of the following:

Stage 1: Spots of zinc oxidation on the wires.

Stage 2: Zinc oxidation on the entire wire surface; wire may have white surface dust indicting zinc oxidation, but that does not necessarily imply depleted zinc. Depletion is indicated by a dull gray color or a dark gray to black color if sulfur is involved.

Stage 3: Spots of brown rust covering up to 30% of the surface of a 3-inch to 6-inch length of wire; Laboratory tests have shown that 5% to 20% of Stage 3 wires may have cracks.

Stage 4: Brown rust covering more than 30% of the surface of a 3-inch to 6-inch length of wire; Laboratory tests have shown that 60% of Stage 4 wires may have cracks.

II. INSPECTION FINDINGS AND RECOMMENDATIONS

A. UPPER LEVEL

Inspection Findings, Conclusions and Recommendations

A. UPPER LEVEL

Major Inspection Findings

The upper level framing is in overall good condition. Since the previous inspection, several structural steel repairs have been completed involving the following members: capbeam seated bearings, base of steel columns, capbeams/columns and capbeam/stringer connections in the New York Anchorage, stringer deck haunch, base of steel columns and capbeam stiffeners in the New Jersey Anchorage. All structural steel inside the New Jersey Anchorage was cleaned and painted since the previous inspection. In the Main Suspension Spans, various repairs were made to the finger joint plates at the towers, connections of secondary floorbeams to stringers, cracked welds of orthotropic deck ribs and a cracked connection plate between Panel Points 2E-1E.

During the inspection, there were 10 conditions found that required immediate action. Repairs have been completed at 6 of the 10 action immediate conditions involving repair of loose secondary floorbeam to stringer connections between Panel Points 43-42E and 8E-7E, cracked welds of consecutive deck ribs between Panel Points 8E-7E, cracked steel deck plate and two deck ribs between Panel Points 38W-39W, loose stringer to main floorbeam connection at Panel Point 26W, cracked lateral bracing connection plate between Panel Points 21W-22W and improperly seated finger joint plates at Panel Points 14E and 11W at the New York and New Jersey towers, respectively. Two immediate conditions were partially completed and involved repair of three or more consecutively cracked webs of riser beams found at Panel Points 23W, 26W, 30W, 37W, 43, 37E, 32E, 30E, 29E, 25E and the repair of a cracked secondary floorbeam between Panel Points 43-42E. Work is currently in progress to repair the cracked webs of consecutive riser beams at Panel Points 15W, 10W, 9W, 6W, 5W, 4W and 3W and the cracked secondary floorbeam between Panel Points 5W-6W. Repairs of 2 other immediate conditions are also in progress involving the drilling of arrestor holes at the end of cracks found in the webs of sixty secondary floorbeams and the removal of cracked and delaminated concrete along the south sidewalk fascia between Panel Points 36E-32E, 2E-1E and 4W-2W.

Out of a total of 33 priority repair recommendations at 3,323 locations identified in the previous inspection report 13 priority repairs at 31 locations have been completed and 9 priority repairs were partially completed at 661 locations. In addition, 11 new priority repairs at 2,667 locations were found. Therefore, there are a total of 31 priority repairs at 5,298 locations recommended for repair in this report section. The majority of these recommendations include the repair of cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeams, missing tie down bolts and plates that connect the deck strap plate to the secondary floorbeams, missing or sheared rivets or bolts at the secondary floorbeam to stringer connections, cracked and/or holed webs of secondary floorbeams, orthotropic deck ribs (tees) and riser beams.

There are also 12 safety repairs recommended at 34 locations and 102 routine repairs recommended at 2,892 locations. The safety repair recommendations primarily include deficiencies to bolts connecting the main cable stanchions to cable bands, deficiencies to bolts connecting the messenger (utility) cable bracket to the main cable bands and deficiencies to railings and light standards.

Below are inspection findings for major bridge components comprising the Upper Level. Although the inspection findings do not affect the overall structural integrity, they are noted as follows:

Stringers, Columns, Bearings & Pedestals

The stringers are generally in good condition. Several stringers in the main suspended spans exhibit moderate section loss at isolated locations with or without small corrosion holes in their webs above the bearings below the deck joint areas (see Photos A9 and A19). Over the New York Anchorage, several stringers exhibit moderate section loss at the framed connection to the capbeams. Some stringers within this area also exhibit fine cracks in the web which were previously arrested by a drilled hole near the top or bottom coping at the connections. No additional crack propagation was observed during this inspection, including locations with arrestor holes. The cracked connection angles and plates at the stringer to capbeam connection over the New York Anchorage and the stringer with moderate section loss at its support over the New Jersey Anchorage were repaired since the previous inspection. The sheared rivets noted at the stringer to the floorbeams connections within the New Jersey Anchorage were replaced with bolts since the previous inspection.

During the inspection, (4 of 4) missing/sheared rivets were noted at the seated connection of Stringer 6, west of the main floorbeam at Panel Point 26. The stringer and sole plate shifted 1/2” north and 1/4” west relative to the bearing plate and there was a 1/8” gap between the sole plate and bearing plate. This condition was repaired on an immediate basis (see Appendix B for correspondence).

At numerous locations, the tie-down bolts for the seated bearing connection of the stringer to floorbeam within the suspended spans and stringer to capbeams at the New York Anchorage, exhibit severe section loss or are sheared off (see Photos A25 and A30). One stringer over the New York Anchorage exhibits a severely deteriorated bearing seat with pack rust and two missing tie-down bolts (see Photo A31). At other isolated locations within the New York Anchorage, the stringer bearing seat has bent download due to pack rust at the stiffener angles (see Photos A13 and A23). Within the suspended spans, there are isolated locations of pack rust noted between sliding plates of the stringer bearing limiting the bearing movement (see Photos A21 and A28).

The lateral bracing connection at Stringer 7 has worn into the stringer bottom flange up to 1/8” deep between Panel Points 9W-10W, 30E-31E, 25E-26E and 20E-21E (see Photo A27).

Within truss panels adjacent to the towers and end panels of suspended spans, the stringers are connected to the floorbeam via a pinned-connection. At a few of these locations, the pins exhibit section losses up to ¼" on the exterior surface (see Photos A18 and A26).

The stringer pedestals/bearing stools at the tower panel points exhibit localized section loss on web plates, bearing stiffeners and anchor bolts, most notably below Stringer S7, at PP 14E of the New York Tower (see Photo A11).

The concrete pedestals are generally in fair condition. Inside the New York Anchorage, the intermediate bearing pedestal below the south sidewalk at Stringer 4, between Capbeams 2 and 3, is spalled resulting in approximately 10% undermining below the masonry plate (see Photo A3).

The columns are generally in good condition. A few columns exhibit minor to moderate section loss at their base or at their base connections over the New York Anchorage. Several columns in the New Jersey and New York Anchorages were repaired since the previous inspection.

Primary Floorbeams, Capbeams and Upper Truss Chords

The floorbeams, upper truss chords, verticals and diagonals and gusset plate connections to the floorbeams, are generally in good condition.

The webs of several main floorbeams in the main suspended spans exhibit areas of localized heavy pitting and up to 1/4" section loss and occasional small corrosion holes mostly occurring below the joints, median areas and curblines. Isolated rivet heads along the floorbeam bottom flanges exhibit up to 50% head loss. In the New York Anchorage, Capbeams 1, 4, 7 and 10 from west exhibit large areas of 1/4" pitting with small localized corrosion holes in the web (see Photo A15).

The "box shaped" upper chords comprising the stiffening trusses are generally in good condition. Water ponding was noted on top of the upper chord at the ends, near the connections to the floorbeams. The top plate exhibits localized pitting of up to 1/4" deep and various rivet heads exhibit up to 50% head loss at isolated locations. The outboard leg of the riveted connection angles between the main floorbeams and the upper chord of the truss remain partially cracked and exhibit localized section loss at Panel Points 22E, 16E and 15E. These cracks occur just above the upper chord location and do not significantly affect the overall shear capacity of the floorbeam connection. (see Photo A12).

Secondary Floorbeams and Riser Beams

The secondary floorbeams and riser beams are in overall fair condition.

Several end secondary floorbeams adjacent to the joints in the main suspended spans and one interior secondary floorbeam between Panel Points 11W-14W and 9E-8E

exhibit fine horizontal web cracks, with or without corrosion holes, mostly occurring at the ends of Secondary Floorbeams SFB1 & SFB12 (or SFB13). The cracks typically exist along the base of the web and extend north and/or south of the longitudinal stringer location (see Photos A24 and A29). Numerous crack arrestor holes varying in size from 1/4" to 3/4" diameter were previously drilled at the ends of the web cracks, however, the cracks have continued to propagate beyond the drill holes at 29 locations. In addition, web cracks without arrestor holes were also noted at the ends of secondary floorbeams at 31 locations. The cracks have propagated into the bottom flange at two secondary floorbeams and were recommended for immediate repair involving drilling of arrestor holes and installation of bolted steel repair angles. Drilling of crack arrestor holes in the web of 60 secondary floorbeams was also recommended for immediate repair during this inspection (see Appendix B for correspondence). Ongoing Contract GWB244.022 is scheduled to replace all end Secondary Floorbeams SFB1 & SFB12 (and SFB13). Several secondary floorbeams exhibit isolated missing connection rivets or bolts between the bottom flanges and the top flanges of stringers.

There are numerous locations throughout the main suspended spans and the New York Anchorage with one or two sheared rivets (or bolts) out of four total, at the connection of the bottom flange of secondary floorbeam to stringer top flange (see Photos A10 and A20). Secondary Floorbeams SFB11 & SFB12 over Stringer 6 were found with (4 of 4) missing rivets/bolts and were loose with noticeable movement evident under live load between Panel Points 43-42E and 8E-7E. These locations were recommended for immediate repair during this inspection.

The riser beams, which support and maintain the proper elevation of the steel orthotropic deck panels near the deck joint, are situated directly over the main floorbeams. There are isolated locations throughout the main span, where the web plates are fully cracked with movement evident during passage of large trucks (see Photos A8 and A16). Riser beams exhibiting three or more consecutively cracked web plates were recommended for immediate repair during this inspection (see Appendix B for correspondence). The new deck joint system to be installed under ongoing Contract GWB244.022 will eliminate all riser beams over the end floorbeams.

Secondary Members

All secondary members are generally in good condition. Isolated areas of localized heavy corrosion and small corrosion holes and pack rust was evident mostly below the deck joints and below the median areas. The end diaphragm between S18-S19 exhibits a 5'L x 1'H corrosion hole inside the New Jersey Anchorage, below the abutment joint. All other diaphragms at this location are in good condition. Localized moderate pitting and corrosion and extensive dirt and debris accumulation were typically noted on the horizontal connection plates for the main lateral bracings below the median. There is heavy pack rust build-up and heavy corrosion to the lateral bracing members and the bottom flange of the stringer at numerous locations, particularly where the main lateral bracing angles connect to the bottom flanges of the stringers.

In the main span between Panel Points 21W-22W, the lateral bracing connection plate is severely corroded and cracked at the Stringer 3 to Secondary Floorbeam SFB1 connection. This condition was reported to the Authority and was recommended for immediate repair during the inspection (see Appendix B for correspondence). Between Panel Points 1E-2E, the previously cracked connection plate for the lateral bracing between the south fascia stringer and Stringer S1 was replaced since the previous inspection.

Orthotropic Deck

The steel orthotropic deck panels are generally in fair condition.

There are numerous partial and full length cracks noted at the welded connection of the orthotropic deck rib "tee" and the strap plate, which is bolted to the top flange of the secondary floorbeam (see Photos A4 and A6). The tie down bolts and plates connecting the strap plate to the secondary floorbeam top flange are missing at isolated locations (see Photo A5 and A7). Between Panel Points 8E-7E, the welds connecting deck rib R52 to the strap plate along the top flange of the secondary floorbeams were cracked fully through along both sides of secondary floorbeams 4 through 12 just north of Stringer 6, and noticeable bouncing of the deck rib was evident during the inspection. This condition was recommended for immediate repair during the inspection (see Appendix B for correspondence).

Several deck ribs exhibit severe corrosion, holes and/or cracks in the web or bottom flanges at and near the tower panel points (see Photos A1 and A14). Between Panel Points 38W-39W, orthotropic deck ribs R45 and R46 were cracked along the web up to 25" long. The crack in deck rib R46 propagated into the steel deck plate approximately 2 to 5 inches long at three separate locations. The cracked deck ribs and deck plate were noticeably bouncing during passage of large trucks. A large steel plate was welded to the original deck plate over both locations on an immediate basis and the removed asphalt wearing surface was replaced (see Appendix B for correspondence).

Superstructure Paint Condition

The paint system protecting the superstructure steel in the suspended spans is generally good condition. Minor to moderate corrosion was observed on the riser beams and at the lower suspender rope sockets below the joint areas. Minor corrosion was also observed at many locations due to leakage through the deck joints.

All structural steel inside the New Jersey Anchorage was cleaned and repainted since the previous inspection. The condition of the paint on the superstructure steel over the New York anchorage is in overall good condition. The columns and isolated locations of the superstructure exhibit areas of peeling paint and moderate corrosion due to leakage through the joints. The paint is in poor condition at most column bases.

All four main cables were in the process of being repainted at the time of this inspection.

Deck Joints

The intermediate deck joints within the main suspended spans are generally in poor condition, exhibiting segments of debonded, depressed, torn or missing joint sealers. The active water leakage through these joints has resulted in moderate to heavy corrosion of the riser beams and the end secondary floorbeams. The joints on the sidewalks typically exhibit slightly torn and depressed sealers. Ongoing Contract GWB244.022 is scheduled to replace all deck joints on the main suspended spans.

During the inspection, a section of the finger joint at Panel Point 11W was replaced and new tie down bolts were installed on an immediate basis (see Appendix B for correspondence). The finger joints at the New Jersey and New York Towers at Panel Points 11W, 14W, 14E & 11E were recently re-seated significantly reducing the banging evident under the passage of large trucks. The transverse support beams for the finger joints exhibit localized section losses on the web plate and small corrosion holes at the base of numerous intermediate stiffeners. The joint troughs remain completely clogged and are overflowing with dirt and debris (see Photo A37). New drainage systems were subsequently installed below each finger joint.

The deck joints within the New Jersey and New York Anchorages are generally in good condition and exhibit minor to moderate leakage due to missing or torn sections of joint sealer and minor deficiencies to the joint troughs below.

Sidewalks and Fascias

The sidewalks are generally in fair to good condition. Several shallow spalls exist at various locations throughout the bridge particularly along the joints. The south sidewalk fascia is generally in poor condition exhibiting numerous areas of spalled concrete with and without exposed rebar ranging from 1' to 30' long x up to 1' wide. The north sidewalk fascia is generally in good condition with small isolated spalls. All loose concrete was removed during the inspection, however, several additional areas of cracked and/or delaminated concrete along the south sidewalk could not be safely removed during the inspection and was recommended for removal on an immediate repair (see Appendix B for correspondence).

Curbs, Parapets, Medians and Railings

The curbs, parapets and median are in overall fair to good condition. The built-up steel curbs and parapets in the main suspended spans exhibit small to medium localized holes in the vertical or horizontal faces allowing water to penetrate onto the structural steel below, primarily near the joints. The parapets exhibit numerous missing, sheared or deteriorated connection bolts throughout the exterior face. The north concrete parapet over the New York Anchorage exhibits few large spalls up to 5" deep with exposed corroded rebar. The steel median barrier within the main

suspended spans exhibits areas of pitting up to 1/4" deep, scrape marks and localized corrosion holes up to 3" diameter at isolated locations. In addition, the median barrier is misaligned at Panel Point 11W (see Photo A35).

The steel bridge railings along both sidewalks within the main suspended spans and over the New York Anchorage are in overall fair condition. The railings exhibit minor to moderate section loss and localized corrosion holes in the railing posts and horizontal rails. The railings also exhibit several disconnected horizontal rails, broken or cracked collar plates, missing bolts connecting the horizontal rails to the posts, and broken rail post caps (see Photo A33). One post is disconnected at the base of the south railing over the New York Anchorage (see Photo A34).

Bridge Lighting & Misc. Utilities

The bridge lighting and utilities are in overall fair condition. The cover to the junction box at the base of few lighting standards is missing with exposed electrical wiring (see Photo A32). Three lighting standards remain missing, one of which exhibits exposed electrical wiring (see Photo A36). One lighting standard over the New York Anchorage is missing an arm and fixture, and one lighting standard at the east end of the main suspended span exhibits a twisted arm and cracked lens cover due to impact damage. At the north sidewalk, a missing emergency light is missing from the post with exposed wiring. Previously cracked welds noted at the base of numerous lighting standards were rewelded since the previous inspection.

Underside of deck bridge lighting deficiencies typically include non-functioning, broken and abandoned lighting fixtures, open and deteriorated junction boxes, hanging electric wires and deteriorated conduits. Several locations of partially disconnected conduits and conduit supports were also noted. (See Photo A40). One underdeck lighting fixture support at the New York Tower is partially disconnected due to (1 of 2) missing nuts at the u-bolt connection (see Photo A41).

The catwalks below the tower finger joints and one inside the New York Anchorage exhibit corroded supports and the maintenance platform grating is deteriorated at few locations, particularly at Panel Points 10W and 11W (see Photos A2, A39 and A43).

Drainage

The drainage system throughout the structure is in overall fair condition. The tower finger joint troughs are excessively clogged and are overflowing with dirt and debris which is accumulating around the stringer bearing seat area below the troughs (see Photo A37). Several of the vertical supports for the troughs and sloped deflector shields exhibit severe corrosion with through holes. New drainage systems were recently installed below each finger joint to prevent future build-up of debris into the joint troughs. Numerous roadway scuppers are clogged at various locations across the bridge. Corrosion holes were noted in several downspouts and drainage troughs at various locations. Several drainage troughs and downspouts were not properly supported and few sections of downspouts are missing at isolated locations (see Photo A42). New drainage scuppers are currently being installed throughout the main

suspended spans under ongoing Contract GWB244.022. Some of the troughs below the joints at the anchorages are clogged with dirt and debris and exhibit missing or unsupported sections.

RECOMMENDATIONS

Immediate: The following immediate actions were recommended during this inspection.

No.	Description	Status
1	Secondary floorbeams exhibit web cracks with or without arrestor holes mostly along the base of the web north and/or south of the stringers. The cracks occur mostly at end Secondary Floorbeams SFB1 & SFB12 (or SFB13) at various stringers between Panel Points 2W-5E. (60 locations)	In Progress
2	The south sidewalk fascia exhibits cracked and delaminated concrete between Panel Points 36E-32E, 2E-1E and 4W-2W. (9 locations)	In Progress
3	Several locations of three of more consecutively cracked webs of riser beams over the main floorbeams which support and maintain the proper elevation of the orthotropic deck at the following Panel Points (18 locations): 3W, 4W, 5W, 6W, 9W, 10W, 15W 23W, 26W, 30W, 37W, 43, 37E, 32E, 30E, 29E, 25E	In Progress Repaired
4	Secondary floorbeams between Panel Points 43-42E and 5W-6W exhibit cracks along the base of the web and propagates into the bottom flange. (2 locations)	Repaired
5	Secondary floorbeams exhibit missing/sheared rivet/bolts at the connection over stringer and are noticeably bouncing during truck loads between Panel Points 43-42E and 8E-7E. (3 locations)	Repaired
6	The welds connecting orthotropic deck rib R52 to the strap plate are cracked along both sides of SFB4 through SFB12 just north of Stringer 6 between Panel Points 8E-7E. (1 location)	Repaired
7	The steel orthotropic deck plate and deck ribs are cracked between Panel Points 38W-39W. (2 locations)	Repaired
8	Stringer 6 at the west side of the main floorbeam at Panel Point 26W exhibits (4 of 4) missing/sheared rivets at the seated connection. The stringer and sole plate have shifted 1/2” north and 1/4” west relative to the bearing plate and there is a 1/8” gap between the sole plate and bearing plate. (1 location)	Repaired
9	The lateral bracing connection plate is cracked at the Stringer 3 to SFB1 connection on the east side of Panel Point 21W. (1 location)	Repaired
10	Improperly seated finger joint plate at Panel Points 11W and 14E of the tower spans. (2 locations)	Repaired

Priority: The following priority repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck:		
1*	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 2W, 11W, 14W, 19W, 22W, 15E, 14E and 11E. *(Photo A1)* (72 locations)	U-2, U-5
2*	Repair the severely corroded supports for the access catwalk at the New Jersey Tower. *(Photo A2)* (1 Location)	U-2
3*	Repair the severely spalled pedestal of south sidewalk stringer bearing between Cap Beams 2 and 3 and pedestal of floorbeam at Panel Point 1E and pedestal of stringer S1 at Cap Beam 10 of the New York Anchorage. *(Photo A3)* (3 Locations)	U-6
4*	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam. *(Photo A4)* (1,903 Locations)	U-2, U-3, U-4, U-5,
5*	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, between 18W-19W, 20W, 22W, 23W, 24W, 26W, 29W, 30W, 32W-34W, 36W, 39W, 40W, 41W, 42W, 42E, 37E, 36E, 34E, 30E, 29E, 26E, 25E, 23E, 21E, 19E, 18E, 17E, 16E, 15E, 14E, 11E, 10E, 9E, 8E, 7E, 6E, 5E, 4E & 2E. *(Photo A5)* (106 Locations, 212 Bolts)	U-2, U-3, U-4, U-5
6	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam. *(Photo A6)* (2518 Locations)	U-2, U-3, U-4, U-5
7	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, 20W, 21W, 24W, 31W, 34W, 36W, 40W, 41W, 42W, 38E, 37E, 36E, 32E, 31E, 30E, 25E, 20E, 19E, 18E, 16E, 15E, 11E, 10E, 7E, 6E and 3E. *(Photo A7)* (55 Locations, 100 Bolts)	U-2, U-3, U-4, U-5
14	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 7W, 19W, 22W, 43, 36E, 15E, 11E, 6E and 4E. *(Photo A14)* (13 Locations)	U-2, U-4, U-5

Superstructure Steel:		
8*	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 7W, 10W, 15W, 17W, 25W, 27W, 28W, 32W, 34W, 35W, 39W, 38E, 36E, 24E, 19E, 10E, 8E, 7E and 6E-3E. *(Photo A8)* (26 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
9*	Repair the stringers that exhibit thru holes with moderate corrosion in the web over the bearings at the following locations: Web of S1 east of 10W, Web of S2 west of 11W, Web of S3 west of 14W, Web of S7 west of 14W, Web of S1 east of 26W, Web of S8 east of 37W, Web of S1 east of 40W, Web of S3 east of 40W, Web of S1 west of 31E, Web of S1 west of 30E , Web of S1 west of 28E, Web of S1 west of 27E, Web of S1 west of 25E, Web of S1 & S8 east of 15E, Web of S1 & S3 west of 14E, Web of S1, S3 through S7 east of 14E, Web of S1 west of 11E, Web of S1 west of 9E, Web of S8 east of 2E, Web of S1 & S8 west of 1E, Web of S17 east of 1E and Webs of S8, S10 & S11 west of Capbeam 4, S5 to S8 east of Capbeam 7 and S10 & S12 west of Capbeam 10 of the New York anchorage. *(Photo A9)* (38 Locations)	S-2, S-4, S-5, S-6, S-7, S-8
10*	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection. *(Photo A10)* (283 Locations)	S-2, S-3, S-4, S-5, S-6, S-7, S-8
11*	Repair the severe rust and hole in the bearing stiffener and the bottom flange of the bearing of Stringers S6 and S7, east of PP 14E. *(Photo A11)* (2 Locations)	S-6
12*	Repair the connection angle between the main floorbeam and the deck truss top chord which exhibits a crack and extensive section loss at Panel Points 22E, 16E and 15E. *(Photo A12)* (5 Locations)	S-6
13*	Repair the bent angle on the girder bearing connection of Stringer S6 to Capbeam 7 and Stringer S4 at Capbeam 4 at the New York Anchorage. *(Photo A13)* (2 Locations)	S-8
15*	Repair the main floorbeam/capbeam with extensive section loss and/or holes in web at the following locations: Panel Points 2W, 10W, 40W, 36E, 3E, 1E and Capbeams 4, 7 & 10 of the New York Anchorage. *(Photo A15)* (11 Locations)	S-2, S-4, S-5, S-7, S-8
16	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 9W, 17W, 20W, 21W, 25W, 34W, 37W, 40W, 42E, 27E, 23E, 21E, 19E, 9E and 6E-3E. *(Photo A16)* (23 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
17*	Replace the sheared anchor bolts and anchor bolt nuts which exhibit severe corrosion at the following locations: south column at Capbeams 4 & 8 in the New York Anchorage. *(Photo A17)* (2 Locations)	S-8

18*	Repair the pin that connects the stringer to the main floorbeam which exhibits 1/4" section loss at Panel Points 3W, 10W, 15W, 15E, 10E and 2E. *(Photo A18)* (7 Locations)	S-2, S-3, S-6, S-7
19	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S2 east of 14E. *(Photo A19)* (1 Location)	S-6
20	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection. *(Photo A20)* (31 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
21*	Repair the stringer bearings that have the bearing sliding plate bouncing under live load and/or are frozen due to pack rust at Panel Points 25W, 27W and 1E. *(Photo A21)* (9 Locations)	S-4, S-7
22*	Repair the diagonal brace which exhibits over 50% section loss and holes in the web or flanges at Bents 3 and 4 of the New York Anchorage. *(Photo A22)* (3 Locations)	S-8
23	Repair the bent angle on the girder bearing connection of Stringer S5 to Capbeam 7 at the New York Anchorage. *(Photo A23)* (1 Location)	S-8
24*	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points of the main span: 3W, 4W, 5W, 6W, 7W, 8W, 9W, 15W, 16W, 17W, 18W, 20W, 21W, 22W, 26W, 27W, 29W, 31W, 32W, 36W, 37W, 39W, 40W, 41W, 42W, 43, 41E, 40E, 39E, 38E, 34E, 30E, 29E, 28E, 27E, 26E, 25E, 21E, 20E, 19E, 17E, 16E, between 15E-14E, 9E, 8E, 5E, 4E and 2E. *(Photo A24)* (103 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
25*	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam. *(Photo A25)* (50 Locations)	S-3, S-4, S-5, S-6, S-7, S-8
26	Repair the pin that connects Stringer S1 to the main floorbeam which exhibits 1/4" section loss at Panel Point 2E. *(Photo A26)* (1 Location)	S-7
27*	Repair the worn thru bottom flange of Stringer S2 at the diagonal bracing connection between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E. *(Photo A27)* (4 Locations)	S-2, S-5, S-6
28	Repair Stringer S8 bearing that has the bearing sliding plate bouncing under live load and is frozen due to pack rust at Panel Point 1E. *(Photo A28)* (1 Location)	S-7
29	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points 6W, 7W, 9W, 11W-14W, 19W, 22W, 26W, 29W, 37W-38W, 41W, 41E, 37E, 30E, 22E, 20E and 17E. *(Photo A29)* (22 Locations)	S-2, S-3, S-4, S-5, S-6
30	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam. *(Photo A30)* (1 Location)	S-3

31*	Repair the severely deteriorated seated bearing of stringer S4 at Capbeam 7 of the New York Anchorage with extensive pack rust and two sheared off tie-down bolts. *(Photo A31)* (1 Location)	S-8
* Previously recommended as a "Priority Repair" in the 2009 inspection report.		

Safety: The following safety repairs are recommended:

No.	Description	Dwg. No.
Top of Deck:		
1	Replace the missing and/or secure the loose electrical box covers with exposed wires on the lighting standard. *(Photo A32)* (3 Locations)	T2, T-4, T-6
2	Replace the missing, severely deteriorated and/or secure the disconnected rails from posts along the roadway and sidewalk railings. *(Photo A33)* (10 Locations)	T-2, T-5, T-6
3	Secure the railing posts that are loose, cracked or disconnected at its base over the New York Anchorage. *(Photo A34)* (4 Locations)	T-6
4	Repair the misaligned median barrier at Panel Point 11W. *(Photo A35)* (1 Location)	T-2
5	Cover or remove the exposed electrical wires at the base of the missing light standard on the north sidewalk over the New York Anchorage. *(Photo A36)* (1 Location)	T-6
Underside of Deck:		
6	Remove excessive debris accumulated on the steel members at Panel Point 14E and Stringer S8. *(Photo A37)* (1 Location)	U-5
7	Repair the severely deteriorated flooring at the mid-level of New York Anchorage. *(Photo A38)* (2 Locations)	U-6
8	Replace the severely deteriorated maintenance platform grating at the south support below the south sidewalk access hatch between Panel Points 10W & 11W. *(Photo A39)* (1 Location)	U-2
9	Secure the utility conduits and utility conduit supports which are not properly secured. *(Photo A40)* (7 Locations)	U-2, U-3, U-5, U-6
10	Secure the loose support for the underdeck lighting fixture at the New York Tower. *(Photo A41)* (1 Location)	U-5
11	Repair the broken or severely corroded scupper downspout, drainage trough or supports at the New York Anchorage. *(Photo A42)* (2 Locations)	U-6
12	Repair the deteriorated section of catwalk grating inside the New York Anchorage. *(Photo A43)* (1 Location)	U-6

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
Top of Deck:		
1	Repair the vertical and/or horizontal faces of the steel curb and parapet that exhibit thru holes allowing water to penetrate onto the steel below. (41 Locations)	T-2, T-3, T-4, T-5
2	Replace the elastomeric joint filler material that is either missing or deteriorated at the top of the deck joints. (261 Locations)	T-1, T-2, T-3, T-4, T-5, T-6
3	Repair the spalled concrete of the parapet or curb with exposed rebars. (18 Locations)	T-1, , T-6
4	Repair the bridge railing and/or vertical support post which exhibits moderate localized and/or thru holes, or is damaged due to impact. (194 Locations)	T-1, T-2, T-3, T-4, T-5, T-6
5	Replace the missing bolts or cracked collar plate connecting the horizontal bridge rails to the support posts. (13 Locations)	T-2, T-3, T-5
6	Seal the cracks in the concrete parapet. (2 Locations)	T-1, T-6
7	Replace the missing cap at the top of the light poles. (3 Locations)	T-6
8	Replace the missing or broken bridge railing post caps and/or countersunk flat head screws. (59 Locations)	T-2, T-3, T-4, T-5, T-6
9	Repair the cracked weld at one of two supports to the bridge railing, for telephone pole. (2 Locations)	T-3, T-4
10	Replace the missing or deteriorated curb joint filler or steel plate. (69 Locations)	T-2, T-3, T-4, T-5, T-6
11	Replace the missing bolts or detached plates on the outside face of the steel parapet. (147 Locations)	T-2, T-3, T-4, T-5
12	Clean out the clogged scuppers. (65 Locations)	T-2, T-3, T-4, T-5, T-6
13	Repair the spalled asphalt overlay in the roadway or spalled concrete in joint. (17 Locations)	T-1, T-2, T-4, T-5, T-6
14	Repair the steel median barrier section which is broken or which exhibits extensive section loss. (8 Locations)	T-2, T-3, T-5, T-6
15	Replace the 3 of 6 missing bolts at the steel expansion plate connection to the median over the New Jersey anchorage. (1 Location)	T-1
16	Repair the shallow spalls in the sidewalk slab or the spalled fascia overhang with or without exposed rebars. (136 Locations)	T-2, T-3, T-4, T-5
17	Replace the missing light post and repair the broken base connection. (3 Locations)	T-3, T-5, T-6

18	Secure the granite stones atop the anchorage wall over terrain. (2 Locations)	T-1, T-6
19	Replace the cracked and/or missing lens of the lighting standard. (2 Locations)	T-5
20	Repair the twisted arm of the lighting standard. (1 Location)	T-5
21	Replace the light post with missing arm. (1 Location)	T-6
Underside of Deck:		
22	Remove debris from the bearing seat. (8 Locations)	U-1, U-2, U-5
23	Seal the medium to wide horizontal and vertical cracks in the abutment seat or capbeam. (3 Locations)	U-1
24	Repair severely cracked and spalled encasement around the deteriorated and leaking catch basin at the New Jersey anchorage. (1 Location)	U-1
25	Repair the spalled, hollow sounding and/or delaminated concrete on the backwall or abutment seat at the west abutment. (6 Locations)	U-1
26	Repair the small holes (1”-2” dia.) in the deck and/or sidewalk allowing water to penetrate on to the steel below. (28 Locations)	U-1, U-2, U-3, U-6
27	Repair the spalled concrete with or without exposed rebars and hollow sounding areas on the underside of the deck. (11 Locations)	U-1, U-6
28	Clean out the clogged drainage downspout, trough or drainage pipe below the joints. (35 Locations)	U-1, U-2, U-3, U-4, U-5, U-6
29	Repair the spalled grout of the column or girder pedestals with minor undermining of bearings. (5 Locations)	U-1
30	Repair the missing, deteriorated, disconnected, or broken scupper downspout/drainage trough or trough support. (21 Locations)	U-1, U-2, U-5, U-6
31	Repair the spalled concrete on the deck haunch above the girders in the New Jersey Anchorage. (5 Locations)	U-1
32	Seal the medium to wide cracks along the deck haunch or on the underside of deck in the New Jersey Anchorage. (17 Locations)	U-1
33	Replace the disconnected, loose or broken electrical outlet box or underdeck lighting fixtures with exposed electrical wires in areas not accessible to pedestrians. (21 Locations)	U-1, U-2, U-3, U-5, U-6
34	Replace the missing or non-functional light bulb in the underdeck lighting fixtures. (11 Locations)	U-1, U-3, U-4
35	Remove the electrical wire/cable which dangles from the underside of deck in areas not accessible to pedestrians. (35 Locations)	U-1, U-2, U-3, U-4, U-5
36	Secure the disconnected or replace the missing support for conduits or lighting fixtures. (115 Locations)	U-1, U-2, U-3, U-4, U-5, U-6

37	Repair the corroded or disconnected electrical junction box with/without cover and exposed wires in areas not accessible to pedestrians. (41 Locations)	U-2, U-3, U-4, U-5, U-6
38	Replace the missing bolts connecting the deck plates along the longitudinal joints. (22 Locations)	U-4, U-6
39	Repair the severely deteriorated section of metal deck pan below the sidewalk. (33 Locations)	U-2, U-3, U-4, U-5
40	Replace the missing fencing or secure the disconnected fencing supports for drainage trough housing at the towers. (8 Locations)	U-2, U-5
41	Remove the abandoned utility conduits, underdeck lighting fixtures, drainage troughs, or supports for these structures. (85 Locations)	U-1, U-2, U-3, U-4, U-5, U-6
42	Repair the drainage trough or debris shield supports at the towers which exhibit section loss and thru holes. (5 Locations)	U-2, U-5
43	Seal the wide cracks and/or repair the spalled and hollow sounding concrete with or without exposed rebars on the anchorage wall. (12 Locations)	U-1, U-5, U-6
44	Replace the missing vent covers and/or cleanouts of the scupper downspouts, or replace the missing bolts at these locations. (38 Locations)	U-2, U-3, U-4, U-5, U-6
45	Replace the joint filler which is dislodged and hanging. (2 Locations)	U-2, U-5
46	Repair the angle at the side of the scupper which has cracked welds and has separated at Panel Point 15E. (1 Location)	U-5
47	Repair the broken, deteriorated or disconnected electrical conduits with exposed electrical wires in areas not accessible to pedestrians. (51 Locations)	U-2, U-3, U-4, U-5, U-6
48	Secure the disconnected union coupling of the protective cover for the high voltage conduit in areas not accessible to pedestrians. (3 Locations)	U-4, U-5
Superstructure Steel:		
49	Repair the thru holes with section loss in the vertical, horizontal, and/or diagonal legs of the angles of the cross frame with thru holes and section loss and/or severe pack rust. (54 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
50	Replace the missing grating or secure loose grating beneath the median barrier between stringer S4 and S5. (4 Locations)	S-2, S-5, S-7
51	Repair the anchor bolt nuts on both sides of the sidewalk fascia stringer bearing. (4 Locations)	S-2, S-7
52	Tighten the anchor bolt nut of the bearing assembly. (3 Locations)	S-1
53	Replace the missing bolts and/or angle on the support brackets for the finger joint deflective shield. (5 Locations)	S-2, S-6

54	Repair the small holes and/or minor to moderate section loss in the stringer at critical areas. (35 Locations)	S-1, S-2, S-3, S-4, S-5, S-6, S-7
55	Replace the sheared rivet at the base of the stiffening angles of stringer seated connection to the floorbeam. (1 Location)	S-8
56	Repair the bearing stiffener at sidewalk stringers with extensive section loss, pack rust, holes, and/or cracks. (48 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
57	Repair the intermediate stiffeners with thru holes and/or extensive section loss. (30 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
58	Repair the severely deteriorated intermediate diaphragm that exhibits thru holes. (6 Locations)	S-1, S-2, S-4, S-6
59	Repair the stringer bearing assembly which exhibits extensive section loss on the web plate, bearing stiffeners and the countersunk bolt nuts. (3 Locations)	S-3, S-6
60	Repair the spalled, cracked or hollow sounding concrete encasement of stringers. (1 Location)	S-8
61	Replace the missing bolts on the gusset plate connection of the utility platform to the bottom flange of the sidewalk stringer. (2 Locations)	S-5, S-7
62	Repair the sidewalk stringer web plate(s) which exhibits extensive section loss and thru holes. (7 Locations)	S-2, S-3, S-4, S-5, S-6
63	Repair the sliding plate of the bearing of S1 at PP 14W, which exhibits a 3” long broken edge. (1 Location)	S-3
64	Repair the missing section of keeper rod on the underside of finger joint. (4 Locations)	S-2, S-6
65	Replace the missing, deteriorated, and/or loose bolts/rivets of the cross frame to secondary floorbeam connection. (5 Locations)	S-7
66	Replace the rivets with over 50% head loss. (80 Locations)	S-1, S-2, S-3, S-4, S-5, S-6, S-7, S-8
67	Replace the anchor bolt to the stringer bearing with over 50% section loss. (10 Locations)	S-2, S-6, S-7
68	Remove the heavy dirt and debris accumulation in various locations. (28 Locations)	S-2, S-3, S-4, S-5, S-6, S-7, S-8
69	Replace the deteriorated bearing plate below the sidewalk stringer which exhibits severe section loss. (1 Location)	S-2
70	Repair the vertical stiffeners on the stringer bearing stool that exhibit extensive section loss, impacted rust, holes and/or cracks. (18 Locations)	S-4, S-5, S-6
71	Clean and paint structural steel members which exhibit moderate corrosion. (16 Locations)	S-1, S-2, S-3, S-4, S-7, S-8

72	Remove the unattached steel angle that is resting on the bottom flange of stringers S4 & S5 and wedged in between the vertical stiffeners. (1 Location)	S-5
73	Repair the wind brace to stringer connection that exhibits pack rust and/or missing filler plate causing the bracing angles to bounce under live loads resulting in wear and section loss to the stringer bottom flange. (203 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
74	Repair the horizontal gusset plate that connects the wind brace to the main floorbeam and/or truss chord which exhibits localized and severe section loss and/or thru holes and/or cracks. (40 Locations)	S-2, S-4, S-5, S-6, S-7, S-8
75	Replace the rivets on the horizontal gusset plate that connect the wind brace to the main floorbeam and/or truss chord with over 50% head loss. (5 Locations)	S-5, S-7, S-8
76	Repair the top and bottom lattice plates of the top chord of the truss at Panel Point 2W that exhibit significant section loss and/or thru holes. (1 Location)	S-2
77	Repair the Stringer 8 support bracket with thru holes east of Panel Point 14W. (1 Location)	S-3
78	Repair the diaphragm plate below the pin connection between the stringer and the main floorbeam which exhibits extensive section loss and/or thru holes. (2 Locations)	S-3, S-7
79	Repair the north platform support angle located between Panel Points 11W & 14W that exhibits severe corrosion. (1 Location)	S-2
80	Replace the missing rivet at the top of the stiffener at stringer. (49 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
81	Replace the missing bolts at the sidewalk fascia stringer to deck connection. (62 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
82	Repair the transverse support beams for the finger joint which exhibit areas of 1/8” – 1/4” localized section loss on the web and numerous interior vertical stiffeners with up to 100% section loss near the bottom flange. (4 Locations)	S-2, S-6
83	Repair the connection angle between main floorbeam and deck truss top chord which exhibits extensive section loss with or without a crack that has been arrested by a drill hole. (153 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
84	Replace the missing bolt or tighten loose bolt in web of stringer, secondary floorbeam, or sidewalk beam. (15 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
85	Repair the web of the main floorbeam which exhibits 1/8” localized section loss near connection. (92 Locations)	S-2, S-3, S-4, S-5, S-6, S-7, S-8
86	Repair the lateral or diagonal bracing member in panel 14E/11E which exhibits extensive section loss and thru holes. (3 Locations)	S-6

87	Repair the gusset plate at the pin connection between the stringer and the main floorbeam which exhibits extensive section loss. (5 Locations)	S-2, S-5, S-6, S-7
88	Replace the missing rivet at the stringer bearing stiffener angle. (3 Locations)	S-4, S-6
89	Repair the bottom flange of the main floorbeam/capbeam which exhibits up to 3/16” localized section loss at non-critical areas. (1 Location)	S-8
90	Repair the cracked weld at sidewalk stringer connection to the floorbeam. (1 Location)	S-2
91	Repair the bearing assembly for the retrofit beam at Capbeam 10 which exhibits cracked welds along the edge of the shim plates. (1 Location)	S-8
92	Replace the missing bolts connecting the top flange of floorbeam to deck. (9 Locations)	S-1
93	Replace the broken sole plate below stringer resulting in slight undermining of bearing. (1 Location)	S-1
94	Repair the partial connection angle that is cracked but terminates at an open rivet hole. (1 Location)	S-1
95	Replace the north sidewalk beam that supports the steel joint plate which exhibits more than 50% section loss to its top flange at Panel Point 14W. (1 Location)	S-3
96	Repair the web or flanges of the secondary floorbeams which exhibit small holes and/or 1/8”-1/4” section loss at critical areas. (127 Locations)	S-2, S-3, S-4, S-5, S-6, S-7
97	Repair the pin that connects the stringer to the floorbeam which exhibits 1/16”-1/8” section loss. Also the bolts connecting the pin washer to the bearing exhibit severe section loss. (4 Locations)	S-2
98	Repair the gusset plate of the cross frame connection to the stringer flange with extensive section loss and thru holes. (14 Locations)	S-2, S-4, S-6, S-7
99	Repair the longitudinal beams supporting the median barrier between stringers S4 and S5 with section loss and/or missing bolts. (31 Locations)	S-2, S-3, S-4, S-6, S-7
100	Repair the support for the median longitudinal beam which exhibits a crack or is severely deteriorated. (9 Locations)	S-2, S-4, S-5, S-6
101	Repair the vertical gusset plate of the deck truss top chord at connection to the main floorbeam which exhibits localized 1/8” – 3/16” section loss. (3 Locations)	S-3, S-6
102	Clean and paint the top and bottom plates of the top chord of the stiffening truss and gusset plates at connections. Also replace missing caulk at the joint between the top and bottom plates and the web plates of the same members. In addition, install methods to prevent ponding on top of the top chord. (15 Locations)	S-2, S-3, S-4, S-5, S-6, S-7

KEY CONDITION NOTES (FOR LEGEND, SEE DWG. NO. L-2)

PRIORITY REPAIRS

TOP OF DECK

NONE

UNDERSIDE OF DECK

1. REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).
2. REPAIR THE SEVERELY CORRODED SUPPORTS FOR THE ACCESS CATWALK AT THE NEW JERSEY TOWER.
3. REPAIR THE SEVERELY SPALLED BEARING PEDESTALS.
4. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. (SEE NOTE 1 ON DRAWING NOS. U-2 AND U-5). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
5. X — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
6. X — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '■'. (SEE NOTE 1 ON DRAWING NOS. U-2 THRU U-5). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
7. X — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
14. X — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

SUPERSTRUCTURE STEEL

8. X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
9. X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
10. REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A ' '.
11. REPAIR THE BEARING STIFFENER AND BOTTOM PLATE OF THE BEARING SYSTEM OF S6 & S7, EAST OF PP 14E THAT EXHIBITS THRU HOLES, AND SECTION LOSS. ALSO, THE WEB EXHIBITS SECTION LOSS AND TOP FLANGE EXHIBITS RIVET HEAD LOSS.
12. REPAIR THE CONNECTION ANGLE BETWEEN THE MAIN FLOORBEAM AND THE DECK TRUSS TOP CHORD WHICH EXHIBITS A CRACK AND EXTENSIVE SECTION LOSS.
13. REPAIR THE BENT ANGLE ON THE GIRDER BEARING CONNECTION OF STRINGER TO CAPBEAM.
15. X — REPAIR THE MAIN FLOORBEAM/CAPBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB. 'X' DENOTES THE SIZE OF HOLE.
16. X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
17. REPLACE THE ANCHOR BOLT NUTS AT THE COLUMN OR GIRDER PEDESTALS WHICH EXHIBIT SEVERE CORROSION.
18. REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.
19. REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
20. REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.
21. REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.
22. REPAIR THE DIAGONAL BRACE WHICH EXHIBITS OVER 50% SECTION LOSS AND HOLES IN THE WEB OR FLANGES AT BENTS 3 AND 4 OF THE NEW YORK ANCHORAGE.
23. REPAIR THE BENT ANGLE ON THE GIRDER BEARING CONNECTION OF STRINGER TO CAPBEAM.
24. X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
25. REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
26. REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.
27. REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W-10W, 30E-31E, 25E-26E AND 20E-21E.
28. REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.

PRIORITY REPAIRS

SUPERSTRUCTURE STEEL

29. X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
30. REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
31. REPAIR THE SEVERELY DETERIORATED SEATED BEARING OF STRINGER S4 AT CAPBEAM 7 OF THE NEW YORK ANCHORAGE WITH EXTENSIVE PACK RUST AND TWO SHEARED-OFF TIE DOWN BOLTS.

SAFETY REPAIRS

TOP OF DECK

1. REPLACE THE MISSING AND/OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD.
2. REPLACE THE MISSING, SEVERELY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.
3. SECURE THE RAILING POST THAT IS LOOSE, CRACKED OR DISCONNECTED AT ITS BASE OVER THE NEW YORK ANCHORAGE.
4. REPAIR THE MISALIGNED MEDIAN BARRIER AT PANEL POINT 11W.
5. COVER THE EXPOSED ELECTRICAL WIRES AT THE BASE OF THE MISSING LIGHT STANDARD.

UNDERSIDE OF DECK

6. CLEAN OUT EXCESSIVE AMOUNT OF DEBRIS RESTING ON STEEL AT PP 14E AND S8.
7. REPAIR THE SEVERELY DETERIORATED FLOORING AT THE MID-LEVEL OF NEW YORK ANCHORAGE (BASE LEVEL OF CABLE STRAND SHOE DIAGONAL BRACE).
8. REPLACE THE SEVERELY DETERIORATED MAINTENANCE PLATFORM GRATING AT ITS SOUTH SUPPORT BELOW THE SOUTH SIDEWALK ACCESS HATCH BETWEEN PP 10W & 11W.
9. SECURE THE UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE NOT PROPERLY SUPPORTED.
10. SECURE THE LOOSE SUPPORT FOR THE UNDERDECK LIGHTING FIXTURE.
11. REPLACE THE BROKEN OR SEVERELY CORRODED SCUPPER DOWNSPOUT, DRAINAGE TROUGH OR SUPPORTS.
12. REPAIR THE DETERIORATED SECTION OF CATWALK GRATING INSIDE THE NEW YORK ANCHORAGE.

ROUTINE REPAIRS

TOP OF DECK

1. X — REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.
2. REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.
3. X — REPAIR THE SPALLED CONCRETE OF THE PARAPET OR CURB WITH EXPOSED REBARS. 'X' INDICATES SIZE OF SPALL.
4. X,Y — REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, U.O.N.
5. X,Y — REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL, 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.
6. SEAL THE CRACKS IN THE CONCRETE PARAPET.
7. REPLACE THE MISSING CAP AT THE TOP OF THE LIGHT POLES.
8. X,Y — REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.
9. REPAIR THE CRACKED WELD AT ONE OF TWO SUPPORTS, TO THE BRIDGE RAILING, FOR TELEPHONE POLE.
10. REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.
11. X,Y — REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.
12. CLEAN OUT CLOGGED SCUPPERS.

ROUTINE REPAIRS (CON'T)

TOP OF DECK

13. X — REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.
14. REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR WHICH EXHIBITS EXTENSIVE SECTION LOSS.
15. REPLACE THE 3 OF 6 MISSING BOLTS AT THE STEEL EXPANSION PLATE CONNECTION TO THE MEDIAN OVER THE NEW JERSEY ANCHORAGE.
16. X — REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE, (UNLESS OTHERWISE NOTED).
17. REPLACE THE MISSING LIGHT POST WITH NO EXPOSED ELECTRICAL WIRING.
18. X — SECURE THE GRANITE STONES ATOP THE ANCHORAGE WALL OVER TERRAIN. 'X' INDICATES LENGTH OF MISSING GROUT, IF APPLICABLE.
19. REPLACE THE CRACKED AND/OR MISSING LENS OF THE LIGHTING STANDARD.
20. REPAIR THE TWISTED ARM OF THE LIGHTING STANDARD.
21. REPLACE THE LIGHT POST WITH MISSING ARM.

UNDERSIDE OF DECK

22. REMOVE DEBRIS FROM THE BEARING SEAT.
23. SEAL THE MEDIUM TO WIDE HORIZONTAL AND VERTICAL CRACKS IN THE ABUTMENT SEAT OR CAPBEAM.
24. REPAIR THE SEVERELY CRACKED AND SPALLED ENCASEMENT AROUND THE DETERIORATED AND LEAKING CATCH BASIN AT THE NEW JERSEY ANCHORAGE.
25. REPAIR THE SPALLED, HOLLOW SOUNDING, AND/OR DELAMINATED CONCRETE ON THE BACKWALL OR ABUTMENT SEAT AT THE WEST ABUTMENT. SIZE AS SHOWN.
26. REPAIR THE SMALL HOLES (1"-2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.
27. REPAIR THE SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS AND HOLLOW SOUNDING AREAS ON THE UNDERSIDE OF THE DECK. SIZE AS SHOWN.
28. CLEAN OUT THE CLOGGED DRAINAGE DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.
29. REPLACE THE SPALLED GROUT OF THE COLUMN OR GIRDER PEDESTALS WITH MINOR UNDERMINING OF BEARING.
30. REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.
31. REPAIR THE SPALLED CONCRETE ON THE DECK HAUNCH ABOVE THE GIRDERS IN THE ANCHORAGE. SIZE AS SHOWN.
32. SEAL THE MEDIUM TO WIDE CRACKS ALONG THE DECK HAUNCH OR ON THE UNDERSIDE OF DECK.
33. REPLACE THE DISCONNECTED, LOOSE OR BROKEN ELECTRICAL OUTLET BOX OR UNDERDECK LIGHTING FIXTURES WITH EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
34. REPLACE THE MISSING OR NON-FUNCTIONAL LIGHT BULB IN THE UNDERDECK LIGHTING FIXTURES.
35. REMOVE THE ELECTRICAL WIRE / CABLE WHICH DANGLES FROM THE UNDERSIDE OF DECK IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
36. SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.
37. REPAIR THE CORRODED OR DISCONNECTED ELECTRICAL JUNCTION BOX WITH/WITHOUT COVER AND EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
38. X — REPLACE THE MISSING BOLTS CONNECTING THE DECK PLATES ALONG THE LONGITUDINAL JOINTS. 'X' DENOTES THE NUMBER OF BOLTS.
39. REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.
40. REPLACE THE MISSING FENCING OR SECURE THE DISCONNECTED FENCING SUPPORTS FOR DRAINAGE TROUGH HOUSING AT THE TOWERS.
41. REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.

Sheet 1 of 23

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

KEY CONDITION NOTES AND LEGEND - 1

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number L-1

KEY CONDITION NOTES

ROUTINE REPAIRS (CON'T)

UNDERSIDE OF DECK

(42) REPAIR THE DRAINAGE TROUGH OR DEBRIS SHIELD SUPPORTS AT THE TOWERS WHICH EXHIBIT SECTION LOSS AND THRU HOLES.

(43) SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.

(44)X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.

(45) REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.

(46) REPAIRED THE ANGLE AT THE SIDE OF THE SCUPPER WHICH HAS CRACKED WELDS AND HAS SEPARATED AT PP 15E.

(47) REPAIRED THE BROKEN, DETERIORATED OR DISCONNECTED ELECTRICAL CONDUITS WITH EXPOSED ELECTRICAL WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

(48) SECURE THE DISCONNECTED UNION COUPLING OF THE PROTECTIVE COVER FOR THE HIGH VOLTAGE CONDUIT IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

SUPERSTRUCTURE STEEL

(49) REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.

(50) REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.

(51) REPAIR THE ANCHOR BOLT NUTS ON BOTH SIDES OF THE SIDEWALK FASCIA STRINGER BEARING.

(52) TIGHTEN THE ANCHOR NUT OF THE BEARING ASSEMBLY.

(53)X REPLACE THE MISSING BOLTS (AND ANGLE) ON THE SUPPORT BRACKETS FOR THE FINGER JOINT DEFLECTIVE SHIELD. 'X' DENOTES NUMBER OF BOLTS.

(54) REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.

(55) REPLACE THE SHEARED RIVET AT THE BASE OF THE STIFFENING ANGLES OF THE STRINGER SEATED CONNECTION TO THE FLOORBEAM.

(56) REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.

(57) REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.

(58) REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.

(59) REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.

(60) REPAIR THE SPALLED, CRACKED OR HOLLOW SOUNDING CONCRETE ENCASEMENT OF STRINGERS.

(61) REPLACE THE MISSING BOLTS ON THE GUSSET PLATE CONNECTION OF THE UTILITY PLATFORM TO THE BOTTOM FLANGE OF THE SIDEWALK STRINGER.

(62) REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

(63) REPAIR THE SLIDING PLATE OF THE BEARING OF S1 AT PP 14W WHICH EXHIBITS A 3" LONG BROKEN EDGE.

(64) REPAIR THE MISSING SECTION OF KEEPER ROD ON THE UNDERSIDE OF FINGER JOINT.

(65) REPLACE THE MISSING, DETERIORATED, AND/OR LOOSE BOLTS/RIVETS OF THE CROSS FRAME TO SECONDARY FLOORBEAM CONNECTION.

(66)X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

(67) REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.

(68) REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.

(69) REPLACE THE DETERIORATED BEARING PLATE BELOW THE SIDEWALK STRINGER WHICH EXHIBITS SEVERE SECTION LOSS.

(70) REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.

(71) CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHIBIT MODERATE CORROSION.

ROUTINE REPAIRS (CON'T)

SUPERSTRUCTURE STEEL

(72) REMOVE THE UNATTACHED STEEL ANGLE THAT IS RESTING ON THE BOTTOM FLANGE OF STRINGERS S4 & S5 AND WEDGED IN BETWEEN THE VERTICAL STIFFENERS.

(73) REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.

(74) REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.

(75)X REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

(76) REPAIR THE TOP AND BOTTOM LATTICE PLATES OF THE TOP CHORD OF THE TRUSS AT PP 2W THAT EXHIBIT SIGNIFICANT SECTION LOSS AND/OR THRU HOLES.

(77) REPAIR THE BRACKET WITH THRU HOLES ON S8 EAST OF PP 14W.

(78) REPAIR THE DIAPHRAGM PLATE BELOW THE PIN CONNECTION BETWEEN THE STRINGER AND THE MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

(79) REPAIR THE NORTH PLATFORM SUPPORT ANGLE BETWEEN PP 11W & 14W THAT EXHIBITS SEVERE CORROSION.

(80) REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.

(81)X REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.

(82) REPAIR THE TRANSVERSE SUPPORT BEAMS FOR THE FINGER JOINT WHICH EXHIBIT AREAS OF 1/8" – 1/4" LOCALIZED SECTION LOSS ON THE WEB AND NUMEROUS INTERIOR VERTICAL STIFFENERS WITH UP TO 100% SECTION LOSS NEAR THE BOTTOM FLANGE.

(83) REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.

(84) REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.

(85) REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

(86) REPAIR THE LATERAL OR DIAGONAL BRACING MEMBER IN PANEL 14E/11E WHICH EXHIBITS EXTENSIVE SECTION LOSS AND THRU HOLES. SHOWN AS WEB LATTICE PLATES UNLESS OTHERWISE NOTED.

(87) REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.

(88) REPLACE THE MISSING RIVET AT THE STRINGER BEARING STIFFENER ANGLE.

(89) REPAIR THE BOTTOM FLANGE OF THE MAIN FLOORBEAM/CAPBEAM WHICH EXHIBITS UP TO 3/16" LOCALIZED SECTION LOSS AT NON-CRITICAL AREAS.

(90) REPAIR THE CRACKED WELD AT SIDEWALK STRINGER CONNECTION TO THE FLOORBEAM.

(91) REPAIR THE BEARING ASSEMBLY FOR THE RETROFIT BEAM AT CAPBEAM 10 WHICH EXHIBITS CRACKED WELDS ALONG THE EDGE OF THE SHIM PLATES.

(92) REPLACE THE MISSING BOLTS CONNECTING THE TOP FLANGE OF FLOORBEAM TO DECK.

(93) REPLACE THE BROKEN SOLE PLATE BELOW STRINGER RESULTING IN SLIGHT UNDERMINING OF BEARING.

(94) REPAIR THE PARTIAL CONNECTION ANGLE THAT IS CRACKED BUT TERMINATES AT AN OPEN RIVET HOLE.

(95) REPLACE THE NORTH SIDEWALK BEAM THAT SUPPORTS THE STEEL JOINT PLATE WHICH EXHIBITS MORE THAN 50% SECTION LOSS TO ITS TOP FLANGE AT PP 14W.

(96) REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.

(97)X REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE FLOORBEAM WHICH EXHIBITS 1/16"–1/8" SECTION LOSS. ALSO THE BOLTS CONNECTING THE PIN WASHER TO THE BEARING EXHIBIT SEVERE SECTION LOSS. 'X' DENOTES NUMBER OF BOLTS.

(98) REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.

(99) REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.

(100) REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.

(101) REPAIR THE VERTICAL GUSSET PLATE OF DECK TRUSS TOP CHORD AT CONNECTION TO THE MAIN FLOORBEAM WHICH EXHIBITS LOCALIZED 1/8"–3/16" SECTION LOSS.

(102) CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

FINDINGS WITH NO RECOMMENDATION

TOP OF DECK

NONE

UNDERSIDE OF DECK

[1] THE UNDERSIDE OF DECK EXHIBITS A MODERATE AMOUNT OF MAPCRACKING, SCALING WITH A MINOR AMOUNT OF EFFLORESCENCE AT THE NEW JERSEY ANCHORAGE.

[2] THE STRINGER WEB EXHIBITS A SMALL PARTIAL PENETRATION CRACK IN THE TOP FLANGE COPING.

SUPERSTRUCTURE STEEL

[3] THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.

[4] THE STRINGER WEB EXHIBITS A SMALL CRACK THAT HAS BEEN ARRESTED BY A DRILLED HOLE NEAR THE TOP OR BOTTOM FLANGE COPING.

[5] CAPBEAM WEB STIFFENER/STRINGER CONNECTION ANGLE IS SLIGHTLY BENT 1/2" BELOW STRINGER BOTTOM FLANGE.

[6] THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.

[7]X THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

(8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

PHOTO TAKEN BELOW DECK

PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)

NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4)

NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 6)

C CRACK

DH DRILL HOLE

R# DECK RIB # (FROM SOUTH TO NORTH)

HOLE IN DECK (SEE ROUTINE REPAIR (26))

CRACK IN UNDERSIDE OF DECK. (SEE ROUTINE REPAIR (32))

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

XX UNDERSIDE HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE) (ROUTINE REPAIR)

CLOGGED SCUPPER (SEE ROUTINE REPAIR (12))

CLEAR SCUPPER

LIGHT STANDARD

NON-FUNCTIONING BULB IN UNDERDECK LIGHTING FIXTURE. (SEE ROUTINE REPAIR (34))

G – TRUSS CHORD VERTICAL GUSSET PLATE
TF – TOP FLANGE
BF – BOTTOM FLANGE
WB – WEB
TC – TRUSS CHORD/TOP OF CHORD
NS – NORTH SIDE
SS – SOUTH SIDE
DP – DEEP
FB – FLOORBEAM
FD – FULL DEPTH
FW – FULL WIDTH
FL – FULL LENGTH
FH – FULL HEIGHT
FWC – FULL WIDTH CRACK
WB(B) – WEB NEAR BOTTOM FLANGE
WB(T) – WEB NEAR TOP FLANGE
U.O.N – UNLESS OTHERWISE NOTED

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

KEY CONDITION NOTES AND LEGEND - 2

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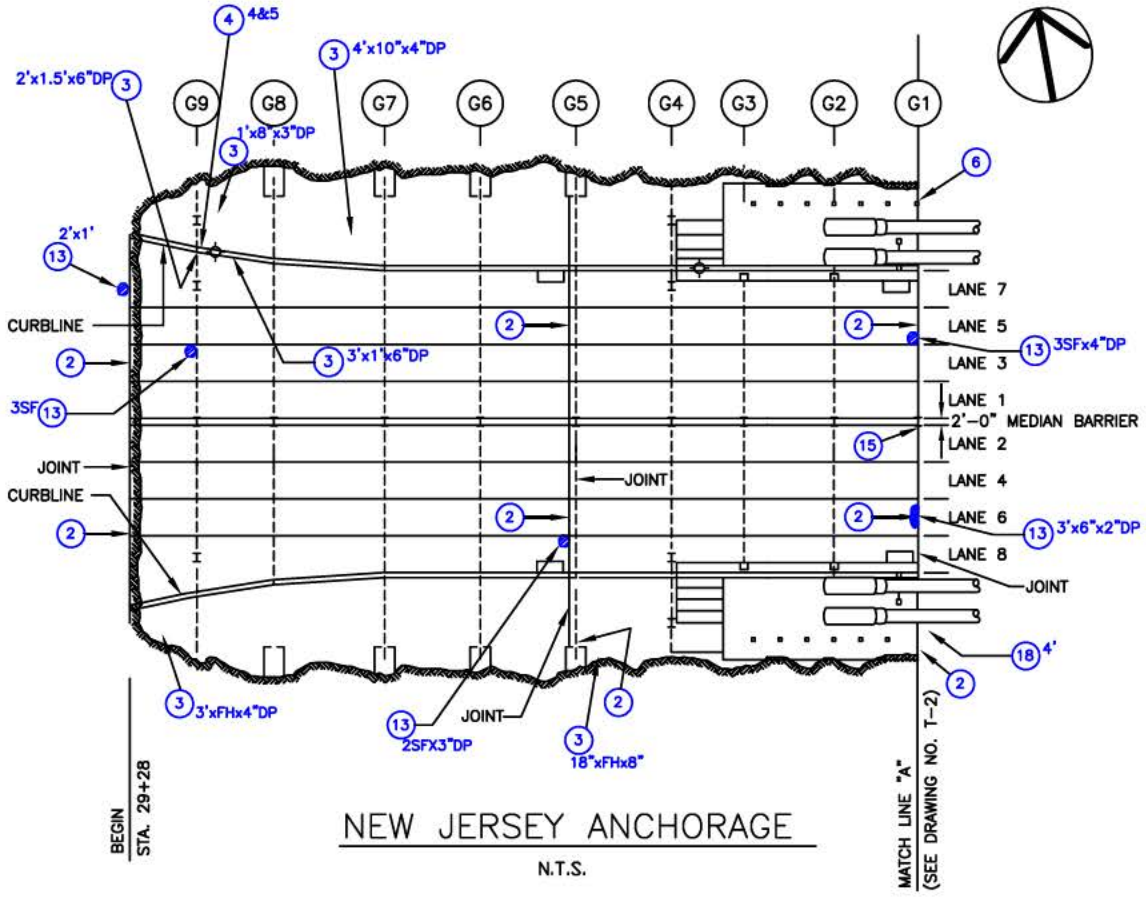
Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number L-2



NEW JERSEY ANCHORAGE

N.T.S.

KEY CONDITION NOTES – TOP OF DECK

ROUTINE REPAIRS

(2) REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORIATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.

(3) REPAIR THE SPALLED CONCRETE OF THE PARAPET OR CURB WITH EXPOSED REBAIRS. 'X' INDICATES SIZE OF SPALL.

(4)X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, U.O.N.

(6) SEAL THE CRACKS IN THE CONCRETE PARAPET.

(13)X REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.

(15) REPLACE THE 3 OF 6 MISSING BOLTS AT THE STEEL EXPANSION PLATE CONNECTION TO THE MEDIAN OVER THE NEW JERSEY ANCHORAGE.

(18)X SECURE THE GRANITE STONES ATOP THE ANCHORAGE WALL OVER TERRAIN. 'X' INDICATES LENGTH OF MISSING GROUT, IF APPLICABLE.

LEGEND

(G1) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

CLEAR SCUPPER

LIGHT STANDARD

DP DEEP

FH FULL HEIGHT

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No.	Date	Revision	Approved

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BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN TOP OF DECK - 1

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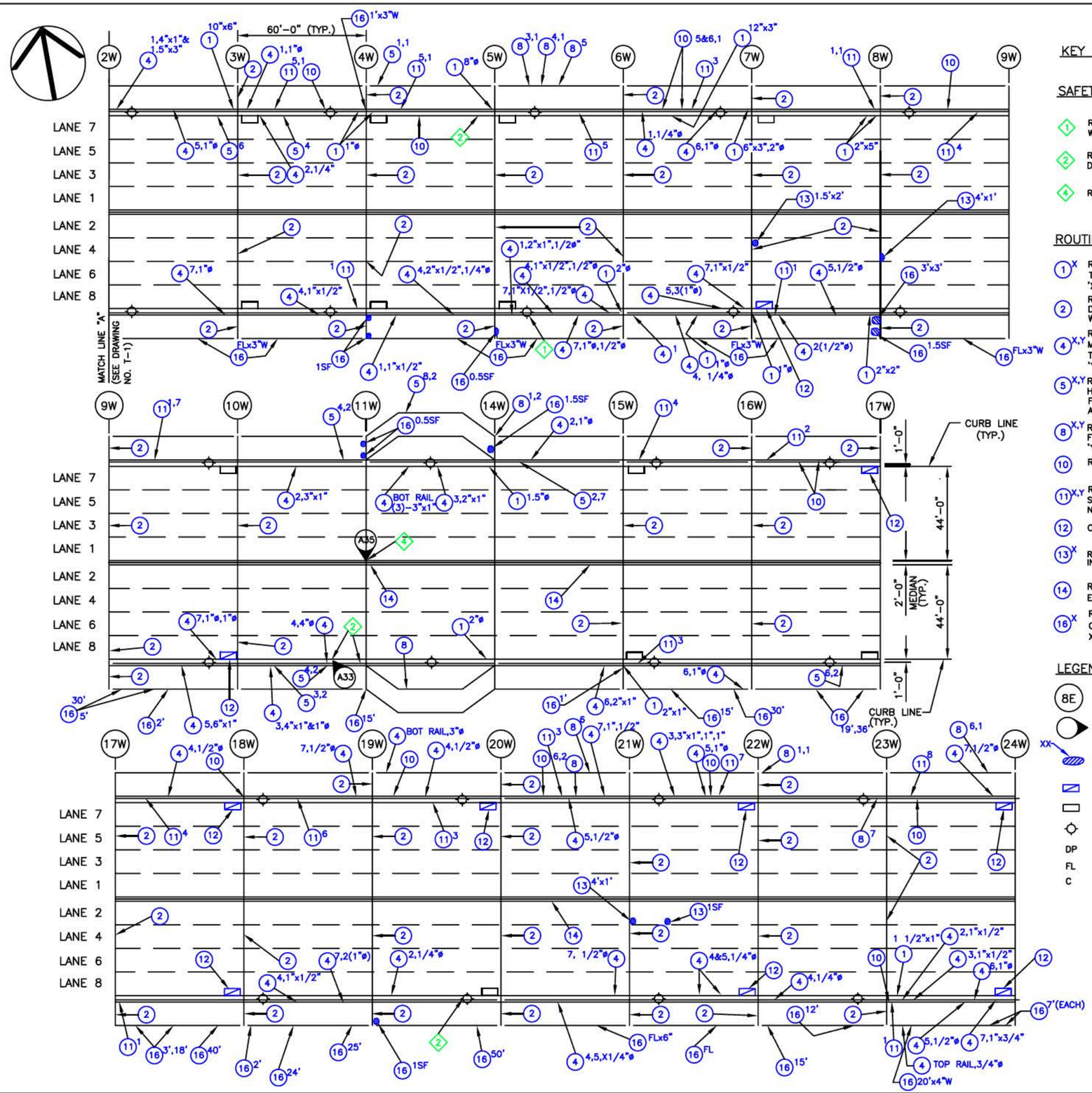
Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number T-1



KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1. REPLACE THE MISSING AND/OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD.
2. REPLACE THE MISSING, SEVERELY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.
4. REPAIR THE MISALIGNED MEDIAN BARRIER AT PANEL POINT 11W.

ROUTINE REPAIRS

1. X — REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB AND PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.
2. REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORIATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.
4. X,Y — REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, U.O.N.
5. X,Y — REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL, 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.
8. X,Y — REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.
10. REPLACE THE MISSING OR DETERIORTED CURB JOINT FILLER OR STEEL PLATE.
11. X,Y — REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.
12. CLEAN OUT CLOGGED SCUPPERS.
13. X — REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.
14. REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR WHICH EXHIBITS EXTENSIVE SECTION LOSS.
16. X — REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE, (UNLESS OTHERWISE NOTED).

LEGEND

- 8E — PIER NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN ABOVE DECK
- XX — DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)
- CLOGGED SCUPPER (SEE ROUTINE REPAIR 12)
- CLEAR SCUPPER
- LIGHT STANDARD
- DP – DEEP
- FL – FULL LENGTH
- C – CRACK

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No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN TOP OF DECK - 2

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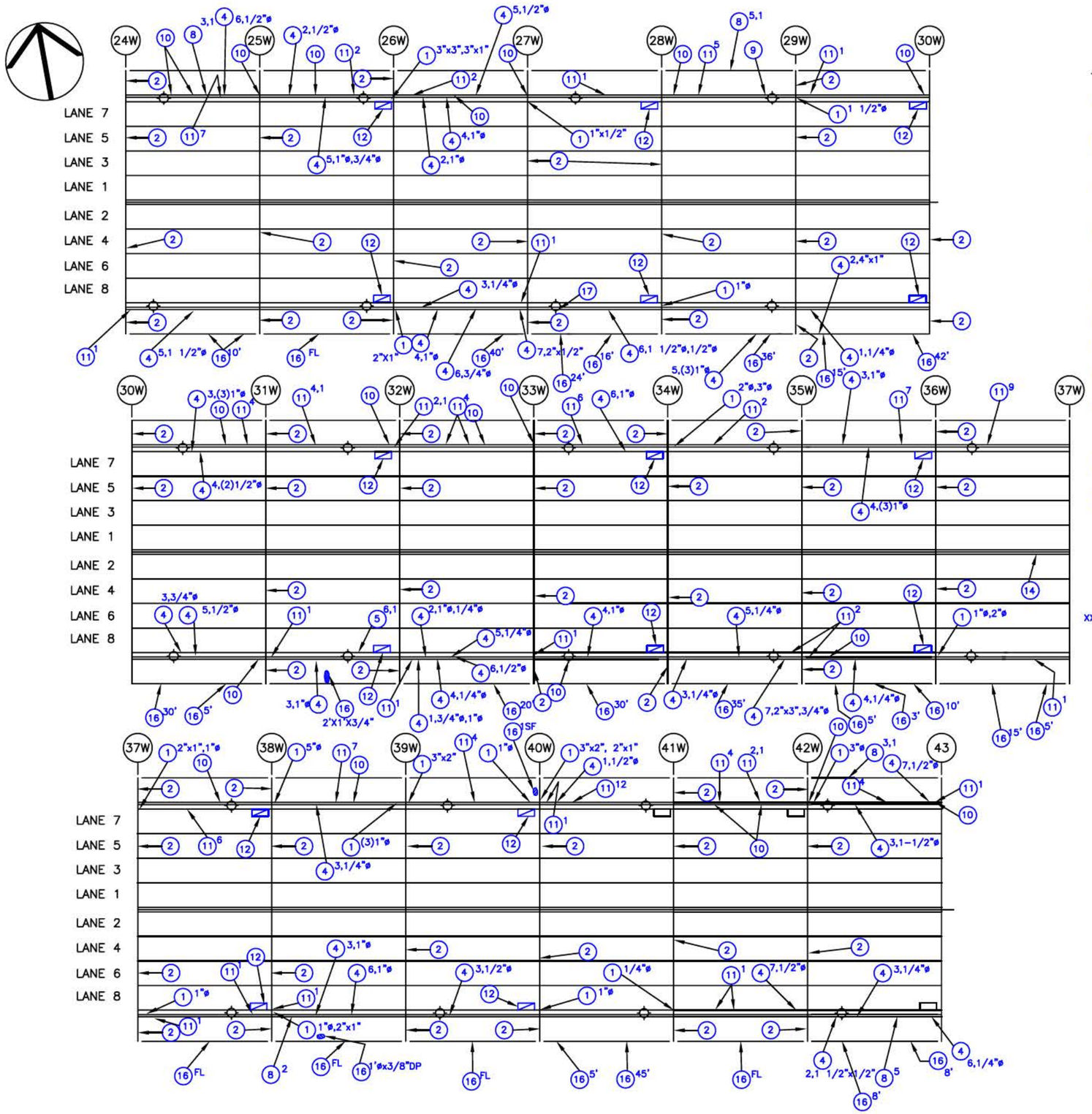
Drawing Number T-2



KEY CONDITION NOTES – TOP OF DECK

ROUTINE REPAIRS

1. X REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.
2. REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORIATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.
4. X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST U.O.N.
5. X,Y REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL, 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.
8. X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS. WHERE APPLICABLE.
9. REPAIR THE CRACKED WELD AT ONE OF TWO SUPPORTS, TO THE BRIDGE RAILING, FOR TELEPHONE POLE.
10. REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.
11. X,Y REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.
12. CLEAN OUT CLOGGED SCUPPERS.
14. REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR WHICH EXHIBITS EXTENSIVE SECTION LOSS.
16. X REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES SIZE OF SPALL.
17. REPLACE THE MISSING LIGHT POST WITH NO EXPOSED ELECTRICAL WIRING.

LEGEND

- (8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)
- XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)
- CLOGGED SCUPPER (SEE ROUTINE REPAIR 12)
- CLEAR SCUPPER
- LIGHT STANDARD
- DP – DEEP
- FL – FULL LENGTH

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

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Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN TOP OF DECK - 3

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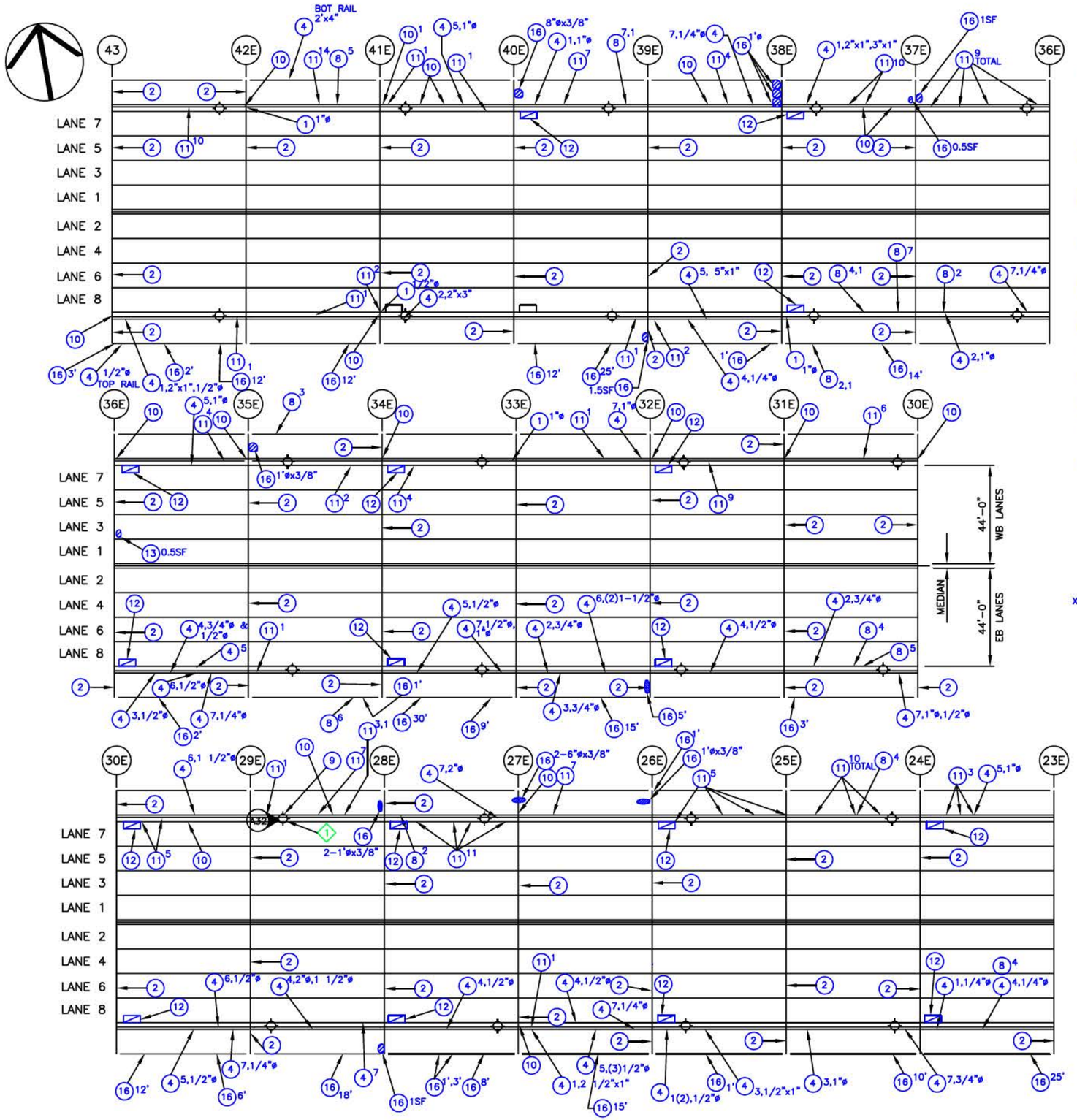
Contract Number 405-11-002

Drawing Number T-3



KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1 REPLACE THE MISSING AND/OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED ON THE LIGHTING STANDARD.

ROUTINE REPAIRS

1X REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.

2 REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORIATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.

4X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, U.O.N.

8X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAQIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.

9 REPAIR THE CRACKED WELD AT ONE OF TWO SUPPORTS, TO THE BRIDGE RAILING, FOR TELEPHONE POLE.

10 REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.

11X,Y REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.

12 CLEAN OUT CLOGGED SCUPPERS.

13X REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.

16X REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE, (UNLESS OTHERWISE NOTED).

LEGEND

8E PIER NUMBER (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN ABOVE DECK

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

CLOGGED SCUPPER (SEE ROUTINE REPAIR 12)

CLEAR SCUPPER

LIGHT STANDARD

DP DEEP

Sheet 7 of 23

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN TOP OF DECK - 4

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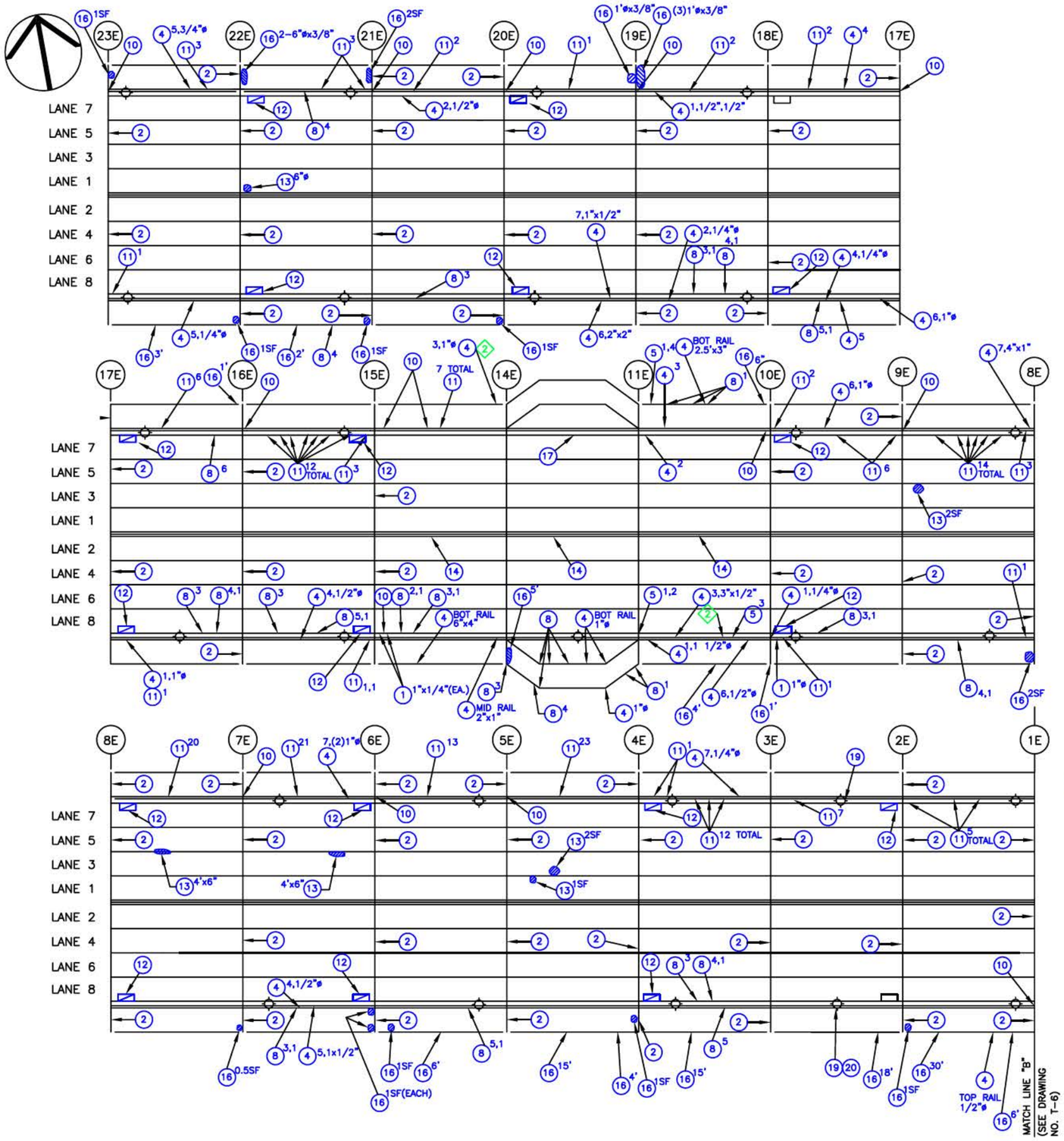
Contract Number 405-11-002

Drawing Number T-4



KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

(2) REPLACE THE MISSING, SEVERLY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.

ROUTINE REPAIRS

(1)X REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.

(2) REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORIATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.

(4)X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, U.O.N.

(5)X,Y REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL, 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.

(8)X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.

(10) REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.

(11)X,Y REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.

(12) CLEAN OUT CLOGGED SCUPPERS.

(13)X REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.

(14) REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR WHICH EXHIBITS EXTENSIVE SECTION LOSS.

(16)X REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE, (UNLESS OTHERWISE NOTED).

(17) REPLACE THE MISSING LIGHT POST WITH NO EXPOSED ELECTRICAL WIRING.

(19) REPLACE THE CRACKED AND/OR MISSING LENS OF THE LIGHTING STANDARD.

(20) REPAIR THE TWISTED ARM OF THE LIGHTING STANDARD.

LEGEND

(8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

CLOGGED SCUPPER (SEE ROUTINE REPAIR (12))

CLEAR SCUPPER

LIGHT STANDARD

DP – DEEP

Sheet 8 of 23

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL
MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN TOP OF DECK - 5

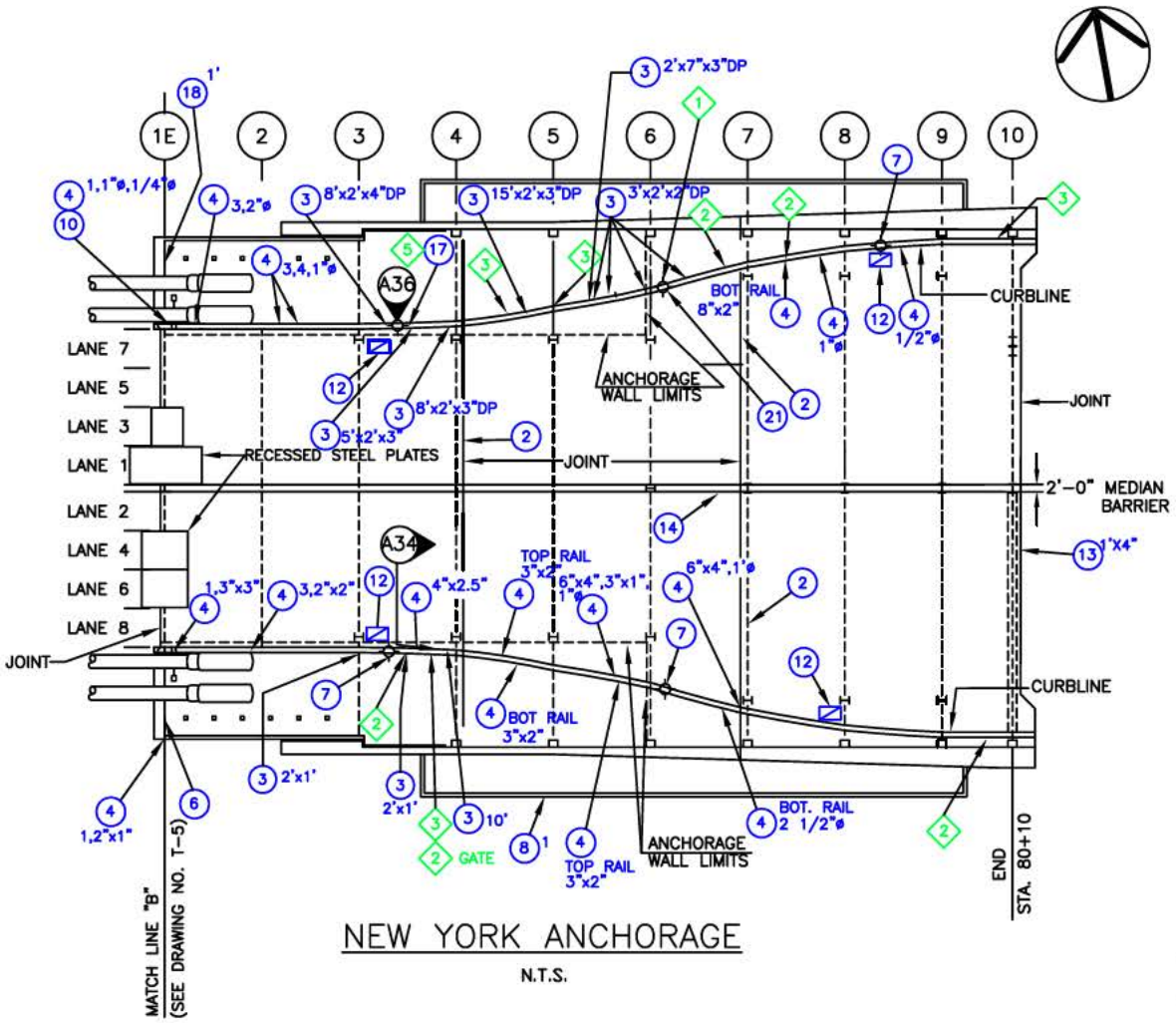
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number T-5



NEW YORK ANCHORAGE

N.T.S.

KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1. REPLACE THE MISSING AND/OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD.
2. REPLACE THE MISSING, SEVERLY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.
3. SECURE THE RAILING POST THAT IS LOOSE, CRACKED OR DISCONNECTED AT ITS BASE OVER THE NEW YORK ANCHORAGE.
5. COVER THE EXPOSED ELECTRICAL WIRES AT THE BASE OF THE MISSING LIGHT STANDARD.

ROUTINE REPAIRS

2. REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORIATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.
3X. REPAIR THE SPALLED CONCRETE OF THE PARAPET OR CURB WITH EXPOSED REBARS 'X' INDICATES SIZE OF SPALL.
4X,Y. REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, U.O.N.
6. SEAL THE CRACKS IN THE CONCRETE PARAPET.
7. REPLACE THE MISSING CAP AT THE TOP OF THE LIGHT POLES.
8X,Y. REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.
10. REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.
12. CLEAN OUT CLOGGED SCUPPERS.
13X. REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.
14. REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR WHICH EXHIBITS EXTENSIVE SECTION LOSS.
17. REPLACE THE MISSING LIGHT POST WITH NO EXPOSED ELECTRIC WIRING.
18X. SECURE THE GRANITE STONES ATOP THE ANCHORAGE WALL OVER TERRAIN. 'X' INDICATES LENGTH OF MISSING GROUT, IF APPLICABLE.
21. REPLACE THE LIGHT POST WITH MISSING ARM.

LEGEND

- (2) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN ABOVE DECK
- CLOGGED SCUPPER
- LIGHT STANDARD (SEE ROUTINE REPAIR (12))
- DP DEEP

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN TOP OF DECK - 6

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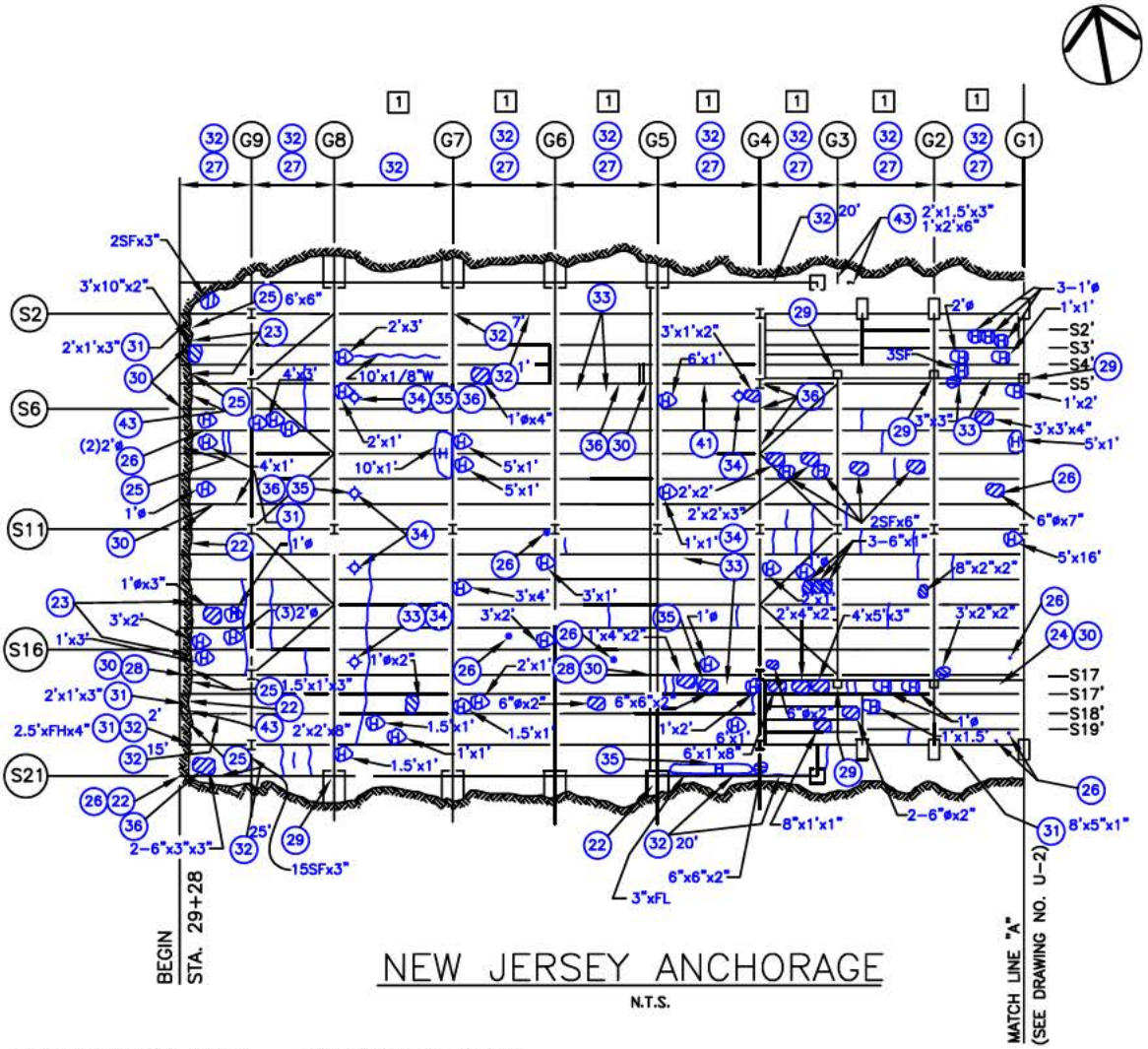
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number T-6

THE PORT AUTHORITY OF NY & NJ



NEW JERSEY ANCHORAGE

N.T.S.

KEY CONDITION NOTES – UNDERSIDE OF DECK

ROUTINE REPAIRS

(22) REMOVE DEBRIS FROM THE BEARING SEAT.

(23) SEAL THE MEDIUM TO WIDE HORIZONTAL AND VERTICAL CRACKS IN THE ABUTMENT SEAT OR CAPBEAM.

(24) REPAIR THE SEVERELY CRACKED AND SPALLED ENCASEMENT AROUND THE DETERIORATED AND LEAKING CATCH BASIN AT THE NEW JERSEY ANCHORAGE.

(25) REPAIR THE SPALLED, HOLLOW SOUNDING, AND/OR DELAMINATED CONCRETE ON THE BACKWALL OR ABUTMENT SEAT AT THE WEST ABUTMENT. SIZE AS SHOWN.

(26) REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.

(27) REPAIR THE SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS AND HOLLOW SOUNDING AREAS ON THE UNDERSIDE OF THE DECK. SIZE AS SHOWN.

(28) CLEAN OUT THE CLOGGED DRAINAGE, DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.

(29) REPLACE THE SPALLED GROUT OF THE COLUMN OR GIRDER PEDESTALS WITH MINOR UNDERMINING OF BEARING.

(30) REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.

(31) REPAIR THE SPALLED CONCRETE ON THE DECK HAUNCH ABOVE THE GIRDERS IN THE ANCHORAGE. SIZE AS SHOWN.

(32) SEAL THE MEDIUM TO WIDE CRACKS ALONG THE DECK HAUNCH OR ON THE UNDERSIDE OF DECK.

(33) REPLACE THE DISCONNECTED, LOOSE OR BROKEN ELECTRICAL OUTLET BOX OR UNDERDECK LIGHTING FIXTURES WITH EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

(34) REPLACE THE MISSING OR NON-FUNCTIONAL LIGHT BULB IN THE UNDERDECK LIGHTING FIXTURES.

(35) REMOVE THE ELECTRICAL WIRE / CABLE WHICH DANGLES FROM THE UNDERSIDE OF DECK IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

(36) SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.

(41) REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.

(43) SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.

FINDINGS WITH NO RECOMMMONDATIONS

[1] THE UNDERSIDE OF DECK EXHIBITS A MODERATE AMOUNT OF MAPCRACKING, SCALING WITH A MINOR AMOUNT OF EFFLORESCENCE AT THE NEW JERSEY ANCHORAGE.

LEGEND

(G1) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

XX DELAMINATED/SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

XX HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE) (ROUTINE REPAIR)

• HOLE IN DECK (SEE ROUTINE REPAIR (26))

CRACK IN UNDERSIDE OF DECK. (SEE ROUTINE REPAIR (32))

NON-FUNCTIONING BULB IN UNDERDECK LIGHTING FIXTURE. (SEE ROUTINE REPAIR (34))

FH – FULL HEIGHT
FD – FULL DEPTH
FW – FULL WIDTH
W – WIDTH

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN UNDERSIDE OF DECK - 1

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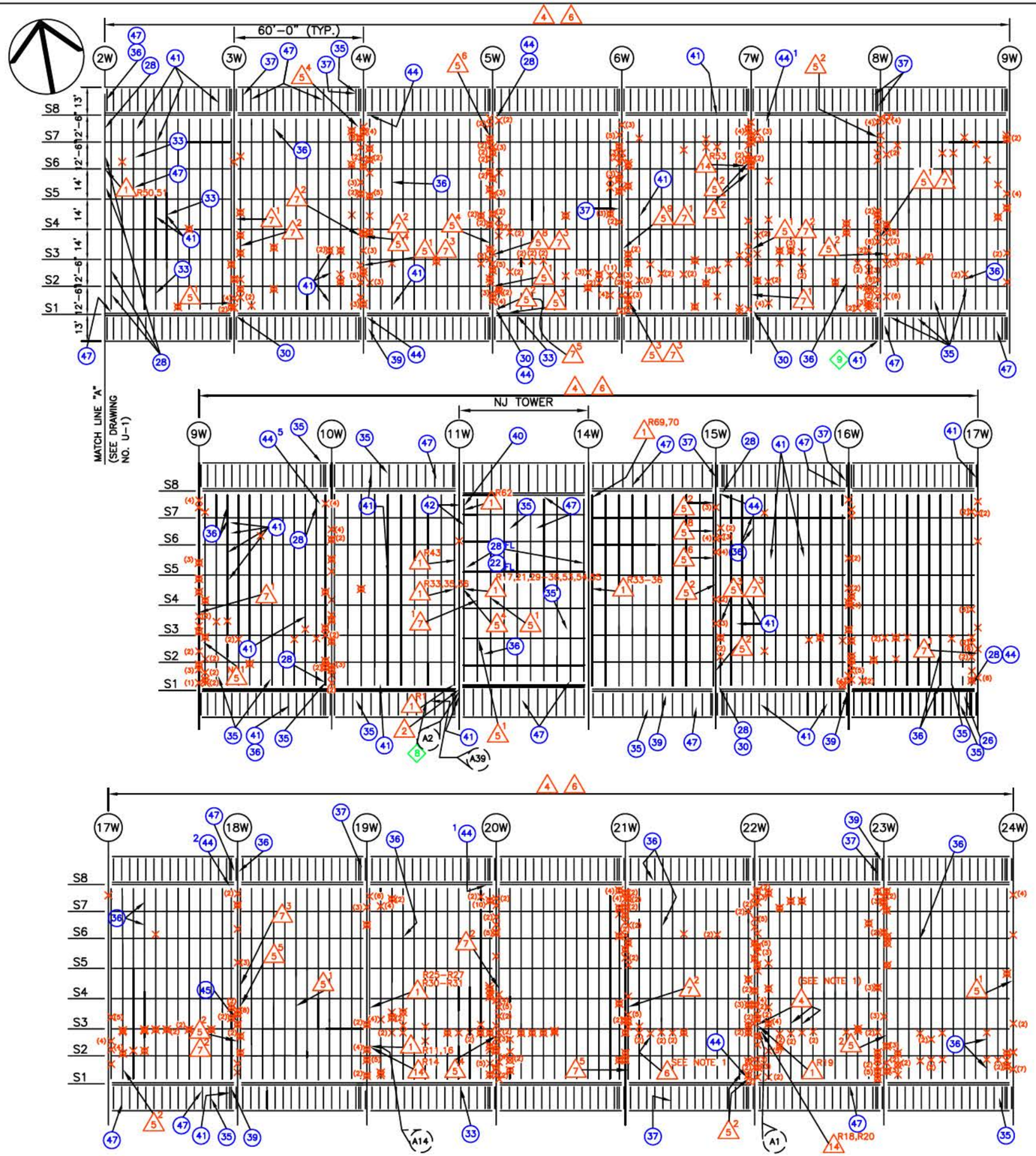
JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number U-1



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

1. REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).
2. REPAIR THE SEVERELY CORRODED SUPPORTS FOR THE ACCESS CATWALK AT THE NEW JERSEY TOWER.
4. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X' (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE APPENDIX A.
5X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
6X REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '⊠' (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
7X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
14X REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

SAFETY REPAIRS

8. REPLACE THE SEVERELY DETERIORATED MAINTENANCE PLATFORM GRATING AT ITS SOUTH SUPPORT BELOW THE SOUTH SIDEWALK ACCESS HATCH BETWEEN 10W & 11W.
9. SECURE THE UTILITY CONDUITS AND UTILITY CONDUITS SUPPORT WHICH ARE NOT PROPERLY SUPPORTED.

ROUTINE REPAIRS

22. REMOVE DEBRIS FROM THE BEARING SEAT.
26. REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.
28. CLEAN OUT THE CLOGGED DRAINAGE DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.
30. REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.
33. REPLACE THE DISCONNECTED, LOOSE OR BROKEN ELECTRICAL OUTLET BOX OR UNDERDECK LIGHTING FIXTURES WITH EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
35. REMOVE THE ELECTRICAL WIRE / CABLE WHICH DANGLES FROM THE UNDERSIDE OF THE DECK IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
36. SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.
37. REPAIR THE CORRODED OR DISCONNECTED ELECTRICAL JUNCTION BOX WITH/WITHOUT COVER AND EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
39. REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.
40. REPLACE THE MISSING FENCING OR SECURE THE DISCONNECTED FENCING SUPPORTS FOR DRAINAGE TROUGH HOUSING AT THE TOWERS.
41. REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.
42. REPAIR THE DRAINAGE TROUGH OR DEBRIS SHIELD SUPPORTS AT THE TOWERS WHICH EXHIBIT SECTION LOSS AND THRU HOLES.
44X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.
45. REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.
47. REPAIRED THE BROKEN, DETERIORATED OR DISCONNECTED ELECTRICAL CONDUITS WITH EXPOSED ELECTRICAL WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

LEGEND

- 8E PIER NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- × PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4)
- ⊠ NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 6)
- R# DECK RIB # (FROM SOUTH TO NORTH)
- ● HOLE IN DECK (SEE ROUTINE REPAIR 26)
- FL – FULL LENGTH

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN UNDERSIDE OF DECK - 2

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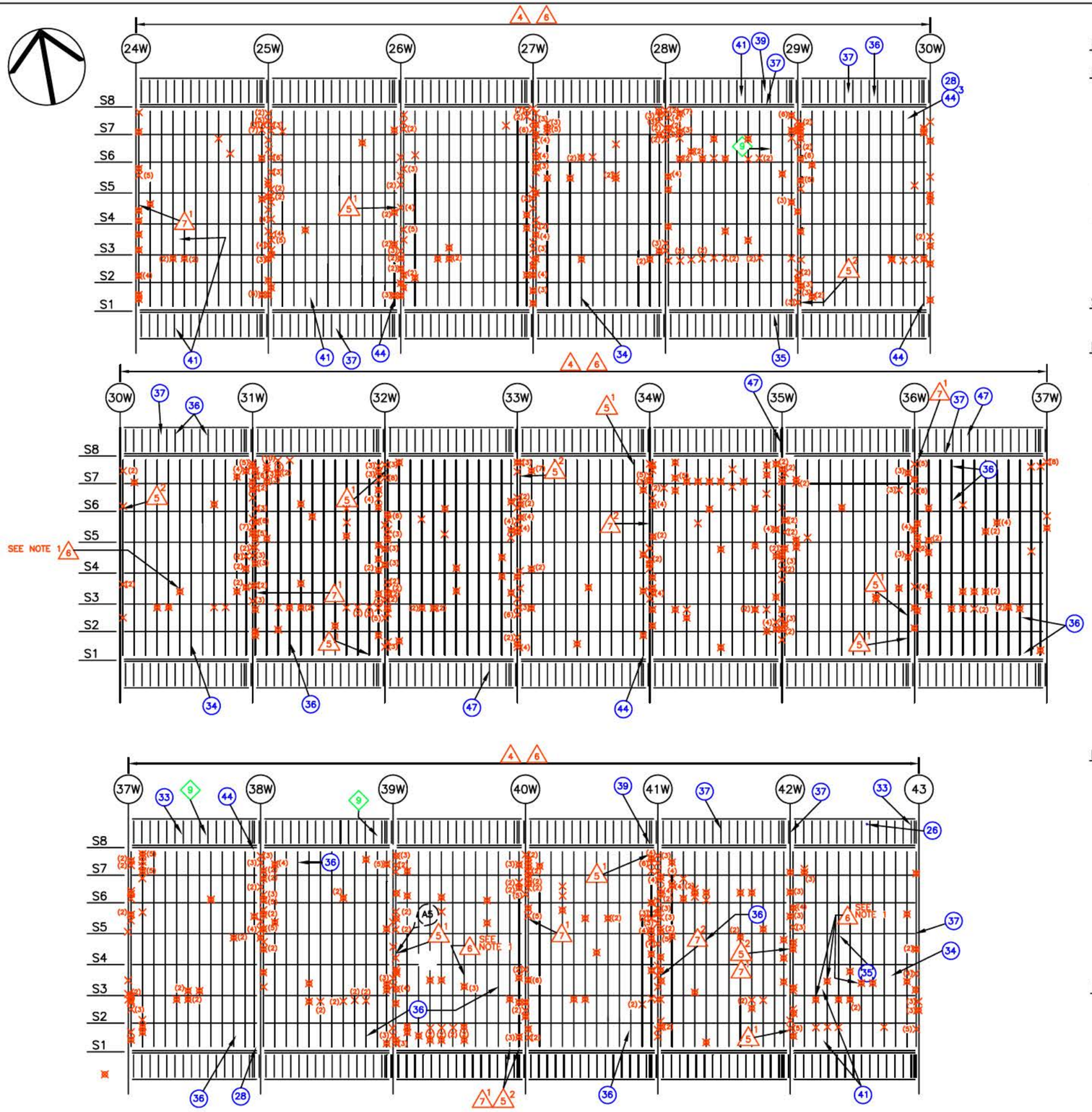
JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number U-2



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

4 — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. FOR SPECIFIC LOCATIONS, SEE APPENDIX A.

5X — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.

6X — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '⊠' (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.

7X — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.

SAFETY REPAIRS

9 — SECURE THE UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE NOT PROPERLY SUPPORTED.

ROUTINE REPAIRS

26 — REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.

28 — CLEAN OUT THE CLOGGED DRAINAGE DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.

33 — REPLACE THE DISCONNECTED, LOOSE OR BROKEN ELECTRICAL OUTLET BOX OR UNDERDECK LIGHTING FIXTURES WITH EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

34 — REPLACE THE MISSING OR NON–FUNCTIONAL LIGHT BULB IN THE UNDERDECK LIGHTING FIXTURES.

35 — REMOVE THE ELECTRICAL WIRE / CABLE WHICH DANGLES FROM THE UNDERSIDE OF THE DECK IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

36 — SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.

37 — REPAIR THE CORRODED OR DISCONNECTED ELECTRICAL JUNCTION BOX WITH/WITHOUT COVER AND EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

39 — REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.

41 — REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.

44X — REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.

47 — REPAIRED THE BROKEN, DETERIORATED OR DISCONNECTED ELECTRICAL CONDUITS WITH EXPOSED ELECTRICAL WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

LEGEND

8E — PIER NUMBER (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

× — PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4)

⊠ — NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 6)

R# — DECK RIB # FROM SOUTH TO NORTH

● — HOLE IN DECK (SEE ROUTINE REPAIR 26)

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN UNDERSIDE OF DECK - 3

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JLB	VS	MJN
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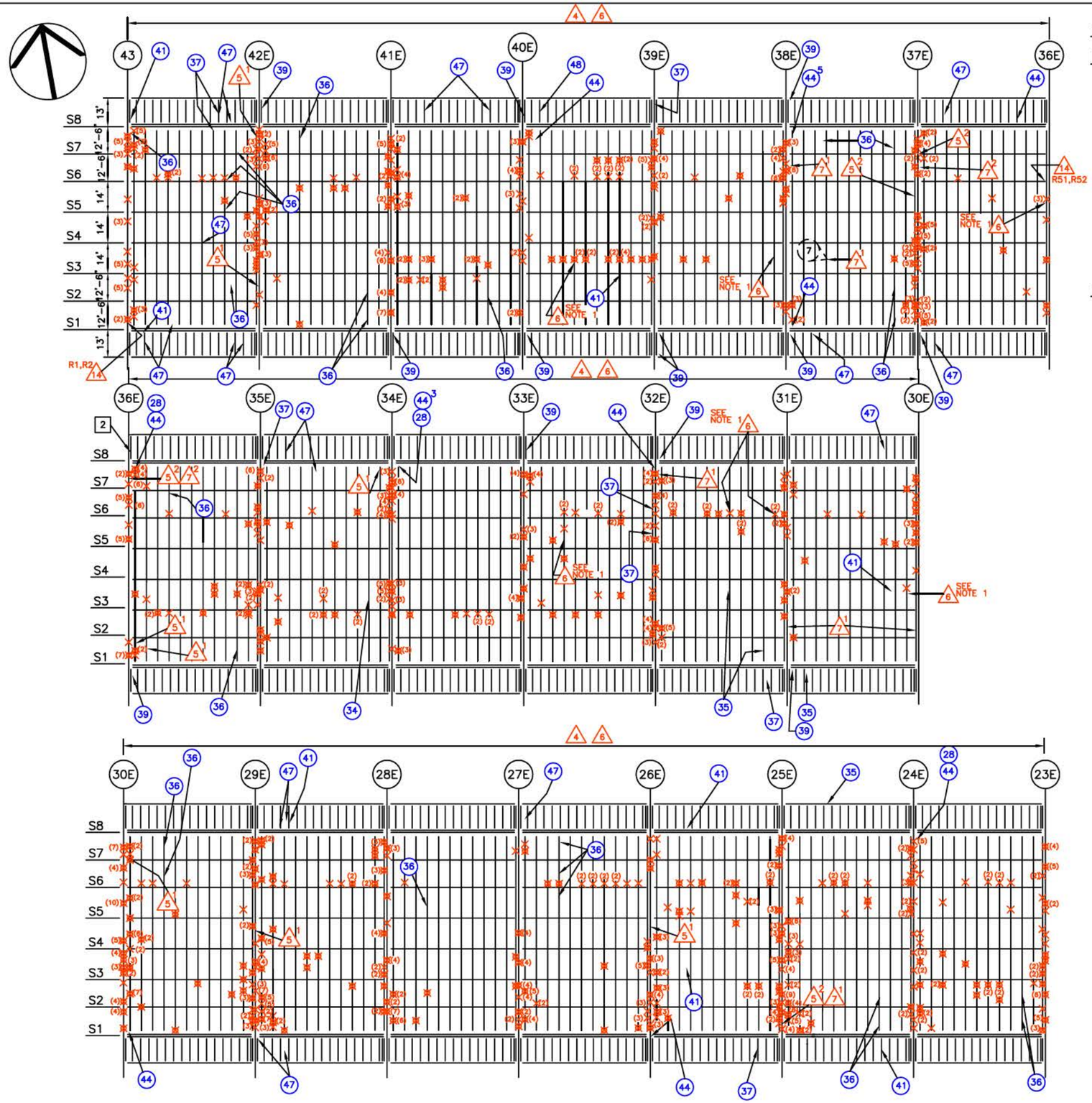
Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number U-3



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

- 4 — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. FOR SPECIFIC LOCATIONS, SEE APPENDIX A.
- 5X — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- 6X — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '⊠' (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- 7X — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- 14X — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

ROUTINE REPAIRS

- 28 — CLEAN OUT THE CLOGGED DRAINAGE DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.
- 34 — REPLACE THE MISSING OR NON-FUNCTIONAL LIGHT BULB IN THE UNDERDECK LIGHTING FIXTURES.
- 35 — REMOVE THE ELECTRICAL WIRE / CABLE WHICH DANGLES FROM THE UNDERSIDE OF THE DECK IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- 36 — SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.
- 37 — REPAIR THE CORRODED OR DISCONNECTED ELECTRICAL JT. BOX WITH/WITHOUT COVER AND EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- 39 — REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.
- 41 — REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.
- 44X — REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.
- 47 — REPAIRED THE BROKEN, DETERIORATED OR DISCONNECTED ELECTRICAL CONDUITS WITH EXPOSED ELECTRICAL WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- 48 — SECURE THE DISCONNECTED UNION COUPLING OF THE PROTECTIVE COVER FOR THE HIGH VOLTAGE CONDUIT IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

LEGEND

- (8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- × PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4)
- ⊠ NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 6)
- R# DECK RIB # (FROM SOUTH TO NORTH)

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

Sheet 13 of 23

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN UNDERSIDE OF DECK - 4

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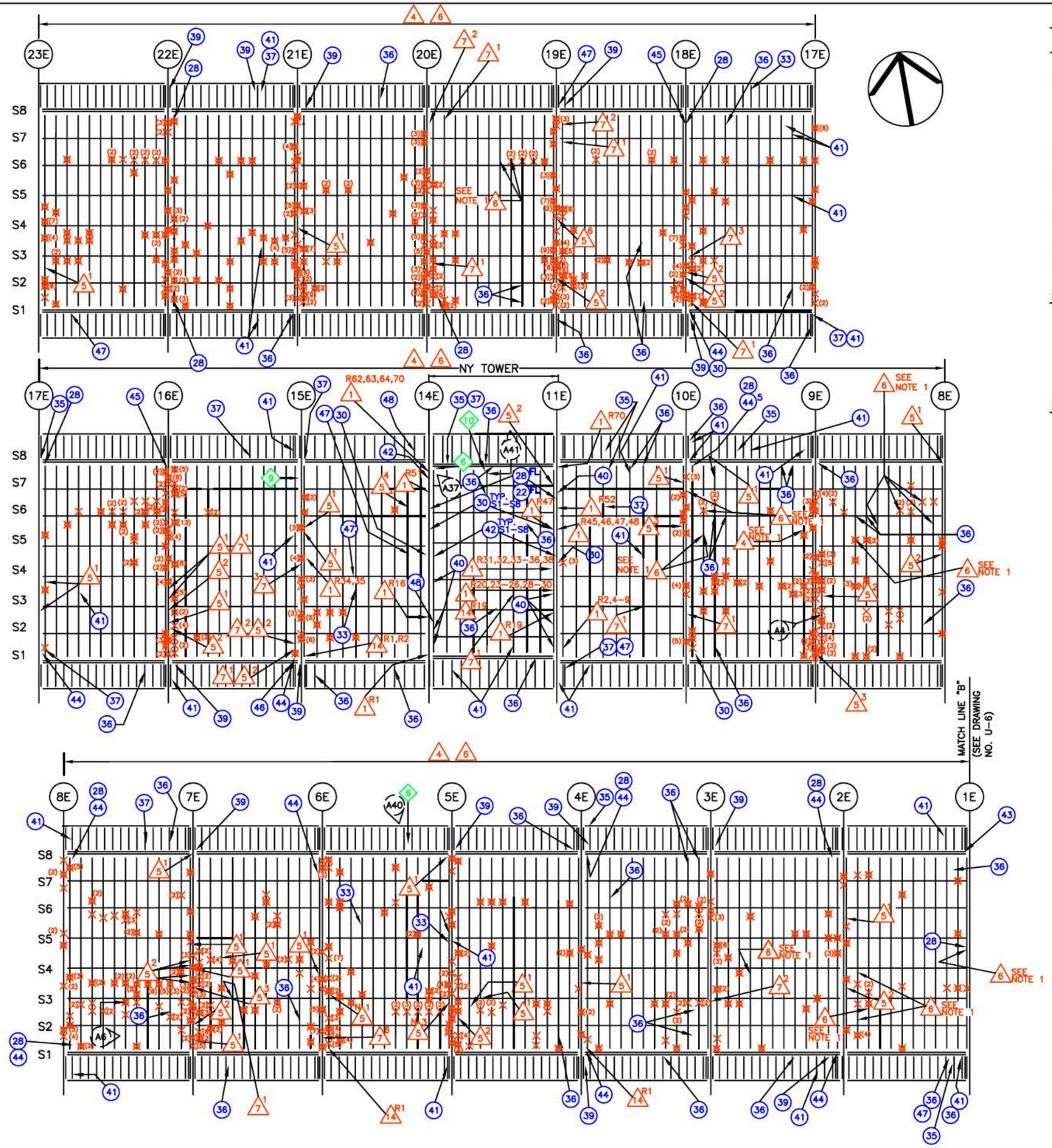
JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number U-4



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

- (1) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).
- (4) REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM SEE NOTE 1 BELOW). SHOWN WITH AN 'X'. FOR SPECIFIC LOCATIONS, SEE APPENDIX A.
- (5) X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- (6) X REPAIR THE CRACK WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X' (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- (7) X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- (14) X REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

SAFETY REPAIRS

- (6) CLEAN OUT EXCESSIVE AMOUNT OF DEBRIS RESTING ON STEEL AT 14E AND S8.
- (9) SECURE THE UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE NOT PROPERLY SUPPORTED.
- (10) SECURE THE LOOSE SUPPORT FOR THE UNDERDECK LIGHTING FIXTURE.

ROUTINE REPAIRS

- (22) REMOVE DEBRIS FROM THE BEARING SEAT.
- (28) CLEAN OUT THE CLOGGED DRAINAGE DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.
- (30) REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.
- (33) REPLACE THE DISCONNECTED, LOOSE OR BROKEN ELECTRICAL OUTLET BOX OR UNDERDECK LIGHTING FIXTURES WITH EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- (35) REMOVE THE ELECTRICAL WIRE / CABLE WHICH DANGLES FROM THE UNDERSIDE OF THE DECK IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- (36) SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.
- (37) REPAIR THE CORRODED OR DISCONNECTED ELECTRICAL JUNCTION BOX WITH/WITHOUT COVER AND EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- (39) REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.
- (40) REPLACE THE MISSING FENCING OR SECURE THE DISCONNECTED FENCING SUPPORTS FOR DRAINAGE TROUGH HOUSING AT THE TOWERS.
- (41) REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.
- (42) REPAIR THE DRAINAGE TROUGH OR DEBRIS SHIELD SUPPORTS AT THE TOWERS WHICH EXHIBIT SECTION LOSS AND THRU HOLES.
- (43) SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.
- (44) X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.
- (45) REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.
- (46) REPAIRED THE ANGLE AT THE SIDE OF THE SCUPPER WHICH HAS CRACKED WELDS AND HAS SEPARATED AT PP 15E.
- (47) REPAIRED THE BROKEN, DETERIORATED OR DISCONNECTED ELECTRICAL CONDUITS WITH EXPOSED ELECTRICAL WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- (48) SECURE THE DISCONNECTED UNION COUPLING OF THE PROTECTIVE COVER FOR THE HIGH VOLTAGE CONDUIT IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

LEGEND

- (8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- × PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4)
- ⊠ NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4)
- R# DECK RIB # (FROM SOUTH TO NORTH)

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN UNDERSIDE OF DECK - 5

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Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number U-5

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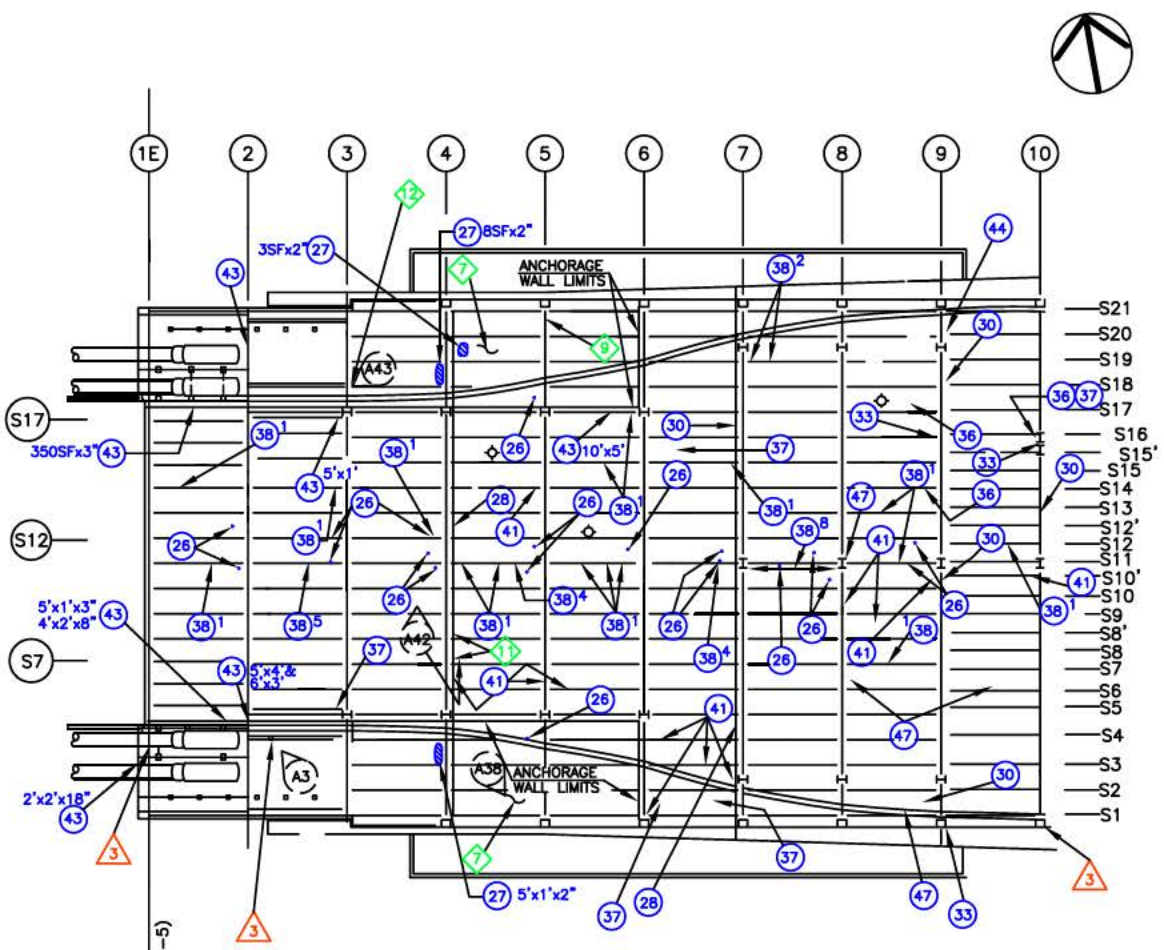

MATCH LINE "B" (SEE DRAWING NO. U-5)

NEW YORK ANCHORAGE

N.T.S.

KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

3 REPAIR THE SEVERELY SPALLED BEARING PEDESTALS.

SAFETY REPAIRS

7 REPAIR THE SEVERELY DETERIORATED FLOORING AT THE MID-LEVEL OF NEW YORK ANCHORAGE (BASE LEVEL OF CABLE STRAND SHOE DIAGONAL BRACE).

9 SECURE THE UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE NOT PROPERLY SUPPORTED.

11 REPLACE THE BROKEN OR SEVERELY CORRODED SCUPPER DOWNSPOUT, DRAINAGE TROUGH OR SUPPORTS.

12 REPAIR THE DETERIORATED SECTION OF CATWALK GRATING INSIDE THE NEW YORK ANCHORAGE.

ROUTINE REPAIRS

26 REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.

27 REPAIR THE SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS AND HOLLOW SOUNDING AREAS ON THE UNDERSIDE OF THE DECK. SIZE AS SHOWN.

28 CLEAN OUT THE CLOGGED DRAINAGE DOWNSPOUT, TROUGH, OR DRAINAGE PIPE BELOW THE JOINT.

30 REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.

33 REPLACE THE DISCONNECTED, LOOSE OR BROKEN ELECTRICAL OUTLET BOX OR UNDERDECK LIGHTING FIXTURES WITH EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

36 SECURE THE DISCONNECTED OR REPLACE THE MISSING SUPPORT FOR CONDUITS OR LIGHTING FIXTURES.

37 REPAIR THE CORRODED OR DISCONNECTED ELECTRICAL JUNCTION BOX WITH/WITHOUT COVER AND EXPOSED WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

38 X REPLACE THE MISSING BOLTS CONNECTING THE DECK PLATES ALONG THE LONGITUDINAL JOINTS. 'X' DENOTES THE NUMBER OF BOLTS.

41 REMOVE THE ABANDONED UTILITY CONDUITS, UNDERDECK LIGHTING FIXTURES, DRAINAGE TROUGHS, OR SUPPORTS FOR THESE STRUCTURES.

43 SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.

44 X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.

47 REPAIRED THE BROKEN, DETERIORATED OR DISCONNECTED ELECTRICAL CONDUITS WITHEXPOSED ELECTRICAL WIRES IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.

LEGEND

2 CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

PHOTO TAKEN BELOW DECK

XX DELAMINATED/SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

• HOLE IN DECK (SEE ROUTINE REPAIR 26)

NON-FUNCTIONING BULB IN UNDERDECK LIGHTING FIXTURE. (SEE ROUTINE REPAIR 34)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

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Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN UNDERSIDE OF DECK - 6

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Contract Number 405-11-002

Drawing Number U-6

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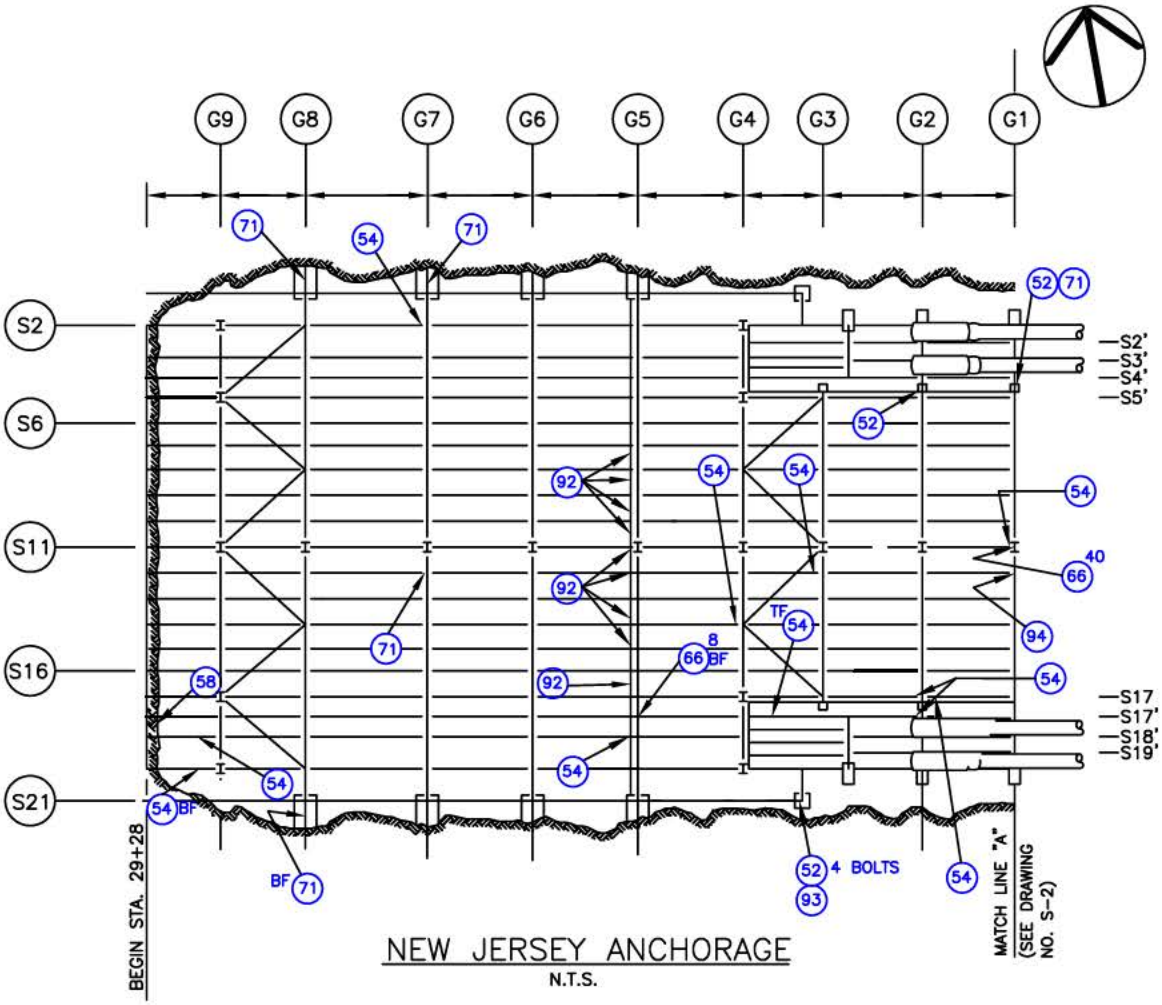

NEW JERSEY ANCHORAGE

N.T.S.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

ROUTINE REPAIRS

- (52) TIGHTEN THE ANCHOR NUT OF THE BEARING ASSEMBLY.
- (54) REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- (58) REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.
- (66)X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- (71) CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHIBIT MODERATE CORROSION.
- (92) REPLACE THE MISSING BOLTS CONNECTING THE TOP FLANGE OF FLOORBEAM TO DECK.
- (93) REPLACE THE BROKEN SOLE PLATE BELOW STRINGER RESULTING IN SLIGHT UNDERMINING OF BEARING.
- (94) REPAIR THE PARTIAL CONNECTION ANGLE THAT IS CRACKED BUT TERMINATES AT AN OPEN RIVET HOLE.

LEGEND

(G1) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

TF – TOP FLANGE
BF – BOTTOM FLANGE
FB – FLOORBEAM
WB – WEB

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 1

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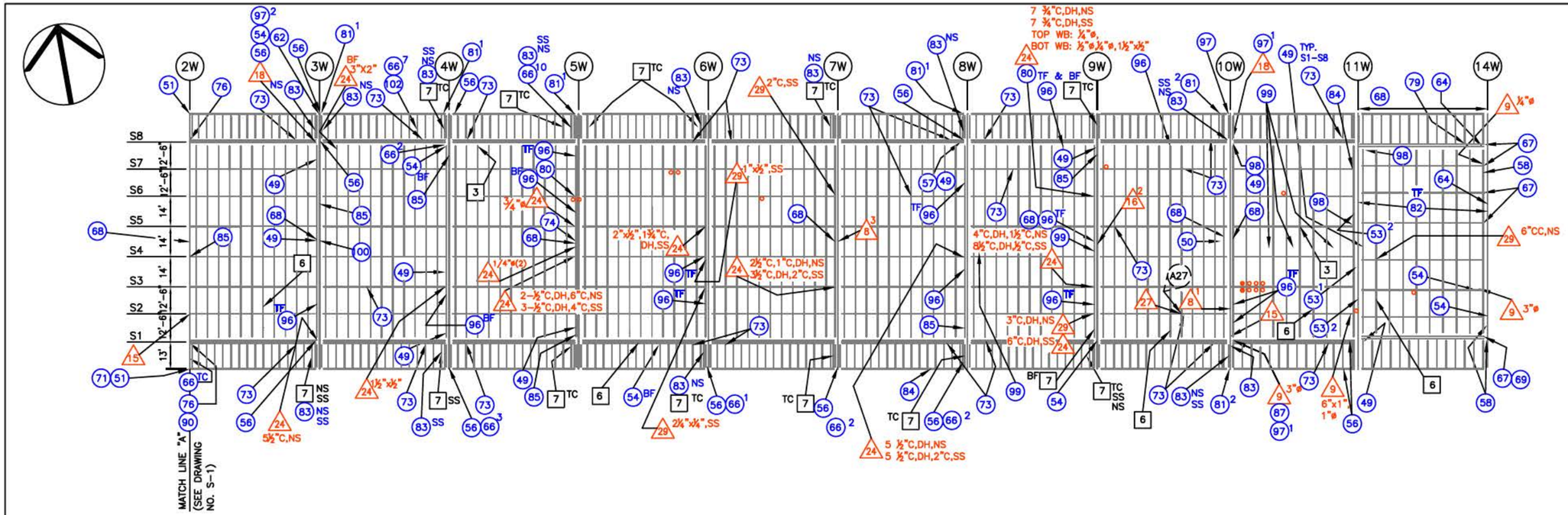
Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number S-1



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

8 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.

9 X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.

10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.

15 — REPAIR THE MAIN FLOORBEAM/CAPBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB.

16 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.

18 — REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.

20 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.

24 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

27 — REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W–10W, 30E–31E, 25E–26E AND 20E–21E.

29 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

ROUTINE REPAIRS

49 — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.

50 — REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.

51 — REPAIR THE ANCHOR BOLT NUTS ON BOTH SIDES OF THE SIDEWALK FASCIA STRINGER BEARING.

53 X — REPLACE THE MISSING BOLTS (AND ANGLE) ON THE SUPPORT BRACKETS FOR THE FINGER JOINT DEFLECTIVE SHIELD. 'X' DENOTES NUMBER OF BOLTS.

54 — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.

56 — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.

57 — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.

58 — REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.

62 — REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

64 — REPAIR THE MISSING SECTION OF KEEPER ROD ON THE UNDERSIDE OF FINGER JOINT.

66 X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

67 — REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.

68 — REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.

69 — REPLACE THE DETERIORATED BEARING PLATE BELOW THE SIDEWALK STRINGER WHICH EXHIBITS SEVERE SECTION LOSS.

71 — CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHBIT MODERATE CORROSION.

73 — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING PACKING PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.

74 — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.

76 — REPAIR THE TOP AND BOTTOM LATTICE PLATES OF THE TOP CHORD OF THE TRUSS AT PP 2W THAT EXHIBIT SIGNIFICANT SECTION LOSS AND/OR THRU HOLES.

79 — REPAIR THE PLATFORM SUPPORT ANGLE THAT EXHIBITS SEVERE CORROSION.

80 — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.

81 X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.

82 — REPAIR THE TRANSVERSE SUPPORT BEAMS FOR THE FINGER JOINT WHICH EXHIBIT AREAS OF 1/8" – 1/4" LOCALIZED SECTION LOSS ON THE WEB AND NUMEROUS INTERIOR VERTICAL STIFFENERS WITH UP TO 100% SECTION LOSS NEAR THE BOTTOM FLANGE.

83 — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.

84 — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.

85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

87 — REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.

90 — REPAIR THE CRACKED WELD AT SIDEWALK STRINGER CONNECTION TO THE FLOORBEAM.

96 — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.

97 X — REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE FLOORBEAM WHICH EXHIBITS 1/16"–1/8" SECTION LOSS. ALSO THE BOLTS CONNECTING THE PIN WASHER TO THE BEARING EXHIBIT SEVERE SECTION LOSS. 'X' DENOTES NUMBER OF BOLTS.

98 — REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.

99 — REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.

100 — REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.

102 — CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

FINDINGS WITH NO RECOMMENDATIONS

3 — THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.

6 — THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.

7 X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

8E — PIER NUMBER (AS PER PANY&NJ SYSTEM)

> — PHOTO TAKEN BELOW DECK

o — PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)

● — NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

C — CRACK

DH — DRILL HOLE

TF – TOP FLANGE

BF – BOTTOM FLANGE

WB – WEB

TC – TRUSS CHORD/TOP OF CHORD

FB – FLOORBEAM

NS – NORTH SIDE

SS – SOUTH SIDE

Sheet 17 of 23

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 2

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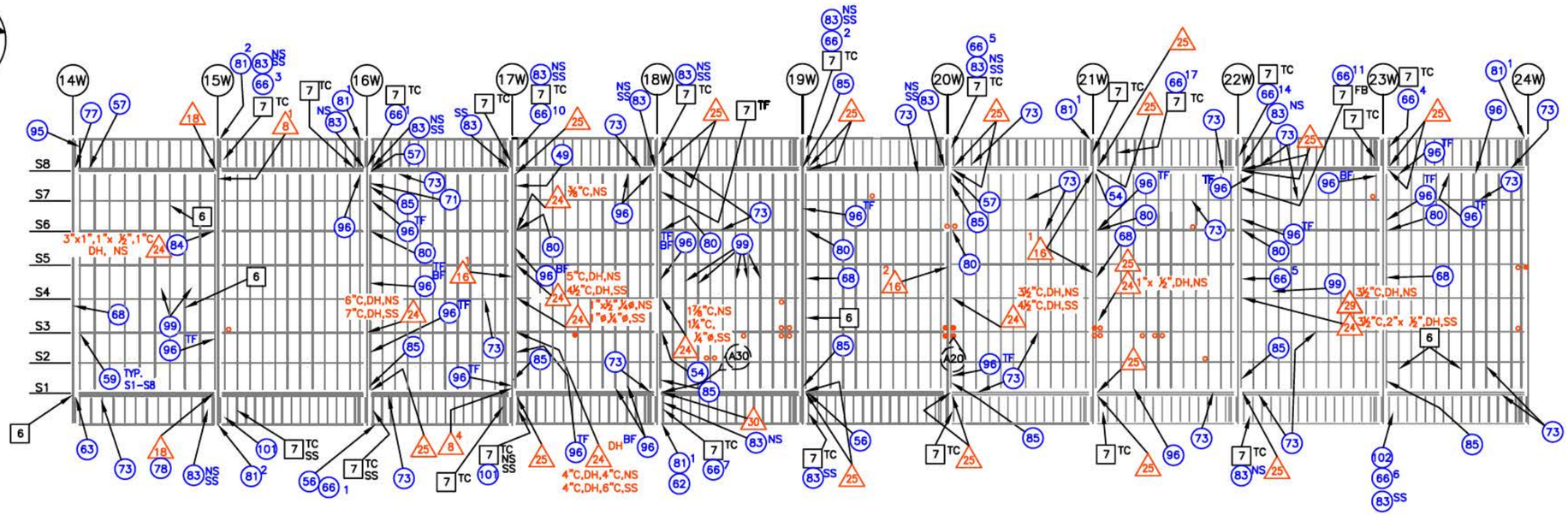
Date: DECEMBER, 2011

Contract Number: 405-11-002

Drawing Number: S-2



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- (8)X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- (10) REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.
- (16)X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- (18) REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.
- (20) REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.
- (24)X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- (25) REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- (29)X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- (30) REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.

ROUTINE REPAIRS

- (49) REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- (54) REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- (56) REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- (57) REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- (59) REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.
- (62) REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- (63) REPAIR THE SLIDING PLATE OF THE BEARING OF S1 AT PP 14W WHICH EXHIBITS A 3" LONG BROKEN EDGE.
- (66)X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- (68) REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.
- (71) CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHIBIT MODERATE CORROSION.
- (73) REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- (77) REPAIR THE BRACKET WITH THRU HOLES ON S8 EAST OF PP 14W.
- (78) REPAIR THE DIAPHRAGM PLATE BELOW THE PIN CONNECTION BETWEEN THE STRINGER AND THE MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- (80) REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- (81)X REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- (83) REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WTHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- (84) REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- (85) REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- (95) REPLACE THE NORTH SIDEWALK BEAM THAT SUPPORTS THE STEEL JOINT PLATE WHICH EXHIBITS MORE THAN 50% SECTION LOSS TO ITS TOP FLANGE AT PP 14W.
- (96) REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- (99) REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- (101) REPAIR THE VERTICAL GUSSET PLATE OF DECK TRUSS TOP CHORD AT CONNECTION TO THE MAIN FLOORBEAM WHICH EXHIBITS LOCALIZED 1/8"–3/16" SECTION LOSS.
- (102) CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

FINDINGS WITH NO RECOMMENDATIONS

- [6] THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- [7]X THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- PHOTO TAKEN BELOW DECK
- (8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)
- o PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR (10))
- ● NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR (20))
- C CRACK
- DH DRILL HOLE
- TF – TOP FLANGE
- BF – BOTTOM FLANGE
- WB – WEB
- TC – TRUSS CHORD/TOP OF CHORD
- TV – TRUSS VERTICAL
- FB – FLOORBEAM
- NS – NORTH SIDE
- SS – SOUTH SIDE

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 3

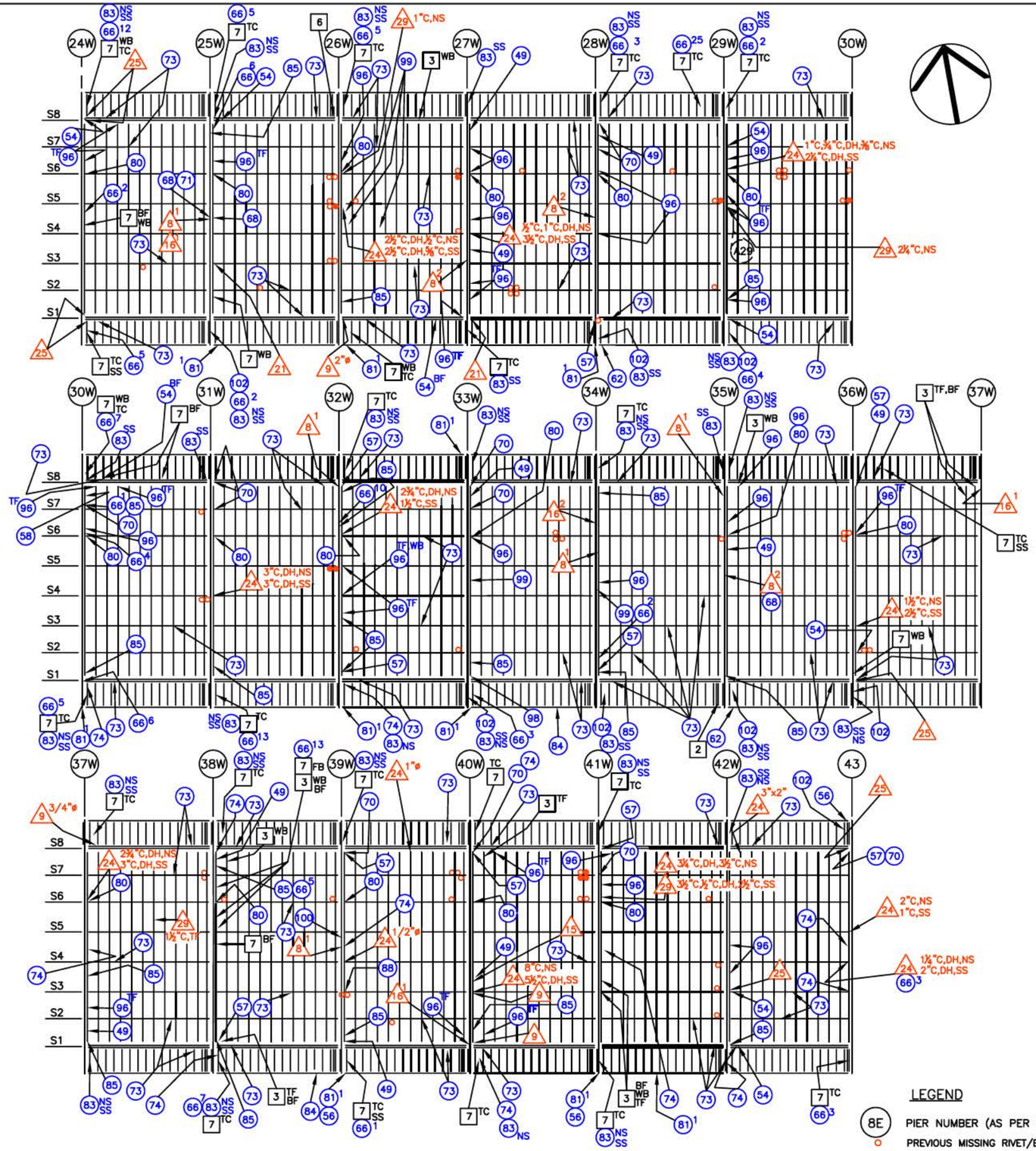
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number S-3



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 8 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 9 X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.
- 15 — REPAIR THE MAIN FLOORBEAM/CAPBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB.
- 16 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 20 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.
- 21 — REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.
- 24 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 25 — REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 29 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

ROUTINE REPAIRS

- 49 — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- 54 — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- 56 — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- 57 — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- 58 — REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.
- 62 — REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- 66 X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 68 — REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.
- 70 — REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.
- 71 — CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHIBIT MODERATE CORROSION.
- 73 — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- 74 — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 80 — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- 81 X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- 83 — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- 84 — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- 85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 88 — REPLACE THE MISSING RIVET AT THE STRINGER BEARING STIFFENER ANGLE.
- 96 — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- 98 — REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.
- 99 — REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- 100 — REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.
- 102 — CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

FINDINGS WITH NO RECOMMENDATIONS

- 3 — THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- 6 — THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- 7 X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- 8E — PIER NUMBER (AS PER PANY&NJ SYSTEM)
- o — PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- ● — NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)
- C — CRACK
- PHOTO TAKEN BELOW DECK
- DH — DRILL HOLE
- TF — TOP FLANGE
- BF — BOTTOM FLANGE
- WB — WEB
- SS — SOUTH SIDE
- NS — NORTH SIDE
- FB — FLOORBEAM
- TC — TRUSS CHORD/TOP OF CHORD

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 4

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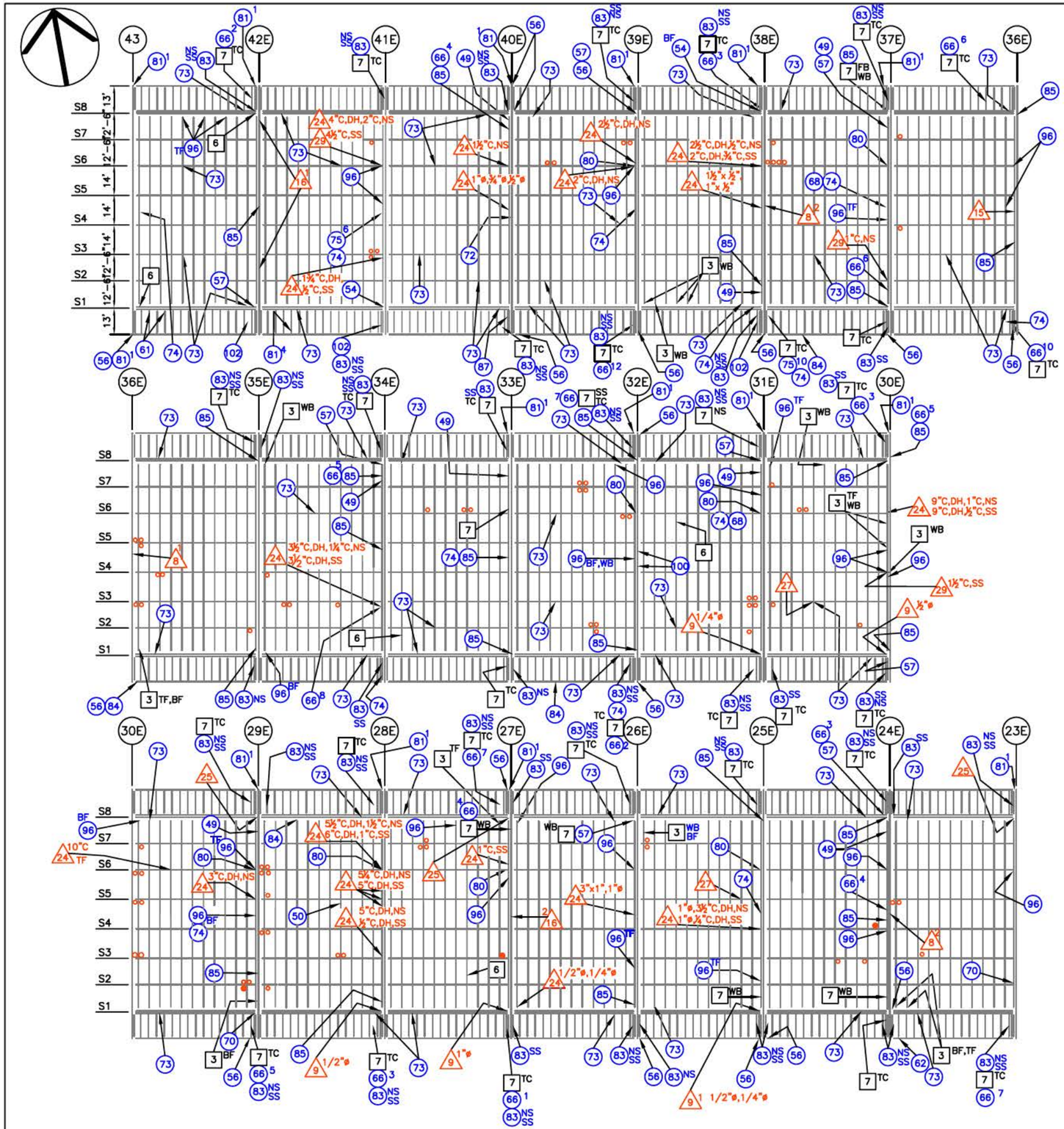
JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number S-4



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 8 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 9 X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.
- 15 — REPAIR THE MAIN FLOORBEAM/CAPBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB.
- 16 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 20 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.
- 24 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 25 — REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 27 — REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W–10W, 30E–31E, 25E–26E AND 20E–21E.
- 29 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

ROUTINE REPAIRS

- 49 — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- 50 — REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.
- 54 — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- 56 — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- 57 — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- 61 — REPLACE THE MISSING BOLTS ON THE GUSSET PLATE CONNECTION OF THE UTILITY PLATFORM TO THE BOTTOM FLANGE ON THE SIDEWALK STRINGER.
- 62 — REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- 66 X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 68 — REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.
- 70 — REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.
- 72 — REMOVE THE UNATTACHED STEEL ANGLE THAT IS RESTING ON THE BOTTOM FLANGE OF STRINGERS S4 & S5 AND WEDGED IN BETWEEN THE VERTICAL STIFFENERS.
- 73 — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- 74 — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 75 X — REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% SECTION LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 80 — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- 81 X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- 83 — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- 84 — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- 85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 87 — REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.
- 96 — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- 100 — REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.
- 102 — CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

FINDINGS WITH NO RECOMMENDATIONS

- 3 — THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- 6 — THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- 7 X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- 8E — PIER NUMBER (AS PER PANY&NJ SYSTEM)
- o — PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- ● — NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)
- C — CRACK
- DH — DRILL HOLE
- FB — FLOORBEAM
- NS — NORTH SIDE
- SS — SOUTH SIDE
- TF — TOP FLANGE
- BF — BOTTOM FLANGE
- WB — WEB
- TC — TRUSS CHORD/TOP OF CHORD

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2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE - EL - 5

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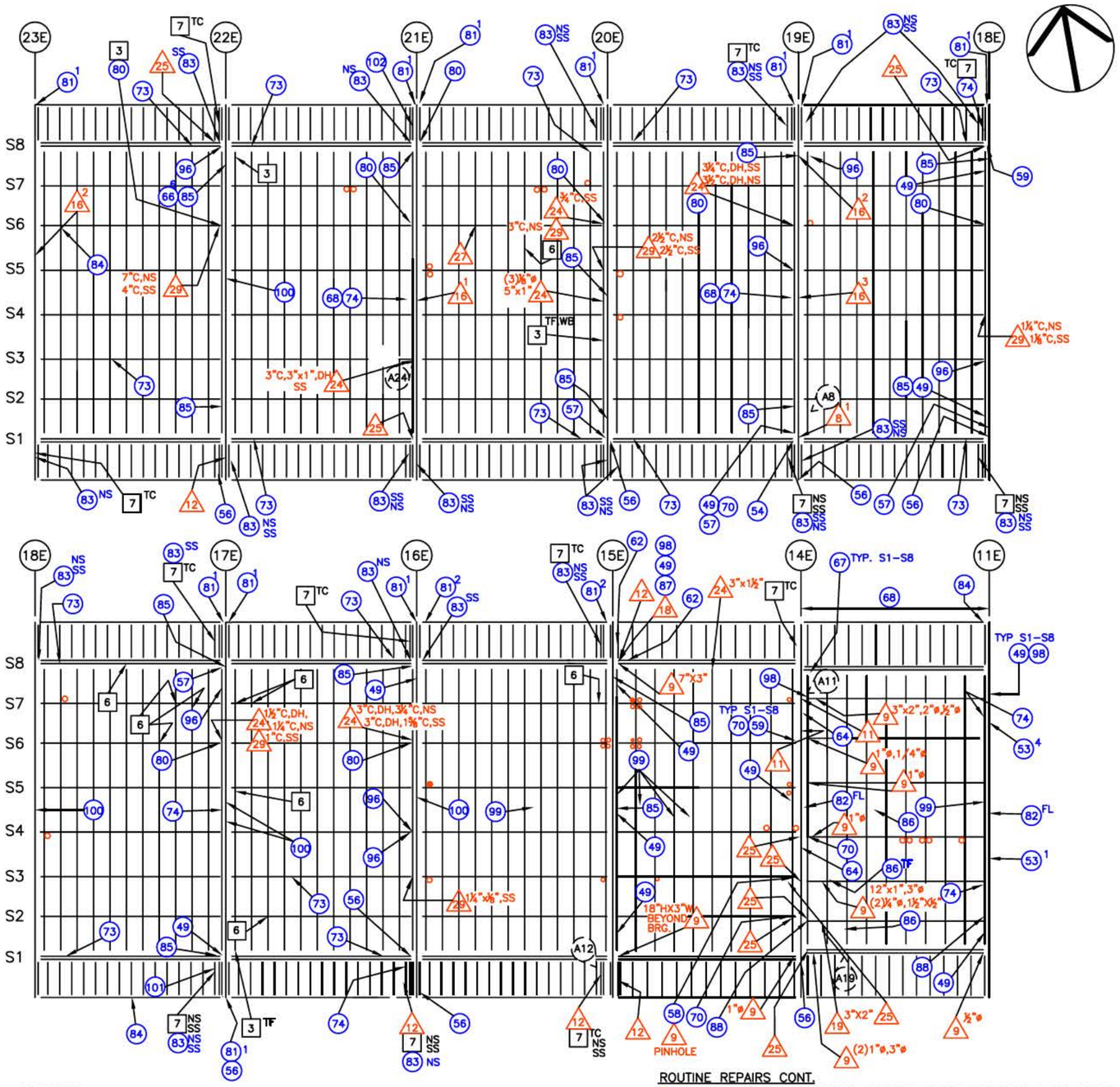
JLB	VS	MJN
Designed by	Drawn by	Checked by

Date: DECEMBER, 2011

Contract Number: 405-11-002

Drawing Number: S-5



LEGEND

- (8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- ○ PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- ● NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

C	CRACK
DH	DRILL HOLE
TF	– TOP FLANGE
WB	– WEB
TC	– TRUSS CHORD/TOP OF CHORD
SS	– SOUTH SIDE
NS	– NORTH SIDE
FL	– FULL LENGTH
FB	– FLOORBEAM
BF	– BOTTOM FLANGE

ROUTINE REPAIRS CONT.

102 CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

FINDINGS WITH NO RECOMMENDATIONS

3 THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.

5 CAPBEAM WEB STIFFENER/STRINGER CONNECTION ANGLE IS SLIGHTLY BENT 1/2" BELOW STRINGER BOTTOM FLANGE.

6 THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.

7X THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

8X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.

9X REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.

10 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.

11 REPAIR THE BEARING STIFFENER AND BOTTOM PLATE OF THE BEARING SYSTEM OF S7, EAST OF PP 14E THAT EXHIBITS THROUGH HOLES AND SECTION LOSS.

12 REPAIR THE CONNECTION ANGLE BETWEEN THE MAIN FLOORBEAM AND THE DECK TRUSS TOP CHORD WHICH EXHIBITS A CRACK AND EXTENSIVE SECTION LOSS.

16X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.

18 REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.

19 REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.

20 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.

24X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

25 REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.

27 REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W–10W, 30E–31E, 25E–26E AND 20E–21E.

29X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

ROUTINE REPAIRS

49 REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.

53X REPLACE THE MISSING BOLTS (AND ANGLE) ON THE SUPPORT BRACKETS FOR THE FINGER JOINT DEFLECTIVE SHIELD. 'X' DENOTED NUMBER OF BOLTS.

54 REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.

56 REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.

57 REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.

58 REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM WHICH EXHIBITS THRU HOLES.

59 REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.

62 REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

64 REPAIR THE MISSING SECTION OF KEEPER ROD ON THE UNDERSIDE OF FINGER JOINT.

66X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

67 REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTIONLOSS.

68 REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.

70 REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.

73 REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.

74 REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.

80 REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.

81X REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.

82 REPAIR THE TRANSVERSE SUPPORT BEAMS FOR THE FINGER JOINT WHICH EXHIBIT AREAS OF 1/8" – 1/4" LOCALIZED SECTION LOSS ON THE WEB AND NUMEROUS INTERIOR VERTICAL STIFFENERS WITH UP TO 100% SECTION LOSS NEAR THE BOTTOM FLANGE.

83 REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.

84 REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.

85 REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

86 REPAIR THE LATERAL OR DIAGONAL BRACING MEMBER IN PANEL 14E/11E WHICH EXHIBITS EXTENSIVE SECTION LOSS AND THRU HOLES. SHOWN AS WEB LATTICE PLATES UNLESS OTHERWISE NOTED.

87 REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.

88 REPLACE THE MISSING RIVET AT THE STRINGER BEARING STIFFENER ANGLE.

96 REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.

98 REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.

99 REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.

100 REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.

101 REPAIR THE VERTICAL GUSSET PLATE OF DECK TRUSS TOP CHORD AT CONNECTION TO THE MAIN FLOORBEAM WHICH EXHIBITS LOCALIZED 1/8"–3/16" SECTION LOSS.

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 6

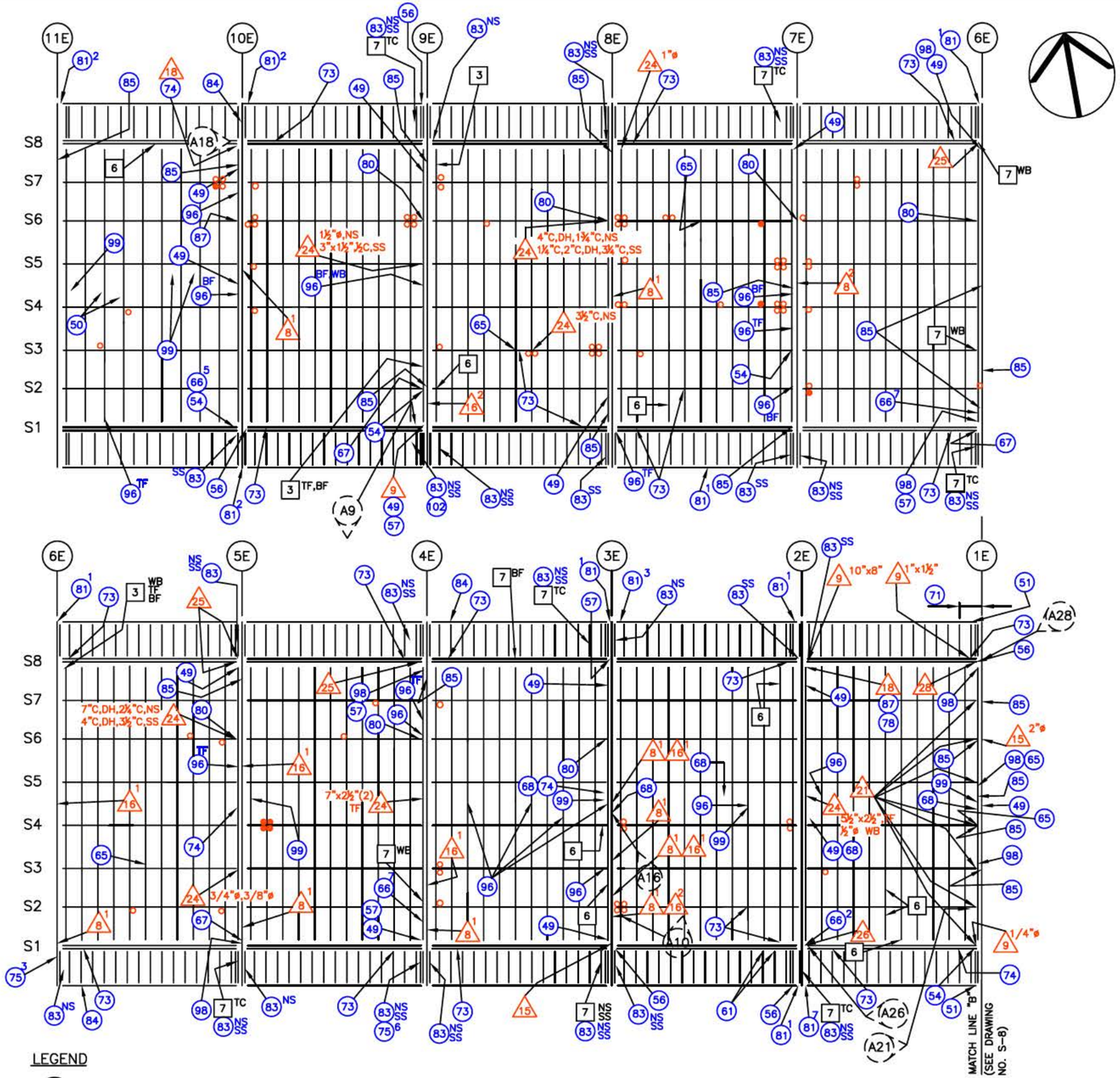
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	VS	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number S-6



LEGEND

- (8E) PIER NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- o PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- ● NEW MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)
- C CRACK
- DH DRILL HOLE

TF – TOP FLANGE
BF – BOTTOM FLANGE
WB – WEB
TC – TRUSS CHORD/TOP OF CHORD
NS – NORTH SIDE
SS – SOUTH SIDE
FB – FLOORBEAM
DH – DRILL HOLE

FINDINGS WITH NO RECOMMENDATIONS

- 3 THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- 6 THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- 7 X THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 8 X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 9 X REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.
- 15 REPAIR THE MAIN FLOORBEAM/CAPBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB.
- 16 X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 18 REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.
- 20 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A '●'.
- 21 REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.
- 24 X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 25 REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 26 REPAIR THE PIN THAT CONNECTS THE STRINGER TO THE MAIN FLOORBEAM WHICH EXHIBITS 1/4" SECTION LOSS.
- 28 REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.

ROUTINE REPAIRS

- 49 REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- 50 REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.
- 51 REPAIR THE ANCHOR BOLT NUTS ON BOTH SIDES OF THE SIDEWALK FASCIA STRINGER BEARING.
- 54 REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- 56 REPAIIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- 57 REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- 61 REPLACE THE MISSING BOLTS ON THE GUSSET PLATE CONNECTION OF THE UTILITY PLATFORM TO THE BOTTOM FLANGE OF THE SIDEWALK STRINGER.
- 65 REPLACE THE MISSING, DETERIORATED, AND/OR LOOSE BOLTS/RIVETS OF THE CROSS FRAME TO DIAGONAL GUSSET PLATE CONNECTION.
- 66 X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 67 REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.
- 68 REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.
- 71 CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHIBIT MODERATE CORROSION.
- 73 REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- 74 REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 75 X REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 78 REPAIR THE DIAPHRAGM PLATE BELOW THE PIN CONNECTION BETWEEN THE STRINGER AND THE MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- 80 REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- 81 X REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- 83 REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- 84 REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- 85 REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 87 REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.
- 96 REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- 98 REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.
- 99 REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- 102 CLEAN AND PAINT IN THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

Sheet 22 of 23

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	VS	MJN
Designed by	Drawn by	Checked by

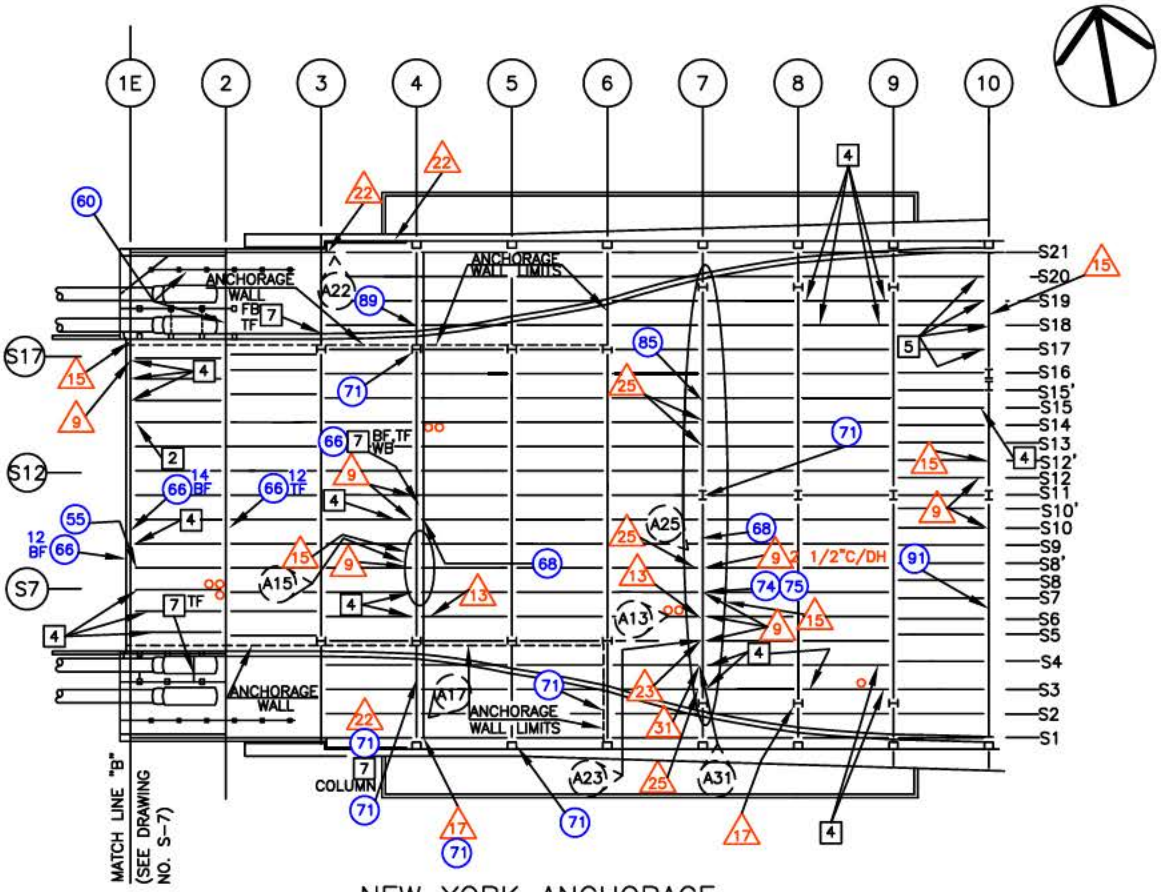
Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number S-7

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE



NEW YORK ANCHORAGE

N.T.S.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 9X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION AT THE MAIN SPAN AND NEW YORK ANCHORAGE SHOWN WITH A 'o'.
- 13 — REPAIR THE BENT ANGLE ON THE GIRDER BEARING CONNECTION OF STRINGER TO CAPBEAM.
- 15 — REPAIR THE MAIN FLOORBEAM/CAPBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB.
- 17 — REPLACE THE ANCHOR BOLT NUTS AT THE COLUMN OR GIRDER PEDESTALS WHICH EXHIBIT SEVERE CORROSION.
- 22 — REPAIR THE DIAGONAL BRACE WHICH EXHIBITS OVER 50% SECTION LOSS AND HOLES IN THE WEB OR FLANGES AT BENTS 3 AND 4 OF THE NEW YORK ANCHORAGE.
- 23 — REPLACE THE ANCHOR BOLT NUTS AT THE COLUMN OR GIRDER PEDESTALS WHICH EXHIBIT SEVERE CORROSION.
- 25 — REPAIR THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 31 — REPAIR THE BENT SEAT ANGLE ON THE GIRDER BEARING CONNECTION.

ROUTINE REPAIRS

- 55 — REPLACE THE SHEARED RIVET AT THE BASE OF THE STIFFENING ANGLES OF THE STRINGER SEATED CONNECTION TO THE FLOORBEAM.
- 60 — REPAIR THE SPALLED, CRACKED OR HOLLOW SOUNDING CONCRETE ENCASEMENT OF STRINGERS.
- 66X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 68 — REMOVE THE HEAVY DIRT AND DEBRIS ACCUMULATION IN VARIOUS LOCATIONS.
- 71 — CLEAN AND PAINT STRUCTURAL STEEL MEMBERS WHICH EXHIBIT MODERATE CORROSION.

ROUTINE REPAIRS (CON'T)

- 74 — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 75 — REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% SECTION LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 89 — REPAIR THE BOTTOM FLANGE OF THE MAIN FLOORBEAM/ CAPBEAM WHICH EXHIBITS UP TO 3/16" LOCALIZED SECTION LOSS AT NON-CRITICAL AREAS.
- 91 — REPAIR THE BEARING ASSEMBLY FOR THE RETROFIT BEAM AT CAPBEAM 10 WHICH EXHIBITS CRACKED WELDS ALONG THE EDGE OF THE SHIM PLATES.

FINDINGS WITH NO RECOMMENDATIONS

- 2 — THE STRINGER WEB EXHIBITS A SMALL PARTIAL PENETRATION CRACK IN THE TOP FLANGE COPING.
- 4 — THE STRINGER WEB EXHIBITS A SMALL CRACK THAT HAS BEEN ARRESTED BY A DRILLED HOLE NEAR THE TOP OR BOTTOM FLANGE COPING.
- 5 — CAPBEAM WEB STIFFENER/STRINGER CONNECTION ANGLE IS SLIGHTLY BENT 1/2" BELOW STRINGER BOTTOM FLANGE.
- 7X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- (2) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- PHOTO TAKEN BELOW DECK
- o PREVIOUS MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- FD – FULL DEPTH
- TF – TOP FLANGE
- BF – BOTTOM FLANGE
- WB – WEB

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SUPERSTRUCTURE STEEL - 8

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

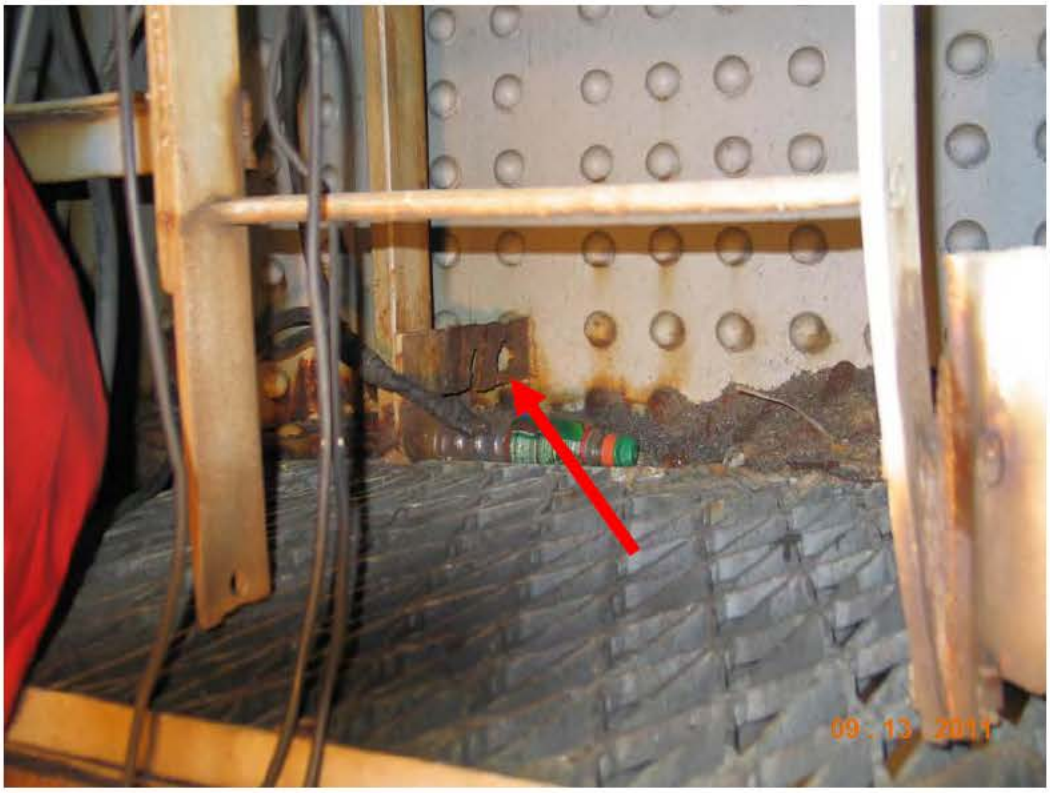
JLB	VS	MJN
Designed by	Drawn by	Checked by

Date: DECEMBER, 2011

Contract Number: 405-11-002

Drawing Number: S-8

George Washington Bridge – Upper Level

Photo No.: A1 **Location:** Orthotropic deck rib R19 over secondary floorbeam SFB1 between Panel Points 22W-23W, looking northwest. **Description:** Cracked web of orthotropic deck rib (tee). **(Priority Repair No. 1)**	
Photo No.: A2 **Location:** Access catwalk at the New Jersey Tower at Panel Point 11W, looking northeast. **Description:** Severely deteriorated support for the access catwalk. **(Priority Repair No. 2)**	

George Washington Bridge – Upper Level

Photo No.: A3

Location:
New York Anchorage, south sidewalk Stringer 4 bearing between Capbeams 2-3, looking northwest.

Description:
Severely spalled bearing pedestal resulting in approximately 10% undermining below the masonry plate.

(Priority Repair No. 3)

Photo No.: A4

Location:
Panel Point 9E-8E, between Stringers 2-3, deck ribs over secondary floorbeam SFB1, looking northeast.

Description:
Typical cracked welds between the deck ribs (tees) and the deck strap plate.

(Priority Repair No. 4)

George Washington Bridge – Upper Level

Photo No.: A5

Location:
Panel Point 39W-40W, Stringers 4-5 over secondary floorbeam SFB1, looking southwest.

Description:
Missing tie down bolt connecting the deck strap plate to the top flange of the secondary floorbeam.

(Priority Repair No. 5)

Photo No.: A6

Location:
Panel Point 8E-7E, between Stringers 2-3, deck rib over secondary floorbeam SFB6, looking east.

Description:
Typical cracked weld between the deck rib (tee) and the deck strap plate.

(Priority Repair No. 6)

George Washington Bridge – Upper Level

Photo No.: A7

Location:
Panel Point 38E-37E, between Stringers 3-4, deck rib over secondary floorbeam SFB4, looking southeast.

Description:
Missing tie down bolt connecting the deck strap plate to the top flange of the secondary floorbeam.

(Priority Repair No. 7)

Photo No.: A8

Location:
Panel Point 19E, riser beam over main floorbeam between Stringers 1-2, looking southwest.

Description:
Fully cracked web of riser beam.

(Priority Repair No. 8)

George Washington Bridge – Upper Level

Photo No.: A9

Location:
Stringer 1 west side of Panel Point 9E, looking south.

Description:
Web of stringer exhibits a small corrosion hole with moderate section loss above the bearing area.

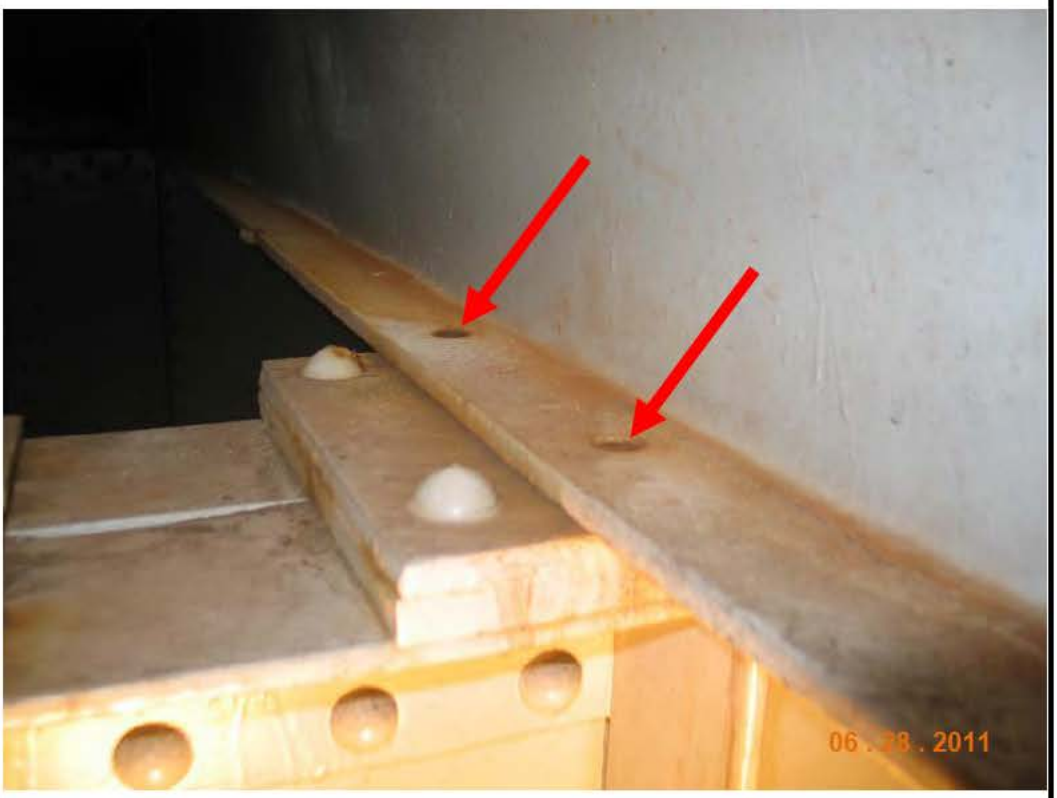
(Priority Repair No. 9)

Photo No.: A10

Location:
Secondary floorbeam SFB1 over Stringer 2 between Panel Points 3E-2E, looking northeast.

Description:
(4 of 4) sheared rivets at the secondary floorbeam to stringer top flange connection.

(Priority Repair No. 10)



George Washington Bridge – Upper Level

Photo No.: A11

Location:
Pedestal/bearing stool of Stringer 7 east of Panel Point 14E, looking southwest.

Description:
Corrosion holes and section loss to bearing stiffener and bottom flange of stringer at the bearing areas.

(Priority Repair No. 11)

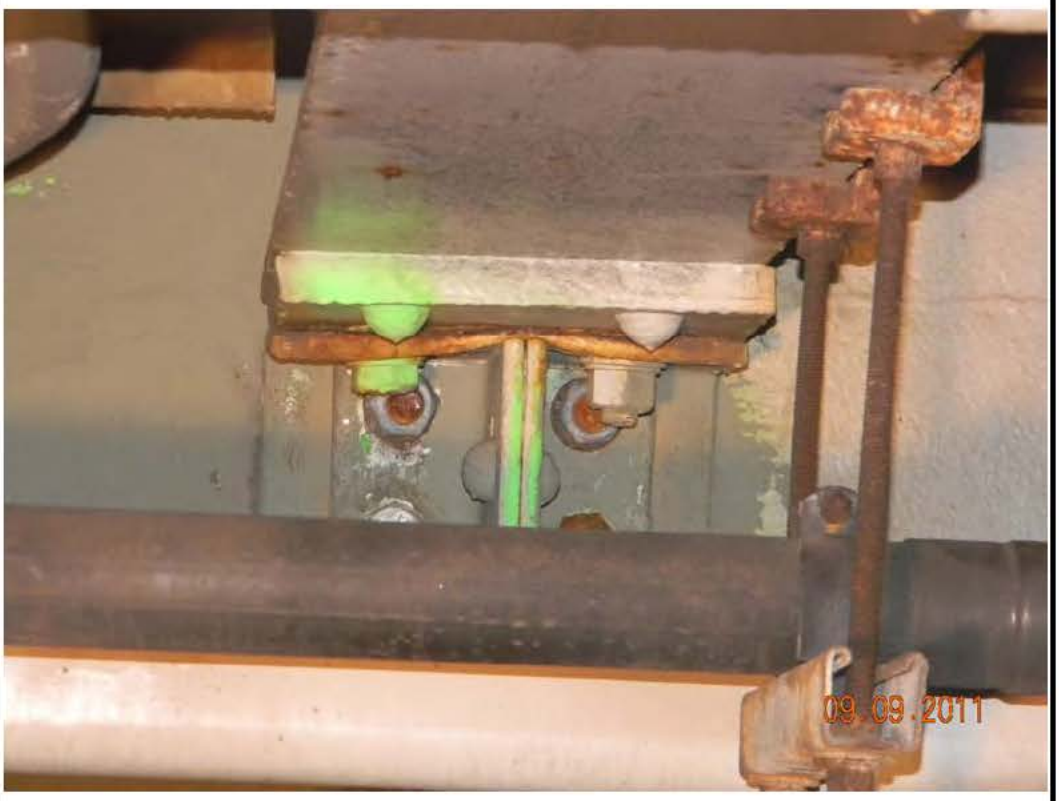
Photo No.: A12

Location:
South truss upper chord to floorbeam connection west of Panel Point 15E, looking southeast.

Description:
Partially cracked outboard leg of the riveted connection angles between the main floorbeams and the upper chord of the truss.

(Priority Repair No. 12)

George Washington Bridge – Upper Level

Photo No.: A13 **Location:** New York Anchorage, Stringer 6 west of Capbeam 7, looking east. **Description:** Bent angle at stringer bearing connection due to pack rust. **(Priority Repair No. 13)**	
Photo No.: A14 **Location:** Panel Point 19W-20W, orthotropic deck rib R14 between secondary floorbeams SFB1-SFB2, looking northwest. **Description:** Cracked web of orthotropic deck rib (tee). **(Priority Repair No. 14)**	

George Washington Bridge – Upper Level

Photo No.: A15

Location:
New York Anchorage, Capbeam 4 between Stringers 9-10, looking east.

Description:
Extensive section loss with up to 1/4" pitting in the web of the capbeam.

(Priority Repair No. 15)

Photo No.: A16

Location:
Panel Point 3E, riser beam over main floorbeam between Stringers 4-5, looking northwest.

Description:
Two fully cracked webs of riser beam.

(Priority Repair No. 16)

George Washington Bridge – Upper Level

Photo No.: A17

Location:
New York Anchorage, south bearing below Capbeam 4, looking southwest.

Description:
Severe corrosion with approximately 50% section losses to the anchor bolt nuts at the capbeam bearing.

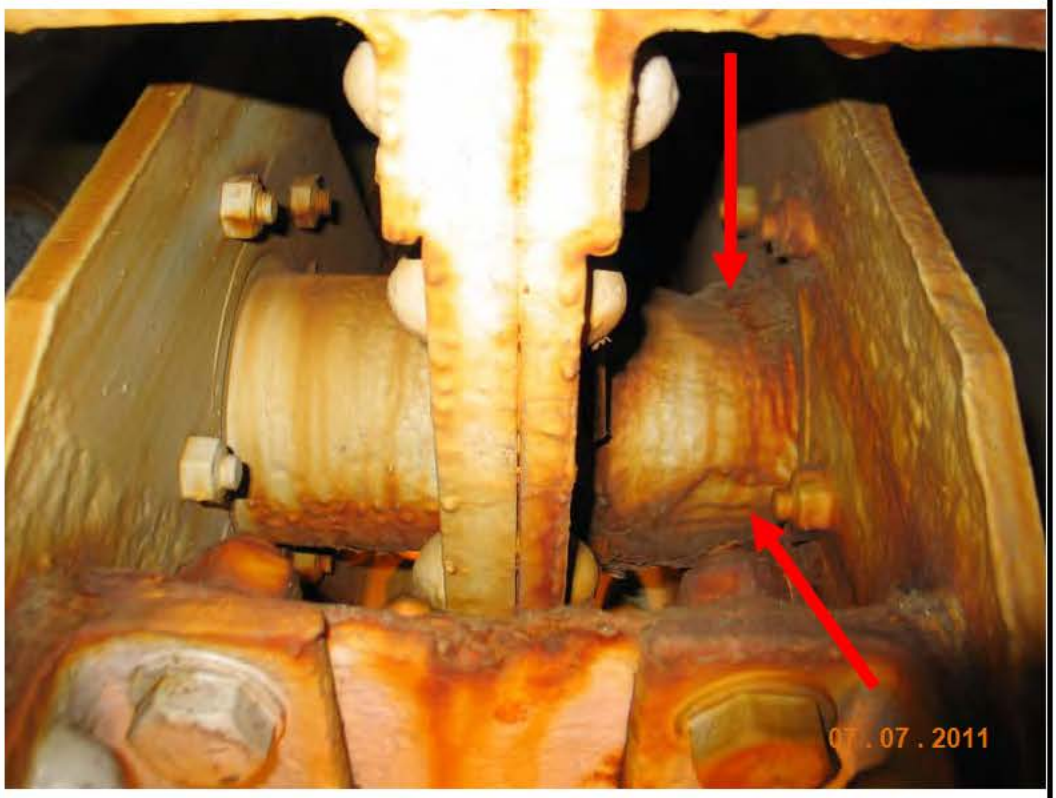
(Priority Repair No. 17)

Photo No.: A18

Location:
Pin connection of Stringer 8 west of Panel Point 10E, looking east.

Description:
Up to 1/4" section loss to pin connection of stringer to main floorbeam.

(Priority Repair No. 18)



George Washington Bridge – Upper Level

Photo No.: A19 **Location:** Stringer 2 east of Panel Point 14E, looking north. **Description:** Web of stringer exhibits a 3" x 2" corrosion hole with moderate section loss near the bearing area. **(Priority Repair No. 19)**	
Photo No.: A20 **Location:** Secondary floorbeam SFB1 over Stringer 3 between panel Points 20W-21W, looking up and north at PP 20W. **Description:** (4 of 4) sheared rivets/bolts at the secondary floorbeam to stringer top flange connection. **(Priority Repair No. 20)**	

George Washington Bridge – Upper Level

Photo No.: A21

Location:
Stringer 2, west of Panel Point 1E, looking east.

Description:
Frozen sliding plate bearing due to pack rust.

(Priority Repair No. 21)

Photo No.: A22

Location:
New York Anchorage, diagonal bracing between Capbeams 3 and 4, looking north at Capbeam 3.

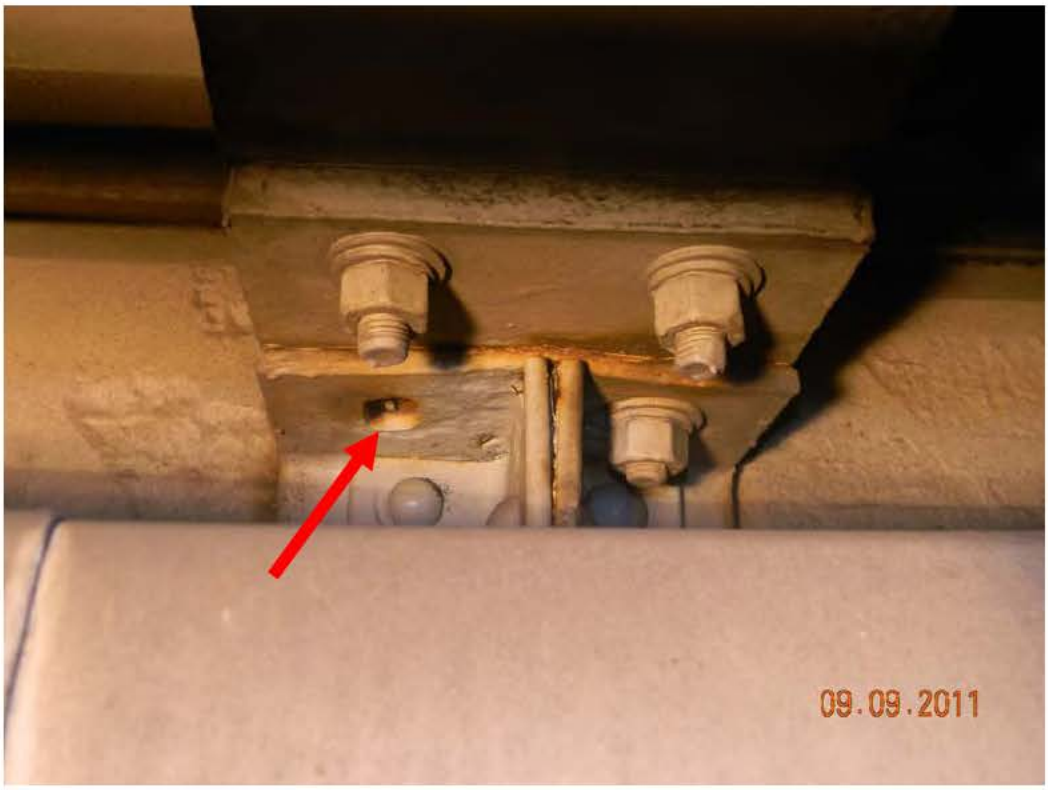
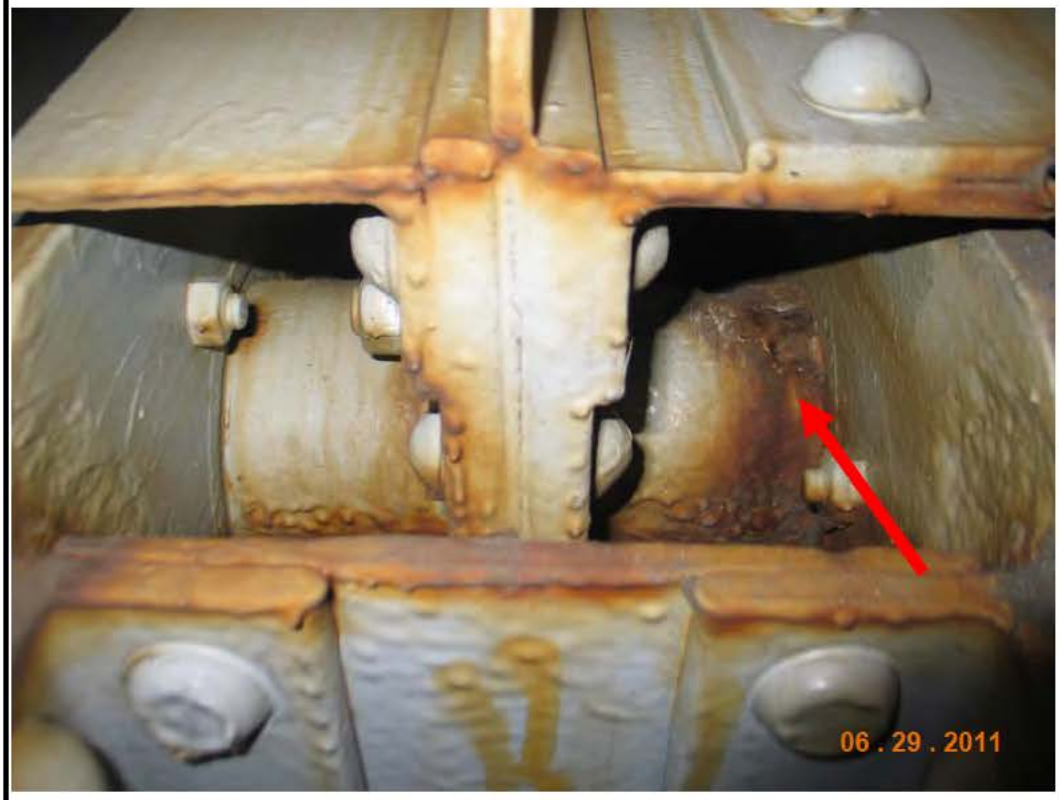
Description:
Extensive section loss and corrosion holes in the diagonal bracing member.

(Priority Repair No. 22)

George Washington Bridge – Upper Level

Photo No.: A23 **Location:** New York Anchorage, Stringer 5 west of Capbeam 7, looking east. **Description:** Bent angle at stringer bearing connection due to pack rust. **(Priority Repair No. 23)**	
Photo No.: A24 **Location:** Secondary floorbeam SFB12 over Stringer 3 between Panel Points 22E-21E, looking northeast. **Description:** Fine cracks and corrosion holes with previously drilled arrestor holes in the lower web of the secondary floorbeam above the stringer connection. **(Priority Repair No. 24)**	

George Washington Bridge – Upper Level

Photo No.: A25 **Location:** New York Anchorage, Stringer 9 west of Capbeam 7, looking southeast. **Description:** (1 of 2) sheared tie down bolts at the seated stringer seated bearing angle. **(Priority Repair No. 25)**	
Photo No.: A26 **Location:** Pin connection of Stringer 1 east of Panel Point 2E, looking west. **Description:** Up to 1/4" section loss to pin connection of stringer to main floorbeam. **(Priority Repair No. 26)**	

George Washington Bridge – Upper Level

Photo No.: A27

Location:
Panel Point 9W-10W, Stringer 2, looking southwest.

Description:
The lateral bracing connection to the stringer has worn into the stringer bottom flange up to 1/8" deep.

(Priority Repair No. 27)

Photo No.: A28

Location:
Panel Point 1E, Stringer 8 bearing, looking southwest.

Description:
Frozen sliding plate bearing due to pack rust.

(Priority Repair No. 28)

George Washington Bridge – Upper Level

Photo No.: A29

Location:
Secondary floorbeam SFB1 over Stringer 5 between Panel Points 30W-29W, looking southwest.

Description:
2-1/4" long crack with no arrestor hole in the lower web of the secondary floorbeam above the stringer connection. Drill hole recommended as an immediate action.

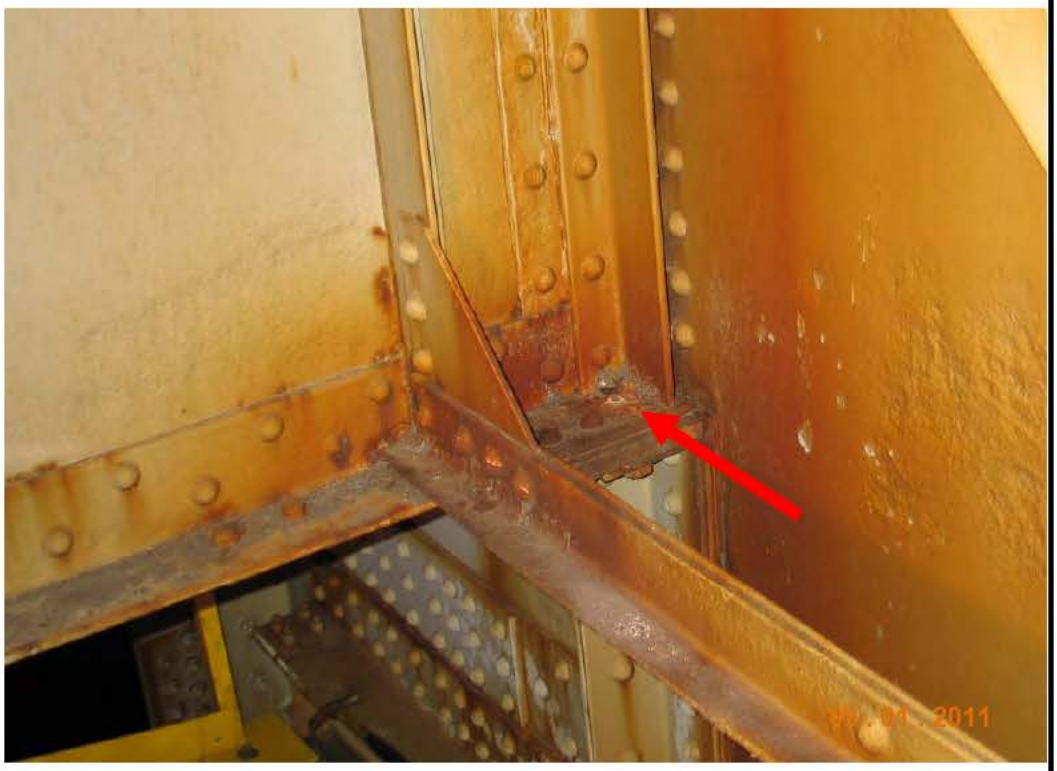
(Priority Repair No. 29)

Photo No.: A30

Location:
Stringer 1 east of Panel Point 18W, looking southwest.

Description:
Severely corroded tie down rivets connecting the stringer bottom flange to the seated angle at the floorbeam.

(Priority Repair No. 30)



George Washington Bridge – Upper Level

Photo No.: A31

Location:
New York Anchorage, Stringer 4, west of Capbeam 7, looking north.

Description:
(2 of 2) sheared off tie down bolts, severe deterioration and pack rust to seated bearing connection of stringer to capbeam.

(Priority Repair No. 31)

Photo No.: A32

Location:
Panel Point 29E-28E, LP # 71 at north sidewalk, looking east.

Description:
Loose hand hole cover at base of light standard with exposed wiring.

(Safety Repair No. 1)

George Washington Bridge – Upper Level

Photo No.: A33 **Location:** Panel Point 10W-11W, south railing, looking northwest. **Description:** Horizontal rails are disconnected from the railing post. **(Safety Repair No. 2)**	
Photo No.: A34 **Location:** South railing over New York Anchorage, looking east. **Description:** Railing post is disconnected at the base due to (2 of 2) sheared anchor bolts. **(Safety Repair No. 3)**	

George Washington Bridge – Upper Level

Photo No.: A35 **Location:** Median barrier at Panel Point 11W, looking south. **Description:** Misaligned median barrier. **(Safety Repair No. 4)**	
Photo No.: A36 **Location:** New York Anchorage, north sidewalk between Capbeams 3-4, looking south. **Description:** Missing light standard with exposed wiring. **(Safety Repair No. 5)**	

George Washington Bridge – Upper Level

Photo No.: A37

Location:
New York Tower at Panel Point 14E and Stringer 8, looking northwest.

Description:
Heavy accumulation of overflowing debris on top of gusset plate and tower strut.

(Safety Repair No. 6)

Photo No.: A38

Location:
New York Anchorage, at mid-level between Capbeams 4-5, looking southeast.

Description:
Deteriorated temporary timber flooring inside the New York Anchorage.

(Safety Repair No. 7)

George Washington Bridge – Upper Level

Photo No.: A39

Location:
Panel Point 10W-11W, below south sidewalk, looking west near PP 11W.

Description:
Deteriorated maintenance platform grating.

(Safety Repair No. 8)

Photo No.: A40

Location:
Panel Point 5E-6E, below north sidewalk, looking south.

Description:
Partially disconnected utility support angle.

(Safety Repair No. 9)

George Washington Bridge – Upper Level

Photo No.: A41

Location:
NY Tower, Panel Points 11E-14E, between Stringers 7-8, looking north.

Description:
Loose support for underdeck light fixture due to (1 of 2) missing nuts at the U-bolt connection.

(Safety Repair No. 10)

Photo No.: A42

Location:
New York Anchorage, east of capbeam 4, looking north.

Description:
Missing vertical support for drainage trough.

(Safety Repair No. 11)

George Washington Bridge – Upper Level

Photo No.: A43 **Location:** New York Anchorage, mid-level between Capbeams 3-4, looking southwest near Capbeam 3. **Description:** Severely corroded section of catwalk grating. **(Safety Repair No. 12)**	
Photo No.: **Location:** **Description:**	

B. TOWERS

Inspection Findings, Conclusions and Recommendations

B. TOWERS

Major Inspection Findings

Inspection access to the New York and New Jersey towers was obtained utilizing both tower elevators, catwalks, struts and extension ladders at the base of the tower legs. A structural, electrical and mechanical inspection of the mechanized flag hoisting and storage system and diving inspection and were performed during this inspection at the New Jersey Tower. (For detailed inspection findings regarding the mechanized flag hoisting and storage system and underwater inspection, refer to the separate mechanized flag system condition survey report and state diving report submitted for this project).

There was 1 priority repair recommended in the previous inspection report that remains outstanding at 2 locations. No safety repairs are recommended and a total of 14 routine repairs at 114 locations were recommended during this inspection.

New York Tower

A full visual and partial hands-on inspection was performed on the New York Tower. The tower is in overall good condition. The paint system above the lower level roadway is good with only isolated areas of minor surface corrosion noted at the steel members. The paint at and below Level 3M is in fair condition particularly at the tower bases which exhibit peeling paint with moderate corrosion and minor rivet head losses (see Photo B2).

The horizontal cross members, connection plates and rivet heads, along the lower strut of the New York Tower at Levels 3 and 3M, typically exhibit areas of pack rust, section losses of ⅛”to ¼” deep, and small to medium corrosion holes in the top and bottom flanges, webs and lacing bars (see Drawing TW-2 and Photo B3). This deterioration is primarily due to leakage through the finger joints in the roadway above. Similar deterioration to a lesser extent was noted between Levels 2M and 3. The flanges and lacing bars on the bracing members exhibit localized areas of up to ⅛” deep pitting and small holes at isolated locations. The bases of the tower legs exhibit a failed paint system with pitting and minor section losses evident on the vertical members and rivet heads (see Photo B2). The strut between the west interior columns of the south leg exhibits a 2" long crack in the outstanding angle leg and a small corrosion hole near the top flange at Level 0 (see Photo B4). There is a 1" diameter hole in the lower angle of the diagonal bracing between the southwest exterior and southwest interior column at the north leg of the New York Tower at Level 0, and two 2" diameter holes in the lower flange of the horizontal bracing between the southwest and northwest exterior columns of the south tower leg (see Photo B12). These conditions do not significantly affect the structural integrity of the tower.

The concrete encasement protecting steel pedestals at the base of the towers exhibit few medium to wide cracks particularly at the pedestal corners. The encasement also exhibits four spalls allowing water penetration onto the encased steel (see Photo B5).

The weep holes at the base of several box columns of the tower legs are partially or fully clogged due to debris found within the base of the box columns. An interior inspection was performed within the base of the northeast and southwest interior columns at the north tower leg and within the northeast and southwest exterior column legs at the south tower leg. No water was found inside the columns and few areas of light to moderate corrosion were noted near the base of the columns.

Two previously disconnected drainage downspouts were replaced at the north and south tower legs since the previous inspection.

The tower light fixtures are in generally good condition.

New Jersey Tower

A full visual and partial hands-on inspection was performed on the New Jersey Tower. The tower is in overall good condition. The paint system is in good condition with only isolated areas of light surface corrosion noted at the exterior tower bases.

The horizontal cross members at the lower strut at Levels 3 and 3M exhibit isolated areas of pack rust and minor pitted section losses primarily at the connection plate locations. The support beams for the maintenance catwalks at Levels 3 and 3M of the south tower leg exhibit severe corrosion and small holes near the connections (see Photo B3).

The concrete encasement protecting steel pedestals at the base of the towers exhibit few medium to wide cracks particularly at the pedestal corners. The encasement also exhibits five spalls allowing water penetration onto the encased steel.

The weep holes at the base of several box columns of the tower leg are partially or fully clogged. Two inspection access hatch covers for the box columns at the tower legs at Levels 0 and 1 exhibit (3 of 4) missing bolts (see Photo B7). An interior inspection was performed within the base of the northeast interior and southeast exterior columns at the north tower leg and within the northwest interior and southwest exterior column legs at the south tower leg. No water was found inside the columns and few areas of light to moderate corrosion were noted near the base of the columns.

The stone masonry base pedestals are partially covered with soft marine growth and barnacles up to 1” thick. The joints between the granite blocks typically exhibit missing mortar from 2” to 6” deep with few localized areas up to 12” deep (see Photo B10). The top of the tower pedestals are exposed up to 5 feet high along the east face and the top corners exhibit few minor localized spalls. There are a few medium cracks in the upper composite waler near the center of the pier protection system.

The drainage downspout at the base of northwest exterior column at the south leg of the New Jersey Tower is deteriorated and is missing a section of the pipe (see Photo B6). The two previously noted deteriorated and disconnected drainage downspouts were repaired or removed since the previous inspection.

The foot bridge which connects the north and south tower pedestals remains slightly shifted to the south. Keeper angles previously attached to the underside of the foot bridge support girders remain in place.

The tower light fixtures are in generally good condition. One broken light fixture was noted at the northwest exterior column at Level 3 of the south tower leg.

RECOMMENDATIONS

Immediate: None.

Priority: The following priority repairs are recommended:

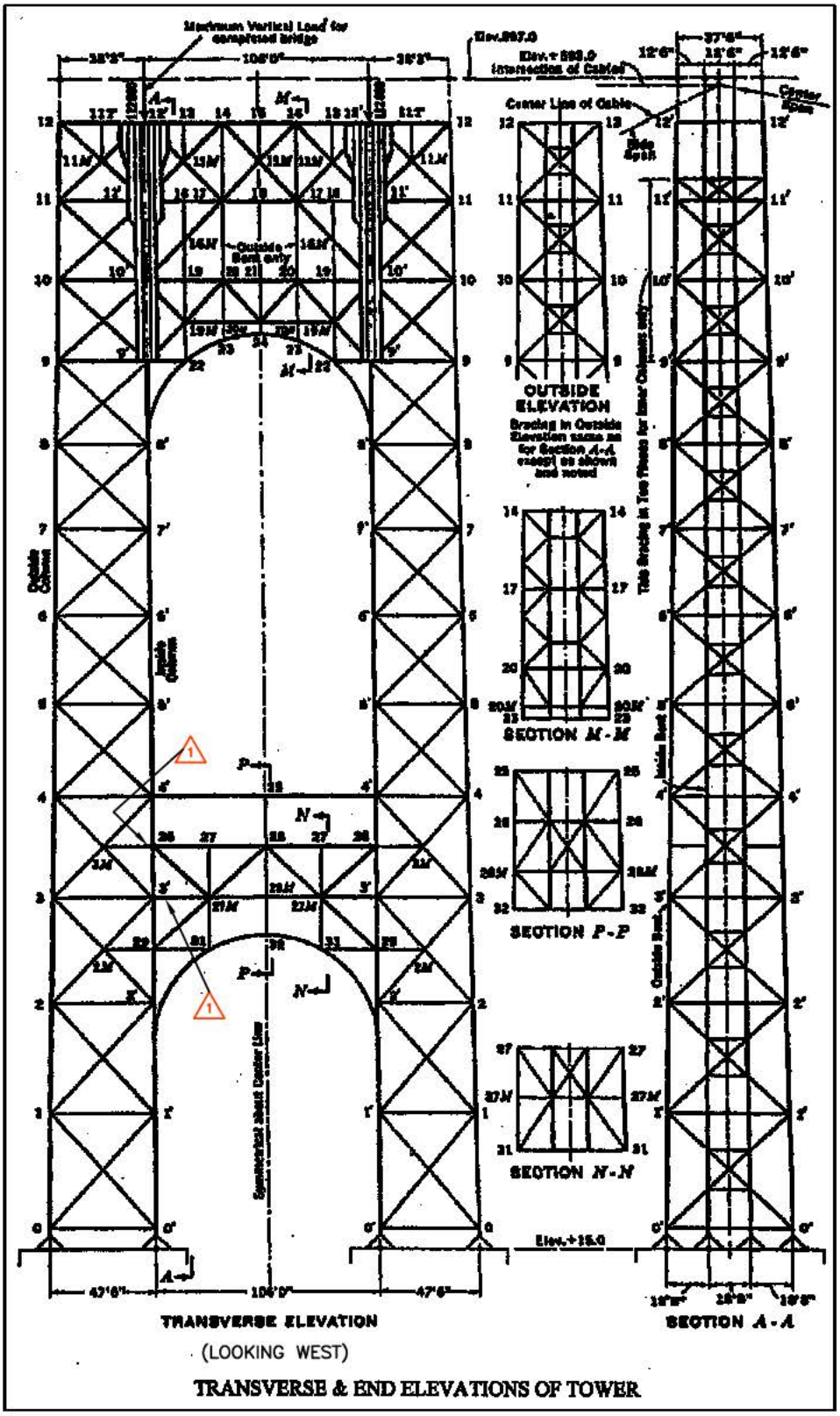
No.	Description	Dwg. No.
*1	Repair the severe corrosion and holes on the catwalk support members at Levels 3 and 3M on the south leg of the New Jersey Tower. *(Photo B1)* (2 Locations)	TW-1
* Previously recommended as a "Priority Repair" in the 2009 inspection report.		

Safety: None

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
1	Clean and spot paint the New York and New Jersey Tower column bases. *(Photo B2)* (32 Locations).	---
2	Repair, clean and paint the deteriorated horizontal bracing members at Levels 3 and 3M of the New York Tower. *(Photo B3)* (28 Locations)	TW-2
3	Repair the cracked and holed thru outstanding angle leg at the east upper flange of the horizontal strut between west interior columns of the south leg at Level 0 of the New York Tower. *(Photo B4)* (1 Location)	---
4	Repair the spalled concrete encasement around the steel column bases of the New York Tower at the north leg, northeast corner of the northwest interior column and northwest corner of the northeast interior column; and at the south leg, southwest corner of the southeast interior column and southeast corner of the southwest interior column. *(Photo B5)* (4 Locations)	---
5	Repair the spalled concrete encasement around the steel column bases of the New Jersey Tower at the north leg, south face of the southeast exterior column; at the south leg, northwest corner of the northeast interior column, northwest corner of the northeast exterior column, southwest corner of the southwest exterior column, and the south face of the southeast exterior column. (5 Locations)	---
6	Remove the deteriorated and missing section of drainage downspout at the base of the northwest exterior column at the south leg of the New Jersey Tower. *(Photo B6)* (1 Location)	---
7	Remove the debris causing partially or fully clogged weep holes at the base of the box columns at the New Jersey and New York Towers. *(Photo B7)* (4 Locations)	---

8	Replace the missing bolts on the box column access hatch covers located on the interior faces of the columns at the New Jersey and New York Towers. *(Photo B8)* (15 Locations)	---
9	Clean and paint the areas of pack rust between the vertical connection plate and tower members at Levels 0 to 3 at the New Jersey and New York Towers. *(Photo B9)* (9 Location)	---
10	Replace the missing mortar at the base pedestals of the New Jersey and New York Towers. *(Photo B10)* (4 Locations)	---
11	Repair the broken light fixture at the south leg of the New Jersey Tower at the northwest exterior column at Level 3. (1 Location).	---
12	Remove the debris on the horizontal connection plate at Levels 3 and 4, and the pigeon debris at Level 10 of the New Jersey and New York Towers. *(Photo B11)* (6 Locations)	---
13	Repair the 1" diameter hole in the lower angle of the diagonal bracing between the New York Tower, north leg, southwest exterior column and the southwest interior column at Level 0, and the two 2" diameter holes in the lower flange, south leg of the horizontal bracing between the southwest exterior column and northwest exterior column. *(Photo B12)* (2 Locations)	---
14	Replace the missing handhole cover for the electrical conduit at the New York Tower, north leg, southwest interior column at Level 0. (2 Locations)	---



KEY CONDITION NOTES:

PRIORITY REPAIRS

1 REPAIR THE SEVERE CORROSION AND HOLES ON THE CATWALK SUPPORT MEMBER AT LEVELS 3 AND 3M ON THE SOUTH LEG OF THE NEW JERSEY TOWER.

Sheet 1 of 2

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

TOWER ELEVATION

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

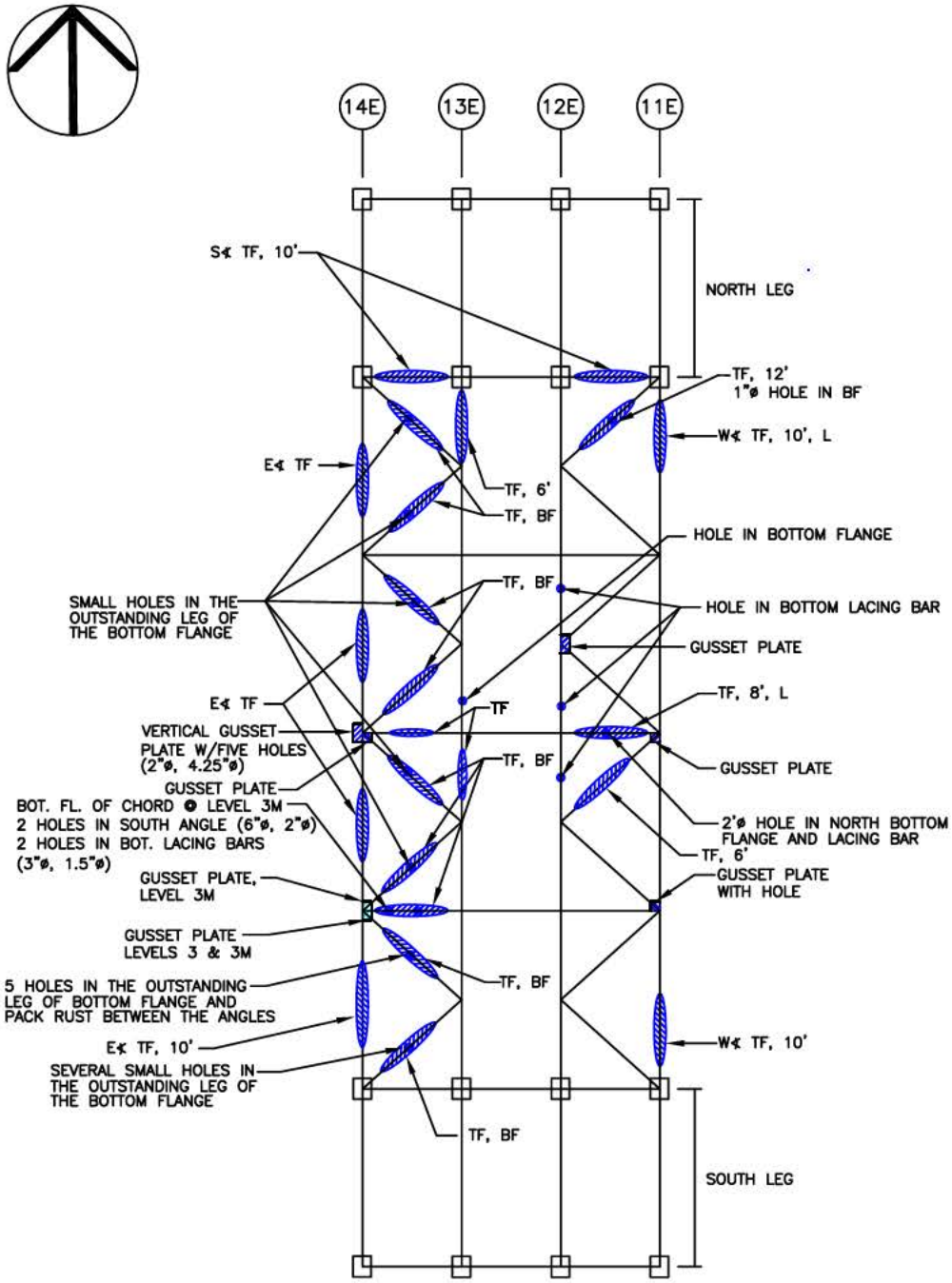
JLB	HL	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number TW-1

THE PORT AUTHORITY OF NY & NJ



LEVEL 3, U.O.N.
PLAN VIEW
NEW YORK TOWER

LEGEND:
B = BOTTOM
T = TOP
F = FLANGE
L = LOCALIZED
N = NORTH
S = SOUTH
E = EAST
W = WEST
∢ = ANGLE

NOTE:
ALL HOLES 2"ø OR SMALLER UNLESS OTHERWISE NOTED.

SAMPLE:
W∢TF,10',L — 1/8" – 1/4" SECTION LOSS, WEST ANGLE OF TOP FLANGE, 10' LONG & LOCALIZED.

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL MAIN SPAN

DEFICIENCY LOCATION PLAN TOWER STEEL

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	HL	MJN
Designed by	Drawn by	Checked by

Date: DECEMBER, 2011

Contract Number: 405-11-002

Drawing Number: TW-2

George Washington Bridge - Towers

Photo No.: **B1.**

Location: New Jersey Tower, Level 3, catwalk support near the south leg of the tower, looking south.

Description: Severe corrosion and small hole in the catwalk support member adjacent to the post connection.

(Priority Repair 1)

Photo No.: **B2.**

Location: New York Tower, south leg, northeast corner of the northeast exterior column base, looking southwest.

Description: Moderate corrosion of exposed steel surfaces due to extensive paint peeling with minor rivet head losses at base.

(Routine Repair 1)

George Washington Bridge - Towers

Photo No.: **B3.**

Location: New York Tower, Level 3, diagonal bracing between Panel Points 14E to 13E, looking northeast.

Description: Small holes and moderate section loss along the flanges of the horizontal bracing members.

(Routine Repair 2)

Photo No.: **B4.**

Location: New York Tower, south leg at Level 0, horizontal strut between west interior columns, looking up and west.

Description: Small corrosion hole and fine crack in the outstanding leg of the east upper flange angle of the horizontal strut.

(Routine Repair 3)

George Washington Bridge - Towers

Photo No.: **B5.**

Location: New York Tower, north leg, northwest corner of northeast interior column base, looking southeast.

Description: Localized spall in the concrete encasement at steel bearing pedestal.

(Routine Repair 4)

Photo No.: **B6.**

Location: New Jersey Tower, south leg, northwest exterior column, looking north.

Description: Deteriorated drainage pipe with missing section near base of tower.

(Routine Repair 6)

George Washington Bridge - Towers

Photo No.: **B7.**

Location: New Jersey Tower, south leg, northwest interior column, looking northwest.

Description: Debris within base of column causing clogging of drainage weephole.

(Routine Repair 7)

Photo No.: **B8.**

Location: New Jersey Tower, north leg, southeast exterior column, looking southwest.

Description: Missing (3 of 4) bolts for the box column access hatch cover located on the south interior face of the column.

(Routine Repair 8)

George Washington Bridge - Towers

Photo No.: **B9.**

Location: New Jersey Tower, south leg, northeast exterior column, looking northeast.

Description: Pack rust between the vertical connection plate and diagonal tower member between Levels 0 to 1.

(Routine Repair 9)

Photo No.: **B10.**

Location: New Jersey Tower, south leg, looking northeast.

Description: Missing mortar between stones at the base of the New Jersey Tower.

(Routine Repair 10)

George Washington Bridge - Towers

Photo No.: **B11.**

Location: New York Tower, north leg, southeast exterior column, looking southeast.

Description: Debris accumulation on horizontal connection plate at Level 3.

(Priority Repair 12)

Photo No.: **B12.**

Location: New York Tower, south leg, southwest exterior column to northwest exterior column, looking up and southeast.

Description: Two 2" diameter holes in the lower flange of the horizontal bracing member between the exterior columns at Level 0.

(Priority Repair 13)

C. CABLES AND SUSPENSION ROPES

Inspection Findings, Conclusions and Recommendations

C. CABLES AND SUSPENDER ROPES

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[redacted] noted along the floor slabs of both cable enclosures.

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[redacted] access manholes at the sidewalk which were previously covered with concrete.

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Cables – Suspended Main Span and Side Spans

The four main cables were found to be in overall good condition. At the time of this inspection, the four main cables were in the process of being cleaned and repainted by SEMAC personnel. Installation of impact protection encasement was completed around the main cables just above the roadway level.

The main cables inside the towers are in good condition with the exception of one loose (possibly broken) wire at the bottom of Cable C in the New York Tower at the east side of the saddle. The saddle rooms of both towers are in good condition. The rubber cable sleeves at the face of tower walls within all tower saddle rooms are typically torn, cracked or deteriorated at the cable entry points (see Photo C21). There are several guide block bolts or nuts on the saddles that are missing within both saddle rooms of the New York Tower (see Photo C22).

The cable wrapping and cable bands are in good condition. The New York side span was not painted completely during this inspection and minor deficiencies, such as small isolated areas of paint delamination, exposed prime coat and light surface rust on the cable wrapping and unpainted bolts at the cable bands were noted in isolated locations (see Photo C23). The recently painted sections of main cables are in good condition with few isolated areas of gaps between wrapping wires seemingly too large for the new paint coating to bridge or effectively cover. The caulking of the joints adjacent to the cable bands is in generally good condition with only isolated locations of debonding and light rust staining. Since the previous inspection, new light standards that are flared at the top were installed to accommodate the installation of blast protection on the main cables (see Photo C24).

All cable bridge light fixtures are in good condition.

The messenger cable alongside the cable bridge light fixtures provides service to the light fixtures. The messenger cable is attached by bulldog clamps to steel brackets, which are then bolted to the cable band. On Cable A, at Panel Points 37E, 36E, 35E, 23E, 21E, and 18E either (1 of 2) bolts are missing or up to (2 of 2) bolts are loose at the connection to the steel bracket at the cable band (see Photo C9).

All loose nuts of the bulldog clamps were tightened at the steel bracket connection and one nut was replaced at Panel Point 36W since the previous inspection.

All sixteen security fan fences along the main cables were also inspected close-up. The fan fences are generally in fair condition. Between Panel Points 1E-2E, the fan fence for Cable D was loose due to (4 of 4) loose connection bolts securing the circumferential clamping angles to the main cable. As a result, the fan fence assembly has slipped down the cable approximately 1 foot. The displacement has exposed the neoprene pad which is slightly torn. The fan fence cannot rotate significantly since the safety ropes used for inspection pass through the openings in the fence (see Photo C12). Other isolated loose connection bolts were found between the clamping angles and the fence, and between the clamping angles and are noted in the following table:

LOOSE BOLTS ON SECURITY FAN FENCES			
PANEL POINT	CABLE	# BOLTS LOOSE BETWEEN CIRCULAR CLAMPING ANGLES	# BOLTS LOOSE BETWEEN CIRCULAR ANGLE AND FENCE
1E-2E	A	0	0
1E-2E	B	2	0
1E-2E	C	0	0
1E-2E	D	(4 OF 4)	
41E	A	0	0
41E	B	0	0
41E	C	(2 OF 4)	
41E	D	(2 OF 4)	(8 OF 8)
41W	A	0	0
41W	B	0	0
41W	C	(2 OF 4)	
41W	D	(2 OF 4)	
1W-2W	A	0	0
1W-2W	B	0	(1 OF 8)
1W-2W	C	0	0
1W-2W	D		(1 OF 8) MISSING (1 OF 8) LOOSE

Cables – Safety Ropes

The safety ropes are in overall good condition.

The paint on the safety ropes throughout the main span is in good condition. Inside the New York Anchorage, minor corrosion was noted on the safety ropes below the deck where the cables pass through the sidewalks.

All safety ropes are missing their protective rubber sleeve at the opening in the towers. The north safety rope of Cable C is rubbing against the steel walls as it enters the saddle room at both sides of the New York Tower (see Photo C26).

At Cable D, Panel Points 20W and 15E, one broken wire remains at the hand rope adjacent to the stanchion bracket, however, no corrosion is evident (see Photo C27).

Both bolts connecting the stanchion bracket to the safety ropes are not fully engaged at Panel Point 1E of Cable D.

The bolts connecting the stanchions to the cable bands are not fully engaged at various locations (see Photo C8). The following table denotes these locations:

List of Not Fully Engaged Bolts Connecting the Stanchions to the Cable Bands							
CABLE A		CABLE B		CABLE C		CABLE D	
PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE
1E	BOTH	1E	BOTH	1E	BOTH	1E	BOTH
17E	SOUTH	5E	SOUTH	2E	NORTH	2E	SOUTH
30E	SOUTH	6E	SOUTH	5E	NORTH	3E	SOUTH
36E	SOUTH	7E	SOUTH	6E	NORTH	8E	SOUTH
38E	NORTH	9E	SOUTH	10E	NORTH	9E	SOUTH
38W	NORTH	16E	SOUTH	31W	NORTH	15E	NORTH
24W	NORTH	32E	SOUTH			19E	NORTH
22W	SOUTH	38E	SOUTH			23W	SOUTH
16W	SOUTH	30W	SOUTH			24W	SOUTH
10W	NORTH	26W	SOUTH			25W	SOUTH
						29W	SOUTH
						33W	NORTH

One of the safety rope stanchions at Panel Point 8E of Cable D on the north side remains broken and disconnected (see Photo C10).

At numerous locations, the stanchion bars remain slightly bent (see Photo C30). The following table denotes the locations of the slightly bent stanchion bars:

Locations of Slightly Bent Stanchion Bars							
CABLE A		CABLE B		CABLE C		CABLE D	
PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE
31E	SOUTH	1E	BOTH	1E	BOTH	2E	SOUTH
33E	NORTH	21E	SOUTH	2E	NORTH	17E	SOUTH
39E	SOUTH	30E	SOUTH	37E	NORTH	22E	SOUTH
38W	SOUTH	31E	SOUTH	38E	BOTH	25E	NORTH
37W	BOTH	34E	SOUTH	40W	SOUTH	28E	BOTH
32W	SOUTH	37E	SOUTH	30W	SOUTH	29E	BOTH
27W	NORTH	38E	SOUTH	22W	BOTH	30E	NORTH
22W	SOUTH	40E	SOUTH	20W	NORTH	32E	NORTH
20W	NORTH	33W	SOUTH	21W	NORTH	39E	SOUTH
36W	SOUTH	20W	SOUTH	18W	NORTH	34W	SOUTH
16W	NORTH	19W	SOUTH	17W	NORTH	29W	BOTH
						28W	NORTH
						26W	NORTH
						21W	NORTH

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SECTION B-B (NTS)

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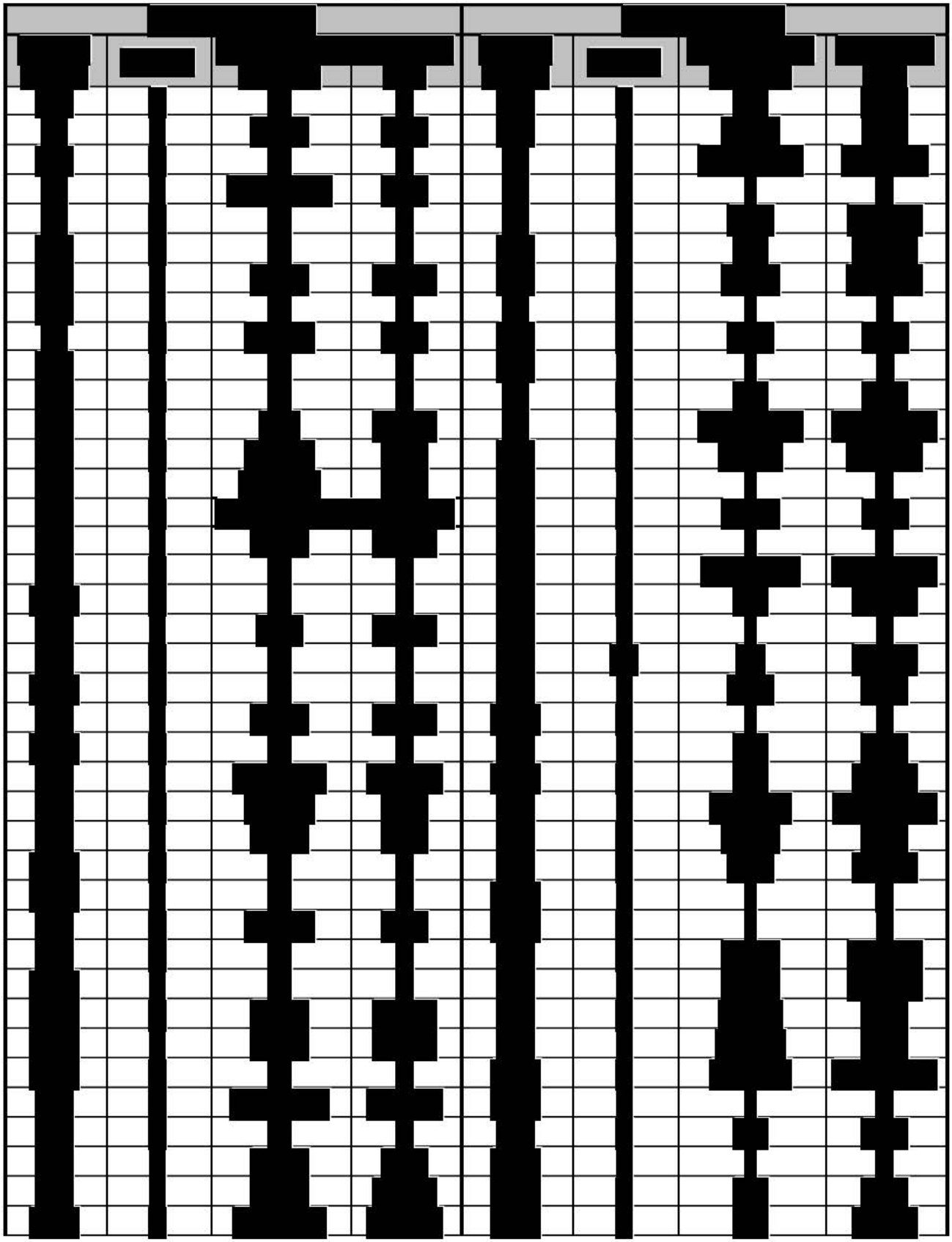

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Photo No.: **C1**

Location: New York Anchorage, west face of Capbeam 4 over Cable B, looking northeast.

Description: Water leakage through upper level sidewalk joint over Cable B.

(PRIORITY REPAIR 1)

Photo No.: **C2**

Location: New York Anchorage, west of Capbeam 3 over Cable B, looking north.

Description: Leaking pipe above the cable strands of Cable B.

(PRIORITY REPAIR 2)

Photo No.: **C3**

Location: Panel Point 41W, Cable B, Suspender Rope 6, looking west.

Description: Missing galvanized steel liner under the suspender collar.

(PRIORITY REPAIR 3)

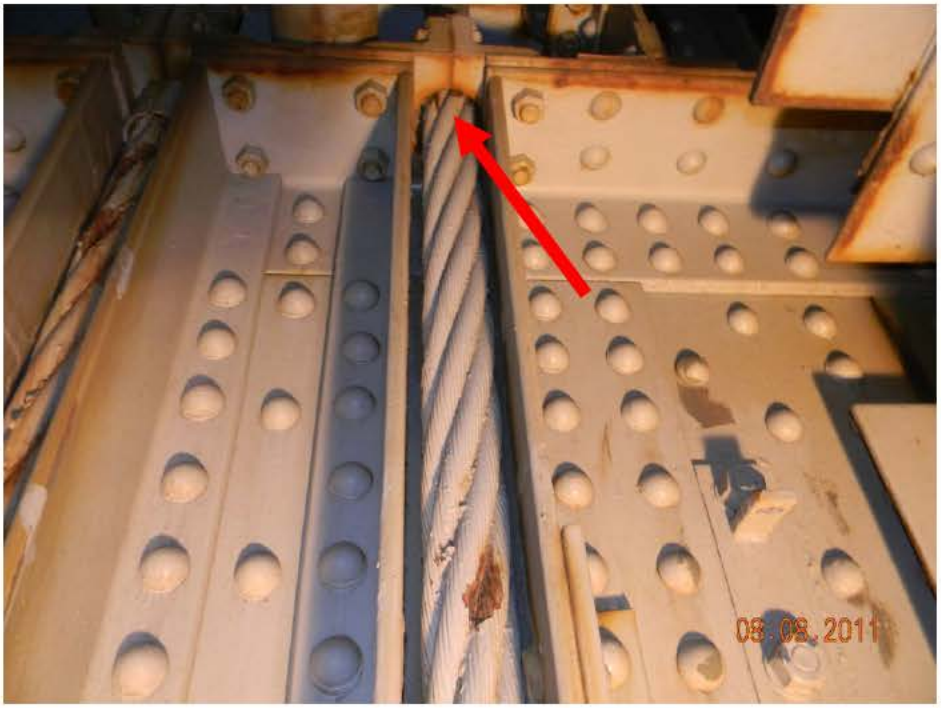

Photo No.: **C4**

Location: Panel Point 24E, Cable A, Suspender Ropes 1 & 2, looking west.

Description: Protective wrapping from previous painting contract left in place.

(PRIORITY REPAIR 4)

Photo No.: C5

Location: Panel Point 20E, Cable D, northeast Suspender Rope 14, looking west.

Description: Missing collar at the top flange of the floorbeam.

(PRIORITY REPAIR 5)

Photo No.: C6

Location: Panel Point 34E, Cable C, Suspender Ropes 9 &10, looking west.

Description: (4 of 4) missing bolts connecting the clamp plates above the sockets.

(PRIORITY REPAIR 6)

Photo No.: **C7**

Location: New Jersey Anchorage, base of Cable D, looking west.

Description: Diagonal bracing member supporting the eyebar for Strand 4 exhibits a 9" x 2-1/2" corrosion hole.

(PRIORITY REPAIR 7)

Photo No.: **C8**

Location: Panel Point 18W, Cable A, looking southwest.

Description: Bolt connecting the south handrail stanchion is not fully engaged.

(SAFETY REPAIR 1)

Photo No.: **C9**

Location: Panel Point 18E, Cable A, looking southeast.

Description: (2 of 2) loose bolts connecting the steel bracket of messenger cable to the cable band.

(SAFETY REPAIR 2)

Photo No.: **C10**

Location: Panel Point 8E, Cable D, looking northeast.

Description: Broken and disconnected safety rope stanchion.

(SAFETY REPAIR 3)

Photo No.: **C11**

Location: Panel Point 10W-11W, Cable A, looking southeast.

Description: Hanging electrical wire below the cable.

(SAFETY REPAIR 4)

Photo No.: **C12**

Location: Panel Points 2E-1E, Cable D, looking northeast.

Description: The fan-type security fence is slightly loose due to (4 of 4) loose nuts at the circumferential clamping angles and has slipped approximately 1' down the cable. The neoprene pad is exposed and is slightly torn.

(SAFETY REPAIR 5)

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Photo No.: **C15**

Location: New Jersey Anchorage above Cable D splay saddle, looking southeast.

Description: Evidence of water leakage through deck at the safety rope interface.

Photo No.: **C16**

Location: New Jersey Anchorage, Cable B, strand shoe of cable strand 27, looking north.

Description: Moderate corrosion at top of strand shoe as a result of previous water leakage.

Photo No.: **C17**

Location: New Jersey Anchorage, Cable D, Strand 15, looking north.

Description: One broken wire with tag located approximately 15' from split.

Photo No.: **C18**

Location: New Jersey Anchorage, Cable C, Strand 4, looking north.

Description: Localized Stage II corrosion on strand located approximately 10' from split.

Photo No.: **C19**

Location: New York Anchorage, Cable C, Strand 36, looking northeast.

Description: Up to Stage IV corrosion on strands due to water leakage through the sidewalk above.

Photo No.: **C20**

Location: New York Anchorage, Cable C, Strand 12, looking east.

Description: 10 broken wire strands behind the strand shoe.

Photo No.: **C21** **Location:** New York Tower, west of Cable A saddle, looking southwest. **Description:** Torn cable sleeve on the inner face of the tower wall.	
Photo No.: **C22** **Location:** New York Tower, Cable C saddle, looking southwest. **Description:** (1 of 4) missing guide block bolts.	

Photo No.: C23

Location: New York Side Span, Panel Points 11E-10E, Cable A, looking east.

Description: Localized peeling paint on cable wrapping. At time of inspection, the New York Side Span was in the process of being cleaned and repainted.

Photo No.: C24

Location: New York Side Span, Panel Points 1E-2E, Cables C and D, looking west.

Description: New light standards that are flared at the top have been installed to accommodate the installation of the blast protection on the main cables.

Photo No.: **C25**

Location: Panel Point 16E, Cable C, Suspender Ropes 9 and 10, looking southwest.

Description: Gaskets and sealers of suspender ropes are generally in good condition.

Photo No.: **C26**

Location: New York Tower, east of Cable C saddle, looking southeast.

Description: North safety rope is rubbing against the tower wall.

Photo No.: **C27**

Location: Panel Point 15E, Cable D, south safety rope, looking south.

Description: Safety rope has one broken wire at the stanchion bracket.

Photo No.: **C28**

Location: Panel Point 32W, Cable A, Suspender Rope 1, looking west.

Description: Up to 5/8" pack rust between suspender rope anchor plates and heavy corrosion to stiffener angles.

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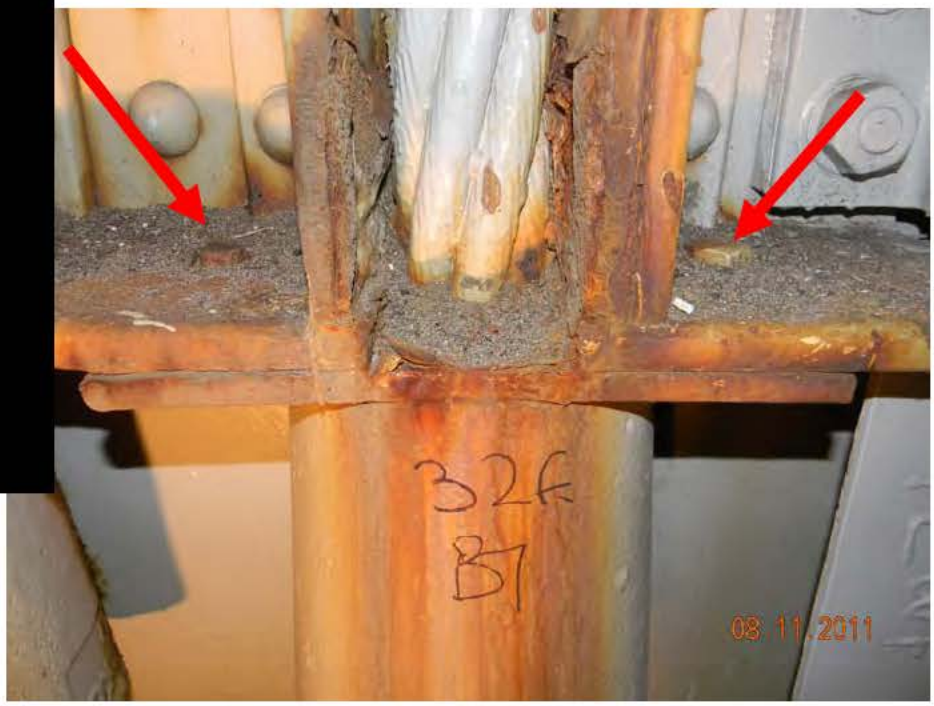

Photo No.: **C30**

Location: Panel Point 38E, Cable C, looking south.

Description: Both safety rope stanchions are bent.

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D. BRIDGE MOUNTED SIGN STRUCTURES

II. INSPECTION FINDINGS AND RECOMMENDATIONS

D. Bridge Mounted Sign Structures

Major Inspection Findings

The sign structures on the Upper and Lower Levels are in overall good condition.

All bridge mounted sign structures were inspected as part of the bridge condition survey. Only those sign panels which measure approximately 10SF and over, including those of combined panels with directional value, were inspected 100% hands-on, and are included in the tables of surveyed sign structures for the Upper and Lower Levels (See tables on pages D-3 through D-13). The sign number listed in the tables is either the sign identification number which was found during the inspection or an arbitrary number designated for those signs which did not display identification labels. An S prefix is typically used for general sign panels or structures and an L prefix is for electronic signals.

The inspection of the Upper Level roadway signs included all sign panels attached to the lighting standards along the north and south sidewalks and one cantilevered sign structure framed into the New York Tower between Panel Points 11E-14E spanning over the eastbound roadway. The inspection of the Lower Level roadway signs included all sign panels and sign structures either attached to the upper level framing (main floorbeams/capbeams), vertical members of the stiffening truss and drainage downspouts, or lower level deck/median-grating framing.

Several temporary sign panels were noted along both roadways due to on-going construction work. The temporary sign panels are in good condition, however, they were not included in the list of surveyed sign structures.

There are a total of 70 signs and sign structures included in this survey. Fifty-seven were found in good condition and 12 are in fair condition due to the following deficiencies: minor impact damage of the sign panel; missing screws connecting the sign panel to the sign structure; missing or broken bolts connecting the sign panel to the sign structure or sign structure to the bridge; rotated sign panels; and inadequately illuminated signs due to non-functioning light fixtures. One sign structure was found in poor condition due to a sheared off base at the median area of the Lower Level roadway near Panel Point 8E.

Since the previous inspection, 16 sign structures were removed, 1 was partially removed at the lower level, 10 new sign structures were added and 2 sign structures were repaired.

During this inspection, there were no conditions found requiring immediate action. There were no priority or safety repairs recommended in the previous report and no new priority and safety repairs are recommended in this report. There are a total of 7 routine repairs at 14 locations recommended in this inspection report.

George Washington Bridge – Upper Level

RECOMMENDATIONS

Immediate: None.

Priority: None.

Safety: None.

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
1	Repair the impact damaged signs attached to the lighting standards along the south sidewalk between Panel Points 24W-25W & 37W-38W on the Upper Level roadway, and at the sign panel between Panel Points 5W-6W and at Panel Point 26W on the Lower Level roadway. *(Photo D1)* (4 Locations)	SS-1, SS-2
2	Replace (1 of 4) missing bolts which connects the sign structure to the Capbeam 9 at the New York Anchorage. *(Photo D2)* (1 Location)	SS-2
3	Replace non-functioning light fixtures at the cantilevered sign structure attached to the New York Tower spanning over the eastbound roadway between Panel Points 14E-11E and at Panel Point 1E at the eastbound median area. *(Photo D3)* (2 Locations)	SS-1, SS-2
4	Replace the missing screws which attach the sign panel to the sign structure at Panel Points 20W & 6E and at Capbeam 9 at the New York Anchorage. *(Photo D4)* (3 Locations)	SS-2
5	Replace (1 of 6) broken U-bolts which attach the sign panel to the sign structure at the median area between Panel Points 5W-6W. *(Photo D1)* (1 Location)	SS-2
6	Repair the sheared off base of the sign structure and reattach the sign at the median area near Panel Point 8E. *(Photo D5)* (1 Location)	SS-2
7	Realign and secure the rotated sign panel at the north sidewalk between Panel Points 37W-38W and at the south sidewalk between Bents 3-4 of the New York Anchorage. *(Photo D6)* (2 Locations)	SS-1

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Sidewalk**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
S1	SOUTH	3W-4W	N/A	N/A	N/A	REMOVED	N/A
S2	SOUTH	5W-6W	N/A	N/A	N/A	REMOVED	N/A
S15	NORTH	9W-10W	1	RIGHT LANE MUST EXIT	GOOD	NONE	NONE
S3	SOUTH	16W-17W	N/A	N/A	N/A	REMOVED	N/A
40H	NORTH	18W-19W	1	SPEED LIMIT 45	GOOD	NONE	NONE
S4	SOUTH	19W-20W	1	NO STOPPING ON BRIDGE	GOOD	NONE	NONE
40D	NORTH	21W-22W	1	RIGHT LANE MUST EXIT	GOOD	NONE	NONE
S5	SOUTH	22W-23W	1	TO I-87 DEEGAN EXPWY KEEP LEFT	GOOD	NONE	NONE
S5A	SOUTH	24W-25W	1	MANHATTAN EAST SIDE USE HARLEM RIVER DRIVE CARS ONLY	FAIR	R1: Repair the impact damaged sign attached to the lighting standard along the south sidewalk.	ROUTINE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Sidewalk**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
40I	NORTH	25W-26W	N/A	N/A	N/A	REMOVED	N/A
18H	SOUTH	30W-31W	N/A	N/A	N/A	REMOVED	N/A
S6	SOUTH	34W-35W	1	TRUCK ROUTE MANHATTAN WEST SIDE USE 178 ST TO BROADWAY	GOOD	NONE	NONE
S16	NORTH	34W-35W	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
40C	NORTH	36W-37W	1	TRUCKS PROHIBITED ON PALISADES PARKWAY	GOOD	NONE	NONE
18R	SOUTH	37W-38W	1	MANHATTAN WEST SIDE USE ROUTE 9A CARS ONLY	FAIR	R1: Repair the impact damaged sign attached to the lighting standard along the south sidewalk.	ROUTINE
S17	NORTH	37W-38W	1	FOR ROUTE 17 USE ROUTE 4	GOOD	NONE	NONE
72E	NORTH	37W-38W	1	WELCOME TO NEW JERSEY THE GARDEN STATE	FAIR	R7: Realign and secure the rotated sign panel (see Photo D6).	ROUTINE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Sidewalk**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
72C	NORTH	39W-40W	N/A	N/A	N/A	REMOVED	N/A
S7	SOUTH	41E-40E	N/A	N/A	N/A	REMOVED	N/A
72D	SOUTH	40E-39E	N/A	N/A	N/A	REMOVED	N/A
40B	NORTH	40E-39E	N/A	N/A	N/A	REMOVED	N/A
18S	SOUTH	38E-37E	1	WELCOME TO NEW YORK THE EMPIRE STATE	GOOD	NONE	NONE
18G	SOUTH	35E-34E	N/A	N/A	N/A	REMOVED	N/A
S8	SOUTH	34E-33E	N/A	N/A	N/A	REMOVED	N/A
18Q	NORTH	31E-30E	N/A	N/A	N/A	REMOVED	N/A
41H	SOUTH	28E-27E	1	MANHATTAN EAST SIDE USE HARLEM RIVER DRIVE CARS ONLY	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Sidewalk**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
41K	SOUTH	25E-24E	N/A	N/A	N/A	REMOVED	N/A
41L	SOUTH	23E-22E	1	RIGHT LANE FOR EXIT ONLY	GOOD	NONE	NONE
S9	SOUTH	22E-21E	N/A	N/A	N/A	REMOVED	N/A
S10	SOUTH	22E-21E	1	US ROUTE 1 USE I- 95	GOOD	NONE	NONE
18P	NORTH	20E-19E	1	NO STOPPING ON BRIDGE	GOOD	NONE	NONE
S11	SOUTH	19E-18E	1	HOSPITAL NEW YORK PRESBYTERIAN	GOOD	NONE	NONE
18I	SOUTH	17E-16E	1	MANHATTAN WEST SIDE USE ROUTE 9A CARS ONLY	GOOD	NONE	NONE
18N	NORTH	17E-16E	N/A	N/A	N/A	REMOVED	N/A

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Sidewalk**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
S12	SOUTH	16E-15E	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
41	SOUTH	14E-11E	1	NORTH I-95 TO I-87; CLEARANCE 13'-6"; W 178TH ST.; ROUTE 9A; H. HUDSON PKWY. "STRAIGHT ARROW & RIGHT ARROW"	FAIR	R3: Replace (6 of 7) non-functioning light fixtures (see Photo D3).	ROUTINE
S13	SOUTH	9E-8E	1	TRUCKS PROHIBITED ON H HUDSON PARKWAY	GOOD	NONE	NONE
18M	NORTH	7E-6E	1	SPEED LIMIT 45	GOOD	NONE	NONE
41D	SOUTH	6E-5E	1	RIGHT LANE FOR EXIT ONLY	GOOD	NONE	NONE
41E	SOUTH	2E-1E	N/A	N/A	N/A	REMOVED	N/A
S14	SOUTH	NY ANCHORAGE BENTS 3-4	1	MANHATTAN WEST SIDE "RIGHT ARROW"	FAIR	R7: Realign and secure the rotated sign panel.	ROUTINE
S18	NORTH	NY ANCHORAGE BENTS 6-7	1	EMERGENCY AID 201-346-4000	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
L1	WESTBOUND	3W	3	"ELECTRONIC LANE STATUS INDICATOR SIGNALS"	GOOD	NONE	NONE
S35	MEDIAN (WB)	5W-6W	1	TRAFFIC MAY BE STOPPED AHEAD "SYMBOL" SLOW DOWN	FAIR	R1. Repair the impact damaged sign attached to the sign structure (see Photo D1). R5. Replace (1 of 6) broken U-bolts which attach the sign panel to the sign structure (see Photo D1).	ROUTINE
S36	WESTBOUND	7W	1	G.W. BRIDGE HIGHWAY ADVISORY AND EMERGENCY (877) PA-ROADS	GOOD	NONE	NONE
S19	EASTBOUND	8W	1	SPEED LIMIT 45	GOOD	NONE	NONE
140	EASTBOUND	9W	1	ROUTE 9A H HUDSON PKWY KEEP LEFT	GOOD	NONE	NONE
S35A	MEDIAN (EB)	9W	1	ROUTE 9A H HUDSON PKWY KEEP LEFT	GOOD	NONE	NONE
S37	WESTBOUND	9W	1	SPEED LIMIT 45	GOOD	NONE	NONE

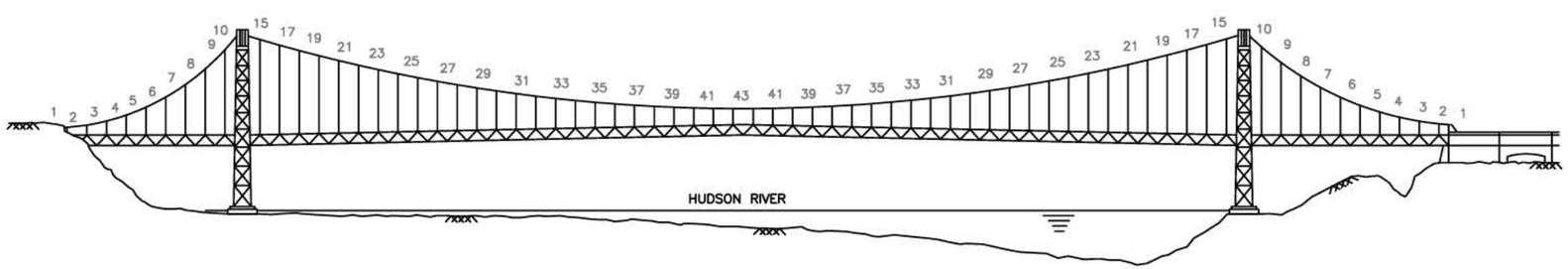
GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
127	WESTBOUND	17W	1	ROUTES 1 & 9, 46, 4 KEEP LEFT	GOOD	NONE	NONE
S20	EASTBOUND	18W	1	G.W. BRIDGE HIGHWAY ADVISORY AND EMERGENCY (877) PA-ROADS	GOOD	NONE	NONE
S21	EASTBOUND	20W	1	US ROUTE 9 USE EXIT 1	FAIR	R4. Replace the missing screws which attach the sign panel to the sign structure (1 of 6) total.	ROUTINE
S22	EASTBOUND	22W	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
S38	WESTBOUND	26W	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	FAIR	R1. Repair the impact damaged sign attached to the sign structure.	ROUTINE
S23	EASTBOUND	27W	1	SPEED LIMIT 45	GOOD	NONE	NONE
S39	WESTBOUND	28W	1	SPEED LIMIT 45	GOOD	NONE	NONE
S24	EASTBOUND	30W	1	US ROUTE 1 USE I-95	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
141	EASTBOUND	40W	1	I-95 TO I-87 KEEP RIGHT	GOOD	NONE	NONE
141A	MEDIAN (EB)	40W	1	I-95 TO I-87 KEEP RIGHT	GOOD	NONE	NONE
141B	MEDIAN (WB)	40W	1	9W TO 67 RIGHT LANE	GOOD	NONE	NONE
S40	WESTBOUND	40W	1	ROUTE 9W TO ROUTE 67 PIP RIGHT LANE	GOOD	NONE	NONE
72A	MEDIAN (WB)	42W	1	WELCOME "STATE LOGO" NEW JERSEY	GOOD	NONE (REPAIRED)	NONE
72B	MEDIAN (EB)	42E	1	WELCOME "STATE LOGO" NEW YORK	GOOD	NONE	NONE
S26	EASTBOUND	37E	1	SPEED LIMIT 45	GOOD	NONE	NONE
S41	WESTBOUND	37E	1	SPEED LIMIT 45	GOOD	NONE	NONE
S27	EASTBOUND	36E	1	US ROUTE 9 USE EXIT 1	GOOD	NONE	NONE

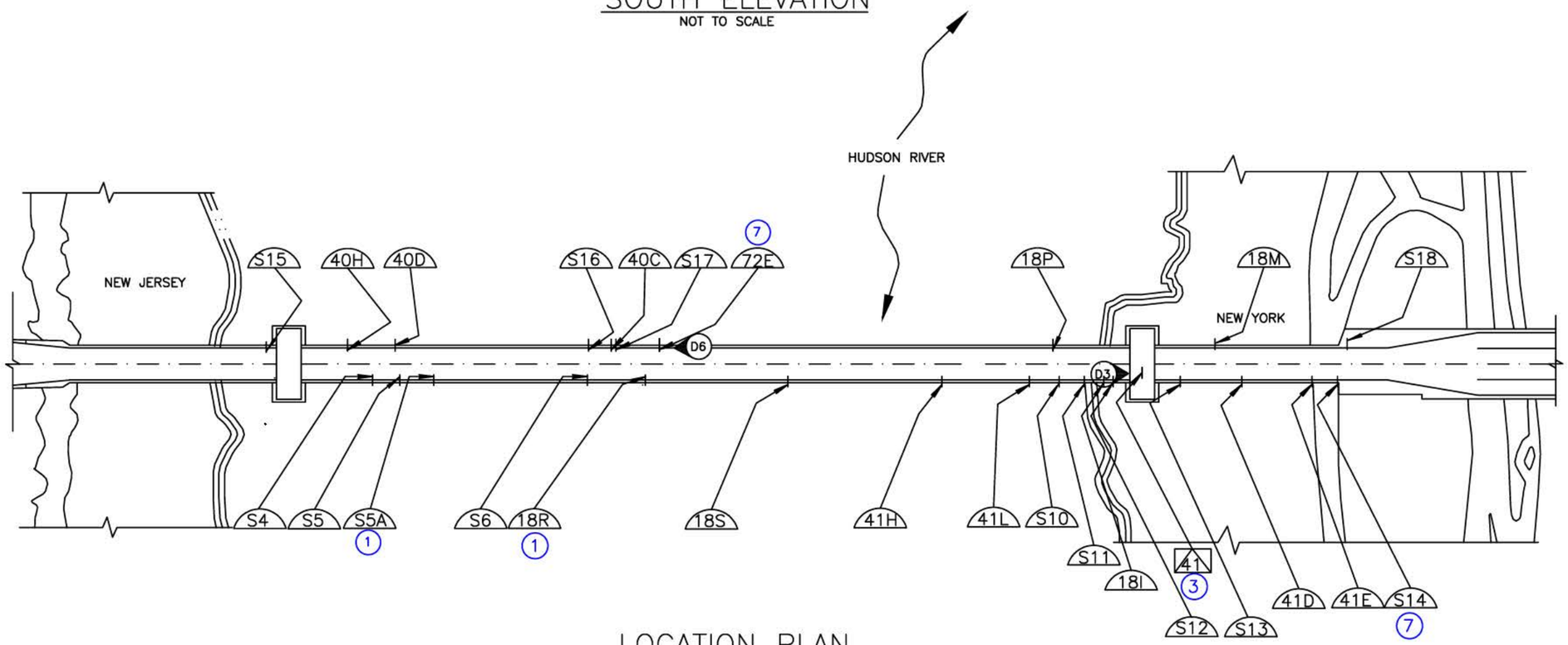
GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
66	MEDIAN (EB)	29E-28E	1	EXIT 1 H HUDSON PKWY W 178 ST THRU TRAFFIC I-95 1/4 MILE "UP ARROWS"	GOOD	NONE (REPAIRED)	NONE
66A	MEDIAN (WB)	29E-28E	2	SUDDEN STOPS SYMBOL STAY ALERT	GOOD	NONE	NONE
66B	MEDIAN (WB)	28E	2	SUDDEN STOPS SYMBOL STAY ALERT	GOOD	NONE	NONE
S28	EASTBOUND	24E	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
S29	EASTBOUND	22E	1	HOSPITAL NEW YORK PRESBYTERIAN NEXT LEFT	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
66G	WESTBOUND	22E	1	I-95, I-80 NJ TURNPIKE KEEP RIGHT	GOOD	NONE	NONE
66H	MEDIAN (WB)	22E	1	I-95, I-80 NJ TURNPIKE KEEP RIGHT	GOOD	NONE	NONE
S30	EASTBOUND	20E	1	US ROUTE 1 USE I-95	GOOD	NONE	NONE
S42	WESTBOUND	20E	1	G.W. BRIDGE HIGHWAY ADVISORY AND EMERGENCY (877) PA-ROADS	GOOD	NONE	NONE
S31	EASTBOUND	9E	1	SPEED LIMIT 45	GOOD	NONE	NONE
S43	WESTBOUND	9E	1	SPEED LIMIT 45	GOOD	NONE	NONE
67A	MEDIAN (WB)	8E	1	TRUCKS PROHIBITED ON H HUDSON PKWY	POOR	R6. Repair the sheared off base of the sign structure and reattach sign (Sign laying on median fencing) (see Photo D5).	ROUTINE
S32	EASTBOUND	6E	1	EXIT "DOWN ARROW" ONLY	FAIR	R4. Replace the missing screws which attach the sign panel to the sign structure (15 of 28) total (see Photo D4).	ROUTINE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
S44	WESTBOUND	4E	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
67B	EASTBOUND	1E	3	SLOW "BENT ARROWS" 30 M.P.H.	GOOD	NONE	NONE
67C	MEDIAN (EB)	1E	1	H HUDSON PARKWAY W 178 ST "UP ARROWS"	GOOD	NONE	NONE
67D	MEDIAN (EB)	1E	1	I-95 THRU TRAFFIC "UP/RIGHT ARROWS"	FAIR	R3: Replace non-functioning light fixture (1 of 2) total.	ROUTINE
S45	WESTBOUND	NY ANCHORAGE BENT 7	1	"NO MERGE SYMBOL"	GOOD	NONE (LOWER SIGN REMOVED)	NONE
S33	EASTBOUND	NY ANCHORAGE CAPBEAM 9	2	EXIT 1 ROUTE 9A H HUDSON PKWY W 178 ST "DOWN ARROWS"	FAIR	R2. Replace (1 of 4) missing bolts which connects the sign panel to the capbeam (see Photo D2).	ROUTINE
S34	EASTBOUND	NY ANCHORAGE CAPBEAM 9	1	I-95 THRU TRAFFIC "UP/RIGHT ARROWS"	FAIR	R4. Replace the missing screws which attach the sign panel to the sign structure (2 of 8) total.	ROUTINE



SOUTH ELEVATION
NOT TO SCALE



LOCATION PLAN
NOT TO SCALE

KEY CONDITION NOTES:

1. REPAIR THE IMPACT DAMAGED SIGN ATTACHED TO THE LIGHT STANDARD/SIGN STRUCTURE.
3. REPLACE NON-FUNCTIONING LIGHT FIXTURES.
7. REALIGN AND SECURE THE ROTATED SIGN PANEL.

LEGEND:

- ROUTINE REPAIR
- PHOTO TAKEN ABOVE UPPER LEVEL
- CANTILEVER SIGN STRUCTURE (CS)
- SIGN ATTACHED TO UTILITY POLE (AUP)

Sheet 1 of 2

THE PORT AUTHORITY OF NY & NJ

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508
UPPER LEVEL
MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SIGN STRUCTURES ON UPPER LEVEL

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	HL	MJN
Designed by	Drawn by	Checked by

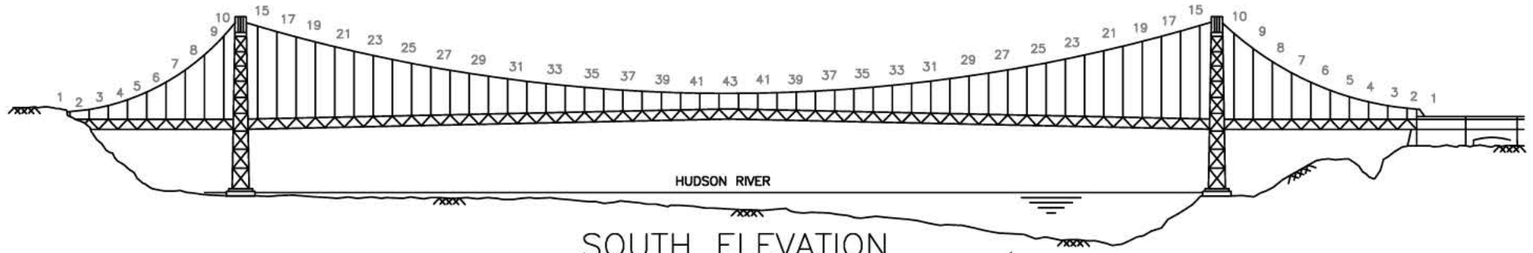
Date: DECEMBER, 2011

Contract Number: 405-11-002

Drawing Number: SS-1

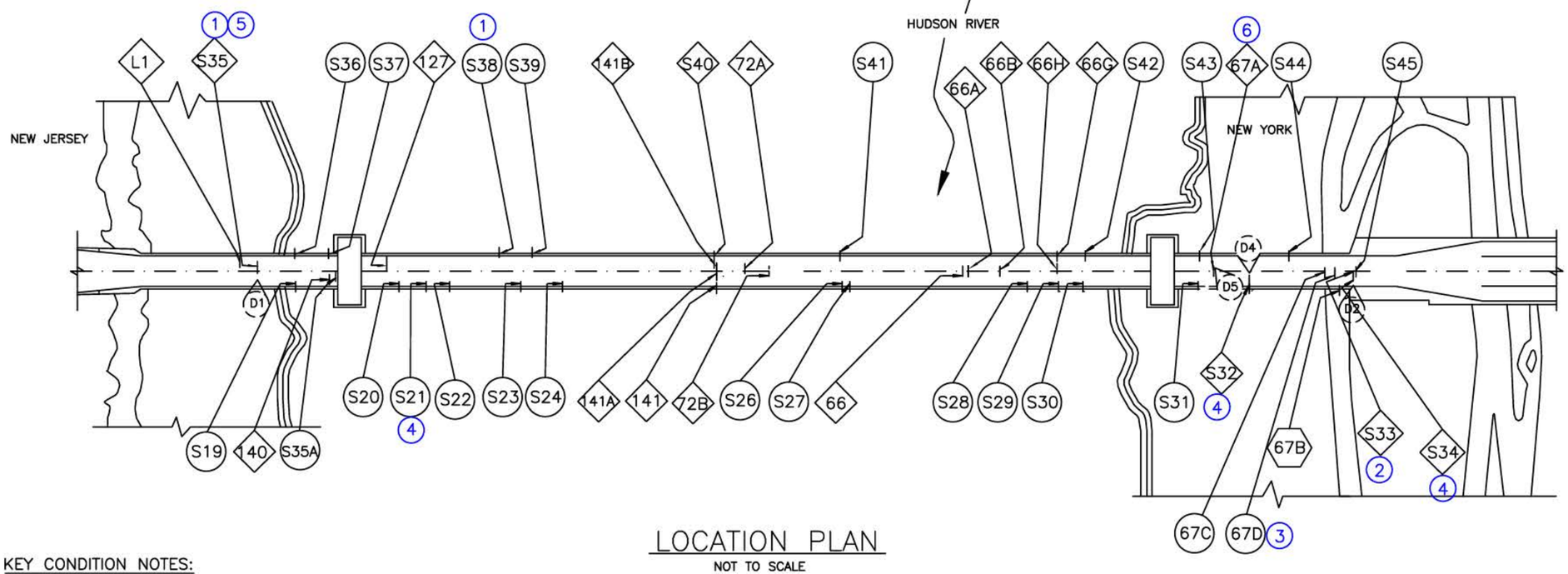
THE PORT AUTHORITY OF NY & NJ

NORTH



SOUTH ELEVATION

NOT TO SCALE



LOCATION PLAN

NOT TO SCALE

KEY CONDITION NOTES:

1. REPAIR THE IMPACT DAMAGED SIGN ATTACHED TO THE LIGHT STANDARD/SIGN STRUCTURE.
2. REPLACE (1 OF 4) MISSING BOLTS WHICH CONNECTS THE SIGN STRUCTURE TO THE CAPBEAM.
3. REPLACE NON-FUNCTIONING LIGHT FIXTURES.
4. REPLACE THE MISSING SCREWS WHICH ATTACH THE SIGN PANEL TO THE SIGN STRUCTURE.
5. REPLACE (1 OF 6) BROKEN U-BOLTS WHICH ATTACH THE SIGN PANEL TO THE SIGN STRUCTURE AT THE MEDIAN AREA BETWEEN PANEL POINTS 5W-6W.
6. REPAIR THE SHEARED OFF BASE OF THE SIGN STRUCTURE AND REATTACH THE SIGN AT THE MEDIAN AREA NEAR PANEL POINT 8E.

LEGEND:

- ROUTINE REPAIR
- PHOTO TAKEN BELOW UPPER LEVEL
- SIGN STRUCTURE ATTACHED TO BRIDGE (SABR)
- SIGN ATTACHED TO BUILDING (ABLDG)
- SIGN ATTACHED TO BRIDGE (ABR)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

No.	Date	Revision	Approved

Title

BIN 5522508

UPPER LEVEL MAIN SPAN

DEFICIENCY & PHOTO LOCATION PLAN SIGN STRUCTURES ATTACHED TO UPPER LEVEL FRAMING OVER LOWER LEVEL

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

JLB	HL	MJN
Designed by	Drawn by	Checked by

Date DECEMBER, 2011

Contract Number 405-11-002

Drawing Number SS-2

George Washington Bridge – Upper Level

Photo No.: D1

Location:
Sign panel (#S35) for westbound roadway at Lower Level median area between Panel Points 5W-6W, looking north.

Description:
Minor impact damage to sign panel and (1 of 4) broken U-bolts at the connection to the sign structure.

(Routine Repair No. 1 and Routine Repair No. 5)

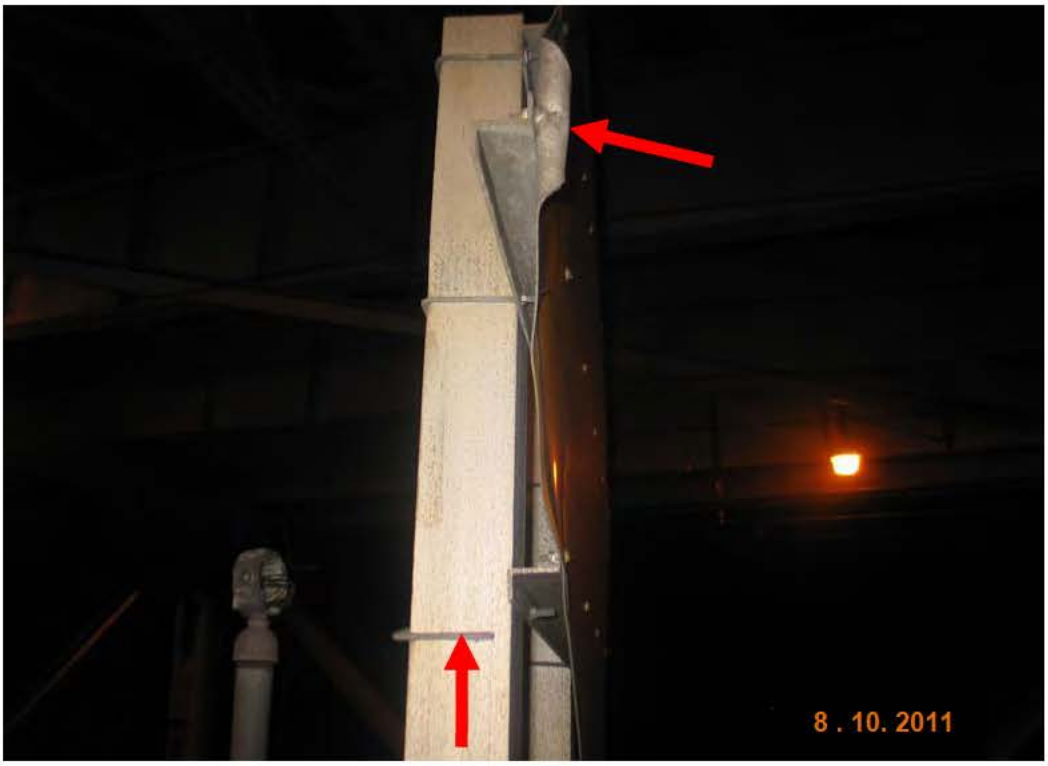


Photo No.: D2

Location:
Sign structure (#S33) connection to Capbeam 9 at the New York Anchorage over the eastbound Lower Level roadway, looking north.

Description:
Missing (1 of 4) bolts at the connection to the bottom flange of the capbeam.

(Routine Repair No. 2)

George Washington Bridge – Upper Level

Photo No.: D3

Location:
Cantilevered sign structure (#41) over the eastbound Upper Level roadway attached to the New York Tower between Panel Points 14E-11E, looking east.

Description:
Non-functioning light fixtures (6 of 7) total at the sign structure.

(Routine Repair No. 3)

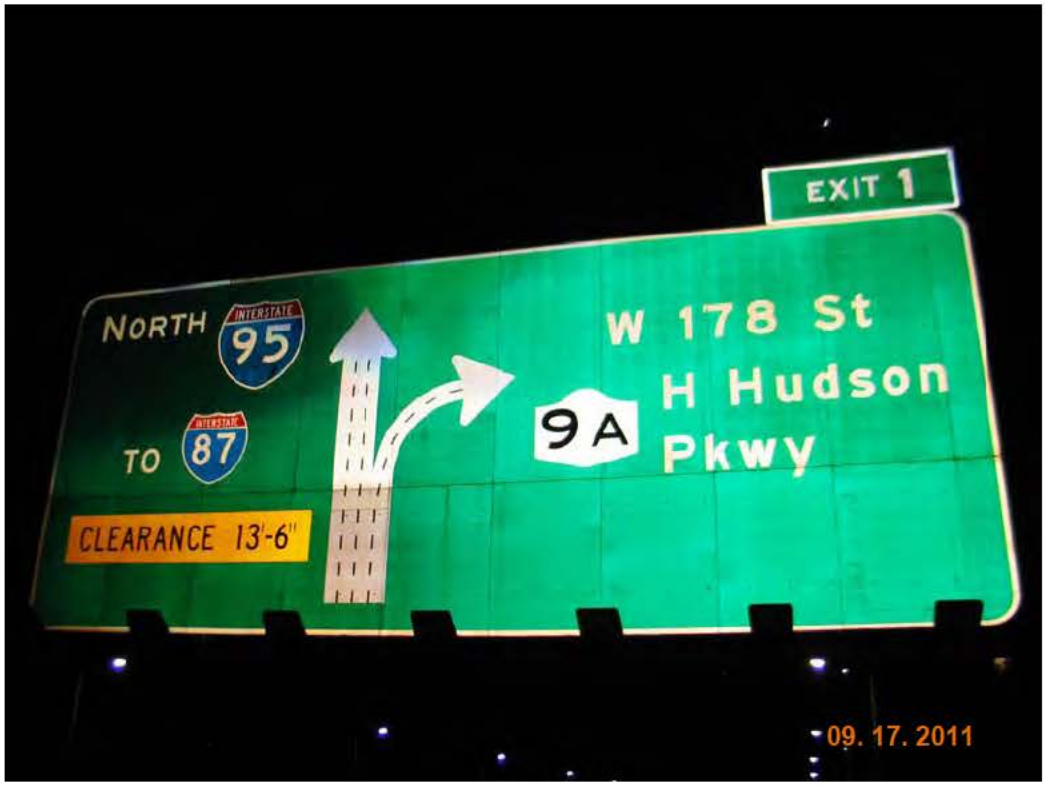


Photo No.: D4

Location:
Sign panel (#S32) over the eastbound Lower Level roadway at Panel Point 6E, looking south.

Description:
Missing (15 of 28) screws attaching the sign panel to the sign structure.

(Routine Repair No. 4)

George Washington Bridge – Upper Level

Photo No.: D5

Location:
Sign panel (#67A) for westbound roadway at Lower Level median area near Panel Point 8E, looking northwest.

Description:
The sign structure has sheared off at the base and has fallen onto the median fencing.

(Routine Repair No. 6)

Photo No.: D6

Location:
Sign panel (# 72E) attached to the light standard at the north sidewalk between Panel Points 37W-38W, looking west.

Description:
The top sign panel has rotated and is not visible from the westbound roadway.

(Routine Repair No. 7)

Engineering Quality
Assurance Division
B04-925.103

Port Authority Facility Condition Survey Program

George Washington Bridge Main Span Upper Level 2011 Biennial Inspection

Volume 2 of 2

December 2011

Engineering Department

THE PORT AUTHORITY OF NY & NJ

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Volume 2

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APPENDIX A:
ORTHOTROPIC DECK – CRACKED RIB WELDS TABLE

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
2W-3W	B2	R52	E	FW
2W-3W	**B7**	**R2**	**W**	**½**
2W-3W	**B8**	**R29**	**W**	**1**
2W-3W	**B12**	**R3**	**E**	**½**
2W-3W	**B12**	**R4**	**E**	**¼**
2W-3W	**B12**	**R17**	**W**	**1**
3W	RISER BEAM	R2	E	2 ½
3W	RISER BEAM	R3	E	FW
3W	RISER BEAM	R4	E	FW
3W	RISER BEAM	R6	E	2
3W	RISER BEAM	R7	E	2
3W	**RISER BEAM**	**R12**	**E**	**1 ½**
3W	RISER BEAM	R52	E	FW
3W-4W	B1	R7	E	1 ½
3W-4W	B1	R8	E	1
3W-4W	**B1**	**R9**	**E**	**1**
3W-4W	B1	R11	E	1
3W-4W	**B1**	**R21**	**E**	**1**
3W-4W	**B1**	**R28**	**E**	**1**
3W-4W	**B1**	**R38**	**E**	**1**
3W-4W	B2	R2	W	FW
3W-4W	**B4**	**R9**	**E**	**1**
3W-4W	**B4**	**R22**	**W**	**½**
3W-4W	**B9**	**R23**	**E**	**½**
3W-4W	**B9**	**R24**	**E**	**½**
3W-4W	**B10**	**R11**	**E**	**1**
3W-4W	**B10**	**R24**	**W**	**½**
3W-4W	B10	R11	E	1 ¼
3W-4W	B11	R38	E	2
3W-4W	**B11**	**R56**	**E**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
3W-4W	**B11**	**R64**	**E**	**2**
3W-4W	B12	R8	W	½
3W-4W	B12	R17	W	1 ¼
3W-4W	B12	R30	W	FW
3W-4W	**B12**	**R46**	**W**	**FW**
3W-4W	**B12**	**R47**	**W**	**FW**
3W-4W	B12	R54	W	1
3W-4W	B12	R56	W	2
3W-4W	B12	R58	W	2 ½
3W-4W	**B12**	**R61**	**W**	**1**
3W-4W	**B12**	**R63**	**W**	**FW**
3W-4W	**B12**	**R64**	**W**	**FW**
3W-4W	**B12**	**R65**	**W**	**FW**
3W-4W	**B12**	**R66**	**W**	**FW**
3W-4W	**B12**	**R67**	**W**	**2 ½**
3W-4W	**B12**	**R68**	**W**	**3**
3W-4W	**B12**	**R69**	**W**	**2 ½**
4W	**RISER BEAM**	**R3**	**E**	**FW**
4W	**RISER BEAM**	**R5**	**E**	**2**
4W	**RISER BEAM**	**R8**	**E**	**1 ¼**
4W	RISER BEAM	R10	E	1 ¼
4W	RISER BEAM	R11	E	1 ½
4W	RISER BEAM	R12	E	3
4W	RISER BEAM	R13	E	2
4W	**RISER BEAM**	**R14**	**E**	**1**
4W	RISER BEAM	R15	E	1 ½
4W	RISER BEAM	R16	E	1 & 2
4W	RISER BEAM	R21	E	1 ½
4W	RISER BEAM	R23	E	1 ¼
4W	RISER BEAM	R25	E	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
4W	**RISER BEAM**	**R30**	**E**	**½**
4W	RISER BEAM	R45	E	2 ½
4W	RISER BEAM	R50	E	2 ¼
4W	**RISER BEAM**	**R51**	**E**	**1**
4W	RISER BEAM	R58	E	½
4W	**RISER BEAM**	**R62**	**E**	**¼**
4W	RISER BEAM	R66	E	1 ½
4W	**RISER BEAM**	**R67**	**E**	**½**
4W	**RISER BEAM**	**R68**	**E**	**1 ½**
4W	**RISER BEAM**	**R69**	**E**	**1**
4W-5W	B1	R10	W	FW
4W-5W	B1	R11	E	1 ⅞
4W-5W	B1	R12	E	2 ¼
4W-5W	**B1**	**R28**	**W**	**1 ¼**
4W-5W	B1	R34	E	1 ½
4W-5W	**B1**	**R41**	**E**	**¼ & ¼**
4W-5W	**B1**	**R42**	**E**	**½ & ¼**
4W-5W	**B1**	**R42**	**W**	**½ & ¼**
4W-5W	**B1**	**R43**	**E**	**½ & ½**
4W-5W	**B1**	**R43**	**W**	**1 & ½**
4W-5W	B1	R51	E	3
4W-5W	**B1**	**R60**	**E**	**¼**
4W-5W	**B1**	**R60**	**W**	**½**
4W-5W	**B1**	**R63**	**W**	**¼**
4W-5W	B3	R19	E	⅜
4W-5W	**B7**	**R19**	**W**	**½**
4W-5W	B11	R20	W	3
4W-5W	**B11**	**R34**	**W**	**1**
4W-5W	**B11**	**R35**	**W**	**1 ½**
4W-5W	**B12**	**R11**	**W**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
4W-5W	B12	R12	W	FW
4W-5W	B12	R21	W	1
4W-5W	B12	R23	W	3
4W-5W	**B12**	**R24**	**W**	**½**
4W-5W	**B12**	**R32**	**W**	**¾**
4W-5W	**B12**	**R33**	**W**	**1**
4W-5W	**B12**	**R46**	**W**	**1 ½**
4W-5W	**B12**	**R49**	**W**	**1**
4W-5W	**B12**	**R51**	**W**	**2 ½**
4W-5W	B12	R57	W	1 ½
4W-5W	B12	R58	W	2 ½
4W-5W	B12	R60	W	3
4W-5W	B12	R61	W	FW
4W-5W	**B12**	**R62**	**W**	**FW**
4W-5W	B12	R64	W	FW
4W-5W	B12	R66	W	FW
4W-5W	B12	R68	W	1 ½
5W	RISER BEAM	R1	E	1
5W	RISER BEAM	R2	E	2 ½
5W	RISER BEAM	R3	E	FW
5W	RISER BEAM	R4	E	2 ½
5W	RISER BEAM	R5	E	2 ½
5W	RISER BEAM	R6	E	3
5W	RISER BEAM	R7	E	2 ½
5W	RISER BEAM	R8	E	3
5W	RISER BEAM	R10	E	¾
5W	RISER BEAM	R11	E	1 ¼
5W	RISER BEAM	R12	E	1 ¾
5W	RISER BEAM	R13	E	1
5W	**RISER BEAM**	**R17**	**E**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
5W	RISER BEAM	R21	E	2
5W	**RISER BEAM**	**R31**	**E**	**1**
5W	**RISER BEAM**	**R32**	**E**	**1 ½**
5W	**RISER BEAM**	**R47**	**E**	**1**
5W	**RISER BEAM**	**R52**	**E**	**½**
5W	**RISER BEAM**	**R55**	**E**	**½**
5W	RISER BEAM	R59	E	1
5W	RISER BEAM	R60	E	1 ¼
5W	RISER BEAM	R61	E	½
5W-6W	B1	R2	W	FW
5W-6W	B1	R3	W	FW
5W-6W	**B1**	**R8**	**E**	**3**
5W-6W	B1	R28	W	FW
5W-6W	B1	R30	E	3
5W-6W	B1	R30	W	3
5W-6W	B1	R32	W	4
5W-6W	**B1**	**R41**	**E**	**½ & ¼**
5W-6W	**B1**	**R42**	**E**	**¼**
5W-6W	**B1**	**R43**	**E**	**½ & ¼**
5W-6W	B1	R51	E	2 ½
5W-6W	B1	R68	E	FW
5W-6W	B1	R69	E	FW
5W-6W	B2	R18	W	1
5W-6W	B2	R19	E	1
5W-6W	B2	R30	W	4
5W-6W	B2	R31	W	FW
5W-6W	B3	R19	E	1 ½
5W-6W	B3	R19	W	½
5W-6W	B4	R19	E	1
5W-6W	B4	R19	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
5W-6W	B5	R19	E	¼
5W-6W	B5	R19	W	¼
5W-6W	B7	R11	E	⅝
5W-6W	**B7**	**R11**	**W**	**2 ½**
5W-6W	**B7**	**R36**	**W**	**1**
5W-6W	**B9**	**R9**	**W**	**1**
5W-6W	B9	R11	E	1 ¾
5W-6W	B9	R19	E	¼
5W-6W	B9	R19	W	¼
5W-6W	B10	R11	E	1 ⅝
5W-6W	B10	R11	W	1 ⅝
5W-6W	**B10**	**R14**	**W**	**1**
5W-6W	B11	R5	E	1
5W-6W	B11	R6	E	1 ½
5W-6W	B11	R7	E	2
5W-6W	B11	R8	E	FW
5W-6W	B11	R10	E	FW
5W-6W	B11	R10	W	FW
5W-6W	B11	R11	E	2 ½
5W-6W	B11	R11	W	2
5W-6W	B11	R12	E	FW
5W-6W	B11	R12	W	1
5W-6W	B11	R13	E	1
5W-6W	B11	R13	W	½
5W-6W	B11	R14	W	1 ½
5W-6W	B11	R17	W	1 ½
5W-6W	**B11**	**R36**	**W**	**1**
5W-6W	**B11**	**R37**	**E**	**1**
5W-6W	**B11**	**R37**	**W**	**1 ½**
5W-6W	B11	R43	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
5W-6W	B11	R44	E	1
5W-6W	B12	R11	W	2 ½
5W-6W	B12	R14	W	1 ¼
5W-6W	B12	R33	W	1
5W-6W	B12	R34	W	1 ½
5W-6W	**B12**	**R45**	**W**	**2**
5W-6W	**B12**	**R49**	**W**	**½**
5W-6W	B12	R47	W	2
5W-6W	B12	R48	W	2
5W-6W	B12	R51	W	FW
5W-6W	B12	R52	W	4
5W-6W	**B12**	**R60**	**W**	**1 ½**
5W-6W	B12	R63	W	FW
5W-6W	B12	R64	W	FW
5W-6W	B12	R65	W	1
5W-6W	B12	R67	W	2
5W-6W	B12	R69	W	3
6W	RISER BEAM	R7	E	3 ½
6W	RISER BEAM	R45	E	¼
6W	RISER BEAM	R46	E	1 ½
6W	RISER BEAM	R47	E	¼
6W	RISER BEAM	R53	E	1
6W	RISER BEAM	R59	E	1
6W	RISER BEAM	R60	E	3
6W	RISER BEAM	R61	E	4
6W	RISER BEAM	R66	E	FW
6W	RISER BEAM	R67	E	3
6W	RISER BEAM	R68	E	1 ½
6W-7W	B1	R2	E	FW
6W-7W	B1	R2	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
6W-7W	B1	R3	W	FW
6W-7W	**B1**	**R3**	**W**	**1**
6W-7W	B1	R10	E	1
6W-7W	**B1**	**R10**	**W**	**FW**
6W-7W	B1	R10	W	FW
6W-7W	**B1**	**R11**	**W**	**3**
6W-7W	B1	R12	W	3 ¾
6W-7W	**B1**	**R14**	**W**	**½**
6W-7W	**B1**	**R22**	**E**	**FW**
6W-7W	**B1**	**R24**	**E**	**1**
6W-7W	**B1**	**R45**	**W**	**¼**
6W-7W	B1	R54	W	¾
6W-7W	**B1**	**R60**	**W**	**½**
6W-7W	B2	R11	W	4 ¼
6W-7W	B2	R12	W	1 ¾
6W-7W	B2	R14	W	¾
6W-7W	B2	R19	E	⅜
6W-7W	B2	R19	W	¼ + ⅞
6W-7W	B2	R62	W	1 ½
6W-7W	B3	R19	W	⅜
6W-7W	B4	R19	E	¼
6W-7W	B4	R19	W	¾
6W-7W	B6	R16	E	FW
6W-7W	B6	R16	W	FW
6W-7W	B6	R53	E	FW
6W-7W	**B7**	**R2**	**W**	**1**
6W-7W	**B7**	**R19**	**E**	**½**
6W-7W	**B8**	**R10**	**W**	**3**
6W-7W	B8	R61	E	2
6W-7W	B8	R62	W	¾

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
6W-7W	B9	R19	E	¾
6W-7W	B9	R19	W	⅜
6W-7W	B9	R61	E	1 ½
6W-7W	B10	R19	W	½
6W-7W	B11	R2	W	FW
6W-7W	B11	R3	W	3
6W-7W	B11	R20	E	¾
6W-7W	B12	R2	W	FW
6W-7W	B12	R19	W	FW
6W-7W	B12	R20	W	2 ⅜
6W-7W	B12	R24	W	FW
6W-7W	B12	R31	W	2
6W-7W	B12	R53	W	1
6W-7W	**B12**	**R55**	**W**	**½ & ¼**
6W-7W	**B12**	**R56**	**W**	**¼**
6W-7W	**B12**	**R58**	**W**	**¼ & ¼**
6W-7W	**B12**	**R59**	**W**	**¼ & ½**
6W-7W	B12	R60	W	3
6W-7W	B12	R62	W	2
6W-7W	B12	R63	W	1 & ¾
6W-7W	B12	R64	W	1 ½ & ¾
6W-7W	**B12**	**R65**	**W**	**¼ & ¼**
7W	**RISER BEAM**	**R54**	**E**	**1**
7W	**RISER BEAM**	**R55**	**E**	**1**
7W	**RISER BEAM**	**R60**	**E**	**1**
7W	**RISER BEAM**	**R64**	**E**	**1 ¾**
7W	**RISER BEAM**	**R66**	**E**	**2**
7W	**RISER BEAM**	**R68**	**E**	**1 ¾**
7W	RISER BEAM	R69	W	½
7W-8W	**B1**	**R13**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7W-8W	B1	R30	W	FW
7W-8W	B1	R31	E	2
7W-8W	B1	R46	E	2 ½
7W-8W	B1	R62	E	1 ½
7W-8W	B1	R64	E	1 ¼
7W-8W	B1	R65	E	¼
7W-8W	B1	R66	E	2
7W-8W	B2	R11	E	1
7W-8W	B2	R12	E	2
7W-8W	B3	R19	W	3
7W-8W	**B3**	**R21**	**W**	**1**
7W-8W	**B3**	**R25**	**E**	**3**
7W-8W	**B4**	**R24**	**W**	**FW**
7W-8W	**B4**	**R25**	**E**	**FW**
7W-8W	**B4**	**R25**	**W**	**FW**
7W-8W	B5	R19	E	FW
7W-8W	B5	R19	W	FW
7W-8W	**B8**	**R10**	**W**	**2 ½**
7W-8W	**B9**	**R27**	**E**	**½**
7W-8W	**B9**	**R29**	**W**	**½**
7W-8W	B10	R3	E	1 ½
7W-8W	B10	R10	W	FW
7W-8W	B10	R11	W	1
7W-8W	B10	R12	W	2 ½
7W-8W	**B11**	**R2**	**E**	**FW**
7W-8W	B11	R2	W	3
7W-8W	**B11**	**R3**	**W**	**3**
7W-8W	**B11**	**R6**	**W**	**½**
7W-8W	**B11**	**R8**	**W**	**½**
7W-8W	B11	R10	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7W-8W	B11	R10	W	2
7W-8W	B11	R11	E	3
7W-8W	B11	R12	E	1
7W-8W	B11	R14	E	1
7W-8W	B11	R14	W	4
7W-8W	B11	R16	E	1 ½
7W-8W	B11	R24	E	2 ½
7W-8W	B11	R28	E	1
7W-8W	B12	R2	W	FW
7W-8W	B12	R10	W	3
7W-8W	B12	R11	W	2
7W-8W	B12	R12	W	1 ½
7W-8W	B12	R13	W	1 ½
7W-8W	B12	R14	W	1
7W-8W	B12	R15	W	½
7W-8W	B12	R22	W	FW
7W-8W	B12	R23	W	FW
7W-8W	B12	R24	W	FW
7W-8W	B12	R25	W	FW
7W-8W	B12	R26	W	FW
7W-8W	B12	R28	W	1 ½
7W-8W	B12	R29	W	1
7W-8W	B12	R30	W	1 ½
7W-8W	**B12**	**R31**	**W**	**1**
7W-8W	B12	R33	W	2
7W-8W	B12	R34	W	3
7W-8W	B12	R35	W	1
7W-8W	**B12**	**R39**	**W**	**1 ½**
7W-8W	B12	R57	W	2 ½
7W-8W	B12	R58	W	2 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7W-8W	B12	R62	W	3 & 1 ½
7W-8W	B12	R64	W	3
7W-8W	B12	R65	W	1
7W-8W	B12	R66	W	½
8W	RISER BEAM	R46	E	¼
8W	RISER BEAM	R47	E	¼
8W	RISER BEAM	R61	E	½
8W	RISER BEAM	R62	E	3
8W	RISER BEAM	R64	W	¾
8W	RISER BEAM	R66	W	2 ½
8W	RISER BEAM	R68	E	1
8W-9W	B1	R6	E	½
8W-9W	B1	R10	W	1
8W-9W	**B1**	**R32**	**E**	**1 ½**
8W-9W	B1	R65	E	3
8W-9W	B1	R65	W	1
8W-9W	**B4**	**R19**	**E**	**1**
8W-9W	**B4**	**R19**	**W**	**½**
8W-9W	B6	R62	E	1
8W-9W	B7	R62	W	1
8W-9W	B8	R16	E	2
8W-9W	B8	R19	W	1
8W-9W	B8	R62	W	½
8W-9W	B9	R61	W	¼
8W-9W	B10	R46	W	¾
8W-9W	**B11**	**R34**	**W**	**FW**
8W-9W	B11	R46	W	3 ½
8W-9W	B12	R10	W	2 ¼
8W-9W	B12	R21	W	1
8W-9W	B12	R22	W	¾

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
8W-9W	**B12**	**R38**	**W**	**1 & ¾**
8W-9W	B12	R41	W	1 ¼
8W-9W	B12	R42	W	1
8W-9W	B12	R45	W	3
8W-9W	B12	R46	W	2
8W-9W	**B12**	**R60**	**W**	**½**
8W-9W	**B12**	**R61**	**W**	**FW**
8W-9W	B12	R62	W	1
9W	RISER BEAM	R2	E	¾
9W	RISER BEAM	R3	E	¾
9W	RISER BEAM	R4	E	3
9W	RISER BEAM	R6	E	1 ½
9W	RISER BEAM	R7	E	2
9W	**RISER BEAM**	**R8**	**E**	**FW**
9W	RISER BEAM	R10	E	FW
9W	RISER BEAM	R11	E	1 ½
9W	**RISER BEAM**	**R23**	**E**	**1 ½**
9W	RISER BEAM	R24	E	2
9W	RISER BEAM	R25	E	1
9W	**RISER BEAM**	**R35**	**E**	**1 ½**
9W	**RISER BEAM**	**R40**	**E**	**1**
9W	**RISER BEAM**	**R46**	**E**	**2**
9W	**RISER BEAM**	**R47**	**E**	**3**
9W	**RISER BEAM**	**R48**	**E**	**2**
9W	RISER BEAM	R62	E	2
9W	RISER BEAM	R63	E	1
9W	RISER BEAM	R64	E	2
9W	RISER BEAM	R65	E	1
9W	RISER BEAM	R67	E	¾
9W-10W	**B1**	**R2**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
9W-10W	B1	R3	E	1
9W-10W	B1	R4	E	1 ½
9W-10W	B1	R4	W	2
9W-10W	B1	R10	W	FW
9W-10W	B1	R11	W	1
9W-10W	**B1**	**R19**	**E**	**½**
9W-10W	**B1**	**R31**	**E**	**½**
9W-10W	B1	R65	E	¾
9W-10W	B2	R26	E	¼
9W-10W	B3	R25	W	¾
9W-10W	B4	R19	E	½
9W-10W	B4	R19	W	½
9W-10W	**B5**	**R9**	**E**	**½**
9W-10W	B6	R53	W	¾
9W-10W	B9	R19	W	½
9W-10W	B10	R25	E	3
9W-10W	**B12**	**R7**	**W**	**1**
9W-10W	**B12**	**R8**	**W**	**½**
9W-10W	**B12**	**R10**	**W**	**¾**
9W-10W	B11	R19	W	2
9W-10W	B12	R19	W	3
9W-10W	B12	R21	W	1
9W-10W	**B12**	**R24**	**W**	**1**
9W-10W	**B12**	**R37**	**W**	**2**
10W	RISER BEAM	R2	W	FW
10W	RISER BEAM	R3	W	FW
10W	RISER BEAM	R5	E	½
10W	RISER BEAM	R6	E	1
10W	RISER BEAM	R7	W	2 ½
10W	RISER BEAM	R8	E	1 & 1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
10W	**RISER BEAM**	**R8**	**W**	**1**
10W	**RISER BEAM**	**R18**	**W**	**4**
10W	RISER BEAM	R21	W	4
10W	**RISER BEAM**	**R27**	**W**	**4**
10W	RISER BEAM	R32	W	2 ½
10W	RISER BEAM	R42	W	3
10W	RISER BEAM	R46	E	1
10W	**RISER BEAM**	**R46**	**W**	**FW**
10W	RISER BEAM	R47	E	2
10W	RISER BEAM	R48	E	1
10W	**RISER BEAM**	**R51**	**W**	**½**
10W	**RISER BEAM**	**R52**	**W**	**3**
10W-11W	B1	R17	E	1
10W-11W	**B3**	**R37**	**E**	**1**
11W	RISER BEAM	R51	W	2
15W	RISER BEAM	R24	E	1
15W	RISER BEAM	R28	W	FW
15W	RISER BEAM	R29	E	1
15W	RISER BEAM	R30	W	2
15W	RISER BEAM	R33	W	3
15W	RISER BEAM	R42	E	2
15W	RISER BEAM	R43	W	1
15W	RISER BEAM	R45	W	½
15W	RISER BEAM	R46	W	½
15W	RISER BEAM	R48	W	¼
15W	RISER BEAM	R51	E	¼
15W	RISER BEAM	R54	E	½
15W	RISER BEAM	R57	E	FW
15W	RISER BEAM	R58	E	2
15W	RISER BEAM	R59	E	3 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
15W	RISER BEAM	R60	E	3 ¼
15W	RISER BEAM	R61	E	FW
15W	RISER BEAM	R64	W	½
15W	RISER BEAM	R65	W	½
15W	RISER BEAM	R66	W	½
15W-16W	B1	R10	W	FW
15W-16W	B1	R11	W	FW
15W-16W	**B1**	**R19**	**E**	**1**
15W-16W	B1	R60	W	½
15W-16W	B1	R61	W	FW
15W-16W	B5	R16	E	2 ½
15W-16W	B5	R52	W	2 ½
15W-16W	B9	R19	W	1 ½
15W-16W	**B10**	**R19**	**E**	**¾**
15W-16W	**B12**	**R2**	**W**	**1 ½**
15W-16W	B12	R18	E	2 ½
16W	RISER BEAM	R2	W	4
16W	RISER BEAM	R3	W	1 ½
16W	RISER BEAM	R4	W	2 ½
16W	RISER BEAM	R5	W	2 ½
16W	RISER BEAM	R7	W	FW
16W	**RISER BEAM**	**R23**	**W**	**½ & 1**
16W	RISER BEAM	R28	W	FW
16W	RISER BEAM	R29	W	¼
16W	RISER BEAM	R30	W	2
16W	RISER BEAM	R31	W	3
16W	**RISER BEAM**	**R33**	**W**	**2 ½**
16W	RISER BEAM	R34	W	3
16W	RISER BEAM	R35	W	FW
16W	RISER BEAM	R45	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
16W	RISER BEAM	R47	W	2
16W	RISER BEAM	R52	W	2
16W	RISER BEAM	R69	W	2
16W-17W	B1	R2	E	FW
16W-17W	B1	R3	E	FW
16W-17W	B1	R4	E	FW
16W-17W	B1	R5	E	¼ & ½
16W-17W	B1	R6	E	2
16W-17W	B1	R7	E	1 ½
16W-17W	B1	R8	E	3
16W-17W	**B1**	**R11**	**E**	**1 ½**
16W-17W	**B1**	**R12**	**E**	**1 ½**
16W-17W	**B1**	**R17**	**E**	**¼**
16W-17W	**B1**	**R33**	**E**	**½**
16W-17W	B1	R62	E	1
16W-17W	B1	R63	E	¾
16W-17W	B2	R2	W	1
16W-17W	B2	R3	W	1
16W-17W	**B3**	**R11**	**E**	**½**
16W-17W	B4	R10	W	1 ½
16W-17W	B4	R19	W	1 ¼
16W-17W	B5	R11	E	1
16W-17W	**B5**	**R19**	**E**	**¼**
16W-17W	B6	R19	W	1 ½
16W-17W	B10	R19	W	1
16W-17W	**B12**	**R3**	**W**	**3**
16W-17W	B12	R8	E	3
16W-17W	B12	R10	W	FW
16W-17W	B12	R11	W	FW
16W-17W	B12	R17	W	½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
16W-17W	B12	R18	E	FW
16W-17W	B12	R18	W	3
16W-17W	B12	R27	E	FW
16W-17W	B12	R28	E	FW
16W-17W	B12	R29	E	1 ½
16W-17W	B12	R63	E	FW
16W-17W	B12	R64	E	2
17W	RISER BEAM	R3	W	1 ½
17W	RISER BEAM	R4	W	1 ¼
17W	RISER BEAM	R5	W	1
17W	RISER BEAM	R6	W	2
17W	RISER BEAM	R7	W	1 ½
17W	RISER BEAM	R8	W	2 ½
17W	RISER BEAM	R10	W	3
17W	RISER BEAM	R11	W	FW
17W	RISER BEAM	R14	W	FW
17W	RISER BEAM	R15	W	3
17W	RISER BEAM	R16	W	2
17W	RISER BEAM	R17	W	2
17W	RISER BEAM	R25	W	1
17W	RISER BEAM	R52	W	1 ¾
17W	RISER BEAM	R61	W	½
17W	RISER BEAM	R62	W	1
17W	RISER BEAM	R65	W	1 ½
17W-18W	B1	R5	E	1 ½
17W-18W	B1	R11	E	1 ¾
17W-18W	B1	R12	E	½
17W-18W	B1	R13	E	2 ½
17W-18W	B1	R14	E	1
17W-18W	B1	R15	E	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
17W-18W	B1	R16	E	1
17W-18W	B1	R17	E	2
17W-18W	B1	R19	E	2
17W-18W	B1	R22	E	3
17W-18W	B1	R24	E	4
17W-18W	B1	R25	E	1
17W-18W	B1	R26	E	3
17W-18W	B1	R29	E	3
17W-18W	**B1**	**R30**	**E**	**1**
17W-18W	**B1**	**R45**	**E**	**½**
17W-18W	**B2**	**R11**	**E**	**1**
17W-18W	**B2**	**R19**	**E**	**1**
17W-18W	B2	R19	W	½
17W-18W	B3	R11	E	¾
17W-18W	**B4**	**R11**	**E**	**1**
17W-18W	**B4**	**R19**	**E**	**1 ½**
17W-18W	B4	R19	W	¼
17W-18W	**B5**	**R19**	**W**	**1**
17W-18W	B5	R52	E	¼
17W-18W	**B6**	**R19**	**E**	**¼**
17W-18W	**B6**	**R19**	**W**	**1**
17W-18W	**B8**	**R19**	**E**	**¼**
17W-18W	**B8**	**R19**	**W**	**¼**
17W-18W	**B10**	**R19**	**E**	**¾**
17W-18W	**B12**	**R25**	**W**	**2 ½**
17W-18W	**B12**	**R26**	**W**	**1**
17W-18W	**B12**	**R28**	**W**	**FW**
17W-18W	**B12**	**R29**	**W**	**2**
18W	RISER BEAM	R4	W	3
18W	RISER BEAM	R10	W	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
18W	RISER BEAM	R11	W	2 ½
18W	RISER BEAM	R12	W	3
18W	RISER BEAM	R14	W	1 ½
18W	RISER BEAM	R17	W	¼
18W	RISER BEAM	R20	W	½
18W	RISER BEAM	R21	W	½
18W	RISER BEAM	R22	W	2
18W	RISER BEAM	R23	W	2
18W	RISER BEAM	R25	W	FW
18W	RISER BEAM	R26	W	FW
18W	RISER BEAM	R29	W	1 ½
18W	RISER BEAM	R30	W	3
18W	**RISER BEAM**	**R32**	**W**	**½**
18W	**RISER BEAM**	**R37**	**W**	**1 ½**
18W	RISER BEAM	R45	W	1 ½
18W	RISER BEAM	R46	W	2 ½
18W	RISER BEAM	R48	W	½
18W	RISER BEAM	R51	W	3
18W	**RISER BEAM**	**R66**	**W**	**1**
18W	RISER BEAM	R68	W	1 ½
18W	RISER BEAM	R69	W	1 ¾
18W-19W	**B1**	**R11**	**E**	**½**
18W-19W	**B1**	**R14**	**E**	**¾**
18W-19W	**B1**	**R15**	**E**	**½ & ¼**
19W	**RISER BEAM**	**R1**	**W**	**FW**
19W	**RISER BEAM**	**R3**	**W**	**2**
19W	**RISER BEAM**	**R5**	**W**	**FW**
19W	**RISER BEAM**	**R6**	**W**	**1 & 2**
19W	**RISER BEAM**	**R7**	**W**	**1 ¾**
19W	**RISER BEAM**	**R8**	**W**	**1 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
19W	**RISER BEAM**	**R9**	**W**	**1**
19W	**RISER BEAM**	**R10**	**W**	**FW**
19W	**RISER BEAM**	**R11**	**W**	**FW**
19W	**RISER BEAM**	**R12**	**W**	**FW**
19W	**RISER BEAM**	**R13**	**W**	**FW**
19W	**RISER BEAM**	**R17**	**W**	**1 ¼**
19W	**RISER BEAM**	**R18**	**W**	**FW**
19W	**RISER BEAM**	**R52**	**W**	**2 ½**
19W	RISER BEAM	R66	W	3
19W	RISER BEAM	R68	W	2
19W	RISER BEAM	R69	W	1 ½
19W-20W	B1	R61	E	1 ¼
19W-20W	B1	R63	E	4
19W-20W	B1	R64	W	2
19W-20W	B1	R65	W	FW
19W-20W	B1	R66	W	2
19W-20W	B2	R2	E	2 ½
19W-20W	**B2**	**R3**	**E**	**FW**
19W-20W	B2	R23	W	3
19W-20W	B2	R24	W	FW
19W-20W	B2	R25	W	2
19W-20W	B2	R28	W	4
19W-20W	**B2**	R54	W	1
19W-20W	**B2**	R55	W	¼
19W-20W	**B2**	**R63**	**E**	**1**
19W-20W	**B2**	**R63**	**W**	**½**
19W-20W	B2	R64	W	2 ½
19W-20W	B2	R65	E	1
19W-20W	B2	R65	W	2
19W-20W	B2	R66	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
19W-20W	B3	R19	E	½
19W-20W	B3	R19	W	½
19W-20W	**B3**	**R24**	**W**	**½**
19W-20W	B3	R25	E	3
19W-20W	**B3**	**R25**	**W**	**½**
19W-20W	B4	R19	E	½
19W-20W	B4	R19	W	½
19W-20W	**B4**	**R25**	**W**	**1**
19W-20W	B6	R16	E	2
19W-20W	B6	R20	E	FW
19W-20W	**B8**	**R19**	**E**	**½**
19W-20W	B9	R19	E	¼
19W-20W	B10	R19	E	½
19W-20W	B10	R19	W	¼
19W-20W	**B11**	**R19**	**W**	**½**
19W-20W	B11	R20	E	½
19W-20W	B11	R65	E	¾
19W-20W	**B12**	**R2**	**E**	**FW**
19W-20W	**B12**	**R2**	**W**	**FW**
19W-20W	**B12**	**R3**	**E**	**FW**
19W-20W	B12	R4	E	FW
19W-20W	B12	R5	E	FW
19W-20W	B12	R6	E	FW
19W-20W	B12	R7	E	FW
19W-20W	B12	R8	E	FW
19W-20W	B12	R10	E	FW
19W-20W	**B12**	**R12**	**W**	**3**
19W-20W	**B12**	**R19**	**W**	**½**
19W-20W	B12	R28	E	2
19W-20W	**B12**	**R28**	**W**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
19W-20W	**B12**	**R29**	**W**	**FW**
19W-20W	B12	R31	E	2
19W-20W	B12	R32	E	3
19W-20W	**B12**	**R61**	**W**	**1**
19W-20W	**B12**	**R63**	**E**	**FW**
19W-20W	**B12**	**R63**	**W**	**2 ½**
19W-20W	**B12**	**R64**	**E**	**FW**
19W-20W	**B12**	**R64**	**W**	**2**
19W-20W	**B12**	**R65**	**E**	**FW**
19W-20W	**B12**	**R65**	**W**	**1 ¼**
19W-20W	**B12**	**R66**	**E**	**FW**
19W-20W	**B12**	**R66**	**W**	**½**
19W-20W	**B12**	**R67**	**W**	**3**
20W	**RISER BEAM**	**R7**	**W**	**FW**
20W	RISER BEAM	R8	W	1 ½
20W	RISER BEAM	R13	W	1
20W	RISER BEAM	R14	W	1
20W	RISER BEAM	R16	W	¼
20W	**RISER BEAM**	**R17**	**W**	**2**
20W	RISER BEAM	R21	W	1 ½
20W	RISER BEAM	R29	W	1
20W	RISER BEAM	R30	W	2
20W	RISER BEAM	R31	W	3
20W	RISER BEAM	R32	W	FW
20W	RISER BEAM	R44	W	FW
20W	RISER BEAM	R53	W	1
20W	**RISER BEAM**	**R54**	**W**	**1 & ½**
20W	**RISER BEAM**	**R55**	**W**	**½ & ¼**
20W	**RISER BEAM**	**R57**	**W**	**1**
20W	**RISER BEAM**	**R58**	**W**	**3**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
20W	**RISER BEAM**	**R59**	**W**	**2 ½**
20W	RISER BEAM	R60	W	FW
20W	RISER BEAM	R61	W	FW
20W	RISER BEAM	R62	W	FW
20W	RISER BEAM	R67	W	2 ½
20W	RISER BEAM	R68	W	2
20W-21W	B1	R3	E	¾
20W-21W	B1	R4	E	1 & 1
20W-21W	B1	R5	E	½ & 1
20W-21W	B1	R6	E	1
20W-21W	B1	R7	E	3
20W-21W	B1	R11	E	2 ¾
20W-21W	B1	R19	E	3
20W-21W	B1	R20	E	1 ¼
20W-21W	B1	R21	E	1
20W-21W	B1	R22	E	1
20W-21W	B1	R23	E	1 ½
20W-21W	B1	R24	E	1 ½
20W-21W	B1	R25	E	1 ¾
20W-21W	B1	R28	E	2
20W-21W	B1	R32	E	2 ½
20W-21W	**B2**	**R3**	**E**	**1**
20W-21W	**B2**	**R7**	**E**	**¾**
20W-21W	**B2**	**R8**	**E**	**½**
20W-21W	B2	R10	W	1
20W-21W	**B3**	**R19**	**E**	**¼**
20W-21W	B4	R19	E	1
20W-21W	**B4**	**R19**	**W**	**1**
20W-21W	**B5**	**R19**	**W**	**1**
20W-21W	**B6**	**R19**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
20W-21W	**B12**	**R8**	**W**	**1**
20W-21W	**B12**	**R26**	**W**	**1**
20W-21W	**B12**	**R52**	**W**	**¼**
20W-21W	**B12**	**R60**	**W**	**¾**
20W-21W	B12	R61	W	FW
20W-21W	**B12**	**R65**	**E**	**FW**
20W-21W	**B12**	**R67**	**E**	**¼**
20W-21W	**B12**	**R68**	**E**	**½ & ½**
20W-21W	**B12**	**R69**	**E**	**1 ½**
21W	**RISER BEAM**	**R7**	**W**	**¼**
21W	**RISER BEAM**	**R11**	**W**	**1**
21W	**RISER BEAM**	**R19**	**W**	**2**
21W	**RISER BEAM**	**R23**	**W**	**1**
21W	**RISER BEAM**	**R24**	**W**	**½**
21W	RISER BEAM	R46	W	1
21W	RISER BEAM	R48	W	¾
21W	**RISER BEAM**	**R49**	**W**	**½**
21W	RISER BEAM	R57	W	1
21W	RISER BEAM	R58	W	3
21W	**RISER BEAM**	**R59**	**W**	**1**
21W	**RISER BEAM**	**R60**	**W**	**½**
21W	RISER BEAM	R61	W	FW
21W	**RISER BEAM**	**R62**	**W**	**½**
21W	RISER BEAM	R63	W	1 ½
21W	RISER BEAM	R64	W	1 ⅝ & ½
21W	RISER BEAM	R65	W	FW
21W	RISER BEAM	R66	W	1 ½
21W	**RISER BEAM**	**R67**	**W**	**½**
21W	**RISER BEAM**	**R68**	**W**	**1 ½**
21W-22W	B1	R21	E	3 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
21W-22W	**B1**	**R22**	**E**	**1 ½**
21W-22W	B1	R23	E	1
21W-22W	B1	R24	E	1 ½
21W-22W	B1	R25	E	1
21W-22W	B1	R26	E	1 ½
21W-22W	B1	R27	E	1 ½
21W-22W	B1	R30	E	½
21W-22W	B1	R45	E	1 ½
21W-22W	**B1**	**R52**	**E**	**½ & ¼**
21W-22W	B1	R54	E	½
21W-22W	B1	R58	E	1
21W-22W	B2	R19	E	1 ½
21W-22W	B2	R19	W	1 ½
21W-22W	**B2**	**R61**	**W**	**2**
21W-22W	**B2**	**R66**	**W**	**½**
21W-22W	B3	R19	E	1 ¾
21W-22W	B3	R19	W	2
21W-22W	B4	R19	E	FW
21W-22W	B4	R19	W	FW
21W-22W	B5	R19	E	FW
21W-22W	B5	R19	W	FW
21W-22W	**B6**	**R19**	**W**	**1**
21W-22W	B6	R52	E	¼
21W-22W	B9	R52	E	¼
21W-22W	B9	R52	W	¼
21W-22W	**B12**	**R2**	**W**	**1**
21W-22W	**B12**	**R3**	**W**	**½**
21W-22W	**B12**	**R8**	**W**	**1**
21W-22W	**B12**	**R17**	**E**	**¾**
21W-22W	**B12**	**R19**	**E**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
21W-22W	**B12**	**R21**	**E**	**1**
21W-22W	**B12**	**R25**	**E**	**1**
21W-22W	**B12**	**R25**	**W**	**¾**
21W-22W	**B12**	**R26**	**E**	**1**
21W-22W	**B12**	**R26**	**W**	**¾**
21W-22W	**B12**	**R37**	**W**	**2**
21W-22W	B12	R61	W	1 ½
21W-22W	B12	R62	W	1 ½
22W	RISER BEAM	R1	W	3
22W	RISER BEAM	R2	W	FW
22W	RISER BEAM	R3	W	2
22W	RISER BEAM	R4	E	1
22W	RISER BEAM	R4	W	2 ½
22W	RISER BEAM	R5	E	1
22W	RISER BEAM	R6	E	2
22W	RISER BEAM	R6	W	1 ½ & ¼
22W	RISER BEAM	R7	E	¾
22W	RISER BEAM	R8	E	1 ½
22W	RISER BEAM	R21	W	2
22W	**RISER BEAM**	**R23**	**W**	**¼**
22W	**RISER BEAM**	**R24**	**W**	**½**
22W	**RISER BEAM**	**R25**	**W**	**½**
22W	**RISER BEAM**	**R26**	**W**	**4**
22W	**RISER BEAM**	**R31**	**W**	**3**
22W	**RISER BEAM**	**R32**	**W**	**2**
22W	**RISER BEAM**	**R44**	**W**	**½**
22W	**RISER BEAM**	**R47**	**W**	**¼**
22W	**RISER BEAM**	**R52**	**W**	**½**
22W	RISER BEAM	R54	W	1 & 1 ½
22W	RISER BEAM	R55	W	¼

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
22W	RISER BEAM	R56	W	¼
22W	RISER BEAM	R57	W	1 & ¼
22W	RISER BEAM	R58	W	1
22W	RISER BEAM	R59	W	1
22W	RISER BEAM	R61	W	FW
22W	RISER BEAM	R62	W	½
22W	RISER BEAM	R64	W	½
22W	RISER BEAM	R65	W	1 ½
22W	RISER BEAM	R66	W	3
22W-23W	B1	R2	E	4
22W-23W	**B1**	**R6**	**E**	**½**
22W-23W	**B1**	**R7**	**E**	**1 ½**
22W-23W	**B1**	**R8**	**E**	**2**
22W-23W	B1	R14	E	1 ⅜
22W-23W	**B1**	**R14**	**W**	**1**
22W-23W	B1	R21	E	1 ½
22W-23W	**B1**	**R22**	**E**	**2 ½ & ½**
22W-23W	**B1**	**R22**	**W**	**2 ½ & ½**
22W-23W	B1	R23	E	¾
22W-23W	B1	R26	E	¾
22W-23W	B1	R39	E	2
22W-23W	**B1**	**R43**	**E**	**1 ½**
22W-23W	B1	R44	E	FW
22W-23W	B1	R45	E	FW
22W-23W	B1	R46	E	2 & ½
22W-23W	**B1**	**R48**	**E**	**½ & ¼**
22W-23W	**B1**	**R49**	**E**	**¼ & ½**
22W-23W	**B1**	**R50**	**E**	**1 ½ & ½**
22W-23W	**B1**	**R52**	**E**	**1**
22W-23W	**B1**	**R53**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
22W-23W	B1	R62	E	¼
22W-23W	**B1**	**R63**	**E**	**¼**
22W-23W	**B1**	**R68**	**E**	**1**
22W-23W	B2	R2	W	FW
22W-23W	B2	R3	W	1 ½
22W-23W	B2	R10	W	¼
22W-23W	**B2**	**R22**	**E**	**½**
22W-23W	**B2**	**R23**	**E**	**½**
22W-23W	**B2**	**R24**	**E**	**¼**
22W-23W	**B2**	**R25**	**E**	**½**
22W-23W	B2	R32	E	1 ¼
22W-23W	**B2**	**R36**	**W**	**2**
22W-23W	**B2**	**R69**	**W**	**1 ¾**
22W-23W	**B3**	**R12**	**W**	**¼**
22W-23W	**B3**	**R53**	**W**	**FW**
22W-23W	**B3**	**R54**	**W**	**¼**
22W-23W	B3	R19	E	FW
22W-23W	B3	R19	W	FW
22W-23W	B4	R19	E	FW
22W-23W	B4	R19	W	FW
22W-23W	**B4**	**R62**	**W**	**FW**
22W-23W	B5	R19	E	FW
22W-23W	**B5**	**R62**	**W**	**2**
22W-23W	B6	R19	E	FW
22W-23W	B6	R19	W	FW
22W-23W	B9	R19	E	¼
22W-23W	B10	R19	E	½
22W-23W	**B10**	**R19**	**W**	**¼**
22W-23W	**B11**	**R55**	**E**	**½ & ¼**
22W-32W	**B12**	**R1**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
22W-23W	B12	R2	W	2
22W-23W	**B12**	**R3**	**E**	**½ & ¼**
22W-32W	**B12**	**R3**	**W**	**½**
22W-32W	**B12**	**R4**	**W**	**½**
22W-23W	**B12**	**R5**	**E**	**¼**
22W-32W	**B12**	**R7**	**W**	**1**
22W-23W	**B12**	**R8**	**E**	**2**
22W-23W	B12	R8	W	2
22W-23W	**B12**	**R10**	**E**	**2 ½**
22W-23W	**B12**	**R19**	**E**	**2**
22W-23W	B12	R19	W	1
22W-23W	**B12**	**R31**	**E**	**FW**
22W-23W	**B12**	**R32**	**E**	**1**
22W-23W	**B12**	**R33**	**E**	**¾**
22W-23W	**B12**	**R69**	**E**	**2 ½**
23W	**RISER BEAM**	**R4**	**W**	**1**
23W	**RISER BEAM**	**R6**	**W**	**1 ½**
23W	**RISER BEAM**	**R7**	**W**	**1 ½**
23W	**RISER BEAM**	**R8**	**W**	**1 ¾**
23W	RISER BEAM	R21	W	2 ½
23W	RISER BEAM	R23	W	2
23W	RISER BEAM	R29	W	½
23W	**RISER BEAM**	**R50**	**W**	**½**
23W	**RISER BEAM**	**R51**	**W**	**1**
23W	**RISER BEAM**	**R61**	**W**	**½**
23W	**RISER BEAM**	**R62**	**W**	**¾**
23W	**RISER BEAM**	**R63**	**W**	**½**
23W	RISER BEAM	R66	W	2
23W	RISER BEAM	R67	W	½
23W	RISER BEAM	R69	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
23W-24W	**B1**	**R5**	**E**	**½**
23W-24W	**B1**	**R6**	**E**	**½**
23W-24W	**B1**	**R7**	**E**	**1**
23W-24W	B1	R8	E	2 ½
23W-24W	B1	R10	E	1 ½
23W-24W	**B1**	**R11**	**E**	**½ & ¼**
23W-24W	**B1**	**R12**	**E**	**1**
23W-24W	**B1**	**R13**	**E**	**½**
23W-24W	**B1**	**R43**	**E**	**¼**
23W-24W	**B1**	**R49**	**E**	**¼**
23W-24W	**B1**	**R50**	**E**	**½**
23W-24W	**B1**	**R60**	**E**	**1 ½**
23W-24W	**B1**	**R65**	**E**	**1**
23W-24W	**B2**	**R5**	**E**	**2 ½**
23W-24W	**B2**	**R7**	**E**	**1**
23W-24W	**B2**	**R10**	**E**	**¼**
23W-24W	B2	R3	W	½
23W-24W	B4	R19	W	1 ¼
23W-24W	B5	R19	E	1
23W-24W	B5	R19	W	1 ¼
23W-24W	B6	R19	W	1 ¼
23W-24W	B10	R19	W	1 ⅜
23W-24W	B11	R19	W	1
23W-24W	**B12**	**R7**	**W**	**¼**
23W-24W	**B12**	**R8**	**W**	**2**
23W-24W	**B12**	**R10**	**W**	**¼**
23W-24W	B12	R19	W	½
23W-24W	**B12**	**R37**	**W**	**1 ½**
24W	RISER BEAM	R2	W	1
24W	RISER BEAM	R3	W	¼

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
24W	RISER BEAM	R4	W	1 ½
24W	RISER BEAM	R5	W	½
24W	RISER BEAM	R6	W	¼
24W	RISER BEAM	R7	W	1
24W	RISER BEAM	R8	W	1 ¼
24W	RISER BEAM	R12	W	1 ½
24W	RISER BEAM	R22	W	½
24W	RISER BEAM	R24	W	½
24W	RISER BEAM	R52	W	1
24W	RISER BEAM	R61	W	FW
24W	RISER BEAM	R63	W	FW
24W	RISER BEAM	R64	W	1
24W	RISER BEAM	R65	W	2 ½
24W-25W	**B1**	**R5**	**E**	**1**
24W-25W	**B1**	**R6**	**E**	**1 ½**
24W-25W	**B1**	**R11**	**E**	**½**
24W-25W	**B1**	**R12**	**E**	**1**
24W-25W	**B1**	**R16**	**E**	**¼**
24W-25W	**B1**	**R17**	**E**	**½**
24W-25W	**B1**	**R19**	**E**	**½**
24W-25W	**B1**	**R22**	**E**	**¼**
24W-25W	**B1**	**R26**	**E**	**1**
24W-25W	**B1**	**R31**	**E**	**¼**
24W-25W	**B1**	**R34**	**E**	**4 ½**
24W-25W	**B1**	**R38**	**E**	**¾**
24W-25W	B1	R41	E	¼
24W-25W	B1	R42	E	½
24W-25W	B1	R43	E	1 & ½
24W-25W	B1	R45	E	2
24W-25W	B1	R46	E	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
24W-25W	**B1**	**R48**	**E**	**1**
24W-25W	**B1**	**R61**	**E**	**½**
24W-25W	B1	R63	E	1
24W-25W	B1	R66	E	½
24W-25W	**B2**	**R37**	**W**	**2**
24W-25W	**B4**	**R19**	**E**	**FW**
24W-25W	**B4**	**R19**	**W**	**FW**
24W-25W	**B5**	**R19**	**E**	**FW**
24W-25W	**B5**	**R19**	**W**	**FW**
24W-25W	B8	R60	W	¼
24W-25W	B9	R45	E	½
24W-25W	**B12**	**R4**	**W**	**¼**
24W-25W	**B12**	**R5**	**W**	**½**
24W-25W	**B12**	**R6**	**W**	**¼**
24W-25W	**B12**	**R7**	**W**	**1**
24W-25W	**B12**	**R8**	**W**	**1 ½**
24W-25W	**B12**	**R39**	**W**	**1 ½**
24W-25W	B12	R43	W	1 ½
24W-25W	B12	R61	W	2
24W-25W	B12	R62	W	2
24W-25W	B12	R63	W	1 ½
24W-25W	B12	R64	E	1
24W-25W	B12	R68	E	FW
24W-25W	B12	R68	W	FW
24W-25W	B12	R69	E	FW
24W-25W	B12	R69	W	FW
24W-25W	B12	R70	E	FW
24W-25W	B12	R70	W	FW
25W	**RISER BEAM**	**R7**	**W**	**1 ¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
25W	**RISER BEAM**	**R10**	**W**	**2 ½**
25W	**RISER BEAM**	**R18**	**W**	**2**
25W	**RISER BEAM**	**R19**	**W**	**4**
25W	**RISER BEAM**	**R20**	**W**	**2**
25W	RISER BEAM	R21	W	FW
25W	RISER BEAM	R22	W	1 ½
25W	RISER BEAM	R23	W	2 ½
25W	RISER BEAM	R24	W	½
25W	RISER BEAM	R28	W	FW
25W	RISER BEAM	R36	W	1 ¾
25W	**RISER BEAM**	**R37**	**W**	**1**
25W	**RISER BEAM**	**R41**	**W**	**½**
25W	RISER BEAM	R43	W	1 ½
25W	RISER BEAM	R54	W	2 ½
25W	RISER BEAM	R61	W	2
25W	RISER BEAM	R63	W	3
25W	RISER BEAM	R64	W	1 ½
25W	RISER BEAM	R65	W	¾
25W	RISER BEAM	R66	W	2 ¼
25W	RISER BEAM	R67	W	2 & ¼
25W	RISER BEAM	R68	W	2 & ½
25W	RISER BEAM	R69	W	1 ½
25W-26W	**B1**	**R8**	**E**	**1 ½**
25W-26W	**B1**	**R20**	**E**	**1**
25W-26W	B1	R22	E	½
25W-26W	B1	R22	W	½
25W-26W	B1	R23	E	1 & 2
25W-26W	B1	R24	E	FW
25W-26W	B1	R24	W	1
25W-26W	B1	R25	E	3

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
25W-26W	B1	R26	E	1 ½
25W-26W	B1	R26	W	½
25W-26W	B1	R27	E	3
25W-26W	B1	R28	E	1
25W-26W	B1	R29	E	2
25W-26W	B1	R29	W	¼
25W-26W	B1	R30	W	½
25W-26W	B1	R31	W	2
25W-26W	B1	R38	E	2
25W-26W	B1	R39	E	3
25W-26W	B1	R41	E	FW
25W-26W	B1	R42	E	FW
25W-26W	B1	R43	E	FW
25W-26W	B1	R45	E	¼
25W-26W	B1	R46	E	¼
25W-26W	B1	R47	E	½
25W-26W	B1	R52	E	½
25W-26W	B1	R54	E	½
25W-26W	B1	R55	E	1
25W-26W	B1	R56	E	¾
25W-26W	B1	R57	E	¾
25W-26W	B1	R58	E	¼
25W-26W	B1	R63	E	¾ & ½
25W-26W	B1	R64	E	¾
25W-26W	B1	R65	E	1
25W-26W	B2	R61	W	½
25W-26W	**B4**	**R25**	**W**	**¼**
25W-26W	B9	R46	W	¼
25W-26W	**B12**	**R2**	**W**	**1**
25W-26W	**B12**	**R3**	**E**	**3**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
25W-26W	**B12**	**R3**	**W**	**1 ½**
25W-26W	**B12**	**R20**	**W**	**1**
25W-26W	**B12**	**R21**	**W**	**2**
25W-26W	**B12**	**R33**	**W**	**FW**
25W-26W	**B12**	**R34**	**W**	**FW**
25W-26W	B12	R63	E	3
25W-26W	**B12**	**R63**	**W**	**½**
26W	**RISER BEAM**	**R4**	**W**	**1 & 1**
26W	**RISER BEAM**	**R8**	**W**	**1**
26W	**RISER BEAM**	**R12**	**W**	**FW**
26W	**RISER BEAM**	**R13**	**W**	**FW**
26W	**RISER BEAM**	**R19**	**W**	**¼**
26W	**RISER BEAM**	**R20**	**W**	**¼ & ½**
26W	RISER BEAM	R23	W	1
26W	RISER BEAM	R25	W	1
26W	RISER BEAM	R28	W	1 ½
26W	RISER BEAM	R31	W	2
26W	RISER BEAM	R32	W	2 & ¼
26W	RISER BEAM	R33	W	FW
26W	RISER BEAM	R34	W	FW
26W	RISER BEAM	R45	W	3
26W	RISER BEAM	R46	W	1 & ½
26W	RISER BEAM	R47	W	1
26W	RISER BEAM	R52	W	3
26W-27W	**B1**	**R8**	**E**	**½**
26W-27W	**B1**	**R10**	**E**	**1 ½**
26W-27W	**B1**	**R12**	**E**	**1**
26W-27W	B1	R20	E	½
26W-27W	B1	R21	E	½ & ½
26W-27W	B1	R22	E	2 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
26W-27W	B1	R23	E	½
26W-27W	B1	R26	E	1 ½
26W-27W	B1	R27	E	1 ½
26W-27W	B1	R41	E	1
26W-27W	B1	R42	E	½
26W-27W	B1	R46	E	1 ¼
26W-27W	B1	R62	E	1
26W-27W	B1	R63	E	3 ½
26W-27W	B1	R64	E	½
26W-27W	B1	R65	E	¾
26W-27W	**B2**	**R10**	**E**	**¼**
26W-27W	B2	R43	E	½
26W-27W	**B4**	**R19**	**E**	**1**
26W-27W	**B5**	**R19**	**E**	**1**
26W-27W	**B5**	**R19**	**W**	**1**
26W-27W	**B5**	**R23**	**W**	**½**
26W-27W	**B5**	**R48**	**E**	**1 ½ & 1**
26W-27W	B10	R65	E	½
26W-27W	**B12**	**R12**	**W**	**½**
26W-27W	**B12**	**R27**	**W**	**FW**
26W-27W	**B12**	**R33**	**W**	**2 ½**
26W-27W	**B12**	**R37**	**E**	**2**
26W-27W	**B12**	**R38**	**E**	**FW**
26W-27W	B12	R62	E	¼
26W-27W	B12	R63	E	FW
26W-27W	B12	R64	E	FW
26W-27W	B12	R65	E	FW
26W-27W	B12	R66	E	1 ¼
26W-27W	B12	R66	W	¾
26W-27W	B12	R67	E	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
26W-27W	B12	R67	W	1 ½
27W	**RISER BEAM**	**R2**	**W**	**FW**
27W	**RISER BEAM**	**R4**	**W**	**FW**
27W	**RISER BEAM**	**R5**	**W**	**2 ½**
27W	**RISER BEAM**	**R6**	**W**	**2**
27W	**RISER BEAM**	**R11**	**W**	**2**
27W	**RISER BEAM**	**R12**	**W**	**FW**
27W	**RISER BEAM**	**R13**	**W**	**2 ½**
27W	**RISER BEAM**	**R14**	**W**	**½**
27W	**RISER BEAM**	**R17**	**W**	**2**
27W	RISER BEAM	R19	W	FW
27W	RISER BEAM	R22	W	2
27W	RISER BEAM	R24	W	2 & 1 ¼
27W	RISER BEAM	R26	W	2 & 1
27W	RISER BEAM	R33	W	1 & ½
27W	RISER BEAM	R34	W	1 & ½
27W	RISER BEAM	R35	W	2
27W	RISER BEAM	R41	W	½
27W	RISER BEAM	R63	W	½ & 1
27W	RISER BEAM	R64	W	½
27W	RISER BEAM	R65	W	2
27W	RISER BEAM	R66	W	3 ½
27W	RISER BEAM	R67	W	3
27W	RISER BEAM	R68	W	FW
27W	RISER BEAM	R69	W	FW
27W	RISER BEAM	R70	W	FW
27W-28W	**B1**	**R19**	**E**	**3**
27W-28W	**B1**	**R20**	**E**	**1**
27W-28W	**B1**	**R22**	**E**	**¾ & ¼**
27W-28W	**B1**	**R23**	**E**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
27W-28W	**B1**	**R24**	**E**	**¾**
27W-28W	B1	R28	E	3
27W-28W	B1	R29	E	3
27W-28W	B1	R31	E	3
27W-28W	**B1**	**R40**	**E**	**2**
27W-28W	**B1**	**R46**	**E**	**2**
27W-28W	**B1**	**R47**	**E**	**1**
27W-28W	**B1**	**R48**	**E**	**½**
27W-28W	**B1**	**R55**	**E**	**1**
27W-28W	**B1**	**R56**	**E**	**FW**
27W-28W	**B1**	**R57**	**E**	**1 & 1 ½**
27W-28W	**B1**	**R58**	**E**	**½ & ½**
27W-28W	B1	R59	E	2 & 1
27W-28W	B1	R60	E	2 & 1 ½
27W-28W	**B1**	**R64**	**E**	**1**
27W-28W	**B1**	**R65**	**E**	**¾ & ½**
27W-28W	**B1**	**R66**	**E**	**¾**
27W-28W	**B2**	**R46**	**E**	**¾**
27W-28W	B2	R61	E	½
27W-28W	B2	R63	W	4
27W-28W	B2	R64	W	¾ & ½
27W-28W	B2	R65	W	1
27W-28W	**B2**	**R66**	**W**	**1**
27W-28W	**B2**	**R67**	**W**	**¾**
27W-28W	**B2**	**R68**	**W**	**¾ & ½**
27W-28W	**B4**	**R45**	**W**	**¾**
27W-28W	**B5**	**R19**	**W**	**½**
27W-28W	**B5**	**R52**	**E**	**½**
27W-28W	**B5**	**R52**	**W**	**¾**
27W-28W	B6	R52	W	¼

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
27W-28W	B8	R45	E	½
27W-28W	B8	R46	E	½
27W-28W	**B8**	**R46**	**W**	**1**
27W-28W	**B11**	**R19**	**W**	**½**
27W-28W	**B11**	**R19**	**E**	**½**
27W-28W	**B12**	**R26**	**E**	**2**
27W-28W	**B12**	**R59**	**W**	**½**
27W-28W	**B12**	**R60**	**W**	**1**
27W-28W	**B12**	**R61**	**W**	**¾**
27W-28W	**B12**	**R63**	**W**	**FW**
27W-28W	**B12**	**R64**	**W**	**½**
27W-28W	**B12**	**R65**	**W**	**1**
27W-28W	**B12**	**R66**	**W**	**4**
27W-28W	B12	R67	E	2
27W-28W	**B12**	**R67**	**W**	**½**
27W-28W	B12	R68	E	1
27W-28W	**B12**	**R68**	**W**	**¾**
27W-28W	B12	R69	W	2
28W	RISER BEAM	R23	W	FW
28W	RISER BEAM	R24	W	1
28W	RISER BEAM	R25	W	FW
28W	RISER BEAM	R26	W	FW
28W	RISER BEAM	R51	W	¼
28W	RISER BEAM	R52	W	½
28W	RISER BEAM	R60	W	1 ½
28W	RISER BEAM	R61	W	¼
28W	RISER BEAM	R63	W	3
28W	RISER BEAM	R64	W	1
28W	RISER BEAM	R65	W	2 & 1
28W	RISER BEAM	R67	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
28W	RISER BEAM	R69	W	3
28W-29W	B1	R19	E	½
28W-29W	**B1**	**R26**	**E**	**2**
28W-29W	**B1**	**R34**	**E**	**½**
28W-29W	**B1**	**R43**	**E**	**1**
28W-29W	**B1**	**R45**	**E**	**½**
28W-29W	**B1**	**R46**	**E**	**1 & ½**
28W-29W	**B1**	**R47**	**E**	**1**
28W-29W	**B1**	**R48**	**E**	**1 ¾**
28W-29W	**B1**	**R61**	**E**	**1 ½**
28W-29W	**B1**	**R63**	**E**	**2 ½**
28W-29W	B2	R19	E	¼
28W-29W	B2	R19	W	¼
28W-29W	**B2**	**R46**	**E**	**½**
28W-29W	**B2**	**R46**	**W**	**¾**
28W-29W	**B2**	**R63**	**E**	**½**
28W-29W	**B2**	**R63**	**W**	**2 ½**
28W-29W	**B2**	**R64**	**W**	**¾**
28W-29W	**B2**	**R65**	**E**	**1**
28W-29W	**B2**	**R65**	**W**	**1**
28W-29W	**B2**	**R66**	**E**	**2**
28W-29W	**B2**	**R66**	**W**	**¾**
28W-29W	**B2**	**R67**	**E**	**1**
28W-29W	**B2**	**R68**	**E**	**¾**
28W-29W	**B2**	**R69**	**E**	**1**
28W-29W	**B3**	**R46**	**E**	**¾**
28W-29W	**B3**	**R47**	**W**	**¼**
28W-29W	**B4**	**R46**	**W**	**1**
28W-29W	**B5**	**R24**	**W**	**¼**
28W-29W	**B5**	**R52**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
28W-29W	**B6**	**R46**	**W**	**¾**
28W-29W	**B8**	**R20**	**E**	**1**
28W-29W	B8	R52	E	FW
28W-29W	**B8**	**R52**	**W**	**FW**
28W-29W	B9	R19	W	½
28W-29W	B9	R52	E	FW
28W-29W	B9	R52	W	FW
28W-29W	**B11**	**R43**	**W**	**¾**
28W-29W	B12	R19	W	½
28W-29W	**B12**	**R37**	**W**	**1**
28W-29W	**B12**	**R39**	**W**	**1**
28W-29W	**B12**	**R38**	**W**	**1**
28W-29W	B12	R59	E	2 ½
28W-29W	**B12**	**R63**	**W**	**1**
28W-29W	**B12**	**R65**	**W**	**½**
28W-29W	**B12**	**R66**	**W**	**¾**
28W-29W	**B12**	**R67**	**W**	**1**
28W-29W	**B12**	**R68**	**W**	**¾**
28W-29W	**B12**	**R69**	**W**	**¾**
28W-29W	**B12**	**R70**	**W**	**1 ½**
29W	RISER BEAM	R2	W	FW
29W	RISER BEAM	R3	W	1 ½
29W	RISER BEAM	R5	W	1
29W	RISER BEAM	R6	W	2
29W	RISER BEAM	R7	W	4 ½
29W	RISER BEAM	R8	W	3
29W	**RISER BEAM**	**R11**	**W**	**¾**
29W	RISER BEAM	R17	W	¼
29W	RISER BEAM	R18	W	1 ½
29W	**RISER BEAM**	**R35**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
29W	RISER BEAM	R57	W	2 ½
29W	RISER BEAM	R58	W	1 ½
29W	**RISER BEAM**	**R60**	**W**	**2**
29W	**RISER BEAM**	**R61**	**W**	**2**
29W	RISER BEAM	R63	W	1 ½
29W	RISER BEAM	R64	W	2
29W-30W	**B1**	**R4**	**E**	**1 ½**
29W-30W	**B1**	**R5**	**E**	**¼**
29W-30W	**B1**	**R6**	**E**	**1 ½**
29W-30W	B1	R19	E	2
29W-30W	**B1**	**R26**	**E**	**½**
29W-30W	**B1**	**R41**	**E**	**1**
29W-30W	**B1**	**R42**	**E**	**2 ½**
29W-30W	**B1**	**R43**	**E**	**½**
29W-30W	**B1**	**R45**	**E**	**1 & ½**
29W-30W	**B1**	**R46**	**E**	**1 & ½**
29W-30W	**B1**	**R49**	**E**	**1 ½**
29W-30W	**B1**	**R52**	**E**	**1**
29W-30W	**B1**	**R54**	**E**	**2**
29W-30W	**B1**	**R55**	**E**	**1 ½**
29W-30W	**B1**	**R56**	**E**	**2 ½**
29W-30W	**B1**	**R57**	**E**	**1**
29W-30W	**B1**	**R59**	**E**	**1**
29W-30W	**B1**	**R60**	**E**	**2 ½**
29W-30W	**B1**	**R61**	**E**	**½ & ¾**
29W-30W	**B1**	**R64**	**E**	**½**
29W-30W	**B2**	**R3**	**E**	**¼**
29W-30W	**B2**	**R4**	**E**	**¼**
29W-30W	**B2**	**R53**	**W**	**1 ½**
29W-30W	**B9**	**R19**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
29W-30W	B9	R19	E	½
29W-30W	B10	R19	E	¼
29W-30W	B11	R19	W	¼
29W-30W	B11	R43	W	1
29W-30W	**B12**	**R19**	**W**	**½**
29W-30W	**B12**	**R61**	**W**	**2 ½**
29W-30W	**B12**	**R62**	**E**	**¼**
30W	**RISER BEAM**	**R3**	**W**	**½**
30W	**RISER BEAM**	**R17**	**W**	**¼**
30W	RISER BEAM	R23	W	1 ¾
30W	**RISER BEAM**	**R24**	**W**	**½**
30W	RISER BEAM	R27	W	2
30W	**RISER BEAM**	**R39**	**W**	**1**
30W	**RISER BEAM**	**R41**	**W**	**3**
30W	RISER BEAM	R48	W	2
30W	**RISER BEAM**	**R57**	**W**	**2 ½**
30W	RISER BEAM	R66	W	¾
30W-31W	B1	R13	E	1
30W-31W	B1	R26	E	½
30W-31W	B1	R28	E	½
30W-31W	B1	R52	E	1
30W-31W	B1	R52	E	½
30W-31W	**B2**	**R63**	**W**	**¾**
30W-31W	**B4**	**R19**	**E**	**½**
30W-31W	B4	R19	W	½
30W-31W	B5	R19	E	1
30W-31W	**B5**	**R19**	**W**	**½**
30W-31W	**B6**	**R25**	**W**	**½**
30W-31W	B9	R19	W	½
30W-31W	**B9**	**R52**	**E**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
30W-31W	B10	R19	E	FW
30W-31W	**B11**	**R26**	**W**	**1**
30W-31W	**B11**	**R66**	**W**	**¼**
30W-31W	**B12**	**R2**	**E**	**¼**
30W-31W	**B12**	**R24**	**W**	**½**
30W-31W	**B12**	**R26**	**W**	**½**
30W-31W	**B12**	**R32**	**W**	**1**
30W-31W	**B12**	**R34**	**W**	**1**
30W-31W	B12	R37	W	1
30W-31W	B12	R39	W	1
30W-31W	**B12**	**R63**	**W**	**2 ½**
30W-31W	**B12**	**R64**	**W**	**½**
30W-31W	**B12**	**R66**	**W**	**FW**
30W-31W	**B12**	**R67**	**W**	**½**
31W	RISER BEAM	R22	W	½
31W	RISER BEAM	R23	W	1 ½
31W	RISER BEAM	R24	W	¾
31W	RISER BEAM	R25	W	¼
31W	RISER BEAM	R36	W	2
31W	RISER BEAM	R37	W	1
31W	RISER BEAM	R39	W	2
31W	RISER BEAM	R40	W	4
31W	RISER BEAM	R41	W	2
31W	RISER BEAM	R42	W	3
31W	**RISER BEAM**	**R43**	**W**	**1 ½**
31W	RISER BEAM	R44	W	2 ½
31W	RISER BEAM	R48	W	¾ & ⅛
31W	RISER BEAM	R54	W	¼
31W	**RISER BEAM**	**R57**	**W**	**1**
31W	**RISER BEAM**	**R60**	**W**	**¼**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
31W	RISER BEAM	R62	W	2 ½
31W	**RISER BEAM**	**R65**	**W**	**1 ½**
31W	RISER BEAM	R66	W	FW
31W	RISER BEAM	R67	W	FW
31W	RISER BEAM	R68	W	1 ½
31W	RISER BEAM	R69	W	1 ¼
31W-32W	**B1**	**R8**	**W**	**¼**
31W-32W	B1	R10	E	2 ½
31W-32W	**B1**	**R10**	**W**	**½**
31W-32W	**B1**	**R18**	**E**	**1**
31W-32W	B1	R22	E	2
31W-32W	B1	R25	E	2
31W-32W	**B1**	**R32**	**E**	**½**
31W-32W	**B1**	**R33**	**E**	**¾**
31W-32W	**B1**	**R34**	**E**	**2**
31W-32W	B1	R37	E	1 ½
31W-32W	**B1**	**R41**	**E**	**2**
31W-32W	**B1**	**R44**	**E**	**4**
31W-32W	**B1**	**R45**	**E**	**3 ½**
31W-32W	**B1**	**R46**	**E**	**2**
31W-32W	**B1**	**R47**	**E**	**1 & 1**
31W-32W	**B1**	**R48**	**E**	**1**
31W-32W	**B1**	**R49**	**E**	**¾**
31W-32W	B1	R52	E	¼
31W-32W	B1	R58	E	¾
31W-32W	B1	R59	E	½
31W-32W	B1	R61	W	2
31W-32W	B1	R62	E	3
31W-32W	B1	R64	E	2
31W-32W	B1	R65	E	2½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
31W-32W	B1	R66	E	1 ½
31W-32W	B1	R68	E	¼ & ½
31W-32W	**B2**	**R43**	**E**	**¾**
31W-32W	**B2**	**R63**	**E**	**½**
31W-32W	B2	R63	W	FW
31W-32W	B2	R64	W	½
31W-32W	**B2**	**R64**	**E**	**3**
31W-32W	**B2**	**R65**	**W**	**1 ½**
31W-32W	**B2**	**R65**	**E**	**FW**
31W-32W	B2	R66	E	FW
31W-32W	**B2**	**R67**	**W**	**1 ½**
31W-32W	B2	R67	E	4½
31W-32W	**B2**	**R68**	**E**	**FW**
31W-32W	**B2**	**R69**	**E**	**1**
31W-32W	**B3**	**R10**	**W**	**¼**
31W-32W	B3	R19	W	¼
31W-32W	**B3**	**R67**	**E**	**1**
31W-32W	B3	R70	E	2½
31W-32W	**B3**	**R70**	**W**	**2 ½**
31W-32W	**B4**	**R19**	**E**	**½**
31W-32W	**B5**	**R19**	**E**	**¼**
31W-32W	**B5**	**R19**	**W**	**½**
31W-32W	**B5**	**R25**	**W**	**½**
31W-32W	**B5**	**R52**	**W**	**¼**
31W-32W	B5	R70	E	1
31W-32W	**B6**	**R47**	**E**	**¾**
31W-32W	**B7**	**R48**	**E**	**1**
31W-32W	**B8**	**R11**	**W**	**¼**
31W-32W	B9	R19	E	1
31W-32W	**B9**	**R47**	**E**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
31W-32W	B9	R52	W	½
31W-32W	B10	R19	E	1
31W-32W	B10	R19	W	½
31W-32W	B11	R19	E	½
31W-32W	B11	R19	W	¼
31W-32W	**B12**	**R8**	**E**	**¼**
31W-32W	B12	R19	E	¼
31W-32W	B12	R19	W	½
31W-32W	**B12**	**R24**	**W**	**¼**
31W-32W	**B12**	**R32**	**W**	**¾**
31W-32W	**B12**	**R33**	**W**	**¾**
31W-32W	**B12**	**R34**	**W**	**FW**
31W-32W	**B12**	**R39**	**W**	**4**
31W-32W	**B12**	**R53**	**W**	**3**
31W-32W	B12	R54	E	⅝
31W-32W	**B12**	**R56**	**W**	**2**
31W-32W	B12	R58	E	2½
31W-32W	B12	R61	E	1
31W-32W	**B12**	**R61**	**W**	**2 ½**
31W-32W	**B12**	**R63**	**W**	**¼**
31W-32W	**B12**	**R64**	**W**	**¾**
32W	RISER BEAM	R5	W	1
32W	RISER BEAM	R6	W	1
32W	RISER BEAM	R7	W	½
32W	RISER BEAM	R11	W	1
32W	RISER BEAM	R12	W	1
32W	RISER BEAM	R13	W	1
32W	RISER BEAM	R18	W	1 & ½
32W	RISER BEAM	R19	W	FW
32W	RISER BEAM	R20	W	2 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
32W	RISER BEAM	R21	W	½
32W	**RISER BEAM**	**R27**	**W**	**1 ½**
32W	**RISER BEAM**	**R32**	**W**	**1**
32W	**RISER BEAM**	**R33**	**W**	**½**
32W	**RISER BEAM**	**R34**	**W**	**¼**
32W	**RISER BEAM**	**R37**	**W**	**FW**
32W	**RISER BEAM**	**R38**	**W**	**¾**
32W	**RISER BEAM**	**R39**	**W**	**½**
32W	RISER BEAM	R44	W	2
32W	RISER BEAM	R52	W	2½
32W	RISER BEAM	R53	W	2
32W	RISER BEAM	R54	W	2½
32W	RISER BEAM	R57	W	2 & 1
32W	RISER BEAM	R58	W	FW
32W	RISER BEAM	R59	W	FW
32W	RISER BEAM	R60	W	2 & ¾
32W	RISER BEAM	R61	W	2½
32W	RISER BEAM	R63	W	¾
32W	RISER BEAM	R66	W	¼
32W	RISER BEAM	R67	W	¾
32W-33W	B1	R6	E	½
32W-33W	**B1**	**R19**	**E**	**FW**
32W-33W	B1	R19	W	1
32W-33W	**B1**	**R21**	**E**	**½**
32W-33W	**B1**	**R22**	**E**	**½**
32W-33W	B1	R23	E	1 ½
32W-33W	B1	R24	E	1
32W-33W	B1	R25	E	¾
32W-33W	B1	R26	E	¾
32W-33W	**B1**	**R39**	**E**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
32W-33W	**B1**	**R42**	**E**	**2**
32W-33W	**B1**	**R43**	**E**	**1 ½**
32W-33W	**B1**	**R44**	**E**	**¾**
32W-33W	**B1**	**R45**	**E**	**2 ¾**
32W-33W	B1	R46	E	1
32W-33W	**B1**	**R47**	**E**	**1 & ½**
32W-33W	**B1**	**R48**	**E**	**½**
32W-33W	**B1**	**R49**	**E**	**1 & 1**
32W-33W	**B2**	**R5**	**E**	**¾**
32W-33W	**B2**	**R69**	**E**	**4 ¼**
32W-33W	**B4**	**R19**	**E**	**¼**
32W-33W	**B4**	**R19**	**W**	**¾**
32W-33W	B4	R47	W	½
32W-33W	B5	R19	E	¼
32W-33W	**B5**	**R19**	**W**	**½**
32W-33W	B6	R46	E	½
32W-33W	**B6**	**R52**	**E**	**½**
32W-33W	**B7**	**R24**	**E**	**¾**
32W-33W	**B7**	**R31**	**E**	**1**
32W-33W	**B11**	**R28**	**E**	**½**
32W-33W	**B11**	**R30**	**E**	**½**
32W-33W	**B12**	**R22**	**W**	**¾**
32W-33W	**B12**	**R41**	**W**	**2 ½**
32W-33W	**B12**	**R53**	**W**	**FW**
33W	RISER BEAM	R4	W	½
33W	RISER BEAM	R5	W	1 ½
33W	**RISER BEAM**	**R6**	**W**	**FW**
33W	RISER BEAM	R7	W	1
33W	RISER BEAM	R8	W	2
33W	RISER BEAM	R9	W	1 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
33W	RISER BEAM	R10	W	2
33W	RISER BEAM	R11	W	FW
33W	RISER BEAM	R12	W	FW
33W	RISER BEAM	R13	W	FW
33W	RISER BEAM	R14	W	FW
33W	RISER BEAM	R16	W	½
33W	RISER BEAM	R17	W	½
33W	RISER BEAM	R18	W	1
33W	RISER BEAM	R19	W	FW
33W	RISER BEAM	R21	W	1 ¼
33W	**RISER BEAM**	**R27**	**W**	**2 ½**
33W	RISER BEAM	R44	E	¼
33W	RISER BEAM	R45	E	½ & ¼
33W	RISER BEAM	R46	E	¾
33W	RISER BEAM	R46	W	1½
33W	RISER BEAM	R47	E	¼
33W	RISER BEAM	R47	W	¾ & ¾
33W	**RISER BEAM**	**R48**	**W**	**½**
33W	RISER BEAM	R50	W	3
33W	RISER BEAM	R51	W	3½
33W	RISER BEAM	R52	W	4
33W	RISER BEAM	R53	W	½
33W	RISER BEAM	R54	W	½
33W	RISER BEAM	R65	W	1½
33W	**RISER BEAM**	**R69**	**W**	**2 ½**
33W-34W	B1	R27	E	1 ½
33W-34W	B1	R30	E	½
33W-34W	**B1**	**R45**	**E**	**1 ¼ & ½**
33W-34W	**B1**	**R45**	**W**	**½ & 1**
33W-34W	**B1**	**R46**	**E**	**¼ & ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
33W-34W	**B1**	**R47**	**E**	**¼**
33W-34W	**B1**	**R48**	**W**	**¼**
33W-34W	**B1**	**R49**	**E**	**½**
33W-34W	**B1**	**R51**	**E**	**½**
33W-34W	**B1**	**R52**	**E**	**1**
33W-34W	B1	R65	E	½
33W-34W	B1	R66	E	½
33W-34W	B1	R68	E	1 ½
33W-34W	**B2**	**R10**	**W**	**FW**
33W-34W	**B2**	**R19**	**E**	**1**
33W-34W	**B2**	**R41**	**E**	**1**
33W-34W	**B2**	**R41**	**W**	**1 ½**
33W-34W	**B2**	**R63**	**W**	**1**
33W-34W	**B2**	**R64**	**W**	**1**
33W-34W	**B2**	**R65**	**W**	**3 ½**
33W-34W	**B2**	**R66**	**E**	**¾**
33W-34W	**B2**	**R67**	**E**	**¾**
33W-34W	**B2**	**R68**	**E**	**¾**
33W-34W	**B2**	**R69**	**E**	**1 ¼**
33W-34W	**B6**	**R5**	**W**	**¼**
33W-34W	**B7**	**R25**	**E**	**2 ¾**
33W-34W	**B12**	**R9**	**W**	**½**
33W-34W	**B12**	**R24**	**W**	**1**
33W-34W	**B12**	**R37**	**W**	**2 ¾**
33W-34W	**B12**	**R63**	**W**	**1 ½**
34W	RISER BEAM	R21	W	½
34W	RISER BEAM	R32	W	1
34W	RISER BEAM	R34	W	½
34W	RISER BEAM	R35	W	1 ½
34W	RISER BEAM	R39	E	¼

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
34W	**RISER BEAM**	**R63**	**W**	**4**
34W	**RISER BEAM**	**R64**	**W**	**1**
34W	**RISER BEAM**	**R66**	**W**	**4**
34W	RISER BEAM	R67	W	3
34W	RISER BEAM	R68	W	3
34W	RISER BEAM	R69	W	4
34W-35W	**B1**	**R12**	**E**	**½**
34W-35W	**B1**	**R19**	**E**	**¾**
34W-35W	B1	R21	E	3
34W-35W	B1	R23	E	3
34W-35W	**B1**	**R24**	**E**	**½**
34W-35W	B1	R25	E	1
34W-35W	B1	R26	E	½
34W-35W	**B1**	**R30**	**E**	**¼**
34W-35W	**B1**	**R42**	**E**	**¼**
34W-35W	**B1**	**R43**	**E**	**¼**
34W-35W	**B1**	**R52**	**E**	**4**
34W-35W	B1	R54	E	3
34W-35W	**B1**	**R55**	**E**	**¾**
34W-35W	**B1**	**R56**	**E**	**1 ¾**
34W-35W	**B1**	**R66**	**E**	**1 ½**
34W-35W	**B2**	**R19**	**E**	**½**
34W-35W	B2	R52	E	½
34W-35W	**B2**	**R57**	**E**	**½**
34W-35W	**B2**	**R60**	**E**	**½**
34W-35W	**B2**	**R60**	**W**	**3 ½**
34W-35W	B2	R61	W	1
34W-35W	**B2**	**R62**	**E**	**FW**
34W-35W	**B2**	**R63**	**E**	**FW**
34W-35W	**B2**	**R64**	**E**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
34W-35W	**B2**	**R69**	**E**	**FW**
34W-35W	**B3**	**R15**	**W**	**½**
34W-35W	**B3**	**R62**	**E**	**2**
34W-35W	B4	R19	E	½
34W-35W	**B4**	**R62**	**E**	**½**
34W-35W	B5	R52	E	FW
34W-35W	**B5**	**R52**	**W**	**FW**
34W-35W	**B5**	**R62**	**E**	**1 ¾**
34W-35W	**B6**	**R4**	**W**	**¼**
34W-35W	**B6**	**R37**	**E**	**½**
34W-35W	**B6**	**R62**	**W**	**1**
34W-35W	B8	R61	E	2
34W-35W	**B8**	**R62**	**E**	**2 ½**
34W-35W	**B9**	**R39**	**W**	**1**
34W-35W	**B9**	**R50**	**E**	**1**
34W-35W	**B10**	**R19**	**E**	**½**
34W-35W	B10	R19	W	1
34W-35W	**B11**	**R10**	**W**	**½**
34W-35W	B11	R19	W	¾
34W-35W	**B11**	**R65**	**E**	**1**
34W-35W	**B11**	**R69**	**E**	**1**
34W-35W	B11	R69	W	1
34W-35W	B12	R10	W	4
34W-35W	B12	R11	W	2
34W-35W	**B12**	**R12**	**W**	**½**
34W-35W	B12	R19	E	½
34W-35W	B12	R19	W	¼
34W-35W	**B12**	**R24**	**W**	**½**
34W-35W	**B12**	**R37**	**W**	**2**
34W-35W	**B12**	**R44**	**E**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
34W-35W	**B12**	**R44**	**W**	**½**
34W-35W	**B12**	**R45**	**E**	**FW**
34W-35W	**B12**	**R46**	**E**	**2 ½**
34W-35W	**B12**	**R48**	**E**	**FW**
34W-35W	**B12**	**R68**	**W**	**FW**
34W-35W	**B12**	**R69**	**E**	**¾**
34W-35W	**B12**	**R69**	**W**	**FW**
35W	RISER BEAM	R9	W	1 ½
35W	RISER BEAM	R10	W	2
35W	RISER BEAM	R11	W	FW
35W	**RISER BEAM**	**R12**	**W**	**1 ½**
35W	**RISER BEAM**	**R13**	**W**	**½**
35W	**RISER BEAM**	**R19**	**W**	**½**
35W	RISER BEAM	R26	W	2
35W	RISER BEAM	R33	W	¼
35W	**RISER BEAM**	**R36**	**W**	**3 ½**
35W	RISER BEAM	R37	W	2 ½
35W	RISER BEAM	R38	W	1
35W	RISER BEAM	R39	W	3
35W	RISER BEAM	R40	W	FW
35W	RISER BEAM	R41	W	FW
35W	RISER BEAM	R53	W	2
35W	**RISER BEAM**	**R63**	**W**	**3 ¾**
35W	RISER BEAM	R64	E	2
35W	RISER BEAM	R66	E	2
35W	**RISER BEAM**	**R67**	**E**	**1 ¾**
35W	**RISER BEAM**	**R67**	**W**	**1 ½**
35W-36W	**B1**	**R10**	**E**	**2**
35W-36W	**B1**	**R13**	**E**	**1**
35W-36W	**B1**	**R39**	**E**	**1 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
35W-36W	B1	R42	E	FW
35W-36W	B1	R45	E	¾
35W-36W	**B1**	**R48**	**E**	**1 ½**
35W-36W	B1	R49	E	2
35W-36W	B1	R62	W	½
35W-36W	**B2**	**R39**	**E**	**3**
35W-36W	**B2**	**R40**	**E**	**3**
35W-36W	B2	R60	E	FW
35W-36W	**B2**	**R61**	**E**	**2**
35W-36W	B2	R62	W	FW
35W-36W	B3	R41	W	1
35W-36W	**B6**	**R51**	**W**	**¾**
35W-36W	**B9**	**R21**	**W**	**1**
35W-36W	**B11**	**R25**	**W**	**1**
35W-36W	B11	R52	E	½
35W-36W	B11	R52	W	½
35W-36W	B11	R61	W	½
35W-36W	**B12**	**R36**	**W**	**1 ½**
35W-36W	**B12**	**R37**	**W**	**FW**
35W-36W	**B12**	**R38**	**W**	**1**
35W-36W	**B12**	**R63**	**W**	**1 ½**
35W-36W	**B12**	**R64**	**W**	**¾**
35W-36W	**B12**	**R65**	**W**	**½**
36W	**RISER BEAM**	**R10**	**W**	**2**
36W	**RISER BEAM**	**R18**	**W**	**FW**
36W	RISER BEAM	R23	W	1 ¼
36W	RISER BEAM	R24	W	1 ¼
36W	RISER BEAM	R25	W	½
36W	RISER BEAM	R26	W	½
36W	RISER BEAM	R34	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
36W	RISER BEAM	R35	W	1 ½
36W	**RISER BEAM**	**R40**	**W**	**FW**
36W	RISER BEAM	R42	W	FW
36W	RISER BEAM	R43	W	FW
36W	**RISER BEAM**	**R45**	**W**	**1**
36W	**RISER BEAM**	**R50**	**W**	**¾**
36W	**RISER BEAM**	**R51**	**W**	**FW**
36W	RISER BEAM	R52	W	FW
36W	RISER BEAM	R53	W	FW
36W	RISER BEAM	R54	W	FW
36W	RISER BEAM	R56	W	1 ½ & 1
36W	RISER BEAM	R57	W	1 ½
36W	RISER BEAM	R58	W	1
36W	RISER BEAM	R62	W	1 ½
36W	RISER BEAM	R63	W	1 ¾
36W	**RISER BEAM**	**R64**	**W**	**1 ½ & 1**
36W	RISER BEAM	R65	W	FW
36W	RISER BEAM	R66	W	2
36W	RISER BEAM	R67	W	2 ½
36W-37W	**B1**	**R17**	**E**	**1**
36W-37W	**B1**	**R37**	**E**	**1**
36W-37W	B1	R38	E	1 ½
36W-37W	**B1**	**R39**	**E**	**1 & 1 ½**
36W-37W	**B1**	**R41**	**E**	**3**
36W-37W	**B1**	**R44**	**E**	**1 ½**
36W-37W	**B2**	**R25**	**E**	**1 ½**
36W-37W	**B2**	**R37**	**E**	**1 ½**
36W-37W	**B2**	**R40**	**E**	**3 ½**
36W-37W	**B2**	**R41**	**E**	**3 ½**
36W-37W	**B2**	**R51**	**E**	**2 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
36W-37W	**B4**	**R19**	**E**	**1**
36W-37W	**B5**	**R19**	**W**	**1 ½**
36W-37W	**B5**	**R24**	**W**	**2**
36W-37W	B5	R19	W	1
36W-37W	B5	R52	E	⅝
36W-37W	B6	R19	W	FW
36W-37W	B6	R19	E	FW
36W-37W	**B6**	**R24**	**E**	**2**
36W-37W	**B7**	**R24**	**E**	**2**
36W-37W	**B7**	**R24**	**W**	**2**
36W-37W	**B7**	**R44**	**E**	**3 ½**
36W-37W	**B7**	**R44**	**W**	**3**
36W-37W	**B8**	**R46**	**E**	**½**
36W-37W	**B8**	**R47**	**E**	**½**
36W-37W	**B8**	**R48**	**E**	**½**
36W-37W	**B8**	**R49**	**E**	**½**
36W-37W	B9	R19	E	2
36W-37W	**B9**	**R19**	**W**	**½**
36W-37W	**B10**	**R19**	**E**	**½**
36W-37W	B11	R67	W	¼
36W-37W	**B12**	**R2**	**E**	**½**
36W-37W	B12	R66	W	½
37W	RISER BEAM	R18	W	1 ½
37W	RISER BEAM	R19	W	¼
37W	RISER BEAM	R21	W	1 ½
37W	RISER BEAM	R41	W	1 ½
37W	**RISER BEAM**	**R46**	**W**	**¼**
37W	RISER BEAM	R63	W	½
37W	RISER BEAM	R64	W	½
37W	RISER BEAM	R65	W	1 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
37W	RISER BEAM	R66	W	1
37W	RISER BEAM	R67	W	2
37W	RISER BEAM	R68	W	1
37W	RISER BEAM	R69	W	½
37W	RISER BEAM	R70	W	1
37W-38W	**B1**	**R3**	**E**	**½**
37W-38W	B1	R8	E	2
37W-38W	B1	R10	E	3
37W-38W	B1	R12	E	¾
37W-38W	B1	R13	E	¾
37W-38W	**B1**	**R17**	**E**	**1**
37W-38W	B1	R19	E	1
37W-38W	**B1**	**R20**	**E**	**1**
37W-38W	**B1**	**R44**	**E**	**½**
37W-38W	**B1**	**R45**	**E**	**1**
37W-38W	**B1**	**R46**	**E**	**½**
37W-38W	**B1**	**R47**	**E**	**¾**
37W-38W	**B1**	**R52**	**E**	**1 ½**
37W-38W	**B1**	**R65**	**E**	**3**
37W-38W	**B1**	**R66**	**E**	**3**
37W-38W	**B2**	**R6**	**E**	**½**
37W-38W	**B2**	**R9**	**E**	**2**
37W-38W	B2	R11	E	1
37W-38W	**B2**	**R61**	**W**	**1 ½**
37W-38W	**B2**	**R63**	**W**	**1**
37W-38W	**B2**	**R64**	**E**	**¼**
37W-38W	**B2**	**R65**	**E**	**2**
37W-38W	**B2**	**R66**	**E**	**1**
37W-38W	B2	R66	W	1
37W-38W	**B2**	**R67**	**E**	**1 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
37W-38W	**B2**	**R67**	**W**	**1**
37W-38W	**B2**	**R68**	**E**	**4**
37W-38W	**B2**	**R68**	**W**	**1**
37W-38W	**B2**	**R69**	**W**	**4**
37W-38W	**B5**	**R19**	**E**	**½**
37W-38W	**B6**	**R19**	**E**	**½**
37W-38W	**B6**	**R20**	**W**	**1**
37W-38W	**B7**	**R20**	**E**	**1**
37W-38W	**B8**	**R52**	**E**	**1**
37W-38W	**B10**	**R39**	**E**	**2**
37W-38W	**B10**	**R39**	**W**	**1 ½**
37W-38W	**B12**	**R45**	**W**	**1 ½**
38W	**RISER BEAM**	**R34**	**W**	**½**
38W	RISER BEAM	R45	W	½
38W	RISER BEAM	R46	W	1
38W	RISER BEAM	R47	W	2
38W	RISER BEAM	R48	W	1 ½
38W	RISER BEAM	R49	W	1
38W	RISER BEAM	R58	W	¼
38W	RISER BEAM	R61	W	1
38W	RISER BEAM	R64	W	½
38W	RISER BEAM	R65	W	½
38W	RISER BEAM	R66	W	1
38W	RISER BEAM	R67	W	1 ¼
38W	RISER BEAM	R68	W	2
38W	RISER BEAM	R69	W	2 ½
38W-39W	B1	R25	E	¾
38W-39W	**B1**	**R29**	**E**	**¼**
38W-39W	**B1**	**R38**	**E**	**¼**
38W-39W	**B1**	**R39**	**E**	**1 ½ & 1 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
38W-39W	**B1**	**R41**	**E**	**3 ½**
38W-39W	**B1**	**R42**	**E**	**1**
38W-39W	**B1**	**R43**	**E**	**½**
38W-39W	**B1**	**R46**	**E**	**½**
38W-39W	**B1**	**R46**	**W**	**1**
38W-39W	**B1**	**R50**	**E**	**½**
38W-39W	**B1**	**R52**	**E**	**3**
38W-39W	**B1**	**R53**	**E**	**2**
38W-39W	**B1**	**R54**	**E**	**½**
38W-39W	**B1**	**R55**	**E**	**2**
38W-39W	**B1**	**R59**	**E**	**¼**
38W-39W	**B1**	**R60**	**E**	**2**
38W-39W	**B1**	**R61**	**E**	**1 ½**
38W-39W	**B1**	**R63**	**E**	**1+1**
38W-39W	**B1**	**R64**	**E**	**1**
38W-39W	**B2**	**R41**	**E**	**3**
38W-39W	**B2**	**R63**	**W**	**1**
38W-39W	**B2**	**R64**	**W**	**1**
38W-39W	**B2**	**R65**	**W**	**4**
38W-39W	**B2**	**R68**	**E**	**2**
38W-39W	**B5**	**R19**	**E**	**2**
38W-39W	**B5**	**R25**	**W**	**½**
38W-39W	B6	R19	W	FW
38W-39W	B6	R19	E	FW
38W-39W	B8	R19	W	FW
38W-39W	B8	R19	E	FW
38W-39W	**B8**	**R52**	**E**	**½**
38W-39W	**B8**	**R52**	**W**	**1 ½**
38W-39W	B9	R19	W	FW
38W-39W	B9	R19	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
38W-39W	B10	R19	W	FW
38W-39W	B10	R19	E	FW
38W-39W	**B10**	**R67**	**E**	**¼**
38W-39W	**B12**	**R3**	**W**	**1 ½**
38W-39W	**B12**	**R24**	**W**	**1 ½**
38W-39W	**B12**	**R26**	**W**	**1**
38W-39W	**B12**	**R41**	**W**	**1**
38W-39W	**B12**	**R60**	**W**	**½**
38W-39W	**B12**	**R63**	**W**	**¾**
38W-39W	**B12**	**R64**	**W**	**½**
38W-39W	**B12**	**R65**	**W**	**¾**
38W-39W	**B12**	**R66**	**W**	**3**
39W	RISER BEAM	R5	W	FW
39W	RISER BEAM	R6	W	FW
39W	RISER BEAM	R7	W	2 ½
39W	RISER BEAM	R8	W	2 ½
39W	RISER BEAM	R23	W	1
39W	RISER BEAM	R24	W	3
39W	RISER BEAM	R25	W	3 ½
39W	RISER BEAM	R27	W	3
39W	RISER BEAM	R40	W	FW
39W-40W	**B1**	**R4**	**E**	**¼**
39W-40W	B1	R5	E	½
39W-40W	B1	R6	E	¾
39W-40W	B1	R7	E	¾
39W-40W	**B1**	**R17**	**E**	**1**
39W-40W	**B1**	**R23**	**E**	**2**
39W-40W	**B1**	**R24**	**E**	**2**
39W-40W	**B1**	**R22**	**E**	**2**
39W-40W	**B1**	**R26**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
39W-40W	B1	R28	E	3
39W-40W	**B1**	**R29**	**E**	**1 ¼**
39W-40W	B1	R30	E	1 ½
39W-40W	B1	R44	E	1 ½
39W-40W	**B1**	**R45**	**E**	**1 ½**
39W-40W	**B1**	**R56**	**E**	**½**
39W-40W	**B1**	**R61**	**E**	**2**
39W-40W	**B1**	**R63**	**E**	**3**
39W-40W	**B1**	**R64**	**E**	**3**
39W-40W	**B2**	**R7**	**E**	**½**
39W-40W	**B2**	**R8**	**W**	**3**
39W-40W	**B2**	**R52**	**E**	**¼**
39W-40W	**B2**	**R63**	**W**	**1**
39W-40W	**B3**	**R2**	**E**	**¾**
39W-40W	**B3**	**R3**	**W**	**FW**
39W-40W	**B4**	**R2**	**W**	**1 ½**
39W-40W	B4	R19	W	FW
39W-40W	B4	R19	E	FW
39W-40W	**B4**	**R28**	**E**	**½**
39W-40W	**B5**	**R2**	**W**	**½**
39W-40W	B5	R19	W	FW
39W-40W	B5	R19	E	FW
39W-40W	**B5**	**R28**	**E**	**½**
39W-40W	**B5**	**R52**	**W**	**½**
39W-40W	B6	R19	W	FW
39W-40W	B6	R19	E	FW
39W-40W	**B7**	**R2**	**E**	**½**
39W-40W	B7	R19	W	FW
39W-40W	B7	R19	E	4
39W-40W	**B7**	**R24**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
39W-40W	**B7**	**R24**	**W**	**FW**
39W-40W	**B7**	**R25**	**W**	**1**
39W-40W	**B9**	**R45**	**W**	**¼**
39W-40W	**B9**	**R52**	**W**	**¼**
39W-40W	**B11**	**R19**	**W**	**1**
39W-40W	**B12**	**R5**	**W**	**FW**
39W-40W	**B12**	**R6**	**W**	**1**
39W-40W	**B12**	**R7**	**W**	**1**
39W-40W	**B12**	**R17**	**W**	**1**
39W-40W	**B12**	**R27**	**W**	**½**
39W-40W	B12	R57	E	1
39W-40W	**B12**	**R57**	**W**	**½**
39W-40W	B12	R58	E	1
39W-40W	**B12**	**R58**	**W**	**1 ½**
39W-40W	**B12**	**R66**	**W**	**¼**
39W-40W	**B12**	**R68**	**W**	**½**
39W-40W	**B12**	**R69**	**W**	**¼**
40W	**RISER BEAM**	**R12**	**W**	**2**
40W	**RISER BEAM**	**R15**	**W**	**½**
40W	RISER BEAM	R14	W	1
40W	RISER BEAM	R19	W	3
40W	RISER BEAM	R28	W	1 ½
40W	RISER BEAM	R29	W	2 ½
40W	RISER BEAM	R54	W	1 ½
40W	RISER BEAM	R55	W	2
40W	RISER BEAM	R56	W	2 ½
40W	RISER BEAM	R57	W	FW
40W	RISER BEAM	R58	W	4
40W	RISER BEAM	R68	W	1
40W	RISER BEAM	R69	W	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
40W-41W	B1	R5	E	¼
40W-41W	B1	R7	E	1
40W-41W	**B1**	**R8**	**E**	**¼**
40W-41W	**B1**	**R22**	**E**	**¼**
40W-41W	**B1**	**R23**	**E**	**2**
40W-41W	**B1**	**R24**	**E**	**2**
40W-41W	**B1**	**R25**	**E**	**½ + ½**
40W-41W	**B1**	**R25**	**W**	**1**
40W-41W	**B1**	**R29**	**E**	**1**
40W-41W	B1	R45	E	1 & 1 ½
40W-41W	B1	R46	E	1
40W-41W	**B1**	**R47**	**E**	**1 ½**
40W-41W	B1	R49	E	1
40W-41W	B1	R50	E	1 ½
40W-41W	**B1**	**R52**	**E**	**3 ½**
40W-41W	**B1**	**R54**	**E**	**¼**
40W-41W	B1	R58	E	2
40W-41W	**B1**	**R60**	**E**	**½**
40W-41W	**B1**	**R63**	**E**	**FW**
40W-41W	B1	R64	E	2
40W-41W	**B1**	**R66**	**E**	**¼**
40W-41W	**B1**	**R67**	**E**	**¾**
40W-41W	**B2**	**R64**	**W**	**½**
40W-41W	**B4**	**R46**	**W**	**1**
40W-41W	B4	R52	E	¼
40W-41W	**B5**	**R19**	**E**	**1**
40W-41W	**B6**	**R19**	**W**	**¾**
40W-41W	**B6**	**R46**	**W**	**1**
40W-41W	**B7**	**R34**	**E**	**½**
40W-41W	**B8**	**R46**	**E**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
40W-41W	**B8**	**R46**	**W**	**1**
40W-41W	B11	R19	W	FW
40W-41W	B11	R19	E	2
40W-41W	B12	R19	W	⅜
40W-41W	**B12**	**R28**	**W**	**¼**
40W-41W	**B12**	**R35**	**W**	**1**
40W-41W	**B12**	**R39**	**W**	**FW**
40W-41W	**B12**	**R43**	**W**	**1**
40W-41W	**B12**	**R45**	**E**	**1 ½**
40W-41W	**B12**	**R45**	**W**	**3**
40W-41W	**B12**	**R46**	**E**	**1 ½**
40W-41W	B12	R46	W	1
40W-41W	**B12**	**R50**	**W**	**3**
40W-41W	B12	R62	E	FW
40W-41W	**B12**	**R62**	**W**	**FW**
40W-41W	**B12**	**R63**	**W**	**3**
40W-41W	**B12**	**R65**	**W**	**½**
40W-41W	B12	R67	E	2
40W-41W	**B12**	**R68**	**W**	**4**
40W-41W	B12	R69	W	FW
41W	RISER BEAM	R5	W	1 ½
41W	RISER BEAM	R6	W	1
41W	RISER BEAM	R8	W	2 ½
41W	RISER BEAM	R19	W	FW
41W	RISER BEAM	R21	W	3
41W	RISER BEAM	R25	W	1
41W	RISER BEAM	R30	W	1
41W	RISER BEAM	R36	FW	3
41W	RISER BEAM	R37	W	FW
41W	RISER BEAM	R38	W	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
41W	RISER BEAM	R39	W	2
41W	RISER BEAM	R43	W	1 ½
41W	**RISER BEAM**	**R45**	**W**	**1**
41W	**RISER BEAM**	**R46**	**W**	**2**
41W	RISER BEAM	R47	W	1
41W	RISER BEAM	R49	W	¼
41W	RISER BEAM	R51	W	FW
41W	RISER BEAM	R52	W	1 ½
41W	RISER BEAM	R61	W	1 ½
41W	RISER BEAM	R62	W	FW
41W	RISER BEAM	R63	W	FW
41W	RISER BEAM	R64	W	FW
41W	RISER BEAM	R65	W	3
41W	RISER BEAM	R66	W	1
41W-42W	**B1**	**R7**	**E**	**¼**
41W-42W	**B1**	**R8**	**E**	**¼ + ¼**
41W-42W	B1	R10	E	1 ½
41W-42W	B1	R19	E	3
41W-42W	**B1**	**R25**	**E**	**½**
41W-42W	**B1**	**R28**	**E**	**2**
41W-42W	**B1**	**R32**	**E**	**1 ½**
41W-42W	**B1**	**R41**	**E**	**2**
41W-42W	B1	R42	E	½
41W-42W	**B1**	**R43**	**E**	**3**
41W-42W	**B1**	**R45**	**E**	**½**
41W-42W	**B1**	**R47**	**E**	**¾**
41W-42W	**B1**	**R48**	**E**	**¾**
41W-42W	B1	R50	E	2½
41W-42W	**B1**	**R51**	**E**	**2 ½**
41W-42W	**B1**	**R53**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
41W-42W	B1	R54	E	3
41W-42W	B1	R55	E	1
41W-42W	**B1**	**R56**	**E**	**1**
41W-42W	**B1**	**R57**	**E**	**1**
41W-42W	B1	R58	E	2½
41W-42W	**B1**	**R59**	**E**	**½**
41W-42W	B1	R60	E	½
41W-42W	B1	R61	E	2 ½
41W-42W	**B2**	**R39**	**E**	**½**
41W-42W	**B2**	**R60**	**E**	**1 ½**
41W-42W	**B2**	**R60**	**W**	**1**
41W-42W	**B2**	**R61**	**E**	**FW**
41W-42W	**B2**	**R61**	**W**	**FW**
41W-42W	**B2**	**R68**	**E**	**¾**
41W-42W	**B3**	**R61**	**W**	**1**
41W-42W	**B4**	**R21**	**E**	**¼**
41W-42W	**B4**	**R54**	**W**	**¼**
41W-42W	**B4**	**R55**	**E**	**½**
41W-42W	B4	R55	W	1
41W-42W	**B5**	**R2**	**E**	**2**
41W-42W	**B5**	**R28**	**W**	**3**
41W-42W	B5	R52	W	½
41W-42W	**B5**	**R55**	**E**	**½**
41W-42W	**B8**	**R34**	**E**	**½**
41W-42W	**B8**	**R42**	**E**	**¼**
41W-42W	**B8**	**R43**	**E**	**¼**
41W-42W	**B8**	**R55**	**W**	**¼**
41W-42W	**B9**	**R18**	**E**	**¼**
41W-42W	B9	R19	E	½
41W-42W	B9	R19	W	½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
41W-42W	**B9**	**R55**	**W**	**¼**
41W-42W	B10	R19	E	¼
41W-42W	**B10**	**R42**	**E**	**¼**
41W-42W	**B12**	**R25**	**W**	**3**
41W-42W	**B12**	**R34**	**W**	**½**
41W-42W	**B12**	**R38**	**W**	**½**
42W	RISER BEAM	R3	W	¾
42W	RISER BEAM	R4	W	¼
42W	RISER BEAM	R7	W	½
42W	RISER BEAM	R8	W	1
42W	RISER BEAM	R11	W	FW
42W	**RISER BEAM**	**R45**	**W**	**1**
42W	**RISER BEAM**	**R47**	**W**	**1**
42W	**RISER BEAM**	**R48**	**W**	**½**
42W	**RISER BEAM**	**R54**	**W**	**½**
42W	**RISER BEAM**	**R56**	**W**	**¼**
42W	**RISER BEAM**	**R59**	**W**	**½**
42W	**RISER BEAM**	**R60**	**W**	**1**
42W-43	**B1**	**R8**	**E**	**1**
42W-43	**B1**	**R14**	**E**	**¼**
42W-43	B1	R16	E	1
42W-43	**B1**	**R21**	**E**	**1 ½**
42W-43	B1	R22	E	2
42W-43	**B1**	**R36**	**E**	**3**
42W-43	**B1**	**R37**	**E**	**FW**
42W-43	B1	R45	E	3
42W-43	**B1**	**R46**	**E**	**½**
42W-43	**B1**	**R47**	**E**	**FW**
42W-43	**B1**	**R48**	**E**	**½**
42W-43	**B1**	**R49**	**E**	**¼**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
42W-43	**B2**	**R62**	**W**	**1**
42W-43	**B2**	**R63**	**W**	**2**
42W-43	**B3**	**R19**	**E**	**1 + ½**
42W-43	B4	R19	W	1
42W-43	**B4**	**R25**	**E**	**1 + ½**
42W-43	**B5**	**R19**	**E**	**½**
42W-43	B5	R19	W	¾
42W-43	**B6**	**R19**	**E**	**½**
42W-43	**B6**	**R19**	**W**	**½**
42W-43	**B6**	**R28**	**E**	**¼**
42W-43	**B7**	**R25**	**E**	**1 + ½**
42W-43	**B8**	**R28**	**E**	**½**
42W-43	B10	R19	W	½
42W-43	**B11**	**R28**	**W**	**½**
42W-43	**B11**	**R46**	**W**	**1**
42W-43	**B12**	**R21**	**W**	**½**
42W-43	**B12**	**R33**	**W**	**½**
42W-43	**B12**	**R34**	**W**	**½**
42W-43	**B12**	**R61**	**W**	**½**
42W-43	B13	R2	W	FW
42W-43	B13	R3	W	1
42W-43	B13	R5	W	1 ½
42W-43	B13	R10	W	1 ½
42W-43	B13	R11	W	2 ½
42W-43	**B13**	**R14**	**W**	**½**
42W-43	**B13**	**R17**	**W**	**1 ½**
42W-43	**B13**	**R19**	**W**	**½**
42W-43	B13	R23	W	4
42W-43	B13	R24	W	¾
42W-43	B13	R25	W	1 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
42W-43	B13	R26	W	FW
43	**RISER BEAM**	**R3**	**E**	**3 ¼**
43	**RISER BEAM**	**R4**	**E**	**2 ½**
43	RISER BEAM	R10	E	FW
43	RISER BEAM	R11	E	FW
43	RISER BEAM	R12	E	FW
43	RISER BEAM	R13	E	FW
43	RISER BEAM	R14	E	FW
43	RISER BEAM	R19	E	FW
43	RISER BEAM	R20	E	1 ½
43	RISER BEAM	R21	E	FW
43	RISER BEAM	R22	E	2
43	RISER BEAM	R23	E	FW
43	RISER BEAM	R26	E	2 ½
43	RISER BEAM	R28	E	FW
43	RISER BEAM	R28	W	1
43	RISER BEAM	R29	W	1 ½
43	RISER BEAM	R30	E	FW
43	RISER BEAM	R30	W	2
43	RISER BEAM	R31	E	FW
43	RISER BEAM	R45	E	½
43	**RISER BEAM**	**R56**	**E**	**¾**
43	RISER BEAM	R60	E	FW
43	**RISER BEAM**	**R61**	**E**	**FW**
43	RISER BEAM	R62	E	2
43	RISER BEAM	R63	E	2
43	**RISER BEAM**	**R64**	**E**	**¾**
43	RISER BEAM	R66	E	2
43	RISER BEAM	R67	E	3
43	RISER BEAM	R68	E	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
43	RISER BEAM	R69	E	3
42E-43	B1	R5	E	4
42E-43	**B1**	**R7**	**E**	**3**
42E-43	**B1**	**R7**	**W**	**3**
42E-43	**B1**	**R8**	**W**	**3 ½**
42E-43	**B1**	**R54**	**W**	**3**
42E-43	B1	R60	W	3
42E-43	B1	R61	W	½
42E-43	**B1**	**R63**	**W**	**½**
42E-43	B1	R64	W	FW
42E-43	B1	R65	W	FW
42E-43	**B1**	**R66**	**W**	**1 ½**
42E-43	B1	R67	E	3 ½
42E-43	**B1**	**R68**	**W**	**¼**
42E-43	B1	R69	E	½
42E-43	B1	R69	W	FW
42E-43	**B2**	**R61**	**E**	**½**
42E-43	B3	R52	E	¼
42E-43	B4	R52	E	¼
42E-43	**B4**	**R57**	**E**	**FW**
42E-43	**B4**	**R57**	**W**	**FW**
42E-43	B7	R52	W	¼
42E-43	B8	R52	E	½
42E-43	**B9**	**R46**	**W**	**½**
42E-43	B9	R52	W	¼
42E-43	**B10**	**R51**	**W**	**¼**
42E-43	**B11**	**R39**	**E**	**¼ & ½**
42E-43	B12	R9	W	½
42E-43	**B12**	**R20**	**W**	**3**
42E-43	**B12**	**R23**	**W**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
42E-43	**B12**	**R28**	**W**	**1 ½**
42E-43	**B12**	**R29**	**W**	**2**
42E-43	**B12**	**R30**	**W**	**2 ½**
42E-43	**B12**	**R32**	**W**	**2 ½**
42E-43	**B12**	**R33**	**W**	**½**
42E-43	**B12**	**R34**	**W**	**2 ½**
42E-43	**B12**	**R37**	**W**	**1 ¼**
42E-43	**B12**	**R39**	**W**	**2**
42E-43	**B12**	**R40**	**W**	**1**
42E-43	B12	R54	W	¼
42E-43	B12	R55	W	¼
42E-43	B12	R56	W	¼
42E-43	B12	R57	W	2
42E-43	B12	R58	W	1 ½ & ½
42E-43	B12	R60	W	¾
42E-43	B12	R61	W	1
42E-43	B12	R62	W	3
42E-43	B12	R65	W	1 ¼
42E	RISER BEAM	R10	E	4 ½
42E	**RISER BEAM**	**R26**	**E**	**1**
42E	**RISER BEAM**	**R28**	**E**	**2 ½**
42E	**RISER BEAM**	**R37**	**E**	**2**
42E	**RISER BEAM**	**R39**	**E**	**½ & ½**
42E	**RISER BEAM**	**R40**	**E**	**FW**
42E	**RISER BEAM**	**R41**	**E**	**1 ½**
42E	**RISER BEAM**	**R42**	**E**	**1 ½**
42E	RISER BEAM	R48	E	2 ½
42E	RISER BEAM	R50	E	2
42E	RISER BEAM	R51	E	FW
42E	RISER BEAM	R58	E	3½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
42E	RISER BEAM	R63	E	1½
42E	RISER BEAM	R65	E	FW
42E	RISER BEAM	R66	E	3
42E	RISER BEAM	R68	E	1¼
42E	**RISER BEAM**	**R69**	**E**	**¾**
42E	**RISER BEAM**	**R70**	**E**	**2 ½**
41E-42E	B1	R40	W	FW
41E-42E	**B1**	**R41**	**W**	**FW**
41E-42E	**B1**	**R42**	**W**	**2**
41E-42E	**B1**	**R56**	**W**	**½**
41E-42E	**B1**	**R57**	**W**	**1**
41E-42E	**B1**	**R59**	**E**	**¾**
41E-42E	**B1**	**R60**	**E**	**1**
41E-42E	**B1**	**R60**	**W**	**2**
41E-42E	**B1**	**R61**	**W**	**2 ½**
41E-42E	B1	R64	W	FW
41E-42E	B1	R66	W	FW
41E-42E	B1	R67	E	1 ½
41E-42E	B1	R68	W	4
41E-42E	B1	R68	E	4
41E-42E	B2	R19	E	¼
41E-42E	**B4**	**R1**	**W**	**1 ½**
41E-42E	**B4**	**R47**	**E**	**¾**
41E-42E	**B7**	**R47**	**E**	**4**
41E-42E	B7	R52	E	½
41E-42E	**B8**	**R47**	**W**	**½**
41E-42E	B9	R52	W	¼ & ½
41E-42E	B12	R23	W	1
41E-42E	B12	R24	W	3 ½
41E-42E	B12	R25	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
41E-42E	B12	R26	W	½ & 1
41E-42E	**B12**	**R43**	**W**	**3**
41E-42E	**B12**	**R48**	**W**	**¾**
41E-42E	B12	R52	W	¼
41E-42E	**B12**	**R53**	**W**	**2 ½**
41E-42E	**B12**	**R57**	**W**	**½**
41E	**RISER BEAM**	**R2**	**E**	**2**
41E	**RISER BEAM**	**R3**	**E**	**2**
41E	**RISER BEAM**	**R4**	**E**	**2 ¼**
41E	**RISER BEAM**	**R5**	**E**	**¾**
41E	**RISER BEAM**	**R6**	**E**	**¾**
41E	RISER BEAM	R7	E	¼
41E	**RISER BEAM**	**R8**	**E**	**½**
41E	**RISER BEAM**	**R9**	**E**	**¾**
41E	**RISER BEAM**	**R12**	**E**	**3**
41E	**RISER BEAM**	**R13**	**E**	**2**
41E	**RISER BEAM**	**R15**	**E**	**½ & ½**
41E	**RISER BEAM**	**R16**	**E**	**½**
41E	**RISER BEAM**	**R21**	**W**	**¾**
41E	**RISER BEAM**	**R24**	**E**	**¾**
41E	**RISER BEAM**	**R24**	**W**	**1**
41E	**RISER BEAM**	**R25**	**E**	**2 ¾**
41E	**RISER BEAM**	**R25**	**W**	**3**
41E	**RISER BEAM**	**R27**	**E**	**1**
41E	**RISER BEAM**	**R41**	**E**	**2 ½**
41E	**RISER BEAM**	**R42**	**E**	**1**
41E	RISER BEAM	R51	E	FW
41E	**RISER BEAM**	**R52**	**E**	**2 ½**
41E	RISER BEAM	R56	E	½
41E	RISER BEAM	R60	E	1⅝

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
41E	**RISER BEAM**	**R61**	**E**	**¾**
41E	**RISER BEAM**	**R62**	**E**	**4 & 2**
41E	**RISER BEAM**	**R63**	**E**	**¾**
41E	**RISER BEAM**	**R66**	**E**	**3**
41E	**RISER BEAM**	**R67**	**E**	**3**
40E-41E	B1	R44	W	4
40E-41E	**B1**	**R45**	**W**	**FW**
40E-41E	**B1**	**R47**	**W**	**2 ½**
40E-41E	**B1**	**R48**	**W**	**3**
40E-41E	**B1**	**R50**	**E**	**1**
40E-41E	**B1**	**R50**	**W**	**1 ½**
40E-41E	**B1**	**R51**	**E**	**1**
40E-41E	B1	R52	E	FW
40E-41E	**B1**	**R52**	**W**	**FW**
40E-41E	**B1**	**R60**	**W**	**FW**
40E-41E	**B2**	**R19**	**E**	**FW**
40E-41E	**B2**	**R19**	**W**	**FW**
40E-41E	**B2**	**R25**	**E**	**2 ¼**
40E-41E	**B2**	**R25**	**W**	**1 ¼**
40E-41E	**B2**	**R44**	**W**	**1**
40E-41E	B3	R19	E	FW
40E-41E	B3	R19	W	FW
40E-41E	**B4**	**R24**	**E**	**1**
40E-41E	**B4**	**R25**	**E**	**FW**
40E-41E	**B4**	**R25**	**W**	**FW**
40E-41E	**B5**	**R16**	**W**	**¾**
40E-41E	**B5**	**R19**	**W**	**½**
40E-41E	**B7**	**R46**	**E**	**½**
40E-41E	**B7**	**R47**	**E**	**1**
40E-41E	B8	R19	W	½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
40E-41E	**B8**	**R25**	**E**	**1**
40E-41E	**B8**	**R25**	**W**	**1 ¼**
40E-41E	**B9**	**R21**	**W**	**½**
40E-41E	**B10**	**R19**	**W**	**½**
40E-41E	**B10**	**R25**	**W**	**1**
40E-41E	**B11**	**R21**	**W**	**1**
40E-41E	**B12**	**R4**	**W**	**½**
40E-41E	**B12**	**R5**	**W**	**½**
40E-41E	B12	R45	W	½ & 2¼
40E-41E	B12	R46	W	½
40E-41E	B12	R47	W	2¼
40E-41E	B12	R50	W	1
40E-41E	**B12**	**R52**	**W**	**FW**
40E-41E	**B12**	**R55**	**W**	**½**
40E-41E	**B12**	**R56**	**W**	**½**
40E-41E	**B12**	**R57**	**W**	**1**
40E-41E	B12	R60	W	FW
40E	RISER BEAM	R24	E	3/4
40E	RISER BEAM	R25	E	FW
40E	RISER BEAM	R27	E	4 & 1
40E	RISER BEAM	R43	E	2 ½
40E	**RISER BEAM**	**R67**	**E**	**3**
40E	**RISER BEAM**	**R68**	**E**	**2**
40E	**RISER BEAM**	**R69**	**E**	**1 ½**
39E-40E	B1	R43	E	FW
39E-40E	B1	R68	E	FW
39E-40E	**B1**	**R69**	**E**	**1 ½ & 1 ½**
39E-40E	B2	R52	E	¼
39E-40E	**B3**	**R25**	**W**	**¾**
39E-40E	**B4**	**R25**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
39E-40E	**B5**	**R25**	**E**	**1**
39E-40E	**B5**	**R25**	**W**	**1**
39E-40E	B5	R52	E	⅜
39E-40E	B5	R52	W	⅜
39E-40E	**B6**	**R25**	**E**	**½**
39E-40E	**B6**	**R25**	**W**	**1**
39E-40E	**B7**	**R52**	**E**	**1 ½**
39E-40E	B7	R52	W	⅜
39E-40E	**B8**	**R25**	**E**	**1**
39E-40E	**B8**	**R25**	**W**	**1**
39E-40E	B8	R52	E	FW
39E-40E	**B8**	**R52**	**W**	**FW**
39E-40E	**B9**	**R25**	**E**	**1**
39E-40E	**B9**	**R25**	**W**	**¾**
39E-40E	**B9**	**R28**	**E**	**1**
39E-40E	**B9**	**R28**	**W**	**½**
39E-40E	**B9**	**R52**	**E**	**FW**
39E-40E	**B9**	**R52**	**W**	**FW**
39E-40E	**B10**	**R28**	**W**	**1 ¼**
39E-40E	**B11**	**R28**	**W**	**½**
39E-40E	B12	R19	W	1
39E-40E	**B12**	**R28**	**W**	**1 ½**
39E-40E	B12	R37	W	1
39E-40E	B12	R38	W	¾
39E-40E	B12	R57	W	¼ & ¼
39E-40E	B12	R58	W	FW
39E-40E	**B12**	**R59**	**W**	**2 ½**
39E-40E	B12	R60	W	FW
39E-40E	B12	R61	W	3
39E	**RISER BEAM**	**R27**	**E**	**2 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
39E	**RISER BEAM**	**R37**	**E**	**1**
39E	**RISER BEAM**	**R39**	**E**	**½**
39E	RISER BEAM	R48	E	½
39E	**RISER BEAM**	**R49**	**E**	**¾**
39E	RISER BEAM	R52	E	FW
39E	**RISER BEAM**	**R54**	**E**	**1**
39E	RISER BEAM	R55	E	1
39E	**RISER BEAM**	**R56**	**E**	**½**
39E	**RISER BEAM**	**R57**	**E**	**1**
39E	**RISER BEAM**	**R59**	**E**	**½**
39E	**RISER BEAM**	**R63**	**E**	**3**
38E-39E	**B1**	**R37**	**W**	**1 ½**
38E-39E	**B1**	**R70**	**E**	**3**
38E-39E	**B3**	**R25**	**E**	**1**
38E-39E	B4	R52	E	⅜
38E-39E	**B5**	**R25**	**W**	**½**
38E-39E	**B7**	**R46**	**W**	**1**
38E-39E	**B8**	**R52**	**W**	**½**
38E-39E	**B12**	**R43**	**W**	**3 ½**
38E-39E	**B12**	**R55**	**W**	**½**
38E-39E	**B12**	**R57**	**W**	**2 ½**
38E-39E	B12	R58	W	2
38E-39E	**B12**	**R59**	**W**	**2 ½**
38E-39E	**B12**	**R60**	**W**	**2**
38E-39E	**B12**	**R61**	**W**	**2**
38E	RISER BEAM	R2	E	FW
38E	**RISER BEAM**	**R4**	**E**	**¼**
38E	**RISER BEAM**	**R6**	**E**	**½**
38E	**RISER BEAM**	**R7**	**E**	**½**
38E	RISER BEAM	R46	E	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
38E	**RISER BEAM**	**R47**	**E**	**2**
38E	**RISER BEAM**	**R50**	**E**	**¾**
38E	**RISER BEAM**	**R52**	**E**	**1**
38E	**RISER BEAM**	**R54**	**E**	**¾**
38E	**RISER BEAM**	**R57**	**E**	**1**
38E	**RISER BEAM**	**R58**	**E**	**¾**
38E	**RISER BEAM**	**R59**	**E**	**½ & ½**
38E	RISER BEAM	R60	E	2
38E	**RISER BEAM**	**R61**	**E**	**FW**
38E	**RISER BEAM**	**R62**	**E**	**2**
38E	**RISER BEAM**	**R65**	**E**	**½**
37E-38E	B1	R1	E	FW
37E-38E	**B1**	**R2**	**E**	**FW**
37E-38E	B1	R2	W	FW
37E-38E	**B1**	**R3**	**W**	**1 ½**
37E-38E	**B1**	**R4**	**W**	**½**
37E-38E	**B10**	**R25**	**E**	
37E-38E	**B11**	**R7**	**W**	**2**
37E-38E	B12	R6	W	½
37E-38E	**B12**	**R7**	**W**	**4**
37E-38E	**B12**	**R8**	**W**	**FW**
37E-38E	**B12**	**R9**	**W**	**3**
37E-38E	**B12**	**R18**	**W**	**FW**
37E-38E	**B12**	**R22**	**W**	**½**
37E-38E	**B12**	**R23**	**W**	**½**
37E-38E	**B12**	**R24**	**W**	**½**
37E-38E	**B12**	**R25**	**W**	**¾**
37E-38E	**B12**	**R26**	**W**	**1 ½**
37E-38E	B12	R29	W	1
37E-38E	**B12**	**R30**	**W**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
37E-38E	**B12**	**R56**	**W**	**1**
37E-38E	**B12**	**R61**	**W**	**1**
37E	**RISER BEAM**	**R6**	**E**	**1 ½**
37E	**RISER BEAM**	**R7**	**E**	**FW**
37E	**RISER BEAM**	**R8**	**E**	**1 &1**
37E	**RISER BEAM**	**R9**	**E**	**3**
37E	**RISER BEAM**	**R10**	**E**	**2**
37E	RISER BEAM	R11	E	FW
37E	RISER BEAM	R23	E	½
37E	**RISER BEAM**	**R28**	**E**	**1 ½**
37E	**RISER BEAM**	**R30**	**E**	**1**
37E	RISER BEAM	R32	W	2
37E	RISER BEAM	R33	W	1
37E	**RISER BEAM**	**R34**	**E**	**2 ½**
37E	RISER BEAM	R34	W	FW
37E	**RISER BEAM**	**R38**	**E**	**3**
37E	**RISER BEAM**	**R56**	**E**	**1**
37E	**RISER BEAM**	**R57**	**E**	**1**
37E	**RISER BEAM**	**R60**	**E**	**FW**
37E	**RISER BEAM**	**R61**	**E**	**2**
37E	**RISER BEAM**	**R63**	**E**	**2**
37E	**RISER BEAM**	**R64**	**E**	**1**
37E	RISER BEAM	R67	E	2
36E-37E	**B1**	**R10**	**E**	**2**
36E-37E	**B1**	**R11**	**E**	**4**
36E-37E	**B1**	**R26**	**E**	**½**
36E-37E	**B1**	**R29**	**W**	**1**
36E-37E	**B1**	**R32**	**W**	**3**
36E-37E	**B1**	**R33**	**W**	**3**
36E-37E	**B1**	**R34**	**W**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
36E-37E	**B1**	**R37**	**W**	**2**
36E-37E	**B1**	**R39**	**W**	**FW**
36E-37E	**B1**	**R60**	**E**	**3 ½**
36E-37E	**B1**	**R61**	**E**	**2 ½**
36E-37E	**B1**	**R69**	**W**	**2 ½**
36E-37E	B4	R52	W	½
36E-37E	B7	R43	E	FW
36E-37E	**B8**	**R27**	**W**	**1**
36E-37E	**B12**	**R8**	**W**	**FW**
36E-37E	**B12**	**R24**	**W**	**1 ½**
36E-37E	B12	R37	W	½
36E-37E	B12	R41	W	2
36E-37E	B12	R43	W	3 ½
36E	**RISER BEAM**	**R2**	**E**	**½**
36E	**RISER BEAM**	**R4**	**E**	**¾**
36E	**RISER BEAM**	**R5**	**E**	**¾**
36E	**RISER BEAM**	**R6**	**E**	**½ & ½**
36E	**RISER BEAM**	**R7**	**E**	**1**
36E	**RISER BEAM**	**R8**	**E**	**1 ½**
36E	**RISER BEAM**	**R9**	**E**	**½**
36E	RISER BEAM	R8	E	¾
36E	**RISER BEAM**	**R41**	**E**	**1**
36E	**RISER BEAM**	**R42**	**E**	**1**
36E	**RISER BEAM**	**R43**	**E**	**1 ½**
36E	**RISER BEAM**	**R46**	**E**	**3**
36E	**RISER BEAM**	**R47**	**E**	**2 ½**
36E	RISER BEAM	R52	E	3
36E	**RISER BEAM**	**R54**	**E**	**1**
36E	**RISER BEAM**	**R56**	**E**	**¾**
36E	**RISER BEAM**	**R57**	**E**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
36E	**RISER BEAM**	**R58**	**E**	**1 ½**
36E	**RISER BEAM**	**R59**	**E**	**FW**
36E	RISER BEAM	R60	E	FW
36E	**RISER BEAM**	**R61**	**E**	**3 ½**
36E	RISER BEAM	R63	E	FW
36E	RISER BEAM	R64	E	FW
36E	RISER BEAM	R65	E	FW
36E	RISER BEAM	R66	E	FW
36E	**RISER BEAM**	**R67**	**E**	**4**
36E	RISER BEAM	R69	E	1 ¼
35E-36E	B1	R2	E	¼
35E-36E	**B1**	**R3**	**W**	**¾**
35E-36E	**B1**	**R4**	**E**	**½**
35E-36E	**B1**	**R26**	**E**	**3 ¼**
35E-36E	**B1**	**R26**	**W**	**1 ½**
35E-36E	B1	R62	W	1
35E-36E	B1	R63	E	2
35E-36E	**B1**	**R63**	**W**	**3 ½**
35E-36E	B1	R64	E	2½
35E-36E	**B1**	**R64**	**W**	**3 ½**
35E-36E	**B1**	**R66**	**E**	**1**
35E-36E	**B1**	**R67**	**E**	**4**
35E-36E	**B2**	**R25**	**E**	**½**
35E-36E	B2	R62	W	1
35E-36E	**B3**	**R19**	**E**	**FW**
35E-36E	B3	R19	W	FW
35E-36E	B4	R19	E	FW
35E-36E	B4	R52	E	¼
35E-36E	**B7**	**R19**	**E**	**2**
35E-36E	**B8**	**R26**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
35E-36E	**B8**	**R28**	**E**	**1**
35E-36E	B9	R52	W	¼
35E-36E	**B10**	**R28**	**W**	**4 ½**
35E-36E	**B11**	**R19**	**E**	**½**
35E-36E	**B11**	**R19**	**W**	**¾**
35E-36E	**B11**	**R25**	**W**	**1 ½**
35E-36E	**B11**	**R26**	**W**	**½**
35E-36E	**B11**	**R48**	**W**	**¾**
35E-36E	B12	R23	W	½
35E-36E	B12	R24	W	½
35E-36E	B12	R26	W	½
35E-36E	**B12**	**R27**	**W**	**4**
35E-36E	**B12**	**R28**	**W**	**1**
35E-36E	B12	R47	W	1
35E-36E	**B12**	**R48**	**W**	**1 & ½**
35E-36E	**B12**	**R52**	**W**	**2**
35E-36E	**B12**	**R62**	**W**	**1**
35E	**RISER BEAM**	**R4**	**E**	**1**
35E	**RISER BEAM**	**R9**	**E**	**1 & ½**
35E	RISER BEAM	R10	E	FW
35E	**RISER BEAM**	**R11**	**E**	**2**
35E	**RISER BEAM**	**R27**	**E**	**1**
35E	RISER BEAM	R29	E	½
35E	RISER BEAM	R45	E	1 ½
35E	**RISER BEAM**	**R60**	**E**	**¾**
35E	**RISER BEAM**	**R63**	**E**	**1**
35E	**RISER BEAM**	**R64**	**E**	**¾**
35E	**RISER BEAM**	**R65**	**E**	**¾**
35E	**RISER BEAM**	**R66**	**E**	**2 ½**
35E	**RISER BEAM**	**R67**	**E**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
35E	RISER BEAM	R68	E	FW
34E-35E	**B1**	**R10**	**E**	**4 ¾**
34E-35E	**B1**	**R47**	**W**	**1**
34E-35E	**B2**	**R15**	**W**	**1/2**
34E-35E	B2	R25	E	½
34E-35E	**B3**	**R47**	**W**	**1**
34E-35E	B5	R52	W	FW
34E-35E	**B6**	**R19**	**E**	**FW**
34E-35E	**B6**	**R19**	**W**	**FW**
34E-35E	B6	R21	E	FW
34E-35E	B6	R21	W	FW
34E-35E	**B7**	**R19**	**E**	**3/4**
34E-35E	**B7**	**R43**	**E**	**1**
34E-35E	B9	R19	E	FW
34E-35E	B9	R19	W	FW
34E-35E	**B9**	**R52**	**E**	**½**
34E-35E	**B12**	**R22**	**W**	**1**
34E-35E	**B12**	**R25**	**W**	**4**
34E-35E	**B12**	**R26**	**W**	**FW**
34E-35E	**B12**	**R27**	**W**	**1 ½**
34E-35E	B12	R28	W	3 ½
34E-35E	**B12**	**R29**	**W**	**2**
34E-35E	**B12**	**R54**	**W**	**2 ½**
34E-35E	**B12**	**R55**	**W**	**1 ½ & 1**
34E-35E	**B12**	**R58**	**W**	**1**
34E-35E	**B12**	**R59**	**W**	**1 ½**
34E-35E	**B12**	**R60**	**W**	**2**
34E	RISER BEAM	R4	W	¼
34E	**RISER BEAM**	**R19**	**E**	**FW**
34E	RISER BEAM	R22	E	¼

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
34E	**RISER BEAM**	**R23**	**E**	**2 ½**
34E	**RISER BEAM**	**R24**	**E**	**1**
34E	**RISER BEAM**	**R26**	**E**	**1 ¼**
34E	**RISER BEAM**	**R28**	**E**	**3**
34E	**RISER BEAM**	**R29**	**E**	**FW**
34E	**RISER BEAM**	**R51**	**E**	**3**
34E	**RISER BEAM**	**R52**	**E**	**2**
34E	RISER BEAM	R57	E	¼
34E	**RISER BEAM**	**R58**	**E**	**¾**
34E	**RISER BEAM**	**R59**	**E**	**¾**
34E	**RISER BEAM**	**R60**	**E**	**1**
34E	**RISER BEAM**	**R61**	**E**	**1**
34E	**RISER BEAM**	**R62**	**E**	**2**
34E	**RISER BEAM**	**R64**	**E**	**1**
34E	RISER BEAM	R65	E	1
34E	**RISER BEAM**	**R66**	**E**	**2 ½**
34E	**RISER BEAM**	**R67**	**E**	**½**
34E	RISER BEAM	R68	E	¼
33E-34E	**B1**	**R1**	**W**	**NO WELD**
33E-34E	**B1**	**R2**	**W**	**NO WELD**
33E-34E	**B1**	**R3**	**W**	**NO WELD**
33E-34E	**B2**	**R19**	**E**	**½**
33E-34E	**B6**	**R19**	**W**	**1**
33E-34E	B7	R19	E	1 ½
33E-34E	B8	R19	E	FW
33E-34E	B8	R19	W	FW
33E-34E	B9	R19	E	FW
33E-34E	B9	R19	W	FW
33E-34E	**B12**	**R18**	**W**	**1 ½**
33E-34E	**B12**	**R24**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
33E-34E	**B12**	**R25**	**W**	**¼**
33E-34E	**B12**	**R27**	**W**	**½**
33E-34E	**B12**	**R28**	**W**	**1**
33E	**RISER BEAM**	**R27**	**E**	**2**
33E	**RISER BEAM**	**R35**	**E**	**FW**
33E	**RISER BEAM**	**R42**	**E**	**½**
33E	**RISER BEAM**	**R43**	**E**	**½**
33E	RISER BEAM	R44	E	¼
33E	RISER BEAM	R45	E	½ & ¼
33E	RISER BEAM	R47	E	½
33E	**RISER BEAM**	**R64**	**E**	**½**
33E	**RISER BEAM**	**R65**	**E**	**2**
33E	**RISER BEAM**	**R66**	**E**	**½**
33E	**RISER BEAM**	**R68**	**E**	**1 ½**
32E-33E	**B1**	**R37**	**W**	**1**
32E-33E	**B1**	**R64**	**E**	**2**
32E-33E	**B1**	**R65**	**E**	**2**
32E-33E	**B1**	**R66**	**E**	**1**
32E-33E	**B1**	**R68**	**E**	**3**
32E-33E	B1	R69	E	4 ½
32E-33E	B2	R19	W	FW
32E-22E	**B3**	**R19**	**W**	**½**
32E-33E	**B3**	**R43**	**E**	**½**
32E-33E	**B4**	**R37**	**W**	**1**
32E-33E	B4	R47	W	1
32E-33E	B4	R52	E	¼
32E-33E	B4	R52	W	¼
32E-33E	**B5**	**R19**	**E**	**¼**
32E-33E	B5	R52	E	½
32E-33E	**B7**	**R19**	**E**	**¼**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
32E-33E	B7	R27	E	¼
32E-33E	B7	R52	E	½
32E-33E	B7	R52	W	¼
32E-33E	**B9**	**R26**	**W**	**¾**
32E-33E	**B9**	**R43**	**E**	**2**
32E-33E	**B9**	**R43**	**W**	**1**
32E-33E	B9	R52	E	⅝
32E-33E	**B12**	**R12**	**W**	**1**
32E-33E	B12	R26	W	1
32E-33E	**B12**	**R27**	**W**	**1 ½**
32E	**RISER BEAM**	**R6**	**E**	**½**
32E	RISER BEAM	R9	E	2 ½
32E	**RISER BEAM**	**R10**	**E**	**3**
32E	RISER BEAM	R11	E	FW
32E	**RISER BEAM**	**R12**	**E**	**¾**
32E	**RISER BEAM**	**R13**	**E**	**3 ½**
32E	**RISER BEAM**	**R14**	**E**	**¾**
32E	**RISER BEAM**	**R15**	**E**	**¾**
32E	**RISER BEAM**	**R34**	**E**	**2 ½**
32E	**RISER BEAM**	**R41**	**E**	**½**
32E	**RISER BEAM**	**R45**	**E**	**2 ½**
32E	**RISER BEAM**	**R46**	**E**	**½**
32E	**RISER BEAM**	**R47**	**E**	**1**
32E	**RISER BEAM**	**R48**	**E**	**2**
32E	**RISER BEAM**	**R49**	**E**	**1**
32E	RISER BEAM	R53	E	FW
32E	**RISER BEAM**	**R54**	**E**	**1 ½**
32E	**RISER BEAM**	**R57**	**E**	**1 ½**
32E	**RISER BEAM**	**R58**	**E**	**2**
32E	**RISER BEAM**	**R59**	**E**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
32E	RISER BEAM	R62	E	4
32E	**RISER BEAM**	**R63**	**E**	**3**
32E	**RISER BEAM**	**R64**	**E**	**¾**
32E	**RISER BEAM**	**R65**	**E**	**1**
32E	**RISER BEAM**	**R66**	**E**	**1 ¾ & ¼**
31E-32E	**B1**	**R10**	**E**	**½**
31E-32E	**B1**	**R10**	**W**	**1**
31E-32E	**B1**	**R11**	**W**	**FW**
31E-32E	**B1**	**R12**	**E**	**3 ½**
31E-32E	**B1**	**R13**	**E**	**4**
31E-32E	**B1**	**R61**	**W**	**3**
31E-32E	**B1**	**R68**	**E**	**FW**
31E-32E	**B1**	**R69**	**W**	**1**
31E-32E	B2	R52	E	1 ¼
31E-32E	**B2**	**R52**	**W**	**1**
31E-32E	**B5**	**R52**	**E**	**1**
31E-32E	**B5**	**R52**	**W**	**1**
31E-32E	**B6**	**R52**	**W**	**1**
31E-32E	B7	R52	E	1 ⅛
31E-32E	**B8**	**R47**	**E**	**1**
31E-32E	**B8**	**R48**	**E**	**1**
31E-32E	B8	R52	E	1
31E-32E	**B8**	**R52**	**W**	**1**
31E-32E	B11	R52	E	FW
31E-32E	B11	R52	W	FW
31E-32E	**B12**	**R19**	**W**	**2 ½**
31E-32E	**B12**	**R26**	**W**	**2**
31E-32E	**B12**	**R28**	**W**	**½**
31E-32E	**B12**	**R46**	**W**	**1**
31E-32E	**B12**	**R47**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
31E-32E	**B12**	**R52**	**W**	**4**
31E-32E	**B12**	**R54**	**W**	**½**
31E-32E	B12	R62	W	FW
31E-32E	**B12**	**R63**	**W**	**1 ½**
31E-32E	B12	R64	W	3
31E	RISER BEAM	R25	E	3
31E	**RISER BEAM**	**R33**	**E**	**1 ¼**
31E	**RISER BEAM**	**R34**	**E**	**1**
31E	RISER BEAM	R42	E	1
31E	RISER BEAM	R46	E	1
31E	RISER BEAM	R68	E	2 ½
30E-31E	**B1**	**R10**	**E**	**1**
30E-31E	B1	R61	W	2 ¾
30E-31E	**B1**	**R62**	**E**	**2 ½**
30E-31E	**B2**	**R37**	**E**	**¾**
30E-31E	B4	R52	W	½
30E-31E	B7	R52	E	FW
30E-31E	**B9**	**R43**	**E**	**¼**
30E-31E	**B10**	**R42**	**W**	**½**
30E-31E	**B11**	**R61**	**E**	**1 ½**
30E-31E	B12	R32	W	3
30E-31E	**B12**	**R41**	**W**	**½**
30E-31E	**B12**	**R42**	**W**	**2 ½**
30E-31E	**B12**	**R43**	**W**	**2 ½**
30E-31E	**B12**	**R45**	**W**	**3**
30E-31E	B12	R46	W	½
30E-31E	**B12**	**R47**	**W**	**4**
30E-31E	**B12**	**R48**	**W**	**1 & 1 ½**
30E-31E	**B12**	**R49**	**W**	**2 ½**
30E-31E	**B12**	**R52**	**W**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
30E-31E	**B12**	**R54**	**W**	**1**
30E-31E	B12	R58	W	¼
30E-31E	B12	R61	W	¼
30E-31E	**B12**	**R65**	**W**	**1 ½**
30E	**RISER BEAM**	**R2**	**E**	**3**
30E	**RISER BEAM**	**R5**	**E**	**1**
30E	**RISER BEAM**	**R6**	**E**	**3 ½**
30E	**RISER BEAM**	**R7**	**E**	**¾**
30E	**RISER BEAM**	**R8**	**E**	**1**
30E	**RISER BEAM**	**R11**	**E**	**1 ½**
30E	**RISER BEAM**	**R12**	**E**	**½**
30E	**RISER BEAM**	**R13**	**E**	**¾**
30E	**RISER BEAM**	**R14**	**E**	**½**
30E	RISER BEAM	R19	E	FW
30E	**RISER BEAM**	**R20**	**E**	**4 ½**
30E	**RISER BEAM**	**R21**	**E**	**½**
30E	**RISER BEAM**	**R22**	**E**	**½ & 1**
30E	**RISER BEAM**	**R23**	**E**	**1**
30E	**RISER BEAM**	**R24**	**E**	**4**
30E	**RISER BEAM**	**R25**	**E**	**FW**
30E	**RISER BEAM**	**R26**	**E**	**1**
30E	**RISER BEAM**	**R27**	**E**	**½**
30E	**RISER BEAM**	**R28**	**E**	**1**
30E	RISER BEAM	R29	E	½
30E	**RISER BEAM**	**R30**	**E**	**4**
30E	**RISER BEAM**	**R32**	**E**	**¾**
30E	**RISER BEAM**	**R34**	**W**	**FW**
30E	**RISER BEAM**	**R36**	**W**	**FW**
30E	**RISER BEAM**	**R37**	**W**	**FW**
30E	**RISER BEAM**	**R40**	**E**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
30E	**RISER BEAM**	**R41**	**E**	**2**
30E	**RISER BEAM**	**R42**	**E**	**2 ½**
30E	**RISER BEAM**	**R43**	**E**	**1 & 1**
30E	**RISER BEAM**	**R45**	**E**	**1 ¼**
30E	**RISER BEAM**	**R46**	**E**	**1 ¾**
30E	**RISER BEAM**	**R47**	**E**	**4**
30E	**RISER BEAM**	**R48**	**E**	**2**
30E	**RISER BEAM**	**R49**	**E**	**2**
30E	RISER BEAM	R50	E	1
30E	**RISER BEAM**	**R52**	**E**	**1**
30E	**RISER BEAM**	**R56**	**E**	**¼ & ½**
30E	**RISER BEAM**	**R57**	**E**	**¾**
30E	**RISER BEAM**	**R59**	**E**	**2**
30E	RISER BEAM	R60	E	FW
30E	**RISER BEAM**	**R61**	**E**	**FW**
30E	**RISER BEAM**	**R63**	**E**	**2 ¾**
30E	**RISER BEAM**	**R64**	**E**	**2 ½**
30E	**RISER BEAM**	**R65**	**E**	**2**
30E	**RISER BEAM**	**R66**	**E**	**1 & ¾**
30E	**RISER BEAM**	**R67**	**E**	**1**
30E	**RISER BEAM**	**R69**	**E**	**3**
29E-30E	**B1**	**R10**	**E**	**½**
29E-30E	**B1**	**R11**	**W**	**½**
29E-30E	**B1**	**R12**	**E**	**¾**
29E-30E	**B1**	**R12**	**W**	**1**
29E-30E	**B1**	**R13**	**W**	**½**
29E-30E	**B1**	**R16**	**W**	**2**
29E-30E	**B1**	**R17**	**W**	**½**
29E-30E	**B1**	**R23**	**E**	**1**
29E-30E	**B1**	**R30**	**E**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
29E-30E	**B1**	**R31**	**W**	**3**
29E-30E	**B1**	**R32**	**W**	**2 ½**
29E-30E	**B1**	**R34**	**E**	**FW**
29E-30E	B1	R34	W	FW
29E-30E	**B1**	**R36**	**W**	**3**
29E-30E	**B1**	**R37**	**E**	**FW**
29E-30E	**B1**	**R37**	**W**	**FW**
29E-30E	**B1**	**R38**	**W**	**1 ½**
29E-30E	**B1**	**R40**	**W**	**4**
29E-30E	**B1**	**R47**	**W**	**3/4**
29E-30E	**B1**	**R48**	**W**	**½**
29E-30E	**B1**	**R60**	**W**	**2 ½**
29E-30E	B1	R65	E	FW
29E-30E	**B1**	**R65**	**W**	**½**
29E-30E	B1	R66	E	FW
29E-30E	**B1**	**R66**	**W**	**1**
29E-30E	**B2**	**R10**	**E**	**1**
29E-30E	**B2**	**R28**	**E**	**¾**
29E-30E	**B2**	**R33**	**E**	**½**
29E-30E	**B2**	**R34**	**E**	**½ & ¼**
29E-30E	B2	R52	E	¼
29E-30E	B3	R52	W	¼
29E-30E	**B5**	**R1**	**E**	**¼**
29E-30E	**B5**	**R43**	**E**	**½**
29E-30E	**B6**	**R16**	**E**	**¼**
29E-30E	B6	R52	E	¾
29E-30E	**B7**	**R19**	**E**	**¾**
29E-30E	**B10**	**R16**	**E**	**½**
29E-30E	**B11**	**R16**	**E**	**2**
29E-30E	**B11**	**R20**	**W**	**2 ½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
29E-30E	**B11**	**R25**	**E**	**½**
29E-30E	B11	R43	W	1
29E-30E	**B12**	**R6**	**W**	**1**
29E-30E	B12	R7	W	4 ½
29E-30E	B12	R8	W	FW
29E-30E	B12	R10	W	FW
29E-30E	**B12**	**R14**	**W**	**2**
29E-30E	**B12**	**R16**	**W**	**1**
29E-30E	B12	R17	W	½
29E-30E	**B12**	**R18**	**W**	**2**
29E-30E	**B12**	**R26**	**W**	**½**
29E-30E	**B12**	**R37**	**W**	**1**
29E-30E	**B12**	**R39**	**W**	**1**
29E-30E	**B12**	**R56**	**W**	**¼**
29E-30E	**B12**	**R58**	**W**	**½**
29E-30E	**B12**	**R59**	**W**	**½**
29E-30E	**B12**	**R60**	**W**	**1**
29E	RISER BEAM	R2	E	FW
29E	RISER BEAM	R3	E	2
29E	RISER BEAM	R5	E	1 ½
29E	**RISER BEAM**	**R7**	**E**	**FW**
29E	**RISER BEAM**	**R8**	**E**	**4**
29E	**RISER BEAM**	**R9**	**E**	**4**
29E	RISER BEAM	R10	E	FW
29E	RISER BEAM	R11	E	FW
29E	RISER BEAM	R12	E	FW
29E	RISER BEAM	R13	E	FW
29E	RISER BEAM	R14	E	FW
29E	RISER BEAM	R15	E	FW
29E	RISER BEAM	R16	E	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
29E	RISER BEAM	R19	E	1
29E	**RISER BEAM**	**R23**	**E**	**1 ¼**
29E	**RISER BEAM**	**R24**	**E**	**1 ¾ & ½**
29E	**RISER BEAM**	**R25**	**E**	**2 ½**
29E	RISER BEAM	R26	E	2 ½
29E	**RISER BEAM**	**R28**	**E**	**1**
29E	RISER BEAM	R34	E	1
29E	**RISER BEAM**	**R52**	**E**	**FW**
29E	**RISER BEAM**	**R58**	**E**	**1**
29E	**RISER BEAM**	**R59**	**E**	**2**
29E	**RISER BEAM**	**R64**	**E**	**2**
29E	**RISER BEAM**	**R66**	**E**	**FW**
29E	**RISER BEAM**	**R67**	**E**	**1**
28E-29E	B1	R2	E	FW
28E-29E	B1	R2	W	FW
28E-29E	**B1**	**R3**	**E**	**1**
28E-29E	B1	R3	W	FW
28E-29E	**B1**	**R4**	**W**	**3**
28E-29E	**B1**	**R5**	**E**	**3**
28E-29E	**B1**	**R5**	**W**	**1**
28E-29E	**B1**	**R6**	**E**	**FW**
28E-29E	**B1**	**R7**	**E**	**2 ½**
28E-29E	**B1**	**R9**	**E**	**4**
28E-29E	B1	R10	E	FW
28E-29E	B1	R10	W	3
28E-29E	B1	R11	E	FW
28E-29E	**B1**	**R11**	**W**	**1**
28E-29E	B1	R12	E	FW
28E-29E	**B1**	**R12**	**W**	**2**
28E-29E	B1	R13	E	4 ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
28E-29E	**B1**	**R13**	**W**	**3**
28E-29E	**B1**	**R14**	**E**	**½**
28E-29E	**B1**	**R16**	**W**	**¾**
28E-29E	B1	R28	E	3
28E-29E	**B1**	**R28**	**W**	**1 ½**
28E-29E	**B1**	**R34**	**E**	**2**
28E-29E	**B1**	**R34**	**W**	**1 ½**
28E-29E	**B1**	**R35**	**W**	**1**
28E-29E	**B1**	**R38**	**E**	**1**
28E-29E	**B1**	**R39**	**E**	**1**
28E-29E	**B1**	**R52**	**E**	**1**
28E-29E	**B1**	**R68**	**W**	**2**
28E-29E	**B1**	**R69**	**E**	**1**
28E-29E	**B1**	**R69**	**W**	**2**
28E-29E	B2	R2	E	FW
28E-29E	**B2**	**R2**	**W**	**1 ¼**
28E-29E	**B2**	**R3**	**E**	**½**
28E-29E	**B2**	**R37**	**W**	**1**
28E-29E	B2	R52	E	1
28E-29E	**B2**	**R52**	**W**	**2**
28E-29E	**B3**	**R2**	**W**	**½**
28E-29E	B3	R52	W	¼
28E-29E	**B5**	**R26**	**W**	**1**
28E-29E	**B5**	**R28**	**W**	**1**
28E-29E	**B6**	**R28**	**W**	**½**
28E-29E	B7	R52	E	1
28E-29E	B8	R52	E	FW
28E-29E	**B8**	**R52**	**W**	**FW**
28E-29E	**B9**	**R19**	**E**	**¼**
28E-29E	**B9**	**R52**	**E**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
28E-29E	**B9**	**R52**	**W**	**FW**
28E-29E	**B11**	**R31**	**W**	**2**
28E-29E	**B11**	**R52**	**E**	**1**
28E-29E	**B11**	**R52**	**W**	**1**
28E-29E	**B11**	**R61**	**E**	**½**
28E-29E	**B11**	**R62**	**E**	**1**
28E-29E	**B12**	**R6**	**W**	**½**
28E-29E	**B12**	**R7**	**W**	**¼**
28E-29E	**B12**	**R19**	**W**	**2 ½**
28E-29E	**B12**	**R20**	**W**	**3**
28E-29E	B12	R21	W	4
28E-29E	B12	R22	W	4
28E-29E	**B12**	**R24**	**W**	**1 ¼**
28E-29E	**B12**	**R34**	**W**	**¼**
28E-29E	**B12**	**R35**	**W**	**¾ & ½**
28E-29E	**B12**	**R36**	**W**	**1 ½**
28E-29E	**B12**	**R37**	**W**	**1**
28E-29E	**B12**	**R57**	**W**	**1**
28E-29E	**B12**	**R58**	**W**	**1**
28E-29E	**B12**	**R59**	**W**	**2**
28E-29E	**B12**	**R61**	**W**	**¼**
28E-29E	**B12**	**R63**	**W**	**3**
28E-29E	**B12**	**R64**	**W**	**¼**
28E	**RISER BEAM**	**R3**	**E**	**1**
28E	**RISER BEAM**	**R4**	**E**	**1**
28E	**RISER BEAM**	**R5**	**E**	**¾**
28E	**RISER BEAM**	**R6**	**E**	**¾**
28E	**RISER BEAM**	**R7**	**E**	**¾**
28E	**RISER BEAM**	**R8**	**E**	**2**
28E	**RISER BEAM**	**R10**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
28E	**RISER BEAM**	**R13**	**E**	**¾**
28E	**RISER BEAM**	**R14**	**E**	**1**
28E	RISER BEAM	R20	E	4
28E	**RISER BEAM**	**R21**	**E**	**1**
28E	**RISER BEAM**	**R22**	**E**	**½**
28E	**RISER BEAM**	**R23**	**E**	**1**
28E	**RISER BEAM**	**R24**	**E**	**2**
28E	RISER BEAM	R39	E	2 ½
28E	**RISER BEAM**	**R47**	**E**	**1**
28E	RISER BEAM	R63	E	1
28E	**RISER BEAM**	**R66**	**E**	**3**
28E	**RISER BEAM**	**R68**	**E**	**1**
28E	**RISER BEAM**	**R69**	**E**	**3**
27E-28E	**B1**	**R2**	**E**	**¾**
27E-28E	**B1**	**R3**	**E**	**¾**
27E-28E	**B1**	**R3**	**W**	**3**
27E-28E	**B1**	**R4**	**E**	**½**
27E-28E	**B1**	**R7**	**W**	**1 ½**
27E-28E	**B1**	**R8**	**E**	**1**
27E-28E	**B1**	**R10**	**E**	**1**
27E-28E	**B1**	**R10**	**W**	**2 ½ & 1**
27E-28E	B2	R52	E	¼
27E-28E	**B3**	**R4**	**E**	**½**
27E-28E	**B4**	**R16**	**E**	**½**
27E-28E	**B12**	**R19**	**W**	**2 ½**
27E-28E	**B12**	**R25**	**W**	**¾**
27E-28E	B12	R63	W	2 ½
27E	**RISER BEAM**	**R3**	**E**	**¾**
27E	RISER BEAM	R6	E	2 ½
27E	RISER BEAM	R7	E	3

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
27E	**RISER BEAM**	**R8**	**E**	**2 ½**
27E	**RISER BEAM**	**R9**	**E**	**2**
27E	RISER BEAM	R10	E	FW
27E	RISER BEAM	R11	E	FW
27E	RISER BEAM	R13	E	FW
27E	RISER BEAM	R14	E	4
27E	**RISER BEAM**	**R15**	**E**	**¾**
27E	**RISER BEAM**	**R16**	**E**	**¾**
27E	**RISER BEAM**	**R17**	**E**	**1**
27E	**RISER BEAM**	**R19**	**E**	**¾**
27E	**RISER BEAM**	**R20**	**E**	**½**
27E	**RISER BEAM**	**R22**	**E**	**2**
27E	**RISER BEAM**	**R23**	**E**	**2**
27E	**RISER BEAM**	**R24**	**E**	**1 ½**
27E	**RISER BEAM**	**R32**	**W**	**¾**
27E	**RISER BEAM**	**R33**	**W**	**1**
27E	**RISER BEAM**	**R34**	**W**	**¾**
27E	**RISER BEAM**	**R35**	**W**	**1**
26E-27E	**B1**	**R7**	**E**	**¼**
26E-27E	**B1**	**R7**	**W**	**¾**
26E-27E	**B1**	**R8**	**E**	**2**
26E-27E	**B1**	**R8**	**W**	**FW**
26E-27E	**B1**	**R10**	**E**	**FW**
26E-27E	**B1**	**R11**	**E**	**FW**
26E-27E	**B1**	**R12**	**E**	**¾**
26E-27E	**B1**	**R13**	**E**	**1**
26E-27E	**B1**	**R13**	**W**	**3**
26E-27E	**B1**	**R64**	**W**	**3**
26E-27E	B1	R69	E	½
26E-27E	**B3**	**R52**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
26E-27E	**B4**	**R52**	**W**	**¾**
26E-27E	B6	R52	E	FW
26E-27E	B6	R52	W	FW
26E-27E	B7	R52	E	FW
26E-27E	B7	R52	W	FW
26E-27E	**B8**	**R1**	**E**	**1**
26E-27E	**B8**	**R28**	**E**	**½**
26E-27E	B8	R52	E	FW
26E-27E	B8	R52	W	FW
26E-27E	B9	R52	E	FW
26E-27E	B9	R52	W	FW
26E-27E	B10	R52	E	½
26E-27E	**B11**	**R2**	**W**	**¾**
26E-27E	B11	R52	E	½
26E-27E	B12	R5	W	1
26E-27E	B12	R6	W	1
26E-27E	B12	R7	W	4 ½
26E-27E	**B12**	**R22**	**W**	**2**
26E-27E	**B12**	**R23**	**W**	**2**
26E-27E	**B12**	**R25**	**W**	**1**
26E-27E	**B12**	**R26**	**W**	**1**
26E-27E	**B12**	**R29**	**W**	**2**
26E-27E	**B12**	**R30**	**W**	**3**
26E-27E	B12	R32	W	¾
26E	**RISER BEAM**	**R2**	**E**	**1**
26E	RISER BEAM	R3	E	FW
26E	**RISER BEAM**	**R5**	**E**	**2 ½**
26E	**RISER BEAM**	**R8**	**E**	**4 ½**
26E	RISER BEAM	R10	E	2 ¾
26E	RISER BEAM	R11	E	½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
26E	RISER BEAM	R12	E	FW
26E	**RISER BEAM**	**R14**	**E**	**2 ½**
26E	**RISER BEAM**	**R15**	**E**	**2 ¼**
26E	**RISER BEAM**	**R17**	**E**	**1 ¼**
26E	**RISER BEAM**	**R18**	**E**	**2**
26E	RISER BEAM	R22	E	3
26E	**RISER BEAM**	**R23**	**E**	**½ & ¾**
26E	**RISER BEAM**	**R25**	**E**	**¾**
26E	**RISER BEAM**	**R26**	**E**	**1**
26E	**RISER BEAM**	**R58**	**E**	**2**
26E	**RISER BEAM**	**R61**	**E**	**1**
26E	RISER BEAM	R66	E	¼
25E-26E	**B1**	**R3**	**E**	**¾ & 1**
25E-26E	**B1**	**R3**	**W**	**2 ½**
25E-26E	B1	R8	W	FW
25E-26E	**B1**	**R9**	**W**	**2 ½**
25E-26E	B1	R10	W	FW
25E-26E	**B1**	**R11**	**W**	**3**
25E-26E	**B1**	**R15**	**W**	**1**
25E-26E	**B1**	**R18**	**W**	**3**
25E-26E	B1	R19	W	FW
25E-26E	**B1**	**R21**	**E**	**¾**
25E-26E	**B1**	**R22**	**W**	**2 ½**
25E-26E	**B1**	**R32**	**E**	**1**
25E-26E	**B1**	**R33**	**E**	**1**
25E-26E	**B1**	**R34**	**E**	**½**
25E-26E	B1	R63	W	¼
25E-26E	B1	R69	W	¼
25E-26E	**B2**	**R8**	**E**	**¾**
25E-26E	B2	R46	E	½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
25E-26E	**B3**	**R42**	**W**	**½**
25E-26E	B3	R43	W	½
25E-26E	**B3**	**R52**	**E**	**1 ½**
25E-26E	B4	R52	E	FW
25E-26E	B4	R52	W	FW
25E-26E	**B5**	**R52**	**W**	**1 ½**
25E-26E	**B8**	**R37**	**E**	**¾**
25E-26E	**B8**	**R46**	**W**	**½**
25E-26E	B8	R52	E	1
25E-26E	**B8**	**R52**	**W**	**½**
25E-26E	**B9**	**R19**	**E**	**¾**
25E-26E	**B9**	**R19**	**W**	**¾**
25E-26E	B9	R46	E	¼
25E-26E	B9	R46	W	½
25E-26E	**B10**	**R19**	**E**	**1**
25E-26E	**B10**	**R19**	**W**	**½**
25E-26E	**B11**	**R52**	**E**	**1**
25E-26E	B11	R52	W	FW
25E-26E	**B12**	**R6**	**W**	**1 ½**
25E-26E	B12	R7	W	3
25E-26E	**B12**	**R8**	**W**	**¾ & ½**
25E-26E	**B12**	**R10**	**W**	**1 ½**
25E-26E	**B12**	**R13**	**W**	**¾**
25E-26E	**B12**	**R19**	**W**	**¾**
25E-26E	**B12**	**R32**	**W**	**1**
25E-26E	**B12**	**R42**	**W**	**2**
25E-26E	**B12**	**R43**	**W**	**4**
25E-26E	**B12**	**R45**	**W**	**1**
25E-26E	**B12**	**R57**	**W**	**1 ½**
25E-26E	**B12**	**R58**	**W**	**¼**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
25E-26E	**B12**	**R61**	**W**	**½**
25E-26E	**B12**	**R63**	**W**	**½**
25E	RISER BEAM	R2	E	FW
25E	RISER BEAM	R3	E	FW
25E	RISER BEAM	R4	E	FW
25E	**RISER BEAM**	**R5**	**E**	**1 ¼**
25E	**RISER BEAM**	**R6**	**E**	**¾**
25E	RISER BEAM	R7	E	FW
25E	**RISER BEAM**	**R8**	**E**	**1 ¼**
25E	RISER BEAM	R10	E	2
25E	**RISER BEAM**	**R11**	**E**	**¾ & 2**
25E	**RISER BEAM**	**R12**	**E**	**1 ½ & 1 ½**
25E	**RISER BEAM**	**R13**	**E**	**FW**
25E	**RISER BEAM**	**R14**	**E**	**2**
25E	**RISER BEAM**	**R15**	**E**	**1**
25E	**RISER BEAM**	**R16**	**E**	**¾**
25E	**RISER BEAM**	**R17**	**E**	**1 ½ & ¾**
25E	**RISER BEAM**	**R18**	**E**	**4**
25E	**RISER BEAM**	**R19**	**E**	**3**
25E	**RISER BEAM**	**R20**	**E**	**1**
25E	RISER BEAM	R22	E	2
25E	RISER BEAM	R23	E	1
25E	**RISER BEAM**	**R24**	**E**	**1 & 1**
25E	**RISER BEAM**	**R25**	**E**	**2 ¼**
25E	RISER BEAM	R26	E	FW
25E	RISER BEAM	R27	E	FW
25E	**RISER BEAM**	**R28**	**E**	**1 ¼**
25E	**RISER BEAM**	**R29**	**E**	**2**
25E	RISER BEAM	R30	E	½
25E	**RISER BEAM**	**R31**	**E**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
25E	**RISER BEAM**	**R32**	**E**	**2 ½**
25E	RISER BEAM	R33	E	FW
25E	RISER BEAM	R34	E	1 ½
25E	**RISER BEAM**	**R35**	**E**	**3 ½**
25E	**RISER BEAM**	**R63**	**E**	**¾**
25E	**RISER BEAM**	**R66**	**E**	**1 ½**
25E	**RISER BEAM**	**R67**	**E**	**1**
25E	RISER BEAM	R68	E	2
25E	**RISER BEAM**	**R69**	**E**	**2 ½**
24E-25E	**B1**	**R2**	**E**	**1**
24E-25E	**B1**	**R2**	**W**	**4**
24E-25E	**B1**	**R3**	**E**	**½**
24E-25E	B1	R4	W	FW
24E-25E	B1	R5	W	FW
24E-25E	B1	R6	E	2
24E-25E	**B1**	**R6**	**W**	**3 ½**
24E-25E	**B1**	**R7**	**E**	**3**
24E-25E	B1	R7	W	FW
24E-25E	B1	R8	E	FW
24E-25E	**B1**	**R8**	**W**	**3**
24E-25E	**B1**	**R9**	**E**	**4**
24E-25E	**B1**	**R10**	**E**	**2**
24E-25E	**B1**	**R10**	**W**	**2 ½**
24E-25E	B1	R11	W	1
24E-25E	B1	R12	W	2 ½
24E-25E	**B1**	**R13**	**W**	**4**
24E-25E	**B1**	**R17**	**W**	**2 ½**
24E-25E	**B1**	**R21**	**E**	**2**
24E-25E	**B1**	**R26**	**W**	**½**
24E-25E	**B1**	**R27**	**W**	**4**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
24E-25E	B1	R28	W	FW
24E-25E	B1	R29	W	2 ½
24E-25E	**B1**	**R30**	**E**	**3**
24E-25E	**B1**	**R31**	**E**	**½**
24E-25E	B1	R31	W	FW
24E-25E	**B1**	**R32**	**E**	**1**
24E-25E	**B1**	**R32**	**W**	**2 & 1**
24E-25E	B1	R33	E	FW
24E-25E	**B1**	**R33**	**W**	**1**
24E-25E	B1	R34	E	FW
24E-25E	**B1**	**R34**	**W**	**FW**
24E-25E	**B2**	**R2**	**E**	**3**
24E-25E	B2	R2	W	FW
24E-25E	B2	R6	W	2
24E-25E	**B2**	**R8**	**W**	**1 ½**
24E-25E	**B2**	**R45**	**W**	**1**
24E-25E	**B3**	**R2**	**W**	**½**
24E-25E	**B4**	**R52**	**E**	**1 ½**
24E-25E	**B5**	**R46**	**E**	**¾**
24E-25E	B5	R52	E	1 ¼
24E-25E	**B5**	**R52**	**W**	**1**
24E-25E	B6	R42	W	2
24E-25E	B6	R52	E	¾
24E-25E	**B6**	**R52**	**W**	**½**
24E-25E	**B8**	**R42**	**E**	**1**
24E-25E	B8	R43	E	¾
24E-25E	B8	R46	W	¼
24E-25E	B8	R52	E	¾
24E-25E	B12	R6	W	¼
24E-25E	B12	R8	W	½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
24E-25E	**B12**	**R10**	**W**	**2**
24E-25E	B12	R41	W	1 ½
24E-25E	**B12**	**R42**	**W**	**3 ½**
24E-25E	B12	R43	W	2 ½
24E-25E	**B12**	**R52**	**E**	**1**
24E-25E	B12	R55	W	¼
24E-25E	B12	R62	W	4
24E-25E	**B12**	**R64**	**W**	**1**
24E-25E	**B12**	**R65**	**W**	**¾**
24E	RISER BEAM	R2	E	1
24E	RISER BEAM	R3	E	½
24E	RISER BEAM	R5	E	½
24E	RISER BEAM	R18	E	½
24E	RISER BEAM	R26	E	¾
24E	RISER BEAM	R27	E	4
24E	RISER BEAM	R28	E	2 ¼
24E	RISER BEAM	R30	E	½
24E	RISER BEAM	R34	E	1
24E	RISER BEAM	R44	E	FW
24E	RISER BEAM	R51	E	FW
24E	RISER BEAM	R52	E	2 ½
24E	RISER BEAM	R53	E	2
24E	RISER BEAM	R57	E	½
24E	RISER BEAM	R58	E	½
24E	RISER BEAM	R59	E	3
24E	RISER BEAM	R63	E	⅜
24E	RISER BEAM	R63	W	⅜
24E	RISER BEAM	R64	E	⅜
24E	RISER BEAM	R64	W	⅜
24E	RISER BEAM	R65	E	3

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
24E	RISER BEAM	R65	W	2
23E-24E	**B1**	**R2**	**E**	**1 ½**
23E-24E	**B1**	**R3**	**E**	**1 ½ & ½**
23E-24E	**B1**	**R10**	**E**	**4 ½**
23E-24E	**B1**	**R19**	**E**	**½**
23E-24E	**B1**	**R28**	**E**	**¾**
23E-24E	B1	R34	W	FW
23E-24E	B1	R44	E	FW
23E-24E	B1	R55	W	¼
23E-24E	B2	R3	W	½
23E-24E	**B3**	**R19**	**E**	**1**
23E-24E	**B3**	**R19**	**W**	**½**
23E-24E	**B3**	**R28**	**E**	**¼**
23E-24E	B3	R43	W	4
23E-24E	**B5**	**R25**	**E**	**¾**
23E-24E	B5	R52	W	½
23E-24E	**B6**	**R14**	**W**	**1**
23E-24E	**B6**	**R19**	**W**	**1**
23E-24E	**B7**	**R19**	**E**	**¾**
23E-24E	**B7**	**R19**	**W**	**1**
23E-24E	B7	R52	E	1
23E-24E	B7	R52	W	⅞
23E-24E	**B8**	**R18**	**W**	**1**
23E-24E	**B8**	**R19**	**E**	**FW**
23E-24E	**B8**	**R19**	**W**	**¾**
23E-24E	B8	R52	E	¾
23E-24E	B8	R52	W	½
23E-24E	B9	R44	E	FW
23E-24E	B9	R52	W	¾

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
23E-24E	B11	R19	W	FW
23E-24E	**B12**	**R5**	**W**	**½**
23E-24E	**B12**	**R7**	**W**	**1**
23E-24E	**B12**	**R8**	**W**	**¾**
23E-24E	**B12**	**R19**	**W**	**2 ½**
23E-24E	**B12**	**R24**	**W**	**1**
23E-24E	**B12**	**R25**	**W**	**1**
23E-24E	**B12**	**R26**	**W**	**1 & 3**
23E-24E	**B12**	**R28**	**W**	**¾**
23E-24E	B12	R45	W	1½
23E-24E	B12	R48	W	¼
23E-24E	B12	R54	W	½
23E-24E	B12	R56	W	½
23E	**RISER BEAM**	**R4**	**E**	**2**
23E	**RISER BEAM**	**R5**	**E**	**½ & ¼**
23E	**RISER BEAM**	**R6**	**E**	**¾**
23E	**RISER BEAM**	**R7**	**E**	**¾**
23E	**RISER BEAM**	**R8**	**E**	**3**
23E	**RISER BEAM**	**R11**	**E**	**3**
23E	**RISER BEAM**	**R12**	**E**	**1 ½**
23E	**RISER BEAM**	**R13**	**E**	**¾**
23E	**RISER BEAM**	**R15**	**E**	**¼**
23E	**RISER BEAM**	**R17**	**E**	**3**
23E	**RISER BEAM**	**R18**	**E**	**3 ½**
23E	**RISER BEAM**	**R21**	**E**	**1 ½**
23E	RISER BEAM	R25	E	1
23E	RISER BEAM	R26	E	2 ½
23E	**RISER BEAM**	**R27**	**E**	**2 ½**
23E	RISER BEAM	R32	E	1
23E	RISER BEAM	R34	E	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
23E	**RISER BEAM**	**R45**	**E**	**¾**
23E	RISER BEAM	R46	E	¼
23E	**RISER BEAM**	**R48**	**E**	**¾**
23E	**RISER BEAM**	**R50**	**E**	**1 ½**
23E	**RISER BEAM**	**R51**	**E**	**FW**
23E	**RISER BEAM**	**R57**	**E**	**¼**
23E	**RISER BEAM**	**R58**	**E**	**½ & ½**
23E	**RISER BEAM**	**R59**	**E**	**1**
23E	**RISER BEAM**	**R60**	**E**	**¼ & ¾**
23E	**RISER BEAM**	**R62**	**E**	**1 ½**
23E	**RISER BEAM**	**R66**	**E**	**¾**
23E	**RISER BEAM**	**R68**	**E**	**¾**
22E-23E	**B1**	**R2**	**E**	**1**
22E-23E	B1	R2	W	FW
22E-23E	**B1**	**R3**	**E**	**1 ½**
22E-23E	**B1**	**R3**	**W**	**¾**
22E-23E	**B1**	**R4**	**E**	**¾ & ¾**
22E-23E	**B1**	**R4**	**W**	**¾**
22E-23E	**B1**	**R5**	**E**	**¾**
22E-23E	**B1**	**R5**	**W**	**1**
22E-23E	**B1**	**R6**	**W**	**1**
22E-23E	**B1**	**R7**	**W**	**1**
22E-23E	**B1**	**R10**	**W**	**2 ½**
22E-23E	**B1**	**R26**	**E**	**3**
22E-23E	**B1**	**R26**	**W**	**1**
22E-23E	**B1**	**R27**	**W**	**4**
22E-23E	B1	R28	E	1 ½
22E-23E	**B1**	**R29**	**E**	**1**
22E-23E	**B1**	**R30**	**E**	**3**
22E-23E	**B1**	**R32**	**E**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
22E-23E	**B1**	**R32**	**W**	**2 ½**
22E-23E	**B1**	**R33**	**E**	**¾**
22E-23E	**B1**	**R33**	**W**	**¾ & 1**
22E-23E	**B1**	**R34**	**E**	**¾**
22E-23E	**B1**	**R34**	**W**	**½ & ¾**
22E-23E	**B1**	**R35**	**E**	**1**
22E-23E	**B2**	**R2**	**W**	**2 ¾**
22E-23E	**B2**	**R19**	**E**	**FW**
22E-23E	**B2**	**R19**	**W**	**4 ½**
22E-23E	**B2**	**R32**	**W**	**2**
22E-23E	**B3**	**R19**	**E**	**FW**
22E-23E	**B3**	**R25**	**W**	**4 ½**
22E-23E	**B3**	**R27**	**W**	**½**
22E-23E	**B3**	**R37**	**E**	**½**
22E-23E	**B3**	**R52**	**W**	**½**
22E-23E	**B4**	**R19**	**W**	**1 ½**
22E-23E	**B4**	**R25**	**W**	**1**
22E-23E	**B5**	**R25**	**E**	**¼**
22E-23E	**B5**	**R27**	**W**	**1**
22E-23E	**B7**	**R52**	**E**	**¾**
22E-23E	B7	R52	W	½
22E-23E	**B8**	**R8**	**W**	**2**
22E-23E	B8	R52	E	1
22E-23E	**B9**	**R47**	**E**	**1**
22E-23E	B9	R52	E	FW
22E-23E	B9	R52	W	FW
22E-23E	**B10**	**R26**	**W**	**¼**
22E-23E	B10	R52	E	FW
22E-23E	B10	R52	W	FW
22E-23E	B11	R19	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
22E-23E	**B11**	**R26**	**E**	**½**
22E-23E	B11	R26	W	¼
22E-23E	B11	R52	E	FW
22E-23E	B11	R52	W	FW
22E-23E	B12	R5	W	1 ½
22E-23E	**B12**	**R8**	**W**	**3**
22E-23E	B12	R10	W	2
22E-23E	**B12**	**R18**	**W**	**3 ½**
22E-23E	**B12**	**R28**	**W**	**1 ½**
22E-23E	**B12**	**R52**	**W**	**1 ½**
22E	**RISER BEAM**	**R2**	**E**	**2 ½**
22E	RISER BEAM	R3	E	FW
22E	**RISER BEAM**	**R6**	**E**	**¾**
22E	**RISER BEAM**	**R7**	**E**	**2**
22E	RISER BEAM	R8	E	3
22E	**RISER BEAM**	**R11**	**E**	**1**
22E	**RISER BEAM**	**R17**	**E**	**¾**
22E	**RISER BEAM**	**R28**	**E**	**1 ½**
22E	**RISER BEAM**	**R32**	**E**	**½**
22E	**RISER BEAM**	**R34**	**E**	**¾**
22E	**RISER BEAM**	**R35**	**E**	**¼**
22E	**RISER BEAM**	**R42**	**E**	**1**
22E	**RISER BEAM**	**R63**	**E**	**½ & ½**
22E	**RISER BEAM**	**R65**	**E**	**½**
22E	**RISER BEAM**	**R66**	**E**	**1 ½**
22E	RISER BEAM	R67	E	¼
22E	RISER BEAM	R68	E	¾
21E-22E	**B1**	**R6**	**E**	**1 ½**
21E-22E	**B1**	**R7**	**E**	**¾**
21E-22E	**B1**	**R8**	**W**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
21E-22E	**B1**	**R10**	**E**	**1**
21E-22E	**B1**	**R10**	**W**	**3**
21E-22E	**B1**	**R19**	**E**	**½**
21E-22E	**B1**	**R21**	**E**	**1 ¼**
21E-22E	**B1**	**R28**	**W**	**1**
21E-22E	**B1**	**R33**	**W**	**¾ & 1 ½**
21E-22E	**B1**	**R34**	**W**	**1 & 1 ½**
21E-22E	**B1**	**R45**	**W**	**1**
21E-22E	**B1**	**R68**	**W**	**2**
21E-22E	**B2**	**R2**	**E**	**½**
21E-22E	**B2**	**R24**	**W**	**¾**
21E-22E	**B3**	**R10**	**W**	**½**
21E-22E	**B3**	**R21**	**E**	**½**
21E-22E	**B4**	**R30**	**W**	**¾**
21E-22E	**B4**	**R52**	**W**	**¼**
21E-22E	**B5**	**R10**	**W**	**1**
21E-22E	**B5**	**R30**	**E**	**½**
21E-22E	**B5**	**R52**	**W**	**1**
21E-22E	**B6**	**R1**	**E**	**2 ½**
21E-22E	**B6**	**R7**	**E**	**2**
21E-22E	**B6**	**R18**	**E**	**¾**
21E-22E	**B6**	**R47**	**W**	**¾**
21E-22E	**B7**	**R25**	**W**	**¼**
21E-22E	**B7**	**R52**	**E**	**¼**
21E-22E	**B8**	**R28**	**E**	**1 ½**
21E-22E	**B8**	**R52**	**W**	**½**
21E-22E	**B9**	**R19**	**W**	**2 ¾**
21E-22E	**B9**	**R26**	**E**	**½**
21E-22E	**B10**	**R19**	**W**	**¼**
21E-22E	**B10**	**R25**	**W**	**¼**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
21E-22E	**B10**	**R26**	**W**	**FW**
21E-22E	**B10**	**R28**	**E**	**1 ½**
21E-22E	**B10**	**R29**	**E**	**1**
21E-22E	**B11**	**R27**	**E**	**1 ½**
21E-22E	**B12**	**R17**	**W**	**½**
21E-22E	B12	R19	W	1
21E-22E	**B12**	**R22**	**W**	**¾**
21E-22E	**B12**	**R23**	**W**	**¾ & ¾**
21E-22E	**B12**	**R24**	**W**	**1**
21E-22E	**B12**	**R25**	**W**	**½**
21E-22E	B12	R26	W	3
21E-22E	**B12**	**R27**	**W**	**3 ½**
21E-22E	**B12**	**R32**	**W**	**½**
21E-22E	**B12**	**R34**	**W**	**¾**
21E-22E	B12	R43	W	½ & 1 ½
21E-22E	**B12**	**R50**	**W**	**2 ½**
21E-22E	**B12**	**R52**	**W**	**2 ½**
21E-22E	**B12**	**R54**	**W**	**½**
21E-22E	**B12**	**R57**	**W**	**½ & ½**
21E-22E	B12	R58	W	1 ½
21E-22E	B12	R59	W	2
21E-22E	B12	R61	W	½
21E-22E	B12	R65	W	2 ½
21E	RISER BEAM	R2	E	FW
21E	RISER BEAM	R6	E	2 ½
21E	RISER BEAM	R7	E	FW
21E	RISER BEAM	R9	E	4
21E	RISER BEAM	R10	E	FW
21E	RISER BEAM	R11	E	FW
21E	RISER BEAM	R12	E	3

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
21E	RISER BEAM	R13	E	FW
21E	**RISER BEAM**	**R14**	**E**	**4 ½**
21E	RISER BEAM	R15	E	FW
21E	RISER BEAM	R16	E	4
21E	RISER BEAM	R17	E	FW
21E	RISER BEAM	R18	E	4
21E	RISER BEAM	R29	E	1 ½
21E	**RISER BEAM**	**R32**	**E**	**3**
21E	**RISER BEAM**	**R33**	**E**	**1**
21E	**RISER BEAM**	**R34**	**E**	**1**
21E	**RISER BEAM**	**R35**	**E**	**3**
21E	**RISER BEAM**	**R39**	**E**	**1**
21E	RISER BEAM	R42	E	3
21E	RISER BEAM	R43	E	2
21E	**RISER BEAM**	**R52**	**E**	**1**
21E	RISER BEAM	R67	E	1
21E	**RISER BEAM**	**R70**	**E**	**1 ½**
20E-21E	**B1**	**R1**	**W**	**1**
20E-21E	B1	R2	E	FW
20E-21E	B1	R2	W	FW
20E-21E	**B1**	**R3**	**W**	**3**
20E-21E	**B1**	**R4**	**E**	**1 ½ & ½**
20E-21E	**B1**	**R4**	**W**	**1**
20E-21E	**B1**	**R5**	**E**	**½**
20E-21E	**B1**	**R5**	**W**	**1 ½**
20E-21E	**B1**	**R6**	**E**	**1 ½**
20E-21E	**B1**	**R6**	**W**	**2**
20E-21E	**B1**	**R8**	**E**	**3**
20E-21E	**B1**	**R10**	**E**	**½**
20E-21E	**B1**	**R19**	**E**	**4**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
20E-21E	**B1**	**R21**	**E**	**1 ½**
20E-21E	**B1**	**R21**	**W**	**2**
20E-21E	**B1**	**R22**	**E**	**1**
20E-21E	**B1**	**R23**	**E**	**¾**
20E-21E	**B1**	**R25**	**E**	**2**
20E-21E	**B1**	**R26**	**E**	**2 ½**
20E-21E	**B1**	**R26**	**W**	**FW**
20E-21E	**B1**	**R32**	**W**	**FW**
20E-21E	**B1**	**R34**	**E**	**4**
20E-21E	**B1**	**R35**	**E**	**4**
20E-21E	B1	R43	W	FW
20E-21E	**B2**	**R3**	**W**	**1**
20E-21E	**B2**	**R8**	**W**	**½**
20E-21E	B3	R18	W	1
20E-21E	**B3**	**R43**	**E**	**FW**
20E-21E	**B3**	**R43**	**W**	**FW**
20E-21E	**B4**	**R19**	**W**	**¾**
20E-21E	**B5**	**R42**	**E**	**3**
20E-21E	**B5**	**R47**	**E**	**½**
20E-21E	**B7**	**R26**	**E**	**½**
20E-21E	**B9**	**R34**	**E**	**1 ½**
20E-21E	**B10**	**R47**	**E**	**½**
20E-21E	**B11**	**R34**	**W**	**½**
20E-21E	**B12**	**R5**	**W**	**2**
20E-21E	**B12**	**R6**	**W**	**½**
20E-21E	**B12**	**R7**	**W**	**½**
20E-21E	**B12**	**R11**	**W**	**½**
20E-21E	**B12**	**R12**	**W**	**1 ½**
20E-21E	B12	R13	W	1
20E-21E	**B12**	**R19**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
20E-21E	B12	R20	W	2
20E-21E	**B12**	**R22**	**W**	**1 ½**
20E-21E	**B12**	**R24**	**W**	**1 ½**
20E-21E	**B12**	**R25**	**W**	**1**
20E-21E	**B12**	**R27**	**W**	**2 ½**
20E-21E	**B12**	**R29**	**W**	**2**
20E-21E	**B12**	**R31**	**W**	**4**
20E-21E	**B12**	**R32**	**W**	**2 ½**
20E-21E	B12	R33	W	FW
20E-21E	B12	R34	W	4
20E-21E	**B12**	**R37**	**W**	**2**
20E-21E	**B12**	**R42**	**W**	**2**
20E-21E	**B12**	**R43**	**W**	**2**
20E-21E	**B12**	**R46**	**W**	**½**
20E-21E	**B12**	**R54**	**W**	**½**
20E-21E	**B12**	**R58**	**W**	**½**
20E-21E	**B12**	**R59**	**W**	**½**
20E-21E	**B12**	**R60**	**W**	**½**
20E-21E	**B12**	**R61**	**W**	**1 ½**
20E-21E	**B12**	**R63**	**W**	**1 ½**
20E	RISER BEAM	R3	E	2 ½
20E	RISER BEAM	R4	E	1
20E	**RISER BEAM**	**R5**	**E**	**½**
20E	**RISER BEAM**	**R6**	**E**	**½**
20E	**RISER BEAM**	**R10**	**E**	**¾ & ¾**
20E	**RISER BEAM**	**R21**	**E**	**FW**
20E	**RISER BEAM**	**R22**	**E**	**2 ½ & 1**
20E	**RISER BEAM**	**R23**	**E**	**2 & ¼**
20E	**RISER BEAM**	**R24**	**E**	**1**
20E	**RISER BEAM**	**R25**	**E**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
20E	RISER BEAM	R41	E	2 ½
20E	RISER BEAM	R42	E	3
20E	RISER BEAM	R43	E	FW
20E	**RISER BEAM**	**R45**	**E**	**1**
20E	RISER BEAM	R46	E	1
19E-20E	B1	R2	E	FW
19E-20E	**B1**	**R3**	**E**	**3**
19E-20E	**B1**	**R4**	**E**	**¾**
19E-20E	**B1**	**R5**	**E**	**2**
19E-20E	B1	R5	W	3
19E-20E	**B1**	**R6**	**E**	**1**
19E-20E	**B1**	**R6**	**W**	**3**
19E-20E	**B1**	**R7**	**W**	**½**
19E-20E	**B1**	**R8**	**E**	**1**
19E-20E	**B1**	**R8**	**W**	**1**
19E-20E	B1	R10	W	FW
19E-20E	B1	R12	W	2 ½
19E-20E	**B1**	**R13**	**E**	**½**
19E-20E	**B1**	**R19**	**E**	**1**
19E-20E	**B1**	**R20**	**E**	**¾**
19E-20E	**B1**	**R21**	**E**	**3 & ¾**
19E-20E	**B1**	**R24**	**W**	**2 ½**
19E-20E	B1	R28	E	½
19E-20E	**B1**	**R33**	**E**	**1 ½**
19E-20E	B1	R34	E	1
19E-20E	**B1**	**R43**	**E**	**½**
19E-20E	**B1**	**R45**	**W**	**2**
19E-20E	B2	R2	W	FW
19E-20E	**B2**	**R3**	**E**	**¾**
19E-20E	**B2**	**R6**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
19E-20E	**B2**	**R28**	**W**	**½**
19E-20E	**B3**	**R1**	**W**	**1**
19E-20E	**B3**	**R19**	**E**	**1**
19E-20E	**B3**	**R28**	**E**	**¾**
19E-20E	B8	R52	E	FW
19E-20E	B8	R52	W	FW
19E-20E	B9	R52	E	FW
19E-20E	B9	R52	W	FW
19E-20E	B10	R52	E	FW
19E-20E	B10	R52	W	FW
19E-20E	**B11**	**R19**	**W**	**½**
19E-20E	**B11**	**R52**	**W**	**¼**
19E-20E	**B12**	**R6**	**W**	**1 ½**
19E-20E	**B12**	**R7**	**W**	**3**
19E-20E	B12	R8	W	1 ½
19E-20E	**B12**	**R11**	**W**	**1**
19E-20E	B12	R13	W	1
19E-20E	B12	R14	W	1
19E-20E	B12	R16	W	2
19E-20E	**B12**	**R17**	**W**	**3**
19E-20E	**B12**	**R19**	**W**	**4**
19E-20E	**B12**	**R20**	**W**	**3**
19E-20E	**B12**	**R21**	**W**	**1 ½**
19E-20E	**B12**	**R22**	**W**	**1**
19E-20E	**B12**	**R23**	**W**	**1**
19E-20E	**B12**	**R24**	**W**	**3**
19E-20E	**B12**	**R25**	**W**	**2**
19E-20E	**B12**	**R26**	**W**	**1 ½**
19E-20E	**B12**	**R28**	**W**	**2**
19E-20E	**B12**	**R29**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
19E-20E	**B12**	**R30**	**W**	**2**
19E-20E	**B12**	**R31**	**W**	**¾**
19E-20E	**B12**	**R32**	**W**	**1**
19E-20E	**B12**	**R33**	**W**	**2**
19E-20E	**B12**	**R34**	**W**	**1**
19E-20E	**B12**	**R36**	**E**	**2**
19E-20E	**B12**	**R37**	**E**	**1**
19E-20E	**B12**	**R46**	**W**	**1**
19E-20E	**B12**	**R47**	**W**	**⅜**
19E-20E	**B12**	**R48**	**W**	**⅜**
19E-20E	**B12**	**R58**	**W**	**½**
19E-20E	**B12**	**R63**	**W**	**¾**
19E	**RISER BEAM**	**R3**	**E**	**3**
19E	**RISER BEAM**	**R4**	**E**	**4**
19E	RISER BEAM	R5	E	3 ½
19E	**RISER BEAM**	**R6**	**E**	**1**
19E	RISER BEAM	R7	E	2
19E	RISER BEAM	R10	E	FW
19E	RISER BEAM	R11	E	FW
19E	RISER BEAM	R12	E	FW
19E	RISER BEAM	R13	E	FW
19E	**RISER BEAM**	**R14**	**E**	**FW**
19E	**RISER BEAM**	**R15**	**E**	**FW**
19E	RISER BEAM	R16	E	FW
19E	**RISER BEAM**	**R17**	**E**	**3**
19E	RISER BEAM	R19	E	FW
19E	**RISER BEAM**	**R21**	**E**	**FW**
19E	**RISER BEAM**	**R22**	**E**	**2**
19E	**RISER BEAM**	**R27**	**E**	**4 ½**
19E	RISER BEAM	R28	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
19E	**RISER BEAM**	**R29**	**E**	**4**
19E	**RISER BEAM**	**R32**	**E**	**FW**
19E	**RISER BEAM**	**R33**	**E**	**FW**
19E	RISER BEAM	R34	E	FW
19E	**RISER BEAM**	**R43**	**E**	**1**
19E	**RISER BEAM**	**R65**	**E**	**½**
19E	**RISER BEAM**	**R66**	**E**	**½**
19E	**RISER BEAM**	**R67**	**E**	**1 ½**
19E	RISER BEAM	R68	E	1
18E-19E	B1	R6	W	FW
18E-19E	B1	R7	W	FW
18E-19E	B1	R8	W	3
18E-19E	B1	R10	W	FW
18E-19E	**B1**	**R11**	**E**	**4**
18E-19E	**B1**	**R12**	**E**	**2**
18E-19E	**B1**	**R12**	**W**	**3**
18E-19E	**B1**	**R13**	**E**	**1 ½**
18E-19E	**B1**	**R17**	**E**	**1**
18E-19E	**B1**	**R26**	**W**	**1 & ½**
18E-19E	**B1**	**R28**	**E**	**2**
18E-19E	**B1**	**R28**	**W**	**2**
18E-19E	**B1**	**R29**	**E**	**1**
18E-19E	**B1**	**R29**	**W**	**2**
18E-19E	**B1**	**R30**	**E**	**1 ½**
18E-19E	**B1**	**R30**	**W**	**2**
18E-19E	**B1**	**R31**	**W**	**1**
18E-19E	**B1**	**R32**	**E**	**½**
18E-19E	**B1**	**R32**	**W**	**3**
18E-19E	**B1**	**R33**	**E**	**1 ½**
18E-19E	**B1**	**R33**	**W**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
18E-19E	**B1**	**R34**	**E**	**1**
18E-19E	B1	R34	W	FW
18E-19E	**B2**	**R8**	**W**	**1**
18E-19E	**B2**	**R10**	**E**	**3**
18E-19E	**B2**	**R10**	**W**	**1**
18E-19E	**B2**	**R11**	**W**	**2**
18E-19E	**B2**	**R28**	**E**	**1**
18E-19E	**B3**	**R12**	**W**	**2**
18E-19E	B4	R52	E	FW
18E-19E	B4	R52	W	FW
18E-19E	**B5**	**R19**	**E**	**½**
18E-19E	**B5**	**R19**	**W**	**½**
18E-19E	**R7**	**R17**	**E**	**4 ¼**
18E-19E	**B8**	**R16**	**W**	**¾ & ¾**
18E-19E	**B8**	**R17**	**W**	**4 ¼**
18E-19E	**B9**	**R52**	**E**	**1**
18E-19E	B9	R52	W	1
18E-19E	**B10**	**R28**	**E**	**1**
18E-19E	**B11**	**R7**	**W**	**¾**
18E-19E	B11	R52	E	½
18E-19E	**B11**	**R52**	**W**	**½**
18E-19E	**B12**	**R5**	**W**	**¾**
18E-19E	**B12**	**R6**	**W**	**4 ½**
18E-19E	**B12**	**R7**	**W**	**4**
18E-19E	B12	R11	W	2
18E-19E	**B12**	**R12**	**W**	**1 ½**
18E-19E	**B12**	**R21**	**W**	**2**
18E-19E	**B12**	**R22**	**W**	**1**
18E-19E	**B12**	**R23**	**W**	**3**
18E-19E	**B12**	**R24**	**W**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
18E-19E	**B12**	**R25**	**W**	**1**
18E-19E	B12	R26	W	FW
18E-19E	**B12**	**R27**	**W**	**1 ½**
18E-19E	**B12**	**R28**	**W**	**½**
18E	**RISER BEAM**	**R2**	**E**	**¾**
18E	**RISER BEAM**	**R3**	**E**	**2**
18E	RISER BEAM	R5	E	2
18E	RISER BEAM	R6	E	2
18E	**RISER BEAM**	**R9**	**E**	**1**
18E	**RISER BEAM**	**R11**	**E**	**1 & ½**
18E	**RISER BEAM**	**R12**	**E**	**1 ½**
18E	**RISER BEAM**	**R15**	**E**	**FW**
18E	**RISER BEAM**	**R18**	**E**	**½**
18E	**RISER BEAM**	**R32**	**E**	**1**
18E	RISER BEAM	R35	E	¾
18E	**RISER BEAM**	**R40**	**E**	**½**
17E-18E	**B1**	**R2**	**E**	**3**
17E-18E	B1	R2	W	2
17E-18E	**B1**	**R3**	**E**	**½ & ½**
17E-18E	**B1**	**R3**	**W**	**FW**
17E-18E	**B1**	**R4**	**E**	**3**
17E-18E	**B1**	**R4**	**W**	**½**
17E-18E	**B1**	**R5**	**E**	**½**
17E-18E	**B1**	**R5**	**W**	**1 ½**
17E-18E	**B1**	**R10**	**E**	**½**
17E-18E	**B1**	**R12**	**E**	**1**
17E-18E	B1	R19	E	2
17E-18E	**B1**	**R24**	**E**	**¾**
17E-18E	**B1**	**R39**	**E**	**1 ½**
17E-18E	B2	R2	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
17E-18E	**B2**	**R3**	**E**	**½**
17E-18E	**B2**	**R19**	**E**	**½**
17E-18E	**B2**	**R28**	**E**	**2**
17E-18E	**B2**	**R52**	**W**	**½**
17E-18E	**B3**	**R19**	**E**	**1**
17E-18E	**B3**	**R42**	**E**	**1 ½**
17E-18E	**B4**	**R28**	**E**	**1**
17E-18E	**B4**	**R52**	**W**	**½**
17E-18E	**B8**	**R52**	**W**	**½**
17E-18E	**B11**	**R28**	**E**	**3 ½**
17E-18E	**B11**	**R52**	**W**	**½**
17E-18E	**B12**	**R1**	**W**	**¼**
17E-18E	**B12**	**R2**	**W**	**2**
17E-18E	**B12**	**R38**	**W**	**2**
17E	RISER BEAM	R1	E	FW
17E	RISER BEAM	R2	E	1
17E	RISER BEAM	R8	E	2 ½
17E	**RISER BEAM**	**R17**	**E**	**½**
17E	**RISER BEAM**	**R19**	**E**	**FW**
17E	**RISER BEAM**	**R43**	**E**	**2**
17E	**RISER BEAM**	**R52**	**E**	**½**
17E	**RISER BEAM**	**R64**	**E**	**½**
17E	**RISER BEAM**	**R65**	**E**	**¼**
17E	**RISER BEAM**	**R66**	**E**	**2**
17E	**RISER BEAM**	**R67**	**E**	**FW**
17E	**RISER BEAM**	**R68**	**E**	**1 & ½**
17E	**RISER BEAM**	**R69**	**E**	**1**
16E-17E	B1	R2	E	3
16E-17E	**B1**	**R26**	**E**	**2 ½**
16E-17E	**B1**	**R43**	**W**	**¾**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
16E-17E	**B3**	**R47**	**W**	**¼**
16E-17E	B4	R52	W	1 ⅛
16E-17E	**B6**	**R52**	**E**	**1 ½**
16E-17E	**B7**	**R47**	**E**	**½**
16E-17E	B7	R52	E	FW
16E-17E	B7	R52	W	FW
16E-17E	**B8**	**R47**	**E**	**½**
16E-17E	**B8**	**R47**	**W**	**½**
16E-17E	B8	R52	E	FW
16E-17E	B8	R52	W	FW
16E-17E	**B9**	**R34**	**E**	**FW**
16E-17E	**B9**	**R34**	**W**	**FW**
16E-17E	B9	R43	E	FW
16E-17E	**B9**	**R43**	**W**	**1**
16E-17E	B9	R52	E	FW
16E-17E	**B9**	**R52**	**W**	**FW**
16E-17E	**B10**	**R47**	**E**	**1**
16E-17E	**B10**	**R52**	**E**	**FW**
16E-17E	**B10**	**R52**	**W**	**FW**
16E-17E	**B11**	**R52**	**E**	**FW**
16E-17E	**B11**	**R52**	**W**	**FW**
16E-17E	**B12**	**R8**	**W**	**1 ½**
16E-17E	**B12**	**R10**	**W**	**¾**
16E-17E	**B12**	**R17**	**W**	**1**
16E-17E	**B12**	**R38**	**W**	**½ & ½**
16E-17E	**B12**	**R39**	**W**	**2 & 1 ½**
16E-17E	**B12**	**R40**	**W**	**2**
16E-17E	B12	R41	W	2½
16E-17E	**B12**	**R42**	**W**	**2**
16E-17E	**B12**	**R43**	**W**	**2 & 1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
16E-17E	B12	R48	W	¾
16E-17E	**B12**	**R57**	**W**	**½**
16E-17E	**B12**	**R58**	**W**	**¼**
16E-17E	**B12**	**R60**	**W**	**2**
16E-17E	**B12**	**R61**	**W**	**1**
16E	RISER BEAM	R3	E	3
16E	**RISER BEAM**	**R4**	**E**	**2**
16E	**RISER BEAM**	**R6**	**E**	**1 ½**
16E	RISER BEAM	R7	E	2 ½
16E	**RISER BEAM**	**R8**	**E**	**1**
16E	**RISER BEAM**	**R21**	**E**	**3 ½**
16E	**RISER BEAM**	**R22**	**E**	**3**
16E	**RISER BEAM**	**R26**	**E**	**1**
16E	**RISER BEAM**	**R29**	**E**	**2**
16E	**RISER BEAM**	**R30**	**E**	**½**
16E	RISER BEAM	R34	E	¼
16E	**RISER BEAM**	**R35**	**E**	**4**
16E	**RISER BEAM**	**R41**	**E**	**4**
16E	**RISER BEAM**	**R42**	**E**	**1**
16E	**RISER BEAM**	**R43**	**E**	**2 ½**
16E	**RISER BEAM**	**R48**	**E**	**3**
16E	RISER BEAM	R57	E	½
16E	**RISER BEAM**	**R58**	**E**	**1**
16E	**RISER BEAM**	**R59**	**E**	**3**
16E	**RISER BEAM**	**R60**	**E**	**1 ½**
16E	RISER BEAM	R61	E	1 & ¼
16E	**RISER BEAM**	**R63**	**E**	**2**
16E	**RISER BEAM**	**R64**	**E**	**2**
16E	**RISER BEAM**	**R65**	**E**	**4**
16E	**RISER BEAM**	**R66**	**E**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
16E	**RISER BEAM**	**R67**	**E**	**1 ½**
16E	RISER BEAM	R68	E	1 ½
15E-16E	B1	R2	E	FW
15E-16E	B1	R2	W	3
15E-16E	B1	R3	E	½
15E-16E	B1	R4	E	½
15E-16E	**B1**	**R17**	**E**	**½**
15E-16E	B1	R19	E	2 ½
15E-16E	**B1**	**R19**	**W**	**FW**
15E-16E	**B1**	**R20**	**W**	**3**
15E-16E	**B1**	**R25**	**E**	**¼**
15E-16E	**B1**	**R26**	**E**	**1**
15E-16E	**B1**	**R26**	**W**	**1**
15E-16E	**B1**	**R27**	**W**	**2**
15E-16E	**B1**	**R32**	**E**	**1 ¼**
15E-16E	**B1**	**R32**	**W**	**½**
15E-16E	**B1**	**R34**	**E**	**1 ½**
15E-16E	**B1**	**R34**	**W**	**2 ½**
15E-16E	**B1**	**R37**	**E**	**1**
15E-16E	**B1**	**R37**	**W**	**1 ½**
15E-16E	**B1**	**R38**	**E**	**1 ½**
15E-16E	**B1**	**R39**	**E**	**1 ½**
15E-16E	**B1**	**R41**	**E**	**½ & ½**
15E-16E	**B1**	**R41**	**W**	**3**
15E-16E	**B1**	**R42**	**E**	**½**
15E-16E	**B1**	**R42**	**W**	**1 ¾**
15E-16E	**B1**	**R43**	**E**	**½**
15E-16E	**B1**	**R43**	**W**	**3**
15E-16E	**B1**	**R46**	**W**	**1**
15E-16E	**B1**	**R47**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
15E-16E	**B1**	**R47**	**W**	**½**
15E-16E	**B1**	**R48**	**E**	**1 ½**
15E-16E	**B1**	**R48**	**W**	**1 & ½**
15E-16E	**B1**	**R49**	**E**	**1 ½**
15E-16E	**B1**	**R49**	**W**	**1 ½**
15E-16E	**B1**	**R50**	**E**	**10**
15E-16E	B1	R52	W	FW
15E-16E	**B1**	**R55**	**W**	**¼**
15E-16E	**B1**	**R56**	**W**	**2 ½**
15E-16E	**B1**	**R57**	**W**	**2**
15E-16E	**B1**	**R58**	**W**	**1**
15E-16E	**B1**	**R59**	**W**	**1**
15E-16E	B1	R60	W	¼
15E-16E	**B1**	**R61**	**W**	**3**
15E-16E	**B1**	**R62**	**W**	**2**
15E-16E	**B1**	**R64**	**E**	**4**
15E-16E	**B1**	**R64**	**W**	**1 ½**
15E-16E	**B1**	**R65**	**E**	**1 ½**
15E-16E	**B3**	**R24**	**E**	**1 ¼**
15E-16E	**B3**	**R28**	**W**	**½**
15E-16E	B4	R52	E	FW
15E-16E	B4	R52	W	FW
15E-16E	**B12**	**R2**	**W**	**1**
15E	**RISER BEAM**	**R2**	**W**	**3 ½**
15E	**RISER BEAM**	**R3**	**W**	**3**
15E	**RISER BEAM**	**R4**	**W**	**3**
15E	**RISER BEAM**	**R5**	**W**	**2 & 1**
15E	**RISER BEAM**	**R7**	**W**	**FW**
15E	**RISER BEAM**	**R8**	**W**	**FW**
15E	RISER BEAM	R10	W	2 ½ & ½

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
15E	**RISER BEAM**	**R11**	**W**	**3 ½**
15E	**RISER BEAM**	**R12**	**W**	**3 ½ & ½**
15E	RISER BEAM	R13	W	FW
15E	**RISER BEAM**	**R14**	**W**	**FW**
15E	**RISER BEAM**	**R15**	**W**	**2 & 1**
15E	RISER BEAM	R16	W	3
15E	**RISER BEAM**	**R17**	**W**	**3 ½**
15E	RISER BEAM	R19	W	FW
15E	**RISER BEAM**	**R20**	**W**	**2**
15E	**RISER BEAM**	**R21**	**W**	**FW**
15E	**RISER BEAM**	**R28**	**W**	**4 ½**
15E	RISER BEAM	R29	W	FW
15E	**RISER BEAM**	**R36**	**W**	**FW**
15E	**RISER BEAM**	**R37**	**E**	**1**
15E	**RISER BEAM**	**R38**	**E**	**1 ½**
15E	**RISER BEAM**	**R39**	**E**	**FW**
15E	**RISER BEAM**	**R46**	**W**	**¾**
15E	**RISER BEAM**	**R47**	**W**	**1**
15E	**RISER BEAM**	**R48**	**W**	**¾**
14E-15E	**B1**	**R23**	**E**	**2 ½**
14E-15E	**B1**	**R52**	**E**	**1**
14E-15E	**B1**	**R54**	**E**	**½**
14E-15E	**B1**	**R59**	**E**	**½**
14E-15E	**B2**	**R14**	**W**	**½**
14E-15E	**B2**	**R18**	**E**	**FW**
14E-15E	**B3**	**R9**	**W**	**2**
14E-15E	**B3**	**R18**	**W**	**3 ½**
14E-15E	**B4**	**R18**	**E**	**2**
14E-15E	**B5**	**R9**	**E**	**1**
14E-15E	**B8**	**R52**	**W**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
10E-11E	B1	R33	W	2 ½
10E-11E	**B12**	**R49**	**W**	**1**
10E-11E	**B12**	**R51**	**W**	**1**
10E-11E	**B12**	**R56**	**W**	**¾**
10E-11E	**B12**	**R58**	**W**	**1 ¼**
10E	**RISER BEAM**	**R2**	**E**	**4**
10E	**RISER BEAM**	**R4**	**E**	**1**
10E	**RISER BEAM**	**R6**	**E**	**½**
10E	**RISER BEAM**	**R7**	**E**	**½**
10E	**RISER BEAM**	**R8**	**E**	**¾**
10E	**RISER BEAM**	**R22**	**E**	**1**
10E	RISER BEAM	R23	E	FW
10E	**RISER BEAM**	**R24**	**E**	**1**
10E	**RISER BEAM**	**R25**	**E**	**1**
10E	**RISER BEAM**	**R26**	**E**	**1**
10E	RISER BEAM	R27	E	3 ½
10E	**RISER BEAM**	**R28**	**E**	**1 ½**
10E	**RISER BEAM**	**R41**	**E**	**2**
10E	**RISER BEAM**	**R42**	**E**	**1 ½**
10E	RISER BEAM	R43	E	3 ½
10E	**RISER BEAM**	**R50**	**E**	**1**
10E	RISER BEAM	R65	E	1
10E	RISER BEAM	R66	E	2 ½
10E	RISER BEAM	R67	E	2
9E-10E	B1	R2	E	FW
9E-10E	**B1**	**R8**	**E**	**1**
9E-10E	**B1**	**R10**	**W**	**½**
9E-10E	B1	R27	E	1 & 1
9E-10E	B1	R28	E	¾
9E-10E	B1	R29	E	¼

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
9E-10E	B1	R31	W	1
9E-10E	B1	R63	W	3
9E-10E	**B2**	**R19**	**W**	**½**
9E-10E	**B2**	**R26**	**E**	**¾**
9E-10E	B2	R52	E	FW
9E-10E	B2	R52	W	FW
9E-10E	**B3**	**R26**	**W**	**4 ½**
9E-10E	**B3**	**R28**	**E**	**1**
9E-10E	**B3**	**R28**	**W**	**¾**
9E-10E	**B3**	**R30**	**E**	**1**
9E-10E	B3	R52	E	FW
9E-10E	B3	R52	W	FW
9E-10E	**B4**	**R19**	**W**	**¼**
9E-10E	**B4**	**R30**	**W**	**1**
9E-10E	**B4**	**R35**	**W**	**2 ½**
9E-10E	**B5**	**R28**	**E**	**1**
9E-10E	**B5**	**R28**	**W**	**1**
9E-10E	**B7**	**R26**	**W**	**½**
9E-10E	**B8**	**R35**	**W**	**1**
9E-10E	**B8**	**R52**	**W**	**¼**
9E-10E	**B9**	**R26**	**E**	**FW**
9E-10E	**B9**	**R26**	**W**	**FW**
9E-10E	**B9**	**R47**	**E**	**1**
9E-10E	**B10**	**R24**	**W**	**1**
9E-10E	**B10**	**R26**	**E**	**4**
9E-10E	**B10**	**R28**	**W**	**1**
9E-10E	**B11**	**R2**	**E**	**3**
9E-10E	**B11**	**R25**	**E**	**FW**
9E-10E	**B11**	**R26**	**W**	**FW**
9E-10E	**B11**	**R45**	**W**	**FW**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
9E-10E	B12	R5	W	2
9E-10E	B12	R6	W	1
9E-10E	**B12**	**R10**	**W**	**1 ½**
9E-10E	B12	R34	E	1
9E-10E	B12	R49	W	3 ½
9E-10E	**B12**	**R52**	**W**	**1**
9E-10E	**B12**	**R54**	**W**	**½**
9E	**RISER BEAM**	**R1**	**E**	**FW**
9E	**RISER BEAM**	**R2**	**E**	**FW**
9E	RISER BEAM	R3	E	FW
9E	RISER BEAM	R4	E	FW
9E	RISER BEAM	R5	E	½
9E	RISER BEAM	R9	E	4
9E	RISER BEAM	R10	E	2
9E	RISER BEAM	R14	E	FW
9E	RISER BEAM	R18	E	4
9E	**RISER BEAM**	**R22**	**E**	**¾**
9E	RISER BEAM	R23	E	3
9E	RISER BEAM	R24	E	1 ½
9E	**RISER BEAM**	**R25**	**E**	**2 ½**
9E	**RISER BEAM**	**R26**	**E**	**FW**
9E	RISER BEAM	R28	E	FW
9E	RISER BEAM	R29	E	2
9E	**RISER BEAM**	**R30**	**E**	**1**
9E	**RISER BEAM**	**R32**	**E**	**4**
9E	**RISER BEAM**	**R33**	**E**	**FW**
9E	**RISER BEAM**	**R52**	**W**	**½**
9E	RISER BEAM	R53	E	2 ½
9E	RISER BEAM	R56	E	½
9E	RISER BEAM	R57	E	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
9E	RISER BEAM	R58	E	¼
9E	RISER BEAM	R59	E	2 & ¼
9E	RISER BEAM	R60	E	FW
9E	RISER BEAM	R61	E	FW
8E-9E	B1	R1	E	FW
8E-9E	B1	R1	W	FW
8E-9E	B1	R2	W	FW
8E-9E	B1	R3	W	FW
8E-9E	B1	R4	W	FW
8E-9E	**B1**	**R5**	**E**	**¾**
8E-9E	B1	R5	W	FW
8E-9E	B1	R6	W	FW
8E-9E	**B1**	**R7**	**E**	**½**
8E-9E	**B1**	**R7**	**W**	**2**
8E-9E	B1	R8	E	FW
8E-9E	B1	R10	E	FW
8E-9E	B1	R11	E	FW
8E-9E	**B1**	**R11**	**W**	**2**
8E-9E	B1	R12	E	FW
8E-9E	**B1**	**R26**	**W**	**1**
8E-9E	B1	R28	E	3 ½
8E-9E	**B1**	**R28**	**W**	**3 ½**
8E-9E	B1	R30	E	1 ¼
8E-9E	B1	R32	E	FW
8E-9E	**B1**	**R32**	**W**	**FW**
8E-9E	B1	R33	E	FW
8E-9E	**B1**	**R33**	**W**	**FW**
8E-9E	B1	R34	E	FW
8E-9E	**B1**	**R34**	**W**	**FW**
8E-9E	B1	R35	E	4 ¾

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
8E-9E	B2	R52	E	FW
8E-9E	B2	R52	W	FW
8E-9E	**B3**	**R35**	**E**	**1**
8E-9E	B3	R52	W	¼
8E-9E	**B4**	**R1**	**W**	**2**
8E-9E	**B4**	**R25**	**W**	**1**
8E-9E	**B4**	**R28**	**E**	**2 ½**
8E-9E	**B4**	**R28**	**W**	**1**
8E-9E	**B4**	**R35**	**W**	**1**
8E-9E	**B4**	**R43**	**W**	**¼**
8E-9E	**B5**	**R1**	**W**	**1 ½**
8E-9E	**B5**	**R2**	**W**	**1 ½**
8E-9E	B5	R19	E	FW
8E-9E	B5	R19	W	FW
8E-9E	**B5**	**R26**	**E**	**3**
8E-9E	**B5**	**R43**	**E**	**FW**
8E-9E	**B5**	**R43**	**W**	**FW**
8E-9E	B7	R19	E	FW
8E-9E	B7	R19	W	FW
8E-9E	**B8**	**R1**	**W**	**1 ¼**
8E-9E	B8	R19	E	FW
8E-9E	B8	R19	W	FW
8E-9E	B8	R52	E	FW
8E-9E	B8	R52	W	FW
8E-9E	**B9**	**R43**	**E**	**½**
8E-9E	B9	R52	E	FW
8E-9E	B9	R52	W	FW
8E-9E	B9	R62	W	1 ½
8E-9E	B10	R52	W	½
8E-9E	B11	R52	W	1

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
8E-9E	**B12**	**R8**	**W**	**2 ½**
8E-9E	B12	R24	W	1 ¼
8E-9E	**B12**	**R41**	**W**	**3**
8E-9E	**B12**	**R43**	**W**	**¼**
8E	RISER BEAM	R2	E	1 ½
8E	**RISER BEAM**	**R3**	**E**	**FW**
8E	RISER BEAM	R5	E	FW
8E	RISER BEAM	R6	E	FW
8E	**RISER BEAM**	**R7**	**E**	**½**
8E	RISER BEAM	R8	E	FW
8E	**RISER BEAM**	**R9**	**E**	**½**
8E	RISER BEAM	R23	E	FW
8E	RISER BEAM	R27	E	FW
8E	**RISER BEAM**	**R37**	**E**	**1**
8E	RISER BEAM	R42	E	2½
8E	RISER BEAM	R43	E	2
8E	RISER BEAM	R57	E	2
8E	**RISER BEAM**	**R67**	**E**	**1**
8E	**RISER BEAM**	**R68**	**E**	**½**
8E	RISER BEAM	R69	E	3
7E-8E	**B1**	**R10**	**E**	**1**
7E-8E	B1	R19	E	½
7E-8E	**B1**	**R24**	**E**	**2**
7E-8E	**B1**	**R25**	**E**	**1**
7E-8E	**B1**	**R27**	**W**	**2 ¼**
7E-8E	**B1**	**R65**	**E**	**¾**
7E-8E	**B1**	**R65**	**W**	**¼**
7E-8E	**B1**	**R66**	**W**	**1**
7E-8E	**B1**	**R68**	**E**	**3 ½**
7E-8E	**B1**	**R68**	**W**	**¼ & ¼**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7E-8E	**B2**	**R2**	**E**	**4**
7E-8E	**B2**	**R2**	**W**	**3**
7E-8E	B2	R19	E	FW
7E-8E	B2	R19	W	FW
7E-8E	B3	R17	E	1 ½
7E-8E	B3	R19	E	FW
7E-8E	B3	R19	W	FW
7E-8E	B3	R47	W	1 ½
7E-8E	B4	R19	E	FW
7E-8E	B4	R19	W	FW
7E-8E	**B4**	**R25**	**E**	**4**
7E-8E	**B4**	**R25**	**W**	**4**
7E-8E	B4	R47	W	1 ½
7E-8E	**B4**	**R52**	**E**	**FW**
7E-8E	**B4**	**R52**	**W**	**FW**
7E-8E	**B5**	**R25**	**E**	**2 ½**
7E-8E	**B5**	**R25**	**W**	**4 ½**
7E-8E	B5	R47	W	¾
7E-8E	**B5**	**R52**	**E**	**FW**
7E-8E	**B5**	**R52**	**W**	**FW**
7E-8E	B6	R19	E	FW
7E-8E	**B6**	**R19**	**W**	**FW**
7E-8E	**B6**	**R25**	**E**	**3**
7E-8E	**B6**	**R25**	**W**	**FW**
7E-8E	**B6**	**R47**	**E**	**1**
7E-8E	B6	R47	W	FW
7E-8E	**B6**	**R52**	**E**	**FW**
7E-8E	**B6**	**R52**	**W**	**FW**
7E-8E	**B7**	**R2**	**E**	**1**
7E-8E	B7	R19	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7E-8E	**B7**	**R21**	**E**	**2 ½**
7E-8E	**B7**	**R24**	**E**	**3**
7E-8E	**B7**	**R24**	**W**	**4**
7E-8E	**B7**	**R25**	**E**	**FW**
7E-8E	**B7**	**R25**	**W**	**FW**
7E-8E	**B7**	**R26**	**E**	**3**
7E-8E	B7	R26	W	4
7E-8E	**B7**	**R42**	**E**	**¾**
7E-8E	**B7**	**R45**	**W**	**1 ¼**
7E-8E	B7	R47	W	1
7E-8E	**B7**	**R52**	**E**	**FW**
7E-8E	**B7**	**R52**	**W**	**FW**
7E-8E	**B8**	**R24**	**E**	**FW**
7E-8E	**B8**	**R24**	**W**	**3**
7E-8E	**B8**	**R25**	**E**	**FW**
7E-8E	**B8**	**R25**	**W**	**4**
7E-8E	**B8**	**R26**	**E**	**3**
7E-8E	**B8**	**R26**	**W**	**2**
7E-8E	B8	R52	E	FW
7E-8E	B8	R52	W	FW
7E-8E	B9	R19	E	4 ¾
7E-8E	**B9**	**R25**	**E**	**4 ½**
7E-8E	**B9**	**R25**	**W**	**FW**
7E-8E	**B9**	**R26**	**E**	**4**
7E-8E	**B9**	**R26**	**W**	**2**
7E-8E	**B9**	**R28**	**E**	**¾**
7E-8E	**B9**	**R42**	**W**	**1**
7E-8E	B9	R52	E	FW
7E-8E	B9	R52	W	FW
7E-8E	B10	R19	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7E-8E	B10	R19	W	FW
7E-8E	**B10**	**R25**	**E**	**1**
7E-8E	**B10**	**R25**	**W**	**1**
7E-8E	**B10**	**R26**	**W**	**1**
7E-8E	B10	R52	E	FW
7E-8E	B10	R52	W	FW
7E-8E	B11	R2	E	½
7E-8E	B11	R19	W	¾
7E-8E	**B11**	**R25**	**W**	**½**
7E-8E	**B11**	**R26**	**W**	**½**
7E-8E	B11	R52	E	FW
7E-8E	B11	R52	W	FW
7E-8E	**B12**	**R13**	**W**	**4**
7E-8E	B12	R19	W	2 ½
7E-8E	B12	R21	W	1 ½
7E-8E	B12	R22	W	½
7E-8E	B12	R39	W	1 ½
7E-8E	**B12**	**R42**	**W**	**3**
7E-8E	**B12**	**R47**	**W**	**1**
7E-8E	**B12**	**R64**	**W**	**¾**
7E	RISER BEAM	R2	E	2 ½ & 1 ½
7E	RISER BEAM	R3	E	1 & 2 ½
7E	RISER BEAM	R4	E	FW
7E	RISER BEAM	R5	E	FW
7E	RISER BEAM	R6	E	FW
7E	RISER BEAM	R7	E	FW
7E	RISER BEAM	R8	E	½
7E	RISER BEAM	R10	E	FW
7E	RISER BEAM	R14	E	3
7E	RISER BEAM	R17	E	3

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
7E	**RISER BEAM**	**R18**	**E**	**1 ¾**
7E	RISER BEAM	R21	E	FW
7E	**RISER BEAM**	**R21**	**W**	**2 ½**
7E	RISER BEAM	R23	E	FW
7E	RISER BEAM	R24	E	1 & ½
7E	RISER BEAM	R25	E	3
7E	RISER BEAM	R28	E	1 ½
7E	RISER BEAM	R29	E	FW
7E	**RISER BEAM**	**R30**	**W**	**3**
7E	RISER BEAM	R32	E	2 ½
7E	RISER BEAM	R33	E	FW
7E	RISER BEAM	R34	E	4
6E-7E	B1	R2	W	FW
6E-7E	**B1**	**R3**	**E**	**FW**
6E-7E	**B1**	**R4**	**E**	**FW**
6E-7E	B1	R4	W	FW
6E-7E	B1	R5	W	2
6E-7E	B1	R6	W	FW
6E-7E	B1	R7	W	FW
6E-7E	**B1**	**R10**	**W**	**1**
6E-7E	**B1**	**R17**	**W**	**1**
6E-7E	**B1**	**R19**	**W**	**1 ½**
6E-7E	B1	R23	W	2 ½
6E-7E	B1	R27	W	3
6E-7E	B1	R28	W	1 ¼
6E-7E	B1	R29	W	2 ½
6E-7E	**B1**	**R30**	**W**	**2 ½**
6E-7E	B1	R32	W	FW
6E-7E	B1	R33	E	FW
6E-7E	B1	R33	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
6E-7E	**B2**	**R6**	**E**	**2**
6E-7E	**B2**	**R6**	**W**	**1**
6E-7E	B2	R19	E	1
6E-7E	B2	R19	W	1
6E-7E	B2	R33	W	¼
6E-7E	B2	R34	W	2
6E-7E	B2	R35	E	2
6E-7E	B2	R35	W	1 ½
6E-7E	**B3**	**R16**	**E**	**¾**
6E-7E	**B3**	**R23**	**W**	**1**
6E-7E	**B3**	**R35**	**E**	**1**
6E-7E	**B4**	**R16**	**E**	**2 ½**
6E-7E	**B5**	**R16**	**W**	**FW**
6E-7E	**B5**	**R28**	**E**	**1 ½**
6E-7E	**B5**	**R47**	**W**	**¾**
6E-7E	**B6**	**R34**	**W**	**3**
6E-7E	**B7**	**R19**	**E**	**½**
6E-7E	**B7**	**R19**	**W**	**½**
6E-7E	B7	R52	E	2
6E-7E	**B7**	**R52**	**W**	**1**
6E-7E	B8	R16	E	¾
6E-7E	B8	R47	E	1 ¼
6E-7E	**B8**	**R47**	**W**	**3 ½**
6E-7E	**B8**	**R48**	**W**	**¾**
6E-7E	**B9**	**R34**	**E**	**FW**
6E-7E	B9	R34	W	FW
6E-7E	B9	R35	W	2
6E-7E	B10	R28	E	¾
6E-7E	B10	R34	E	FW
6E-7E	B10	R34	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
6E-7E	**B11**	**R2**	**E**	**3**
6E-7E	**B11**	**R7**	**E**	**1 ½**
6E-7E	**B11**	**R28**	**E**	**1**
6E	**RISER BEAM**	**R1**	**E**	**1**
6E	RISER BEAM	R2	E	FW
6E	RISER BEAM	R3	E	FW
6E	RISER BEAM	R4	E	FW
6E	RISER BEAM	R5	E	FW
6E	RISER BEAM	R6	E	FW
6E	RISER BEAM	R7	E	FW
6E	RISER BEAM	R8	E	FW
6E	RISER BEAM	R10	E	1
6E	**RISER BEAM**	**R12**	**E**	**2 ½**
6E	**RISER BEAM**	**R14**	**E**	**2**
6E	**RISER BEAM**	**R16**	**E**	**1**
6E	**RISER BEAM**	**R17**	**E**	**2**
6E	**RISER BEAM**	**R18**	**E**	**3**
6E	**RISER BEAM**	**R21**	**E**	**2 ½**
6E	**RISER BEAM**	**R22**	**E**	**2**
6E	**RISER BEAM**	**R23**	**E**	**4 ½**
6E	**RISER BEAM**	**R25**	**E**	**1**
6E	RISER BEAM	R29	E	FW
6E	RISER BEAM	R30	E	FW
6E	RISER BEAM	R34	E	FW
6E	RISER BEAM	R63	E	1 & ½
6E	**RISER BEAM**	**R64**	**E**	**½**
6E	**RISER BEAM**	**R65**	**E**	**1**
6E	**RISER BEAM**	**R66**	**E**	**3**
6E	RISER BEAM	R68	E	¾
5E-6E	B1	R2	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
5E-6E	B1	R3	E	3
5E-6E	B1	R3	W	FW
5E-6E	**B1**	**R4**	**E**	**1 & ½**
5E-6E	B1	R4	W	2 & 3
5E-6E	B1	R5	E	1
5E-6E	**B1**	**R5**	**W**	**¾ & 1**
5E-6E	B1	R6	E	3
5E-6E	**B1**	**R6**	**W**	**¾**
5E-6E	**B1**	**R7**	**E**	**½ & ½**
5E-6E	B1	R7	W	3
5E-6E	B1	R8	E	1 & 1 ½
5E-6E	B1	R8	W	FW
5E-6E	B1	R10	E	2 ½
5E-6E	B1	R10	W	2 ½
5E-6E	B1	R11	E	3 ½
5E-6E	**B1**	**R21**	**W**	**FW**
5E-6E	B1	R24	E	2
5E-6E	**B1**	**R24**	**W**	**4 ½**
5E-6E	B1	R26	E	2
5E-6E	B1	R31	E	FW
5E-6E	B1	R32	E	2 ½
5E-6E	B1	R33	E	FW
5E-6E	**B1**	**R33**	**W**	**3**
5E-6E	B1	R34	E	FW
5E-6E	B1	R34	W	FW
5E-6E	B1	R35	E	FW
5E-6E	B1	R35	W	2 ½
5E-6E	**B1**	**R52**	**E**	**¾**
5E-6E	**B1**	**R66**	**E**	**4**
5E-6E	B1	R69	E	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
5E-6E	**B2**	**R2**	**W**	**1 ½**
5E-6E	**B2**	**R7**	**E**	**½**
5E-6E	**B2**	**R7**	**W**	**1**
5E-6E	**B2**	**R8**	**W**	**2**
5E-6E	**B2**	**R12**	**E**	**FW**
5E-6E	**B2**	**R21**	**W**	**4**
5E-6E	**B2**	**R50**	**E**	**¾**
5E-6E	**B2**	**R52**	**W**	**¾**
5E-6E	**B2**	**R64**	**W**	**1**
5E-6E	**B3**	**R19**	**W**	**2**
5E-6E	**B3**	**R29**	**E**	**1 ¼**
5E-6E	**B4**	**R23**	**E**	**¾**
5E-6E	**B6**	**R48**	**E**	**1**
5E-6E	B7	R19	E	FW
5E-6E	B7	R19	W	FW
5E-6E	B7	R52	W	1
5E-6E	**B7**	**R63**	**E**	**1**
5E-6E	B8	R19	E	FW
5E-6E	B8	R19	W	FW
5E-6E	B8	R21	W	FW
5E-6E	B9	R19	E	FW
5E-6E	B9	R19	W	FW
5E-6E	**B9**	**R42**	**E**	**FW**
5E-6E	**B9**	**R42**	**W**	**FW**
5E-6E	**B10**	**R19**	**E**	**FW**
5E-6E	B10	R19	W	FW
5E-6E	**B10**	**R20**	**E**	**4**
5E-6E	**B10**	**R21**	**E**	**1 ½**
5E-6E	B11	R19	E	FW
5E-6E	B11	R19	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
5E-6E	**B11**	**R52**	**W**	**1**
5E-6E	**B12**	**R7**	**W**	**4**
5E-6E	**B12**	**R10**	**W**	**¼**
5E-6E	**B12**	**R23**	**W**	**1**
5E-6E	**B12**	**R24**	**W**	**1 ¼**
5E-6E	**B12**	**R25**	**W**	**2**
5E-6E	**B12**	**R28**	**W**	**¾**
5E-6E	B12	R50	W	3
5E	**RISER BEAM**	**R6**	**E**	**FW**
5E	RISER BEAM	R7	E	FW
5E	**RISER BEAM**	**R13**	**E**	**2**
5E	**RISER BEAM**	**R14**	**E**	**4**
5E	RISER BEAM	R15	E	3 ½
5E	RISER BEAM	R21	E	FW
5E	RISER BEAM	R22	E	2 ¼
5E	RISER BEAM	R23	E	2 ½
5E	RISER BEAM	R24	E	4
5E	**RISER BEAM**	**R46**	**E**	**1**
5E	RISER BEAM	R48	E	2 ½
5E	**RISER BEAM**	**R49**	**E**	**½ & ½**
5E	RISER BEAM	R64	E	1 ½
5E	RISER BEAM	R65	E	1
4E-5E	B1	R1	W	FW
4E-5E	B1	R2	E	1
4E-5E	B1	R2	W	FW
4E-5E	**B1**	**R3**	**W**	**½**
4E-5E	**B1**	**R4**	**E**	**1 ½**
4E-5E	**B1**	**R4**	**W**	**½**
4E-5E	B1	R5	E	½
4E-5E	**B1**	**R6**	**W**	**3**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
4E-5E	**B1**	**R16**	**W**	**2 ½**
4E-5E	**B1**	**R19**	**E**	**2**
4E-5E	B1	R21	W	2 ½
4E-5E	B1	R22	W	1
4E-5E	B1	R26	W	FW
4E-5E	**B1**	**R35**	**E**	**1 ½**
4E-5E	**B1**	**R35**	**W**	**2 ½**
4E-5E	**B1**	**R68**	**E**	**2**
4E-5E	B3	R19	E	FW
4E-5E	B3	R19	W	FW
4E-5E	**B3**	**R52**	**W**	**1**
4E-5E	B4	R19	E	FW
4E-5E	B4	R19	W	FW
4E-5E	**B4**	**R35**	**W**	**2 ½**
4E-5E	**B4**	**R52**	**W**	**1**
4E-5E	B5	R19	W	2 ½
4E-5E	**B5**	**R52**	**W**	**1**
4E-5E	**B7**	**R51**	**E**	**½**
4E-5E	**B8**	**R15**	**E**	**1 ½ & 1**
4E-5E	**B9**	**R16**	**E**	**FW**
4E-5E	B9	R16	W	5
4E-5E	**B10**	**R1**	**W**	**1 ½**
4E-5E	**B11**	**R34**	**E**	**¾**
4E-5E	**B11**	**R35**	**E**	**1 ¼**
4E-5E	**B11**	**R51**	**W**	**1**
4E-5E	B12	R26	W	FW
4E	**RISER BEAM**	**R4**	**E**	**2**
4E	**RISER BEAM**	**R18**	**E**	**2**
4E	**RISER BEAM**	**R20**	**E**	**1**
4E	**RISER BEAM**	**R34**	**E**	**½**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
3E-4E	B1	R2	E	FW
3E-4E	**B1**	**R34**	**W**	**2**
3E-4E	**B2**	**R2**	**W**	**FW**
3E-4E	**B2**	**R33**	**E**	**3**
3E-4E	**B2**	**R38**	**E**	**½**
3E-4E	B2	R43	E	FW
3E-4E	B2	R43	W	FW
3E-4E	**B3**	**R19**	**W**	**¼**
3E-4E	**B3**	**R43**	**W**	**1**
3E-4E	**B4**	**R43**	**W**	**½**
3E-4E	**B7**	**R13**	**E**	**1**
3E-4E	**B7**	**R19**	**E**	**½**
3E-4E	B8	R2	E	FW
3E-4E	B8	R19	E	4
3E-4E	**B8**	**R19**	**W**	**½**
3E-4E	**B8**	**R43**	**E**	**FW**
3E-4E	**B8**	**R43**	**W**	**FW**
3E-4E	B8	R52	E	½
3E-4E	B8	R52	W	2
3E-4E	**B9**	**R2**	**W**	**1 ½**
3E-4E	B9	R19	E	FW
3E-4E	B9	R19	W	FW
3E-4E	**B9**	**R36**	**E**	**1**
3E-4E	B9	R51	W	FW
3E-4E	**B9**	**R43**	**E**	**FW**
3E-4E	**B9**	**R43**	**W**	**FW**
3E-4E	**B9**	**R52**	**E**	**FW**
3E-4E	**B9**	**R52**	**W**	**FW**
3E-4E	B10	R19	E	FW
3E-4E	B10	R19	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
3E-4E	**B10**	**R36**	**W**	**¾**
3E-4E	**B10**	**R52**	**W**	**1 ½**
3E-4E	B11	R19	E	FW
3E-4E	B11	R19	W	FW
3E-4E	B11	R51	E	1
3E-4E	B11	R51	W	1
3E-4E	**B11**	**R52**	**W**	**1 ½**
3E-4E	**B12**	**R45**	**W**	**1**
3E	RISER BEAM	R45	E	FW
3E	RISER BEAM	R46	E	4
3E	RISER BEAM	R47	E	1
3E	**RISER BEAM**	**R48**	**E**	**2**
3E	RISER BEAM	R54	E	1 ¾
3E	**RISER BEAM**	**R64**	**E**	**1**
2E-3E	B1	R2	E	3
2E-3E	**B1**	**R2**	**W**	**1**
2E-3E	**B1**	**R26**	**E**	**¼**
2E-3E	**B1**	**R27**	**W**	**2**
2E-3E	**B1**	**R32**	**W**	**1**
2E-3E	B1	R33	W	1
2E-3E	B1	R34	W	FW
2E-3E	B1	R35	W	FW
2E-3E	**B1**	**R36**	**E**	**3**
2E-3E	**B1**	**R37**	**E**	**½**
2E-3E	**B1**	**R37**	**W**	**1**
2E-3E	**B1**	**R38**	**E**	**1**
2E-3E	**B1**	**R38**	**W**	**1**
2E-3E	**B2**	**R19**	**W**	**1**
2E-3E	**B2**	**R33**	**W**	**½**
2E-3E	**B3**	**R19**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
2E-3E	**B3**	**R29**	**W**	**¼**
2E-3E	**B4**	**R47**	**E**	**½**
2E-3E	**B5**	**R2**	**W**	**1 ½**
2E-3E	**B8**	**R43**	**E**	**1**
2E-3E	**B9**	**R43**	**E**	**¾**
2E-3E	**B9**	**R17**	**W**	**½**
2E-3E	**B10**	**R20**	**E**	**3**
2E-3E	**B11**	**R41**	**E**	**1**
2E-3E	**B11**	**R48**	**E**	**2**
2E-3E	**B12**	**R34**	**W**	**FW**
2E-3E	**B12**	**R35**	**W**	**FW**
2E-3E	**B12**	**R36**	**W**	**1**
2E-3E	**B12**	**R41**	**W**	**1 ½**
2E	RISER BEAM	R60	W	3
2E	**RISER BEAM**	**R61**	**W**	**3 ½**
1E-2E	**B1**	**R8**	**E**	**1 ½**
1E-2E	**B1**	**R26**	**E**	**1 ½**
1E-2E	**B1**	**R39**	**E**	**½**
1E-2E	B1	R48	E	¾
1E-2E	**B2**	**R3**	**E**	**1**
1E-2E	**B2**	**R4**	**E**	**½**
1E-2E	**B2**	**R5**	**E**	**2**
1E-2E	**B2**	**R7**	**E**	**1 ½**
1E-2E	B2	R19	W	1 ¼
1E-2E	B2	R26	E	¾
1E-2E	B2	R62	W	2 ¼
1E-2E	**B3**	**R19**	**W**	**1 ¼**
1E-2E	B3	R21	E	FW
1E-2E	B3	R21	W	FW
1E-2E	**B3**	**R62**	**W**	**1**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2011 Biennial Inspection of the GWB – Main Span Upper Level Orthotropic Deck – Cracked Rib Welds				
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**
1E-2E	**B6**	**R2**	**W**	**1**
1E-2E	B6	R24	E	4 ½
1E-2E	B6	R24	W	½
1E-2E	**B6**	**R55**	**E**	**1 ½**
1E-2E	**B11**	**R24**	**W**	**½**
1E-2E	B11	R25	E	FW
1E-2E	**B11**	**R25**	**W**	**FW**
1E-2E	**B11**	**R42**	**E**	**¾**
1E-2E	**B11**	**R61**	**E**	**4**
1E-2E	B12	R26	W	FW

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

APPENDIX B:
IMMEDIATE ACTION CORRESPONDENCE

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July 7, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge, Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)
Immediate Action – Cracked Web of Riser Beam at PP8E & PP5E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the (deck chair) riser beams which typically support and maintain the proper elevation of the orthotropic deck. Three consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R33, R34 & R35 from south over the main floorbeam at Panel Point 8E below lane 2 of the eastbound upper level roadway, and below deck ribs R52, R53 & R54 over the main floorbeam at Panel Point 5E below lanes 3 & 5 of the westbound upper level roadway (See attached sketches and photographs).

The cracked riser beam web plates at PP8E are located between Stringers 4 & 5 from south adjacent to the median barrier and typically exhibit areas of severe corrosion with up to 50% section loss. The web below deck rib R33 exhibits a crack 3-1/2" long, the web below deck rib R34 exhibits two cracks approximately 1-1/2" & 3" long and has slightly buckled, and a 3-1/2" long crack extends the entire length of the web below deck rib R35. The riser beam web plate below deck ribs R52, R53 & R54 is cracked fully through at PP5E between Stringers 6 & 7 from south.

The deck riser beams at both locations were slightly bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint areas at the top of deck within eastbound lane 2 near PP8E and westbound lanes 3 & 5 near PP5E exhibit minor deterioration of the joint sealer with no signs of movement evident based on our recent visual inspections.

The cracked riser beam web plate at PP8E below deck ribs R33, R34 and R35, between Stringers 4 & 5, and at PP5E below deck ribs R52, R53 and R54, between Stringers 6 & 7 should be repaired as an immediate action (Repair plans are being prepared and will be provided upon completion).

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

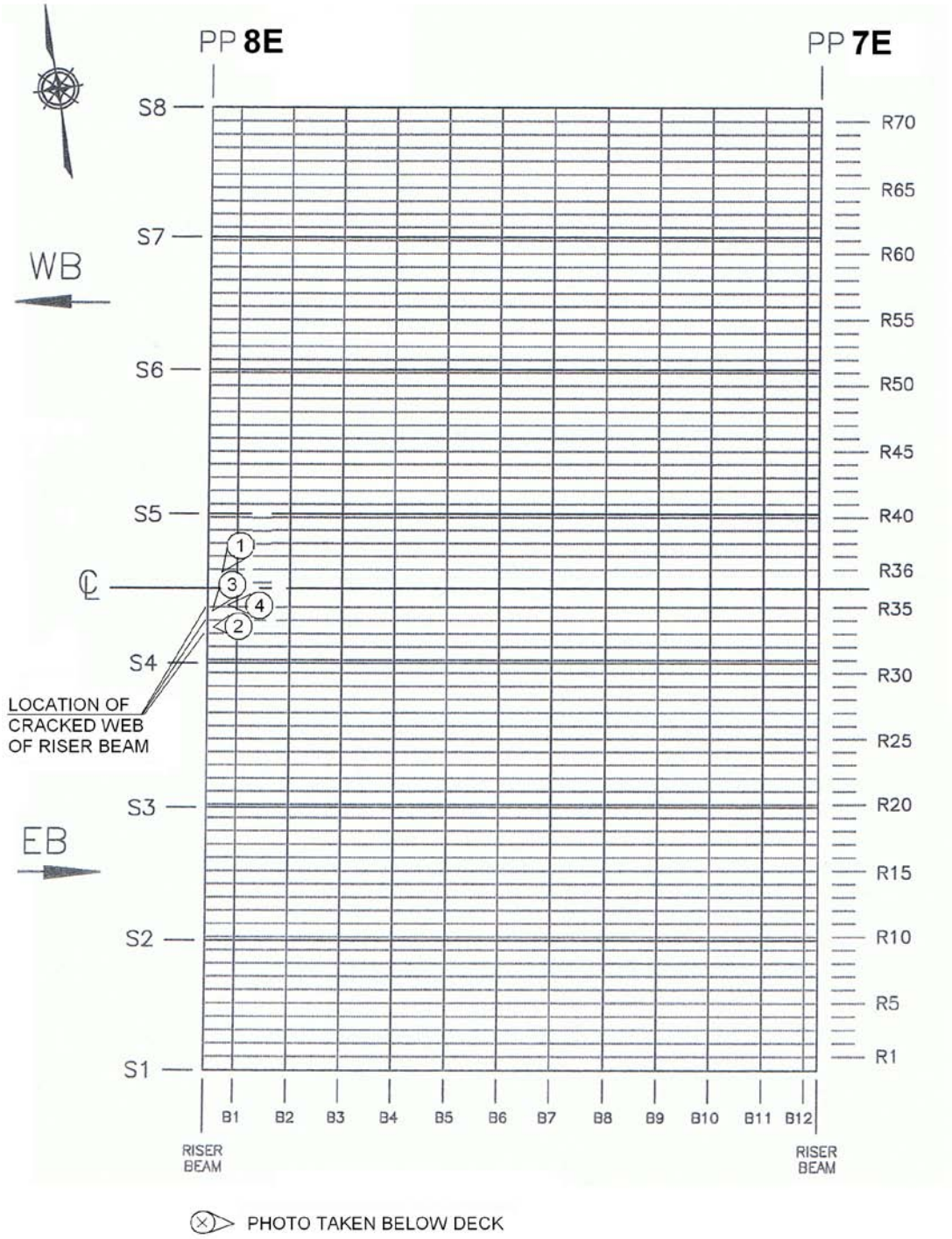
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

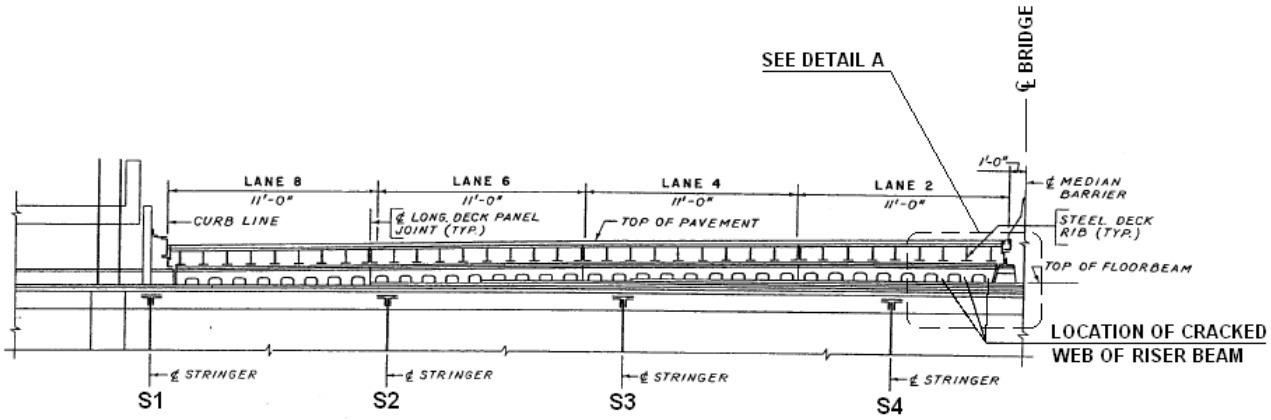
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



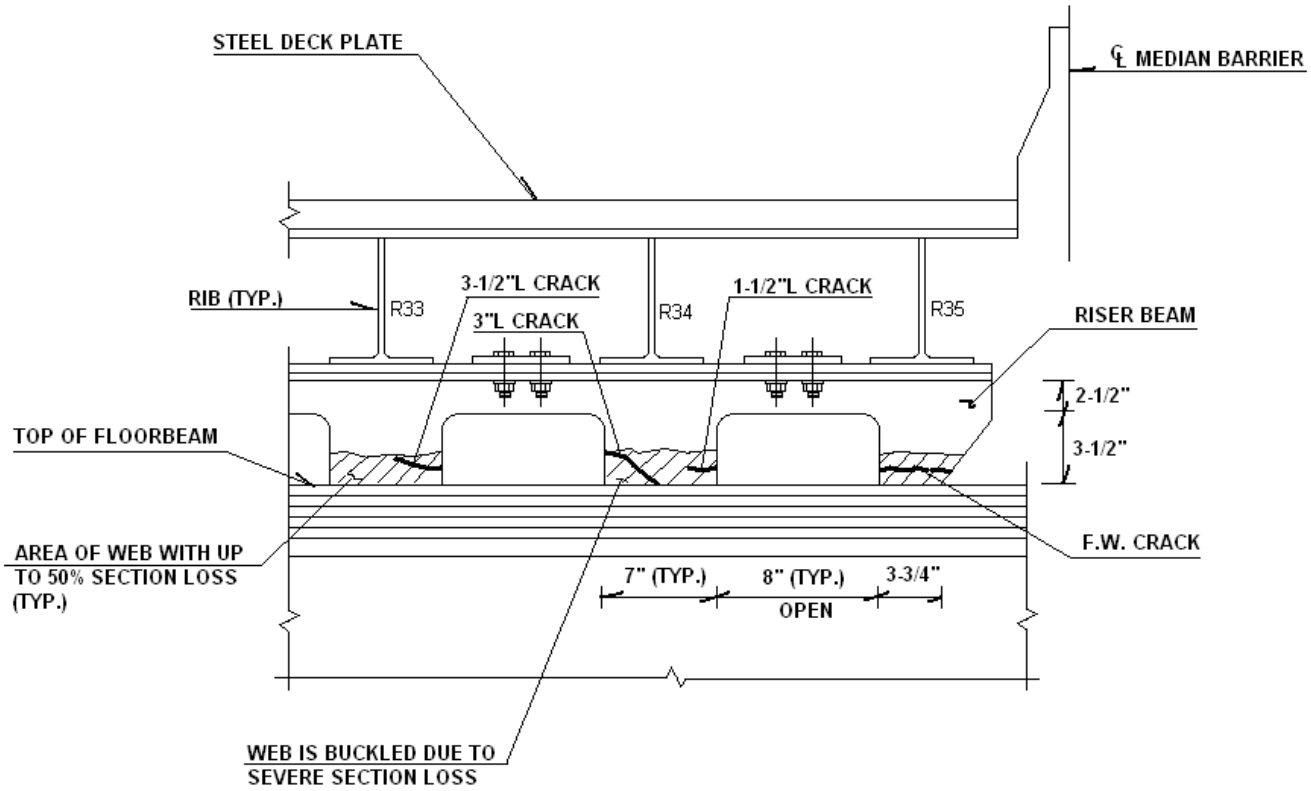
ELEVATION

FLOORBEAM AT PANEL POINT 8E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL A
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 8E
BETWEEN STRINGERS 4 AND 5

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 1

Location: Upper Level – Panel Point 8E between Stringers 4 and 5 below Deck Ribs R33, R34 and R35.

Description: Web of riser beam above primary floorbeam exhibits cracks and section losses, looking southwest.

Photo No. 2

Location: Upper Level – Panel Point 8E between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a 3-1/2" long crack with up to 50% section loss, looking southwest.

Photo No. 3

Location: Upper Level – Panel Point 8E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam is slightly buckled due to severe section loss and exhibits two cracks 3" and 1 ½" long, looking southwest.

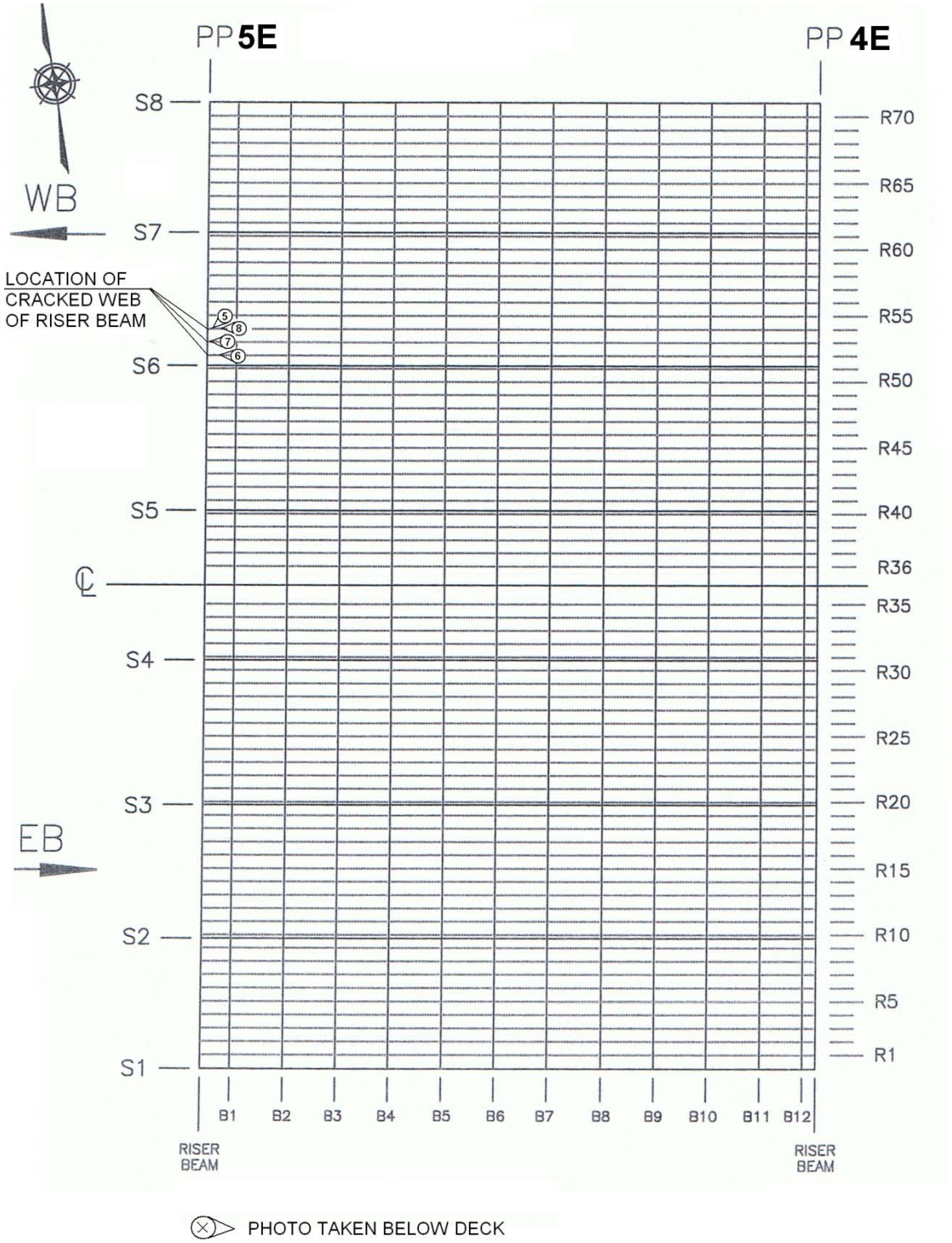
Photo No. 4

Location: Upper Level – Panel Point 8E between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

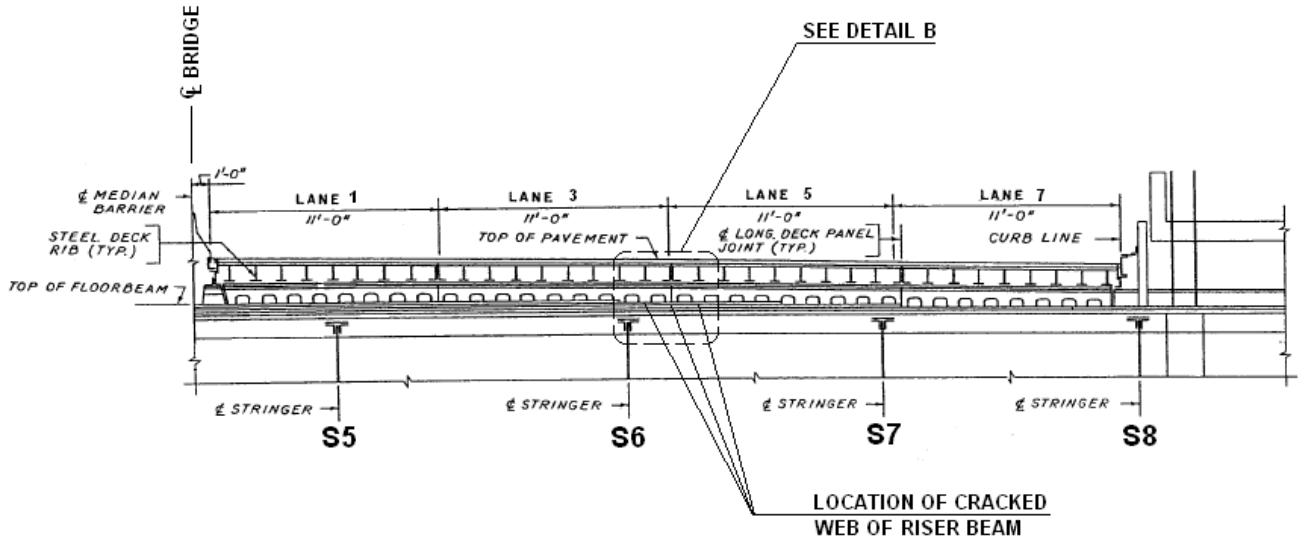
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



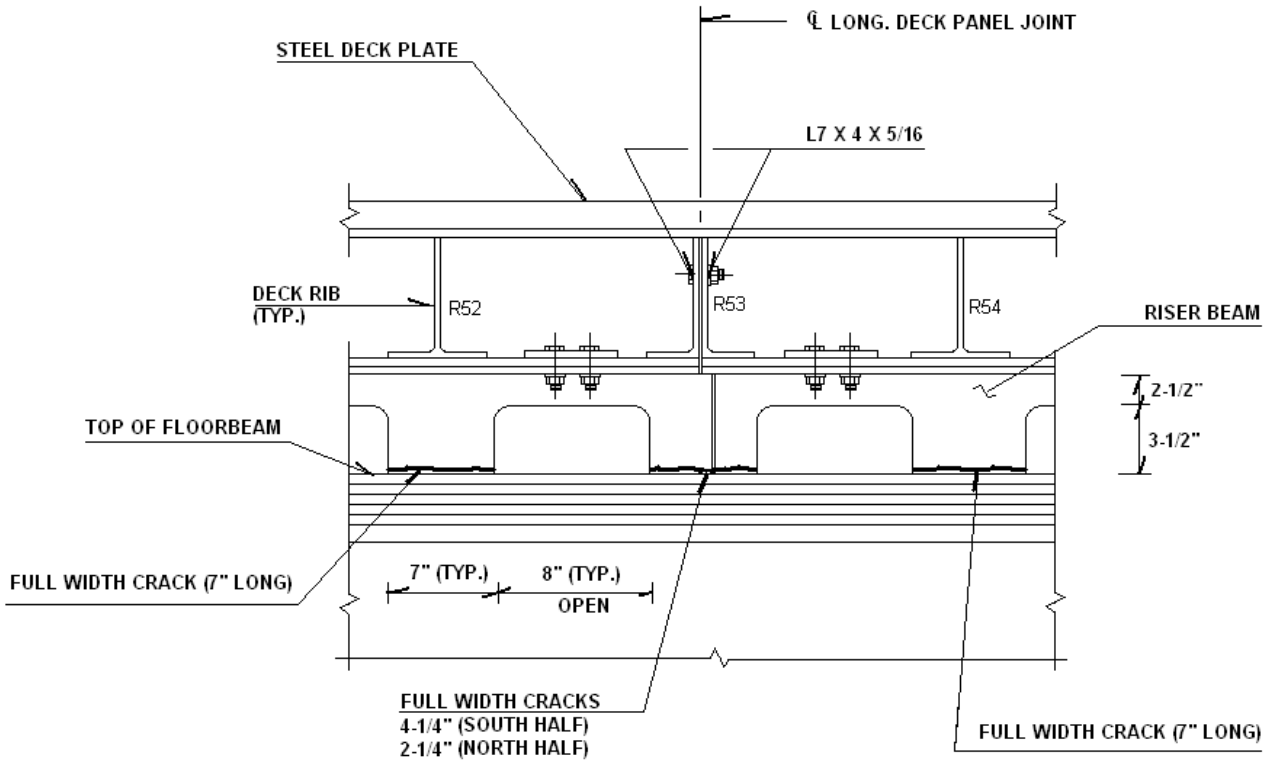
ELEVATION

FLOORBEAM AT PANEL POINT 5E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL B
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 5E
BETWEEN STRINGERS 6 AND 7

Photo No. 5

Location: Upper Level – Panel Point 5E between Stringers 6 and 7 below Deck Ribs R52, R53 and R54.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 6

Location: Upper Level – Panel Point 5E between Stringers 6 and 7 below Deck Rib R52.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7”long, looking west.

Photo No. 7

Location: Upper Level – Panel Point 5E between Stringers 6 and 7 below Deck Rib R53.

Description: Web of riser beam above primary floorbeam, at the longitudinal deck panel joint exhibits full width cracks (4-1/4" long at south section and 2-1/4" long at north section), looking west.

Photo No. 8

Location: Upper Level – Panel Point 5E between Stringers 6 and 7 below Deck Rib R54.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

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July 8, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)
Immediate Action – Cracked Web of Riser Beam at PP10E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the (deck chair) riser beam which typically supports and maintains the proper elevation of the orthotropic deck. Four consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R37 through R40 from south over the main floorbeam at Panel Point 10E below lane 1 of the westbound upper level roadway (See attached sketches and photographs).

The cracked riser beam web plates at PP10E are located between Stringers 4 & 5 from south adjacent to the median barrier location and are cracked fully through for their entire length. In addition, the lower portion of the riser beam web plate below deck rib R38 is broken off for the entire 7 inch length. The chamfered web plate adjacent to the median below deck rib R36 exhibits 50% section loss.

The deck riser beam was slightly bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within westbound lane 1 near PP10E exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

The cracked riser beam web plate at PP10E below deck ribs R36, R37, R38, R39 and R40, between Stringers 4 & 5, should be repaired as an immediate action (Repair plans will be prepared and provided upon request).

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

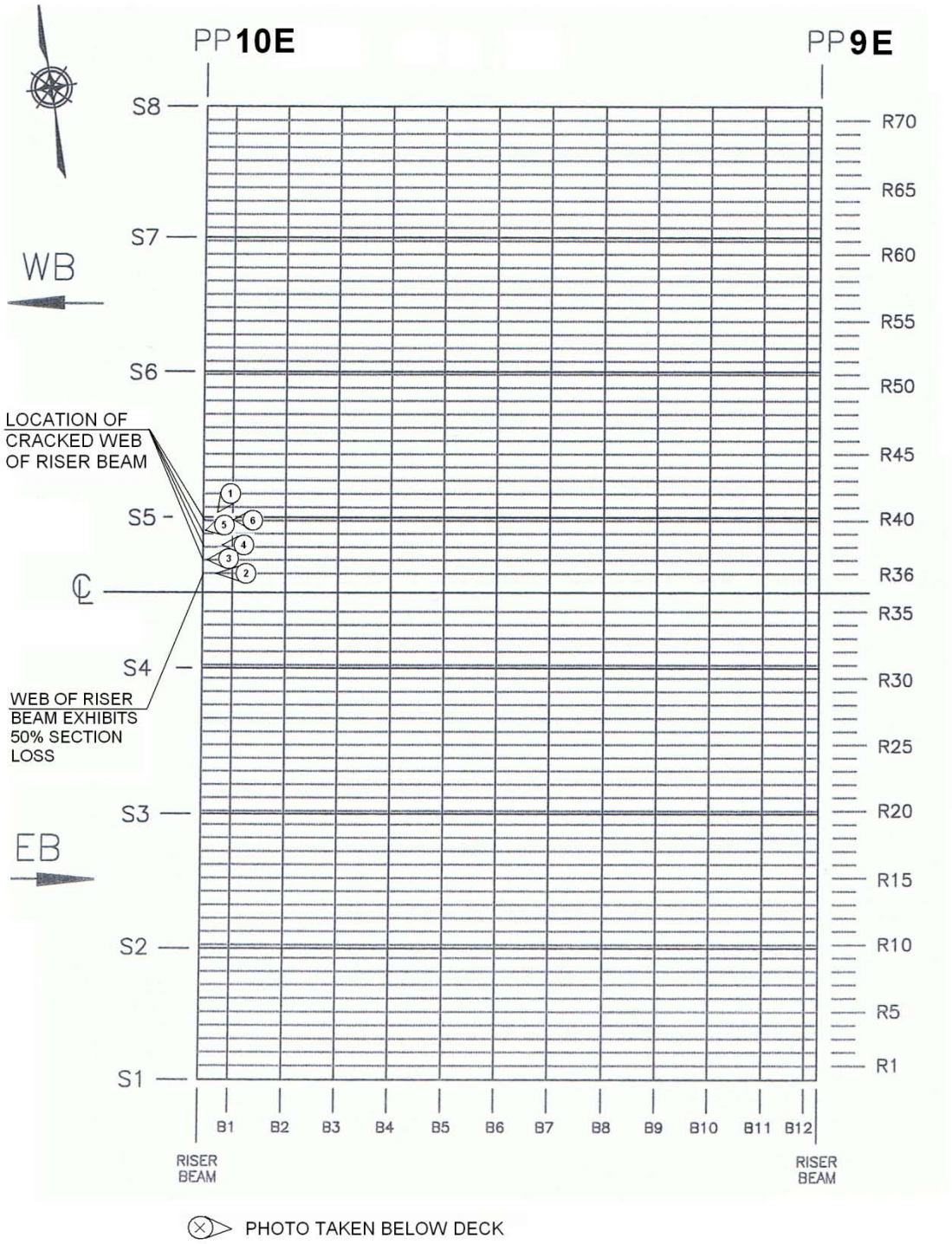
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

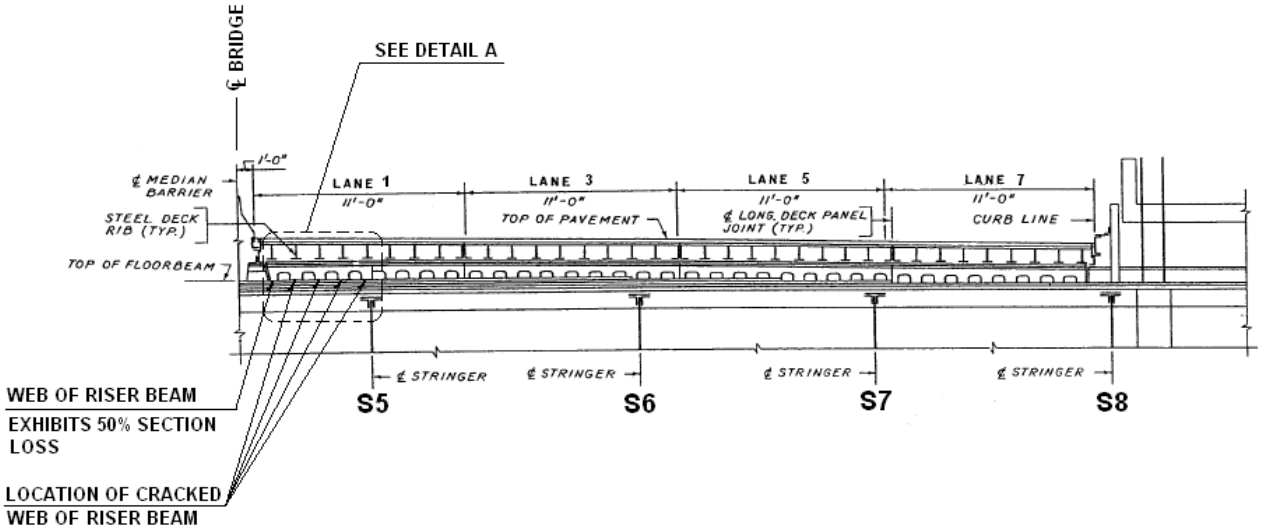
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



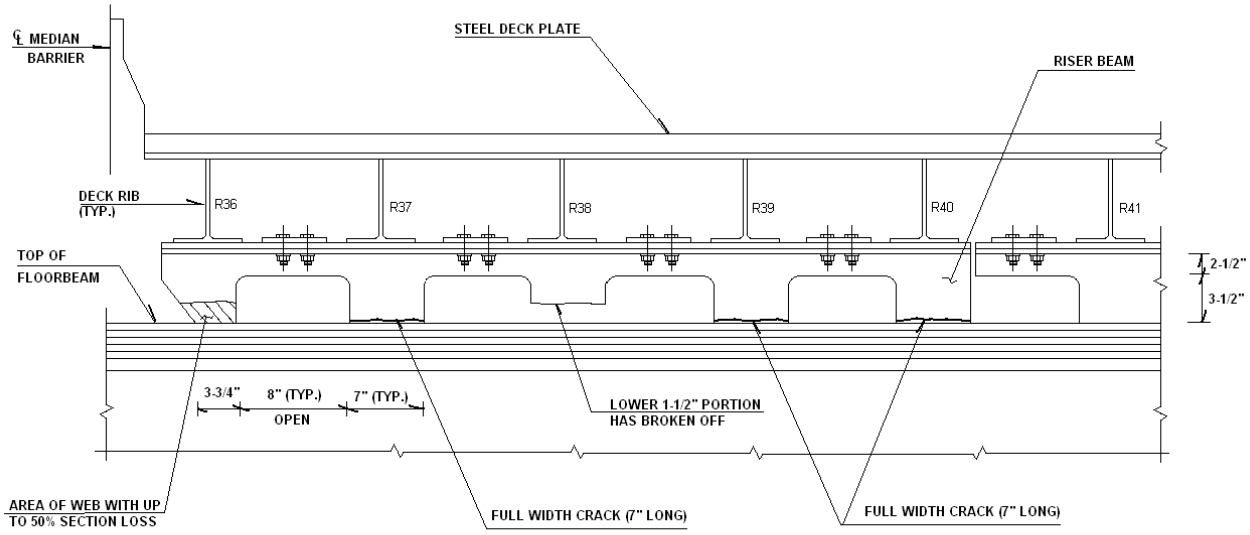
ELEVATION

FLOORBEAM AT PANEL POINT 10E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL A
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM AT PANEL POINT 10E BETWEEN STRINGERS 4 AND 5

Photo No. 1

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Ribs R36 through R40.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, section loss and a broken off section, looking southwest.

Photo No. 2

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R36.

Description: Web of riser beam above primary floorbeam exhibits 50% section loss, looking west.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

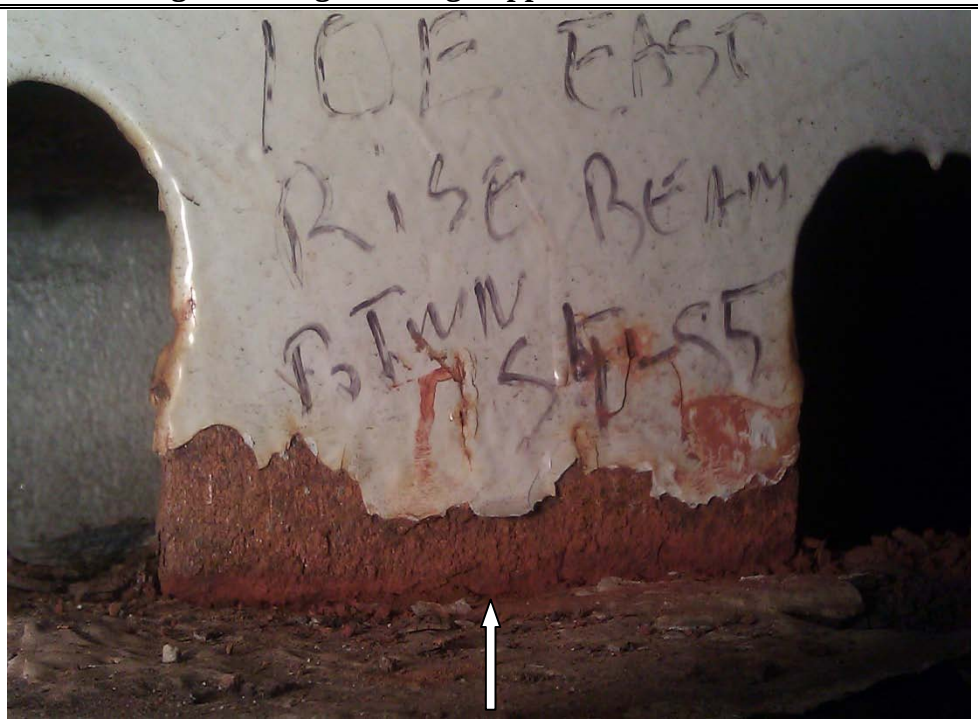


Photo No. 3

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R37.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 4

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R38.

Description: Web of riser beam above primary floorbeam exhibits a broken off section 1-1/2"H x full width, looking southwest.

Photo No. 5

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R39.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking southwest.

Photo No. 6

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R40.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

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July 12, 2011

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The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Web of Riser Beam at PP43, Loose Secondary Floorbeam connections to Stringer & Cracked Orthotropic Deck Rib connection welds between PP8E & PP7E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the (deck chair) riser beam which typically supports and maintains the proper elevation of the orthotropic deck. Four consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R32 through R35 from south over the main floorbeam at the bridge midspan Panel Point 43 below lane 2 of the eastbound upper level roadway (See attached sketches and photographs 1 through 5).

The cracked riser beam web plates at PP43 are located between Stringers 4 & 5 from south adjacent to the median barrier location and are cracked fully through for their entire length. The deck riser beam was bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within eastbound lane 2 near PP43 exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

In addition, HNTB personnel confirmed that (4 of 4) and (3 of 4) rivets/bolts remain missing/sheared at the connection for Secondary Floorbeams 11 & 12 from west over Stringer 6 from south between Panel Points 8E & 7E. In addition, the one remaining bolt at SFB 12 is loose and both secondary floorbeams are noticeably bouncing during truck loads. The welds connecting the orthotropic deck rib R52 to the strap plate along the top flange of the secondary floorbeams are cracked fully through along both sides of SFB 4 through SFB 12 just north of Stringer 6. Several of the cracked connection welds were previously noted, however, noticeable

bouncing of the deck rib was evident during the inspection (See attached sketches and photographs 6 through 11).

Due to the noticeable bouncing evident along the riser beam at Panel Point 43, at Secondary Floorbeams 11 & 12 on Stringer 6, and along the orthotropic deck Rib R52 between Panel Points 8E & 7E, the following Immediate Actions are recommended:

1. Repair the cracked riser beam web plate at PP43 below deck ribs R32, R33, R34 and R35 between Stringers 4 & 5.

2. Replace the loose, missing and/or sheared rivets or bolts with high strength bolts at the connection of Secondary Floorbeams 11 & 12 to Stringer 6, and secure orthotropic deck Rib R52 to the secondary floorbeams between SFB 4 through SFB 12 within PP8E & 7E.

Repair plans addressing the recommended immediate actions will be prepared and provided upon request.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

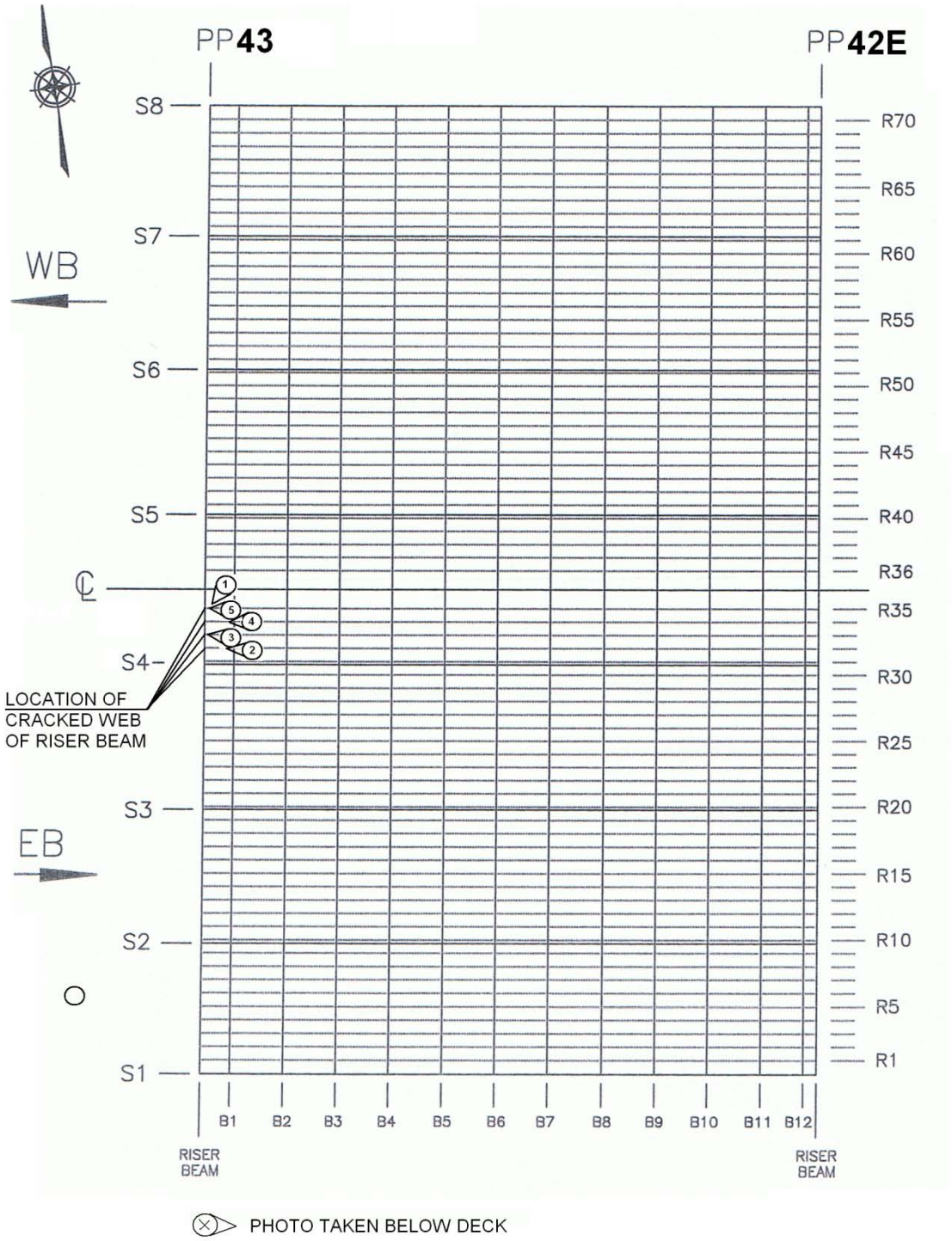
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

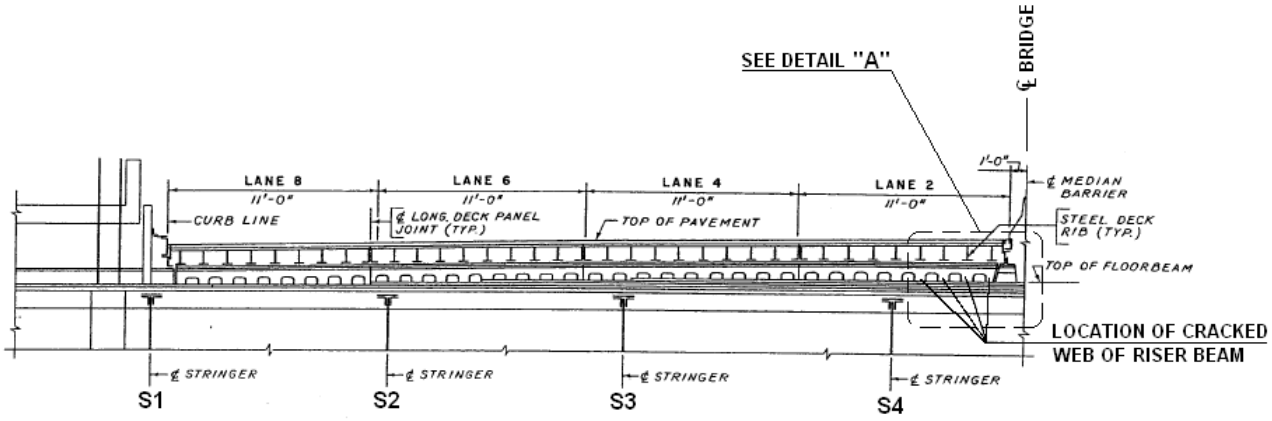
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



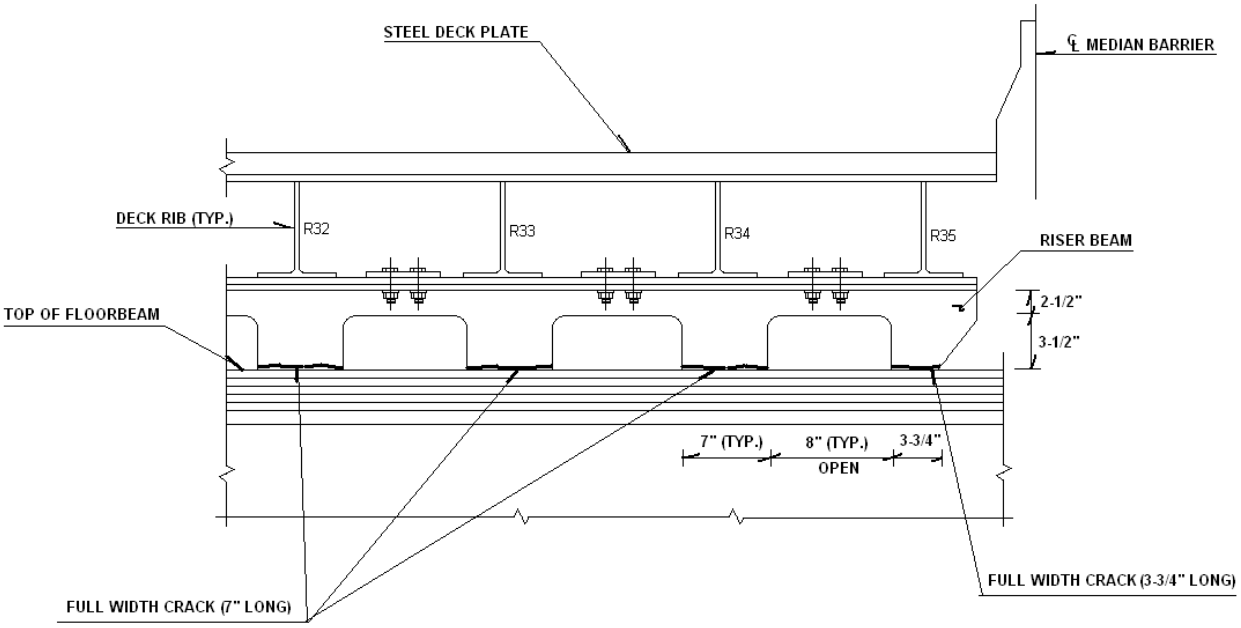
ELEVATION

FLOORBEAM AT PANEL POINT 43

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "A"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 43
BETWEEN STRINGERS 4 AND 5

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

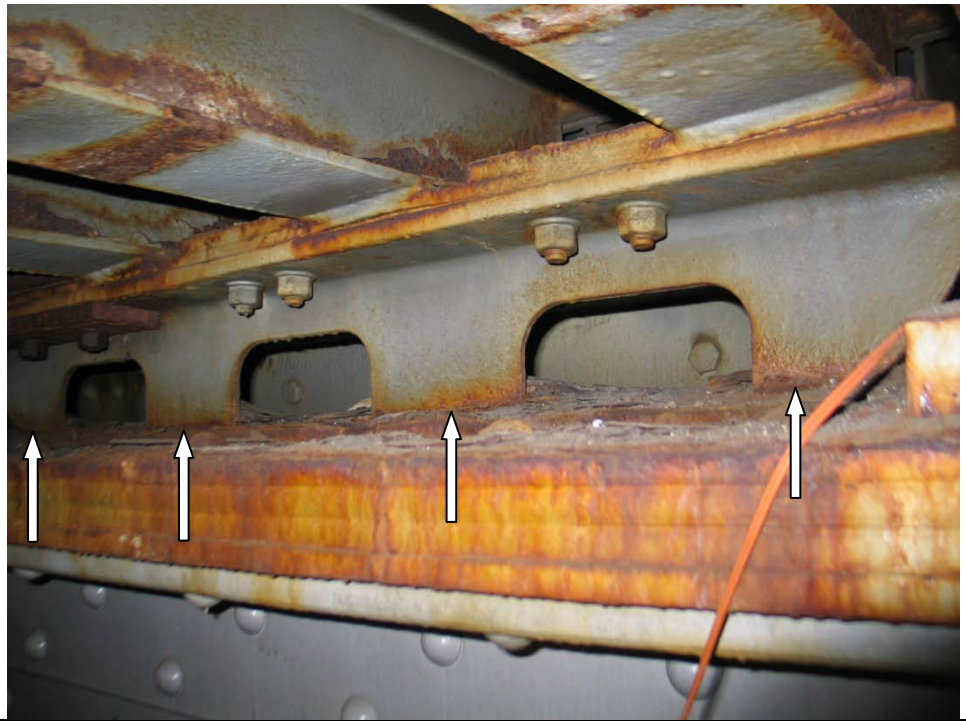


Photo No. 1

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Ribs R32 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 2

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Rib R32.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 3

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

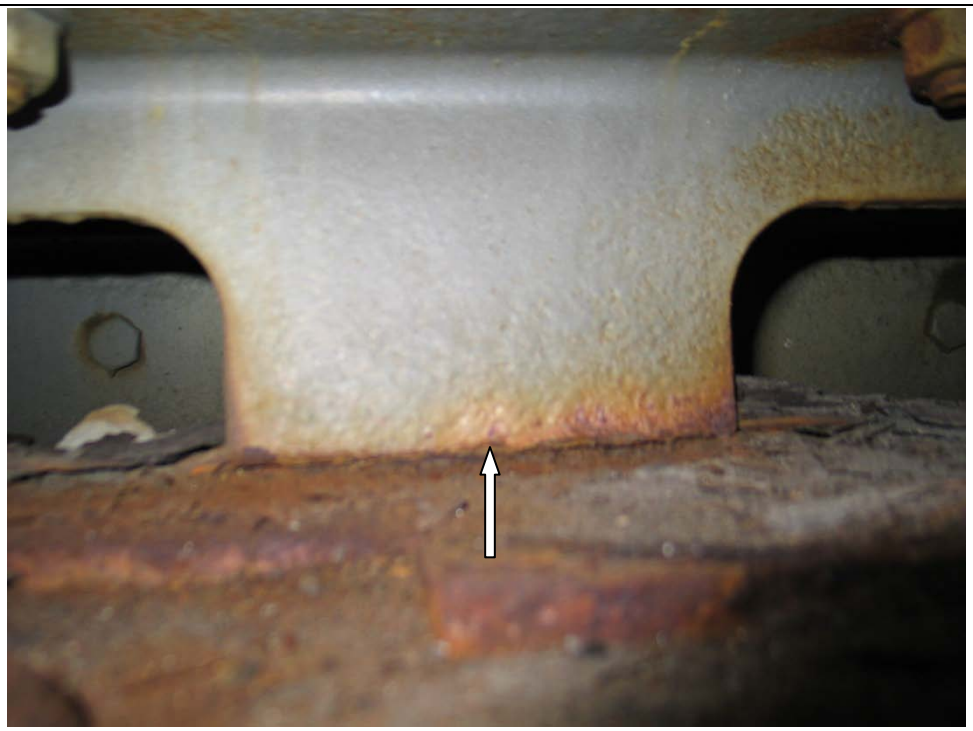


Photo No. 4

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

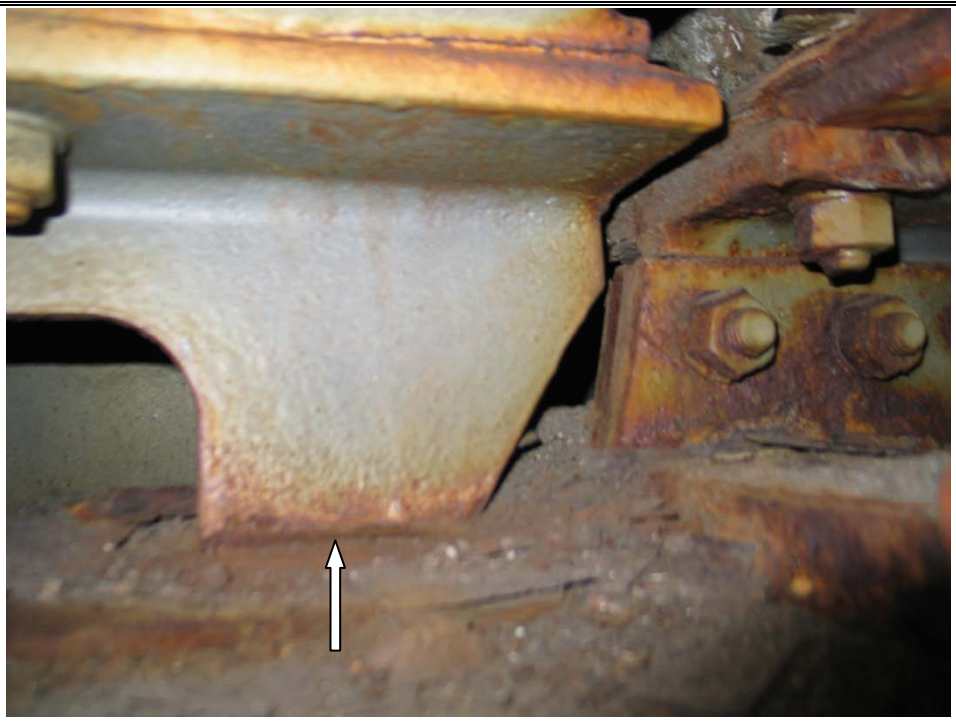


Photo No. 5

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

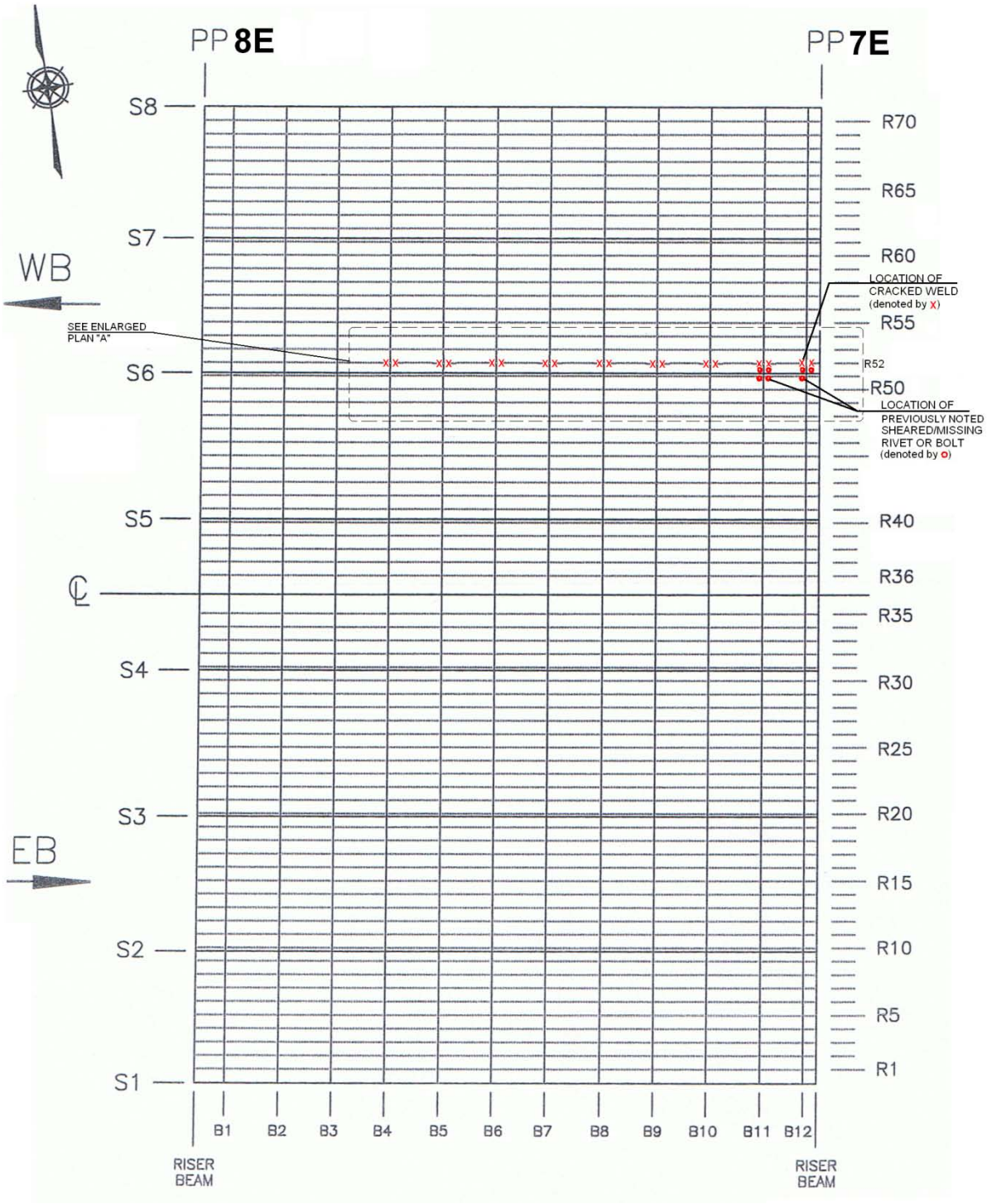
Photo No.

Location:

Description:

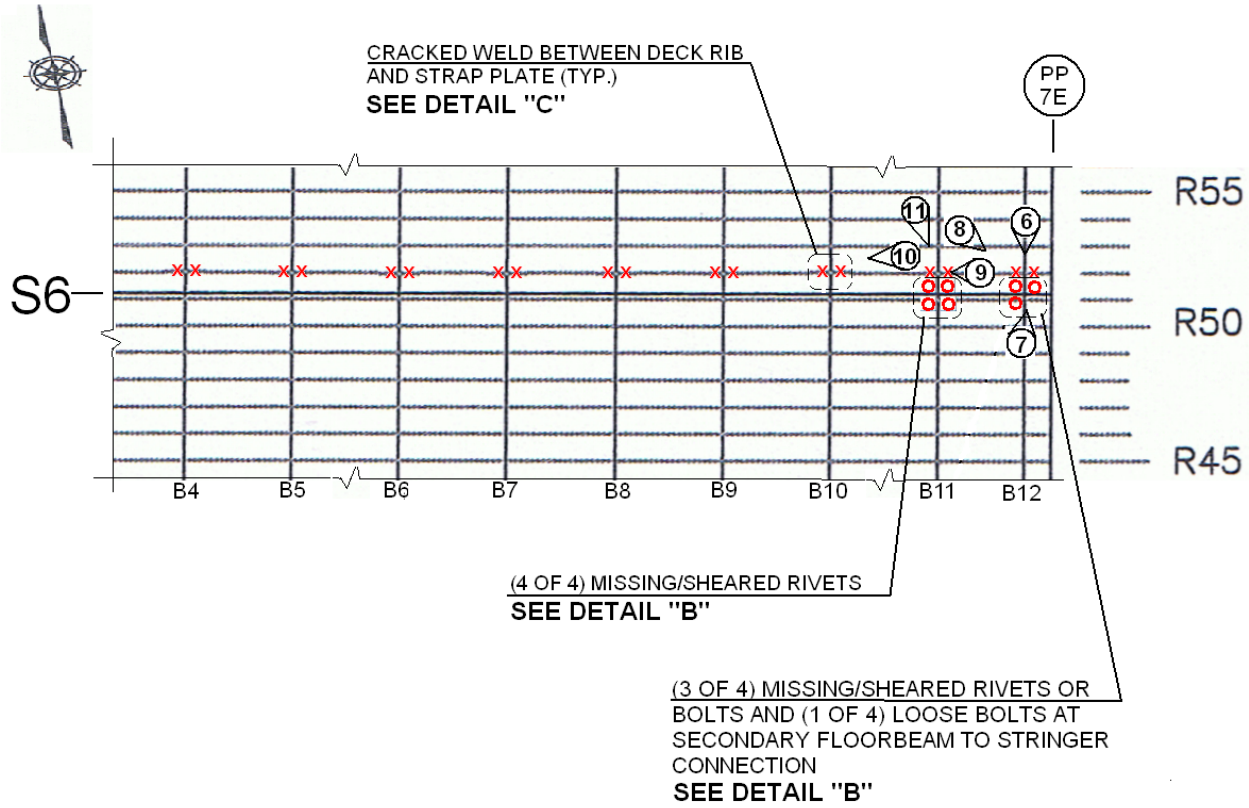
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOOSE SECONDARY FLOORBEAM TO STRINGER CONNECTION



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOOSE SECONDARY FLOORBEAM TO STRINGER CONNECTION

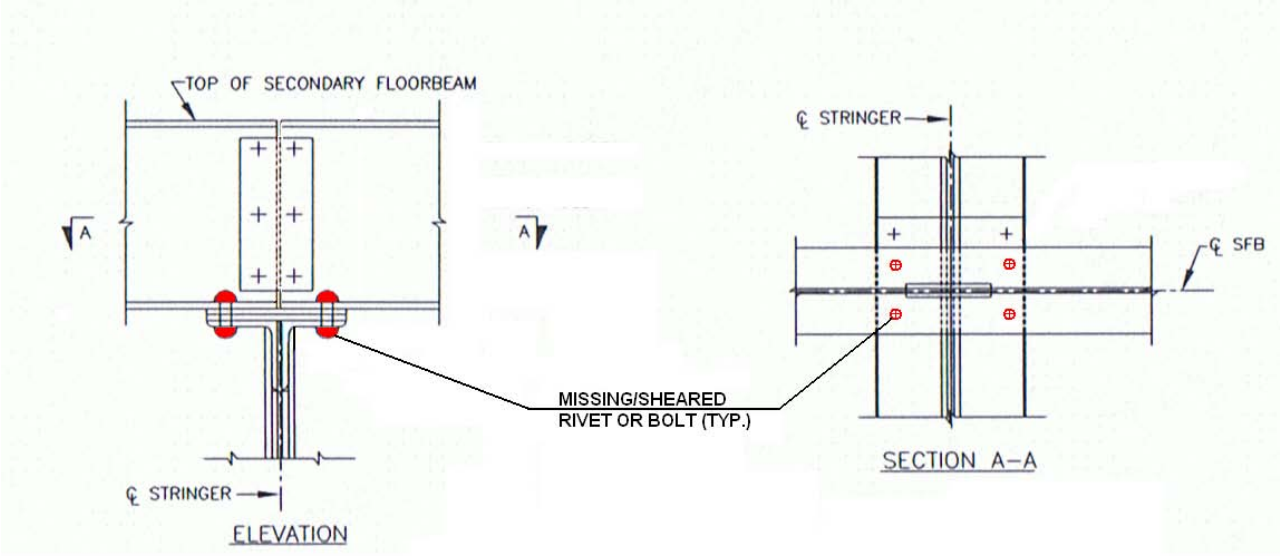


X PHOTO TAKEN BELOW DECK

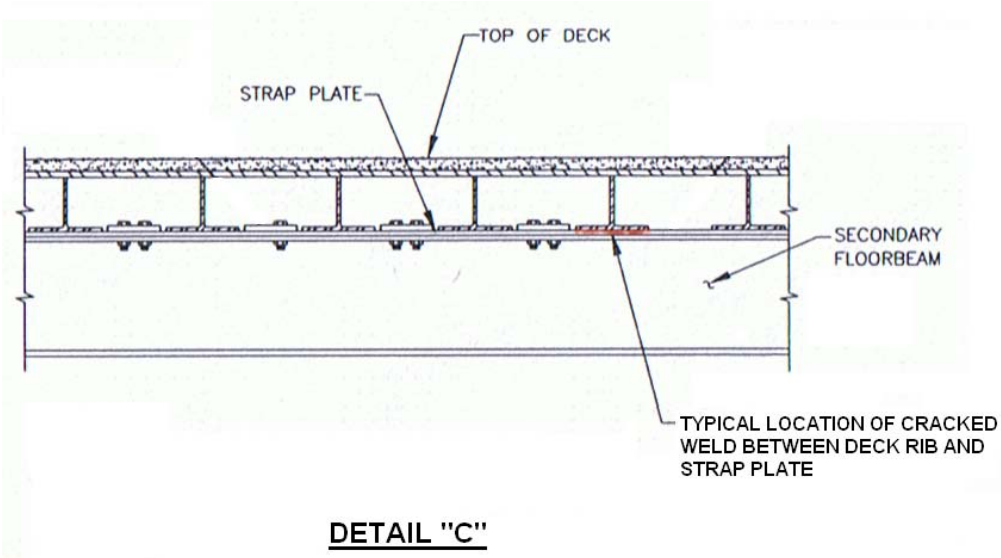
ENLARGED PLAN "A"

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOOSE SECONDARY FLOORBEAM TO STRINGER CONNECTION



DETAIL "B"
TYPICAL SECONDARY FLOORBEAM TO STRINGER CONNECTION



DETAIL "C"
TYPICAL SECTION THROUGH DECK AT SECONDARY FLOORBEAM

Photo No. 6

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: 2 of 4 sheared rivets/bolts (arrows) at secondary floorbeam to stringer connection, looking south (See Photo 2 below).

Photo No. 7

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 12 to Stringer 6 connection, south side.

Description: 1 of 4 sheared rivets/bolts and one loose bolt (arrow) at secondary floorbeam to stringer connection, looking northeast.

Photo No. 8

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 12 to Stringer 6 connection, west side.

Description: Secondary floorbeam bounces under live load and exhibits a 1/16" gap between the bottom flange and stringer top flange shim plates, looking southeast.

Photo No. 9

Location: Upper Level – Panel Point 7E-8E, Deck Rib 52 over Secondary Floorbeam 11, east side.

Description: Typical cracked weld between deck rib and secondary floorbeam strap plate, looking west.

Photo No. 10

Location: Upper Level–Panel Point 7E-8E, longitudinal Deck Rib R52 just north of Stringer 6.

Description: Deck Rib R52 exhibits cracked welds over Secondary Floorbeams SFB 4 through SFB 12, looking west from SFB 11.

Photo No. 11

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 11 to Stringer 6 connection, west side.

Description: 2 of 4 total sheared rivets at secondary floorbeam to stringer connection, looking southeast. East side similar.

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HNTB

July 14, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Web of Riser Beam at PP37E, Cracked Secondary Floorbeam 12 & Loose Secondary Floorbeam 11 over Stringer 6 between PP43 & PP42E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the (deck chair) riser beam which typically supports and maintains the proper elevation of the orthotropic deck. Four consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R32 through R35 from south over the main floorbeam at the Panel Point 37E below lane 2 of the eastbound upper level roadway (See attached sketches and photographs 1 through 5).

The cracked riser beam web plates at PP37E are located between Stringers 4 & 5 from south adjacent to the median barrier location and are cracked fully through for their entire length. The deck riser beam was bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within eastbound lane 2 near PP37E exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

In addition, HNTB personnel confirmed that (4 of 4) rivets/bolts remain missing/sheared at the connection for Secondary Floorbeam SFB 11 from west over Stringer 6 from south between Panel Points 43 & 42E and the secondary floorbeam is noticeably bouncing during truck loads. The adjacent Secondary Floorbeam SFB 12 exhibits horizontal cracks extending along the base of web over Stringer 6 apparently due to out of plane movement. Cracks were previously noted in the base of the SFB 12 web extending 9-1/2” north and 8-1/2” south of Stringer 6. The crack

prevent further crack propagation. Two new partial depth cracks and one new full depth crack has propagated into the bottom flange beyond the ½" diameter drill hole. The web crack extending south of Stringer 6 has propagated beyond the ½" diameter drill hole. Noticeable bouncing was evident along the Secondary Floorbeam 12 web cracks during passage of large trucks. (See attached sketches and photographs 6 through 13).

Due to the noticeable bouncing evident at four consecutively cracked riser beam web plates at PP37E, at SFB 11 on Stringer 6, and along the cracks in SFB 12 over Stringer 6 between Panel Points 43 & 42E, and due to continued fatigue crack propagation into the bottom flange of SFB 12 north of Stringer 6, the following Immediate Actions are recommended:

1. Repair the cracked riser beam web plate at PP37E below deck ribs R32, R33, R34 and R35 between Stringers 4 & 5.

2. Replace the missing rivets/bolts with high strength bolts at the connection of Secondary Floorbeam 11 to Stringer 6 between PP43 and PP42E, drill 1" diameter holes at the crack tips and reinforce the cracked web and bottom flange of Secondary Floorbeam 12 north (and south) of Stringer 6 between PP43 and 42E.

Repair plans addressing the recommended immediate actions will be prepared and provided upon request.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

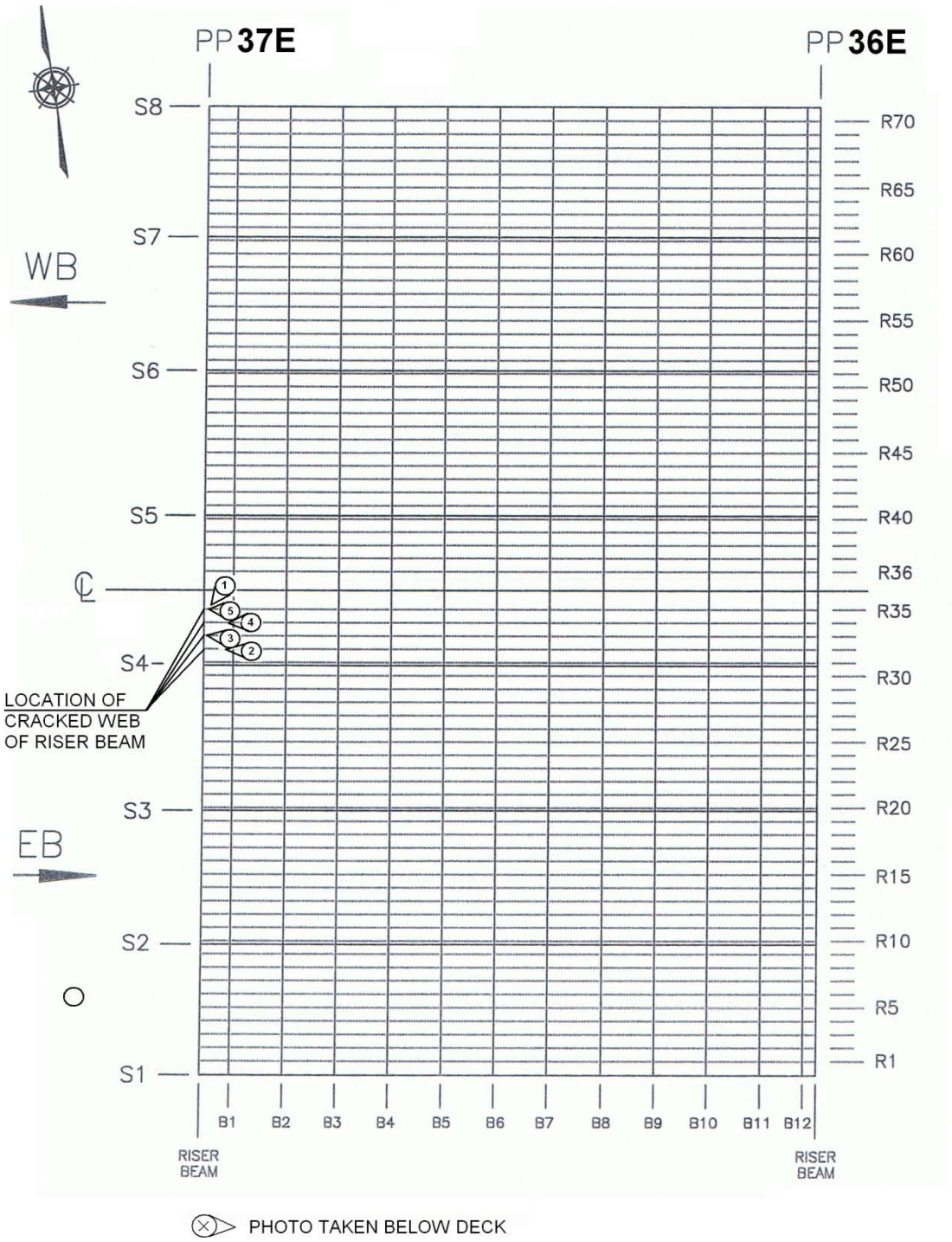
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

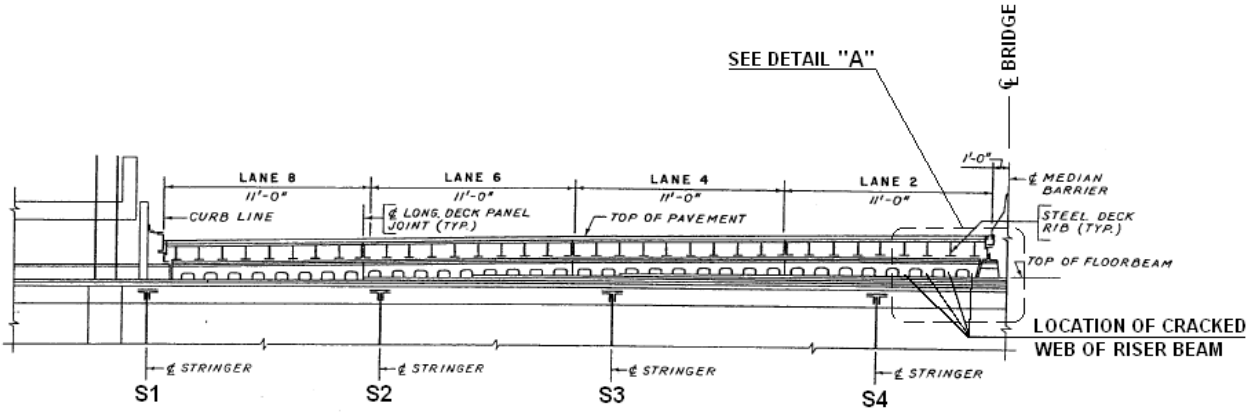
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



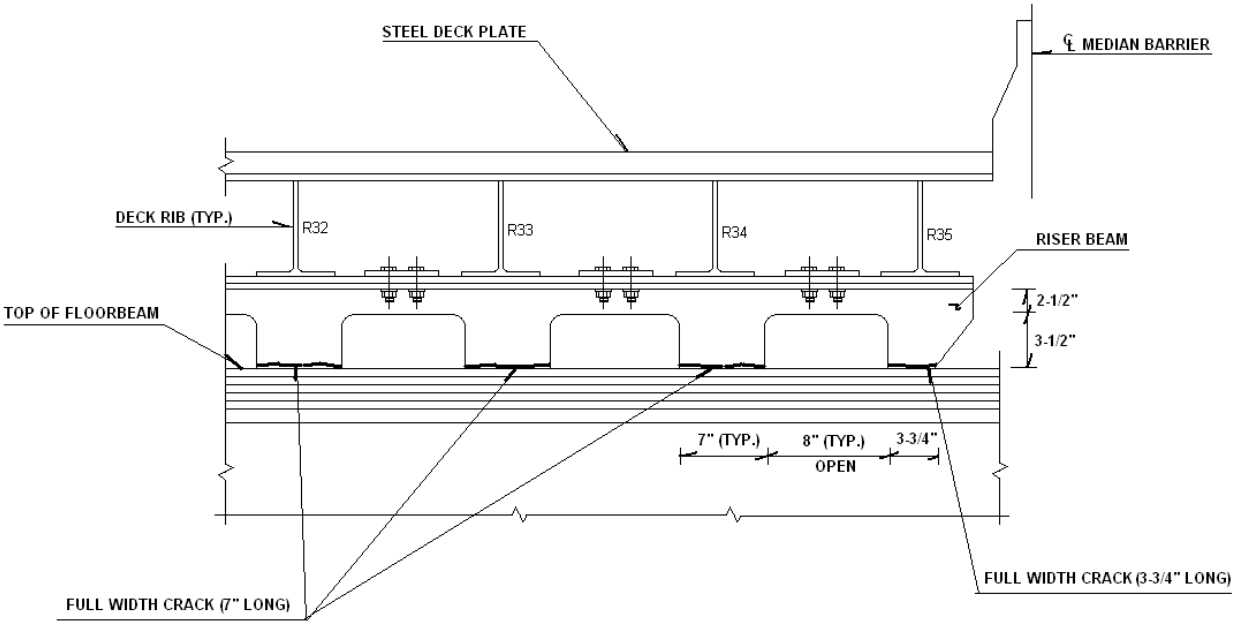
ELEVATION

FLOORBEAM AT PANEL POINT 37E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "A"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 37E
BETWEEN STRINGERS 4 AND 5

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 1

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Ribs R32 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 2

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R32.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 3

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

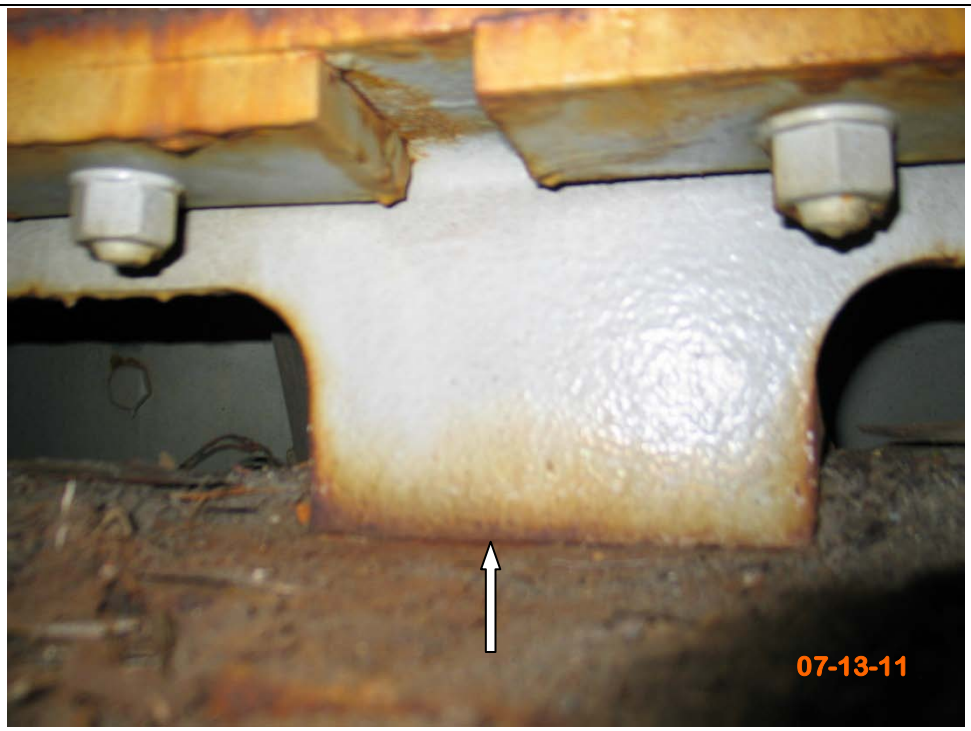


Photo No. 4

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 5

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

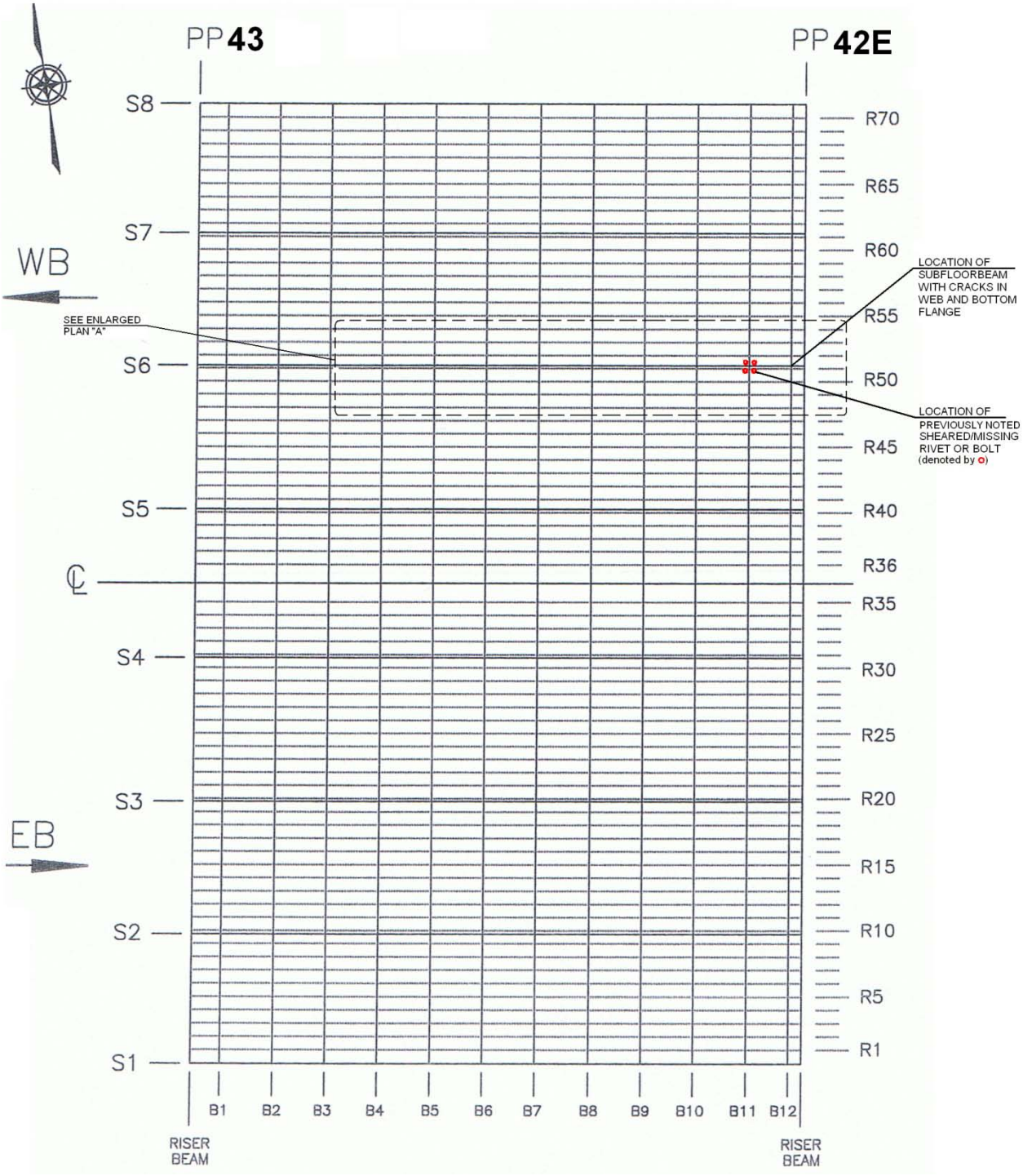
Photo No.

Location:

Description:

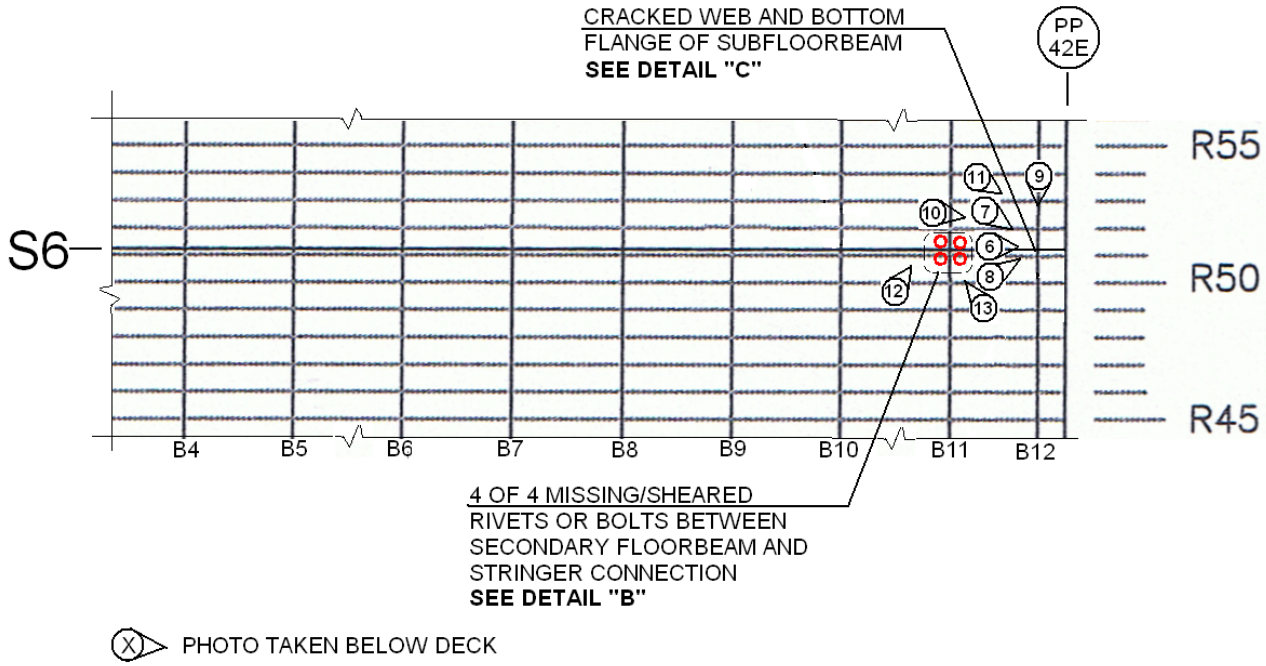
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12

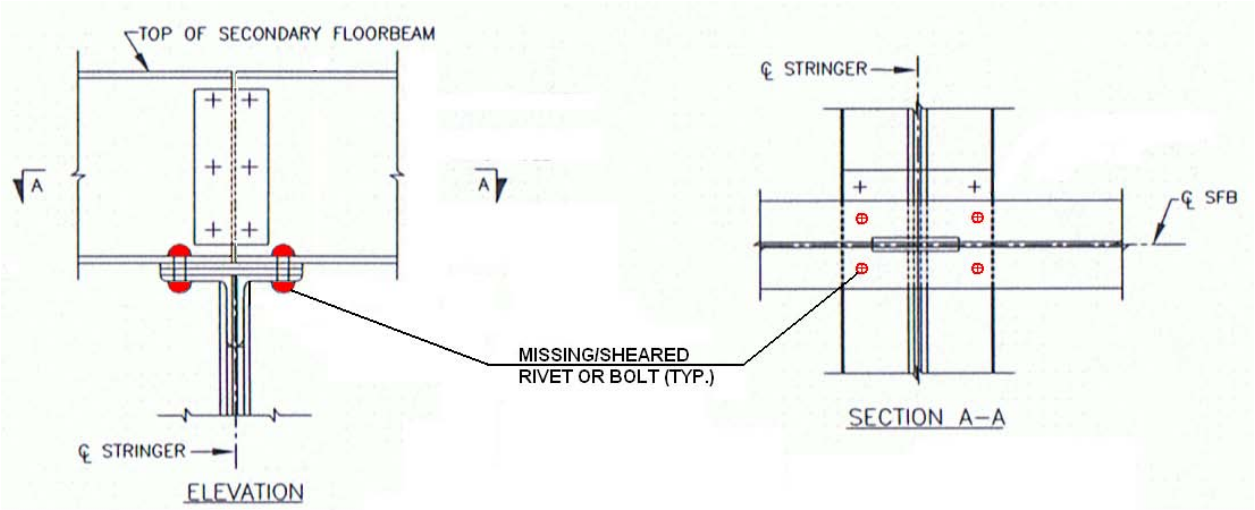


2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12



ENLARGED PLAN "A"

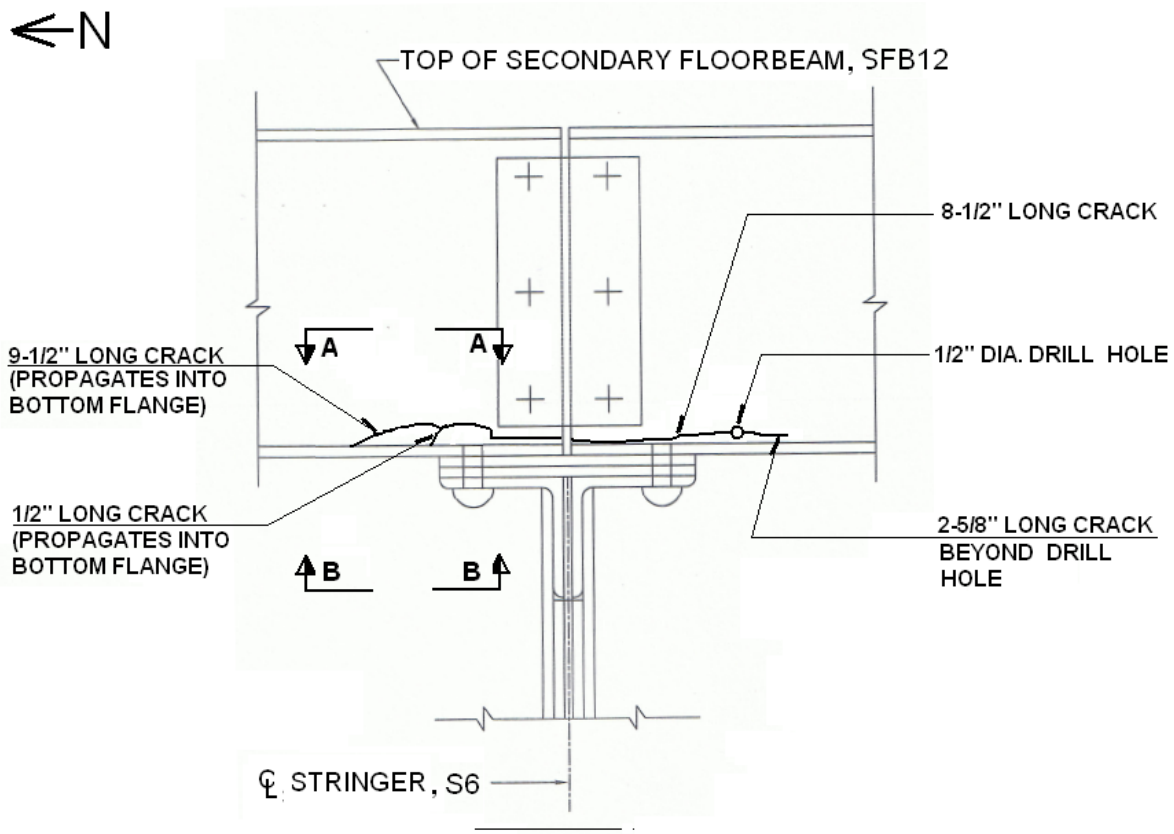


DETAIL "B"

TYPICAL SECONDARY FLOORBEAM TO STRINGER CONNECTION

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12



DETAIL "C"

ELEVATION - (PP 43-42E)

(Looking East)

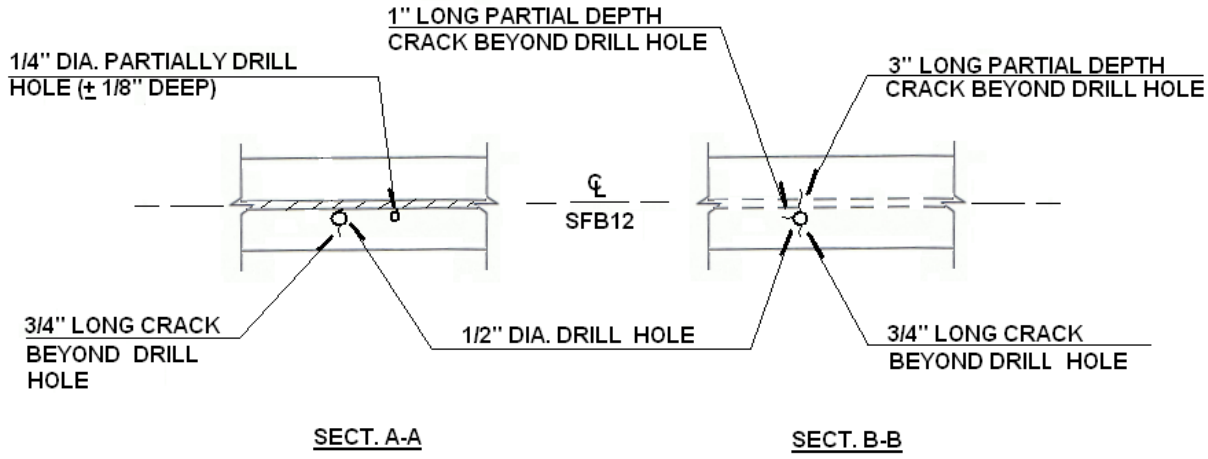


Photo No. 6

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection.

Description: Web of secondary floorbeam exhibits horizontal cracks along the base, looking east.

Photo No. 7

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Web of secondary floorbeam exhibits a 9-1/2" and 1/2" long cracks along the base of web extending into the bottom flange, looking southeast.

Photo No. 8

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, south side.

Description: Web of secondary floorbeam exhibits an 8-1/2" long horizontal crack along the base with a previous 1/2" diameter drill hole. A new 2-5/8" long horizontal crack has propagated beyond the drill hole, looking southeast.

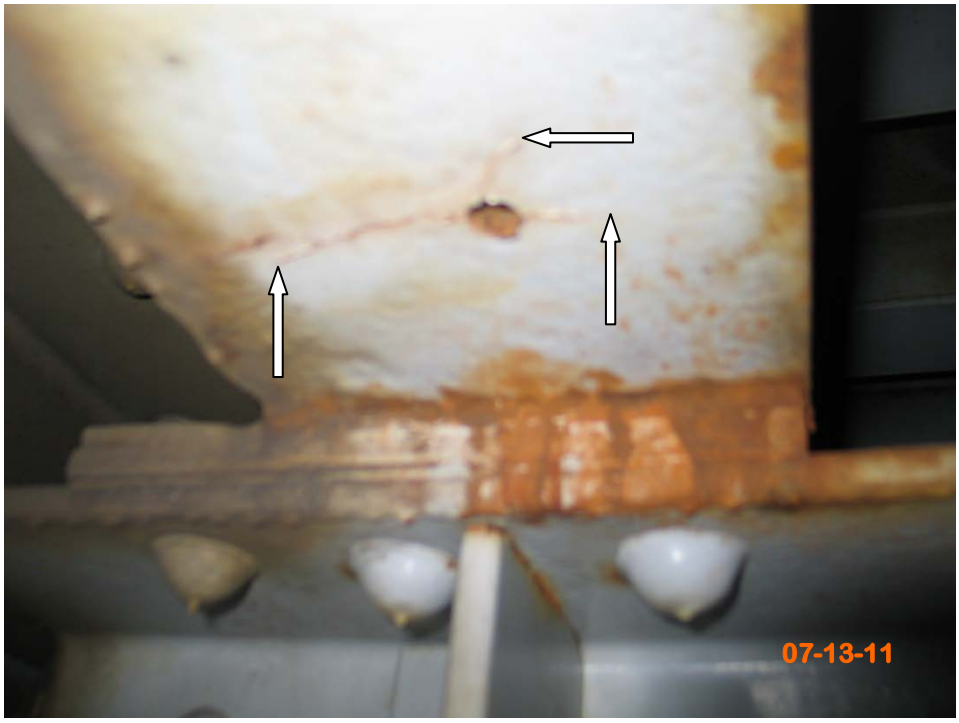


Photo No. 9

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Bottom flange of secondary floorbeam exhibits a 1/2" diameter drill hole with three new cracks propagating from the drill hole, looking up and south.

Photo No. 10

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Web of secondary floorbeam exhibits horizontal cracks along the base extending into the bottom flange, looking east. One new crack extends beyond the ½" diameter drill hole. (Subject area was prepared for dye penetrant test).

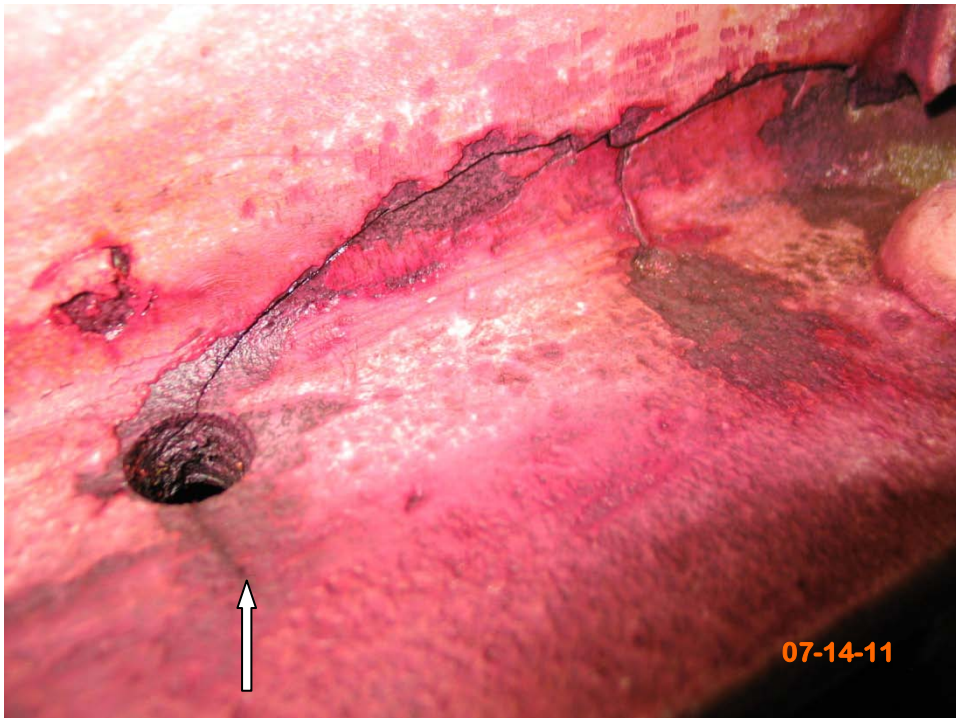


Photo No.11

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side, looking southeast.

Description: Dye penetrant test revealed ¾" long crack in the bottom flange propagating from the 1/2" diameter drill hole and no additional crack propagation beyond the ¼" diameter drill hole.

Photo No. 12

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 11 to Stringer 6 connection, west side.

Description: 2 of 4 total sheared rivets/bolts (arrows) at secondary floorbeam to stringer connection, looking northeast. (Similar condition at east side, see Photo 13 below).

Photo No.13

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 11 to Stringer 6 connection, east side.

Description: 2 of 4 total sheared rivets/bolts (arrows) at secondary floorbeam to stringer connection, looking northwest. The secondary floorbeam bounces noticeably during truck loads.

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July 15, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)
Immediate Action – Cracked Web of Riser Beam at PP32E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the (deck chair) riser beam which typically supports and maintains the proper elevation of the orthotropic deck. Four consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R36 through R39 from south over the main floorbeam at Panel Point 32E below lane 1 of the westbound upper level roadway (See attached sketches and photographs 1 through 5).

The cracked riser beam web plates at PP32E are located between Stringers 4 & 5 from south adjacent to the median barrier location and deck ribs R36, 37 and 39 are cracked fully through for their entire length and R38 is cracked for a length of 4 inches.

The deck riser beam was slightly bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within westbound lane 1 near PP32E exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

The cracked riser beam web plate at PP32E below deck ribs R36, R37, R38 and R39, between Stringers 4 & 5, should be repaired as an immediate action (Repair plans will be prepared and provided upon request).

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

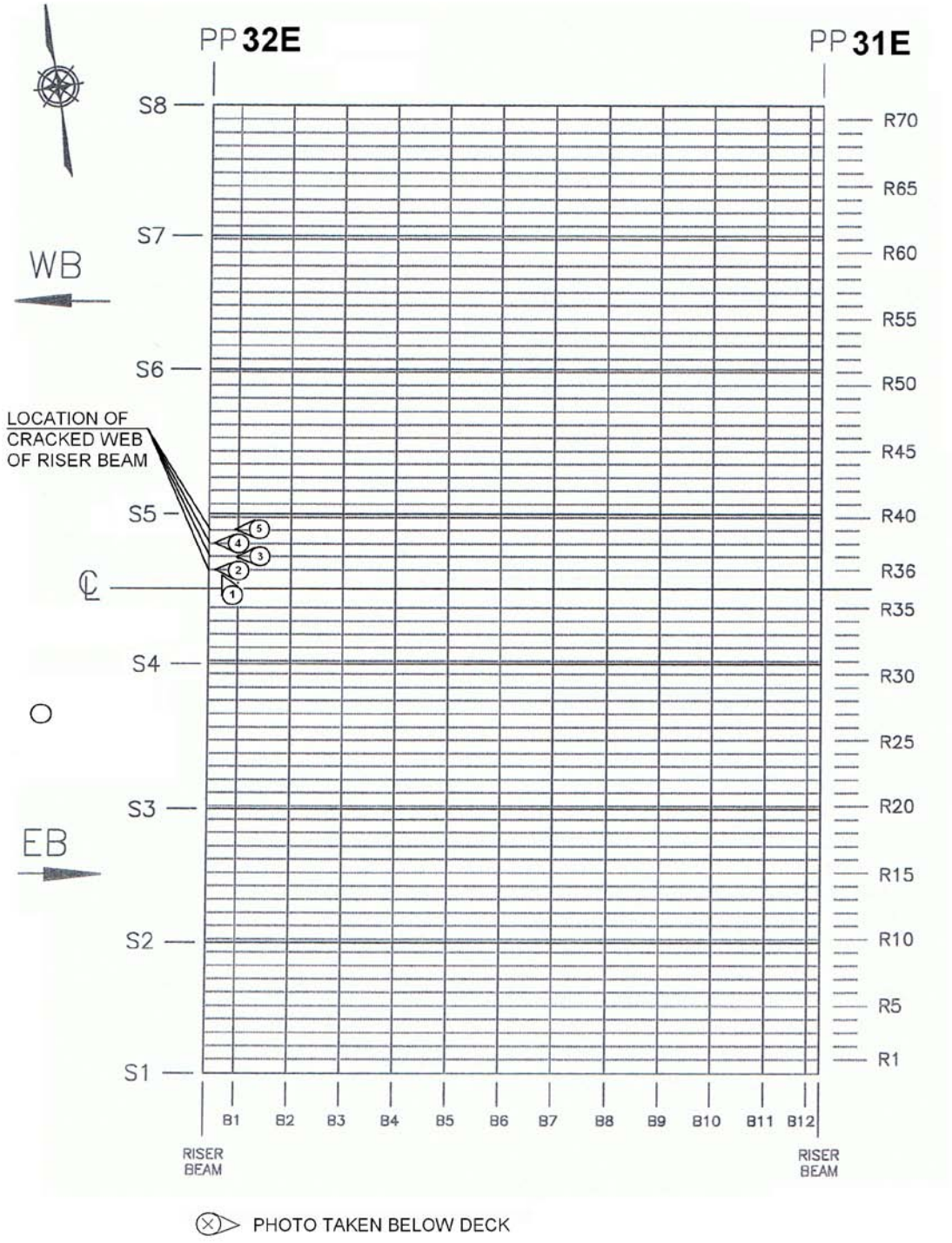
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

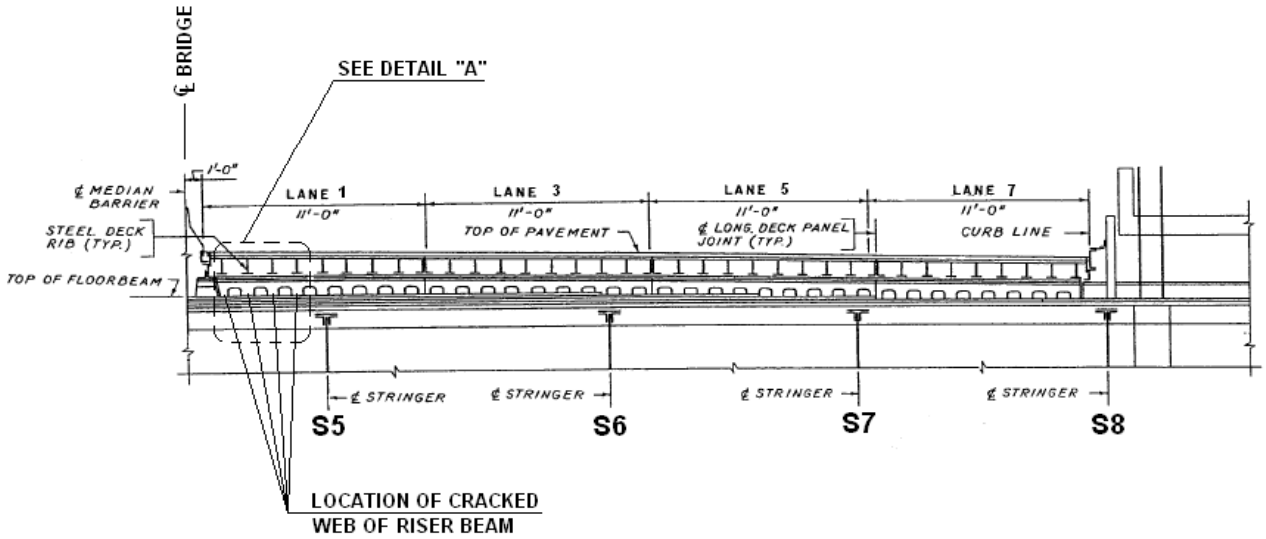
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



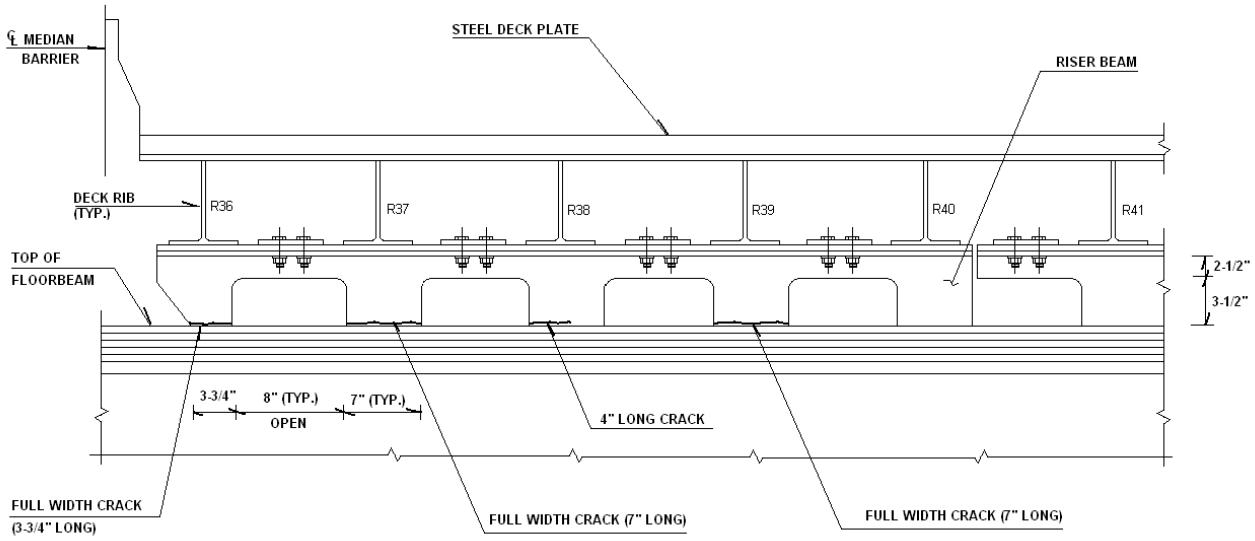
ELEVATION

FLOORBEAM AT PANEL POINT 32E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "A"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 32E
BETWEEN STRINGERS 4 AND 5

Photo No. 1

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits full/partial width cracks, looking northwest.

Photo No. 2

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R36.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

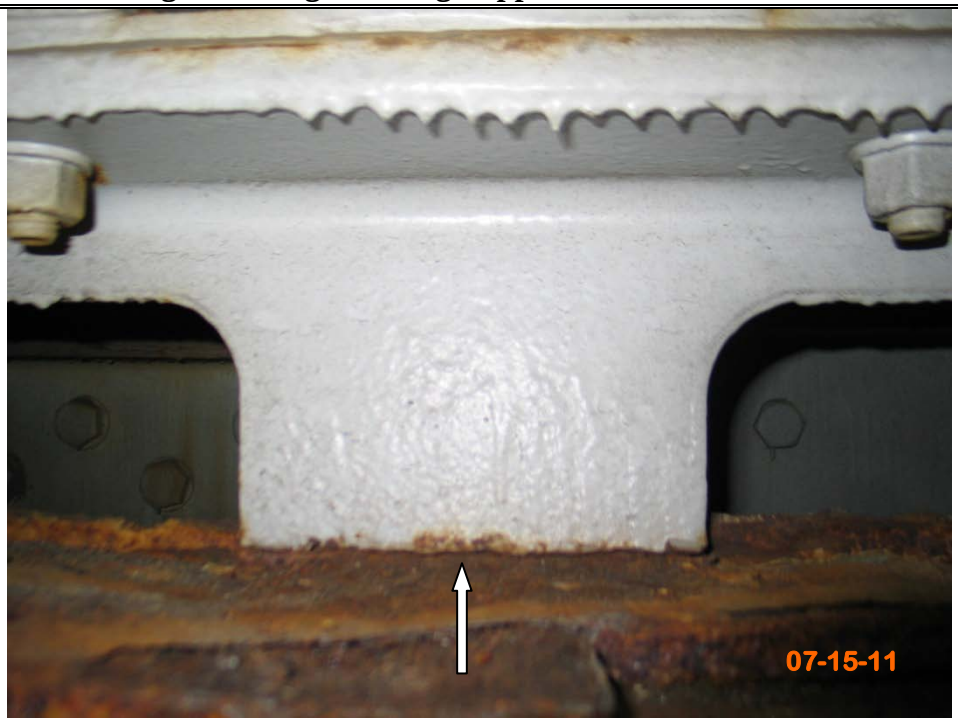


Photo No. 3

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R37.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 4

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R38.

Description: Web of riser beam above primary floorbeam exhibits a partial width crack 4" long, looking west.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 5

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R39.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No.

Location:

Description:

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HNTB

July 22, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Web of Riser Beam at PP43, PP37E & PP32E; Cracked Secondary Floorbeam 12 at Stringer 6 between PP43-42E; Loose Secondary Floorbeams 11 & 12 over Stringer 6 between PP43-PP42E & PP8E-7E; and Cracked Orthotropic Deck Rib 52 between PP8E-7E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the riser beam (deck chair) which typically supports and maintains the proper elevation of the orthotropic deck. Four consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R32 through R35 from south over the main floorbeam at the Panel Points 43 and 37E below lane 2 of the eastbound upper level roadway, and below orthotropic deck ribs R36 through R39 from south over the main floorbeam at Panel Point 32E below lane 1 of the westbound upper level roadway (See attached sketches on pages 4-6, 10-12 & 16-18 and photographs 1 through 15).

The cracked riser beam web plates at PP43, PP37E & PP32E are located between Stringers 4 & 5 from south adjacent to the median barrier location and are cracked fully through for their entire length with the exception of the riser beam web plate below R38 at PP32E which is cracked for a length of 4 inches.

The deck riser beams were noticeably bouncing with audible banging noise evident during passage of large trucks. The compression sealed deck joints at the top of deck within eastbound lane 2 near PP43 and PP37E, and within westbound lane 1 near PP32E exhibit minor deterioration with no signs of movement evident based on our recent visual inspections.

In addition, HNTB personnel confirmed that (4 of 4) and (3 of 4) rivets/bolts remain missing/sheared at the connection for Secondary Floorbeams 11 & 12 from west over Stringer 6 from south between Panel Points 8E & 7E. The one remaining bolt at SFB 12 is now loose and both secondary floorbeams are noticeably bouncing during truck loads. The welds connecting the orthotropic deck rib R52 to the strap plate along the top flange of the secondary floorbeams are cracked fully through along both sides of SFB 4 through SFB 12 just north of Stringer 6. Several of the cracked connection welds were previously noted, however, noticeable bouncing of the deck rib was evident during the inspection (See attached sketches on pages 22- 24 and photographs 16 through 21).

HNTB personnel also confirmed that (4 of 4) rivets/bolts remain missing/sheared at the connection for Secondary Floorbeam SFB 11 from west over Stringer 6 from south between Panel Points 43 & 42E and the secondary floorbeam is noticeably bouncing during truck loads. The adjacent Secondary Floorbeam SFB 12 exhibits horizontal cracks extending along the base of web over Stringer 6 apparently due to out of plane movement. Cracks were previously noted in the base of the SFB 12 web extending 9-1/2" north and 8-1/2" south of Stringer 6. The crack north of Stringer 6 extended into the bottom flange at two locations and a partial depth ¼" and a full depth ½" diameter hole was previously drilled at the crack end(s) to minimize and possibly prevent further crack propagation. Two new partial depth cracks and one new full depth crack has propagated into the bottom flange beyond the ½" diameter drill hole. The web crack extending south of Stringer 6 has propagated beyond the ½" diameter drill hole. Noticeable bouncing was evident along the Secondary Floorbeam 12 web cracks during passage of large trucks. (See attached sketches on pages 28-30 and photographs 22 through 29).

The following repairs are recommended as an Immediate Action due to the noticeable bouncing evident at four consecutively cracked riser beam web plates at PP43, PP37E & PP32E, along the cracks in SFB 12 over Stringer 6 between Panel Points 43 & 42E, at Secondary Floorbeams 11 & 12 on Stringer 6, and along the orthotropic deck Rib R52 between Panel Points 8E & 7E, and due to continued fatigue crack propagation into the bottom flange of SFB 12 north of Stringer 6:

1. Repair the cracked riser beam web plate between Stringers 4 & 5 at PP43 & PP37E below deck ribs R32, R33, R34 and R35 and at PP32E below deck ribs R36, R37, R38 and R39.

2. Replace the missing and/or sheared rivets/bolts with high strength bolts at the connection of Secondary Floorbeam 11 to Stringer 6 between PP43 & PP42E and at Secondary Floorbeams 11 & 12 to Stringer 6 between PP8E & 7E, and secure orthotropic deck rib R52 to the secondary floorbeams between SFB 4 through SFB 12 between PP8E & 7E.

3. Drill 1" diameter holes at the crack tips and reinforce the cracked web and bottom flange of Secondary Floorbeam 12 north (and south) of Stringer 6 between PP43 & 42E.

Repair plans addressing the recommended Immediate Actions will be prepared and provided upon request.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

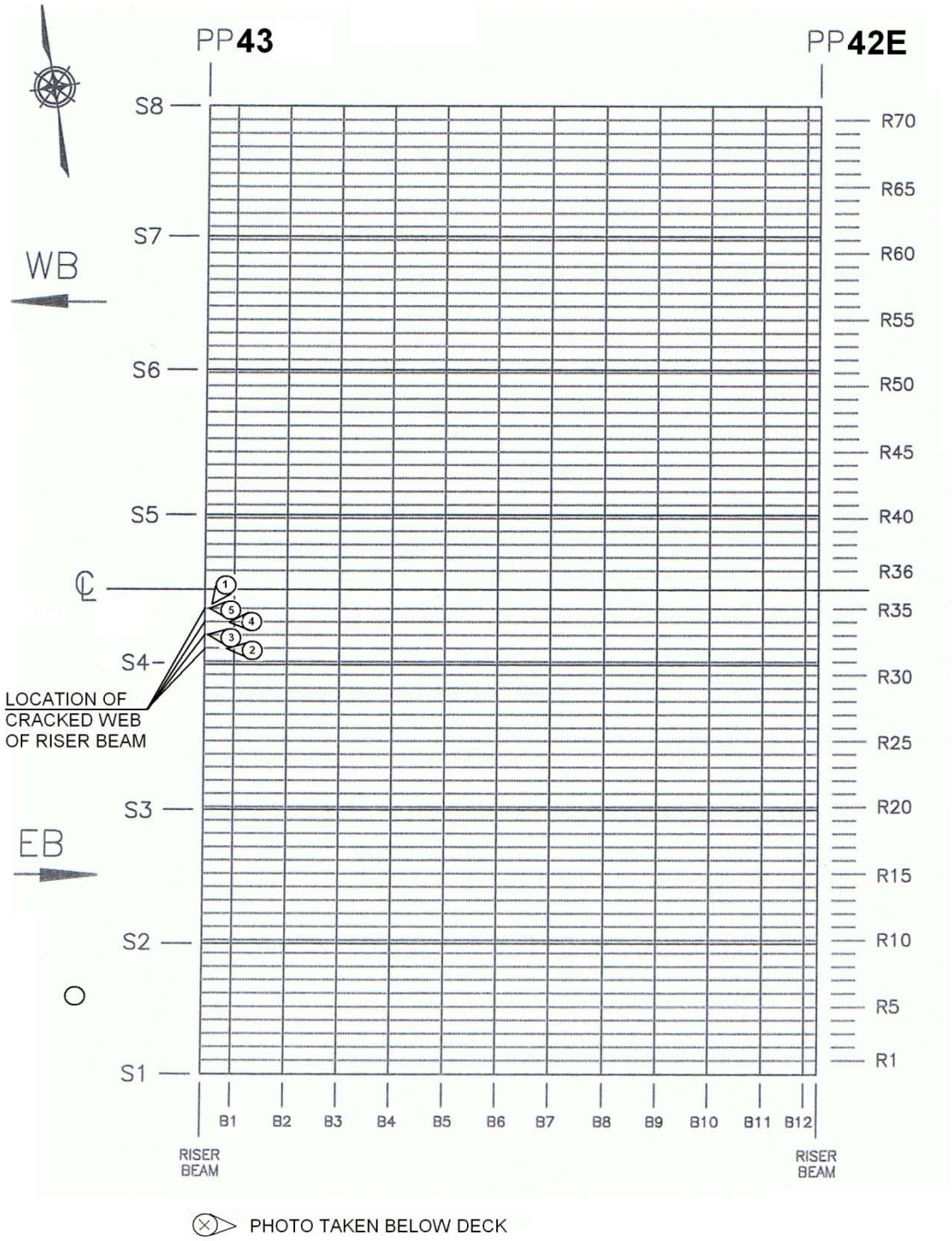
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

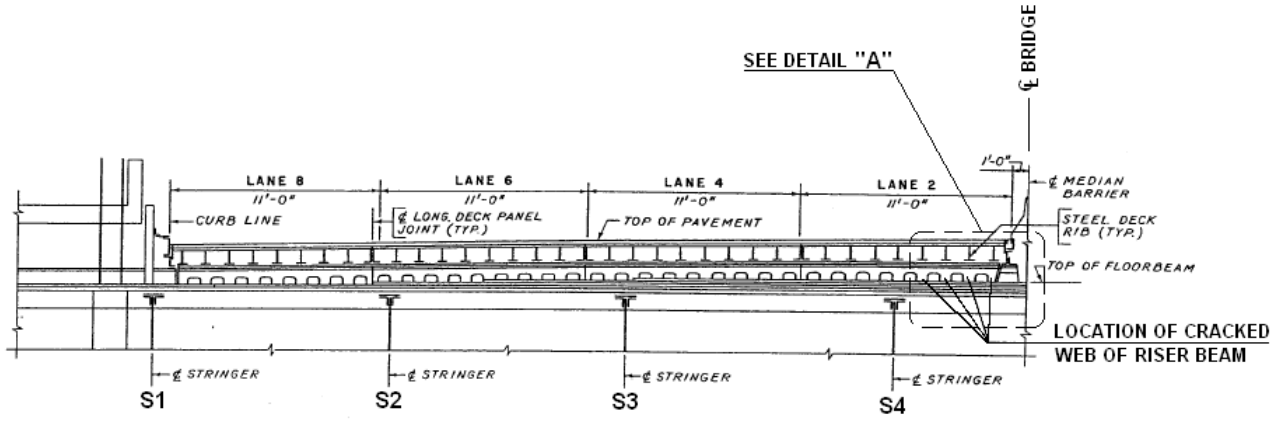
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



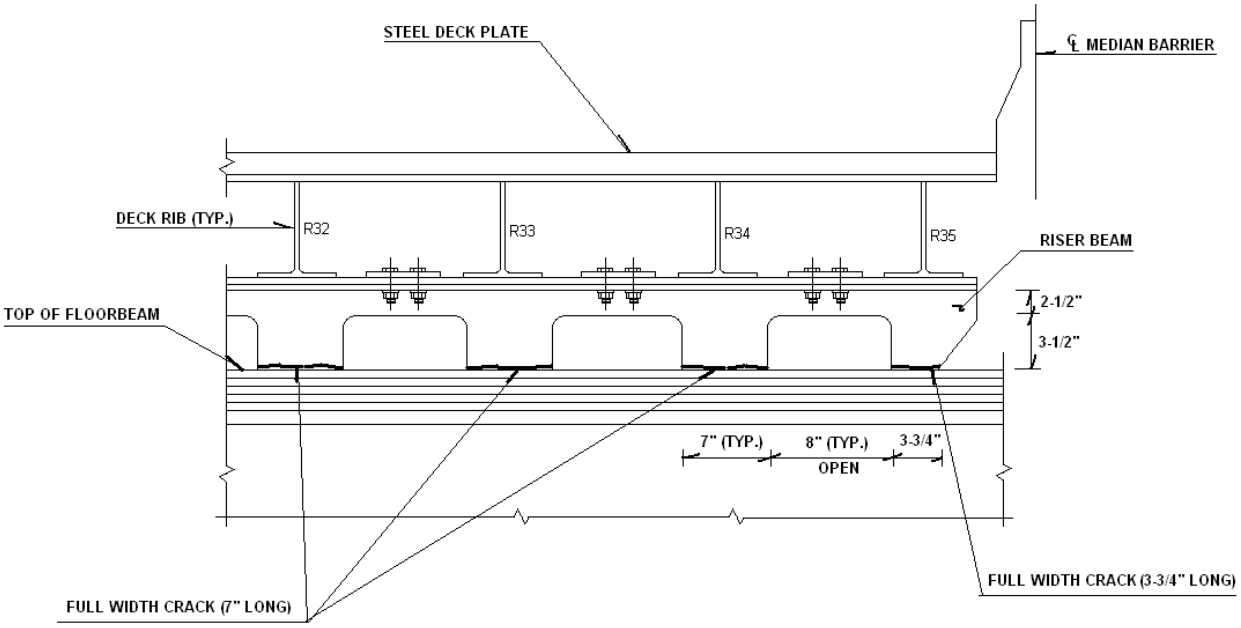
ELEVATION

FLOORBEAM AT PANEL POINT 43

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "A"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 43
BETWEEN STRINGERS 4 AND 5

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

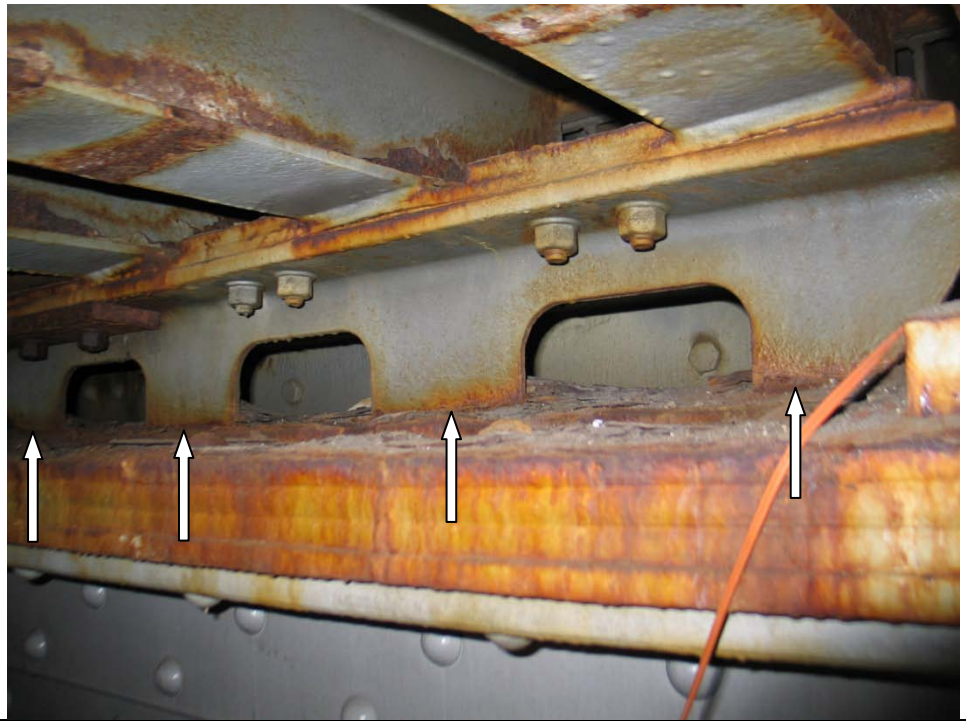


Photo No. 1

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Ribs R32 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 2

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Rib R32.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 3

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

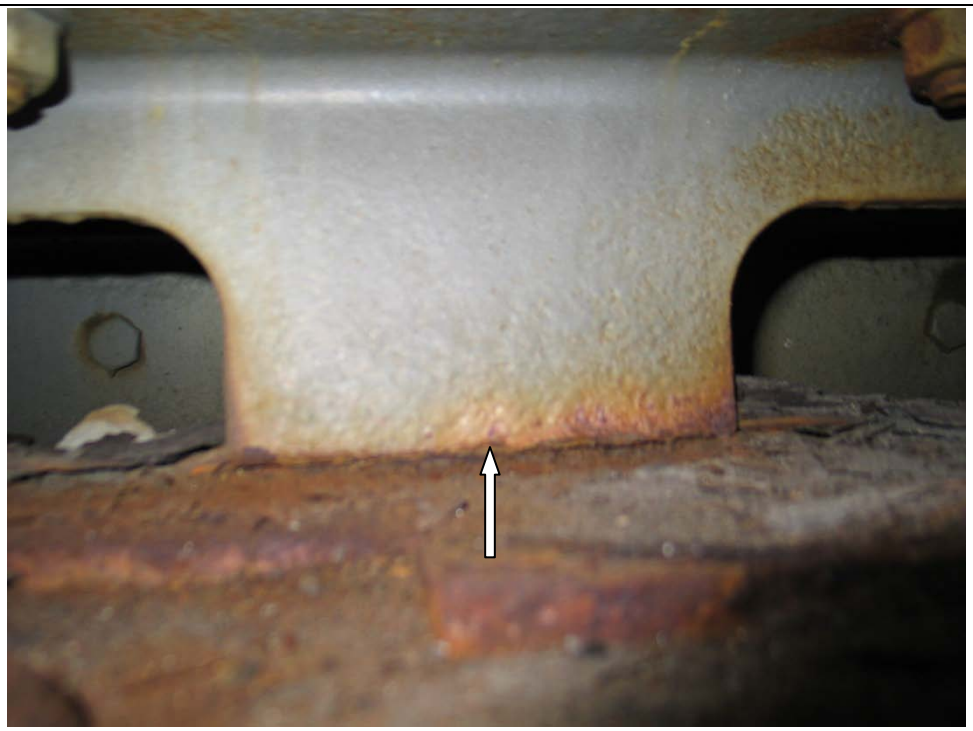


Photo No. 4

Location: Upper Level – Panel Point 10E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

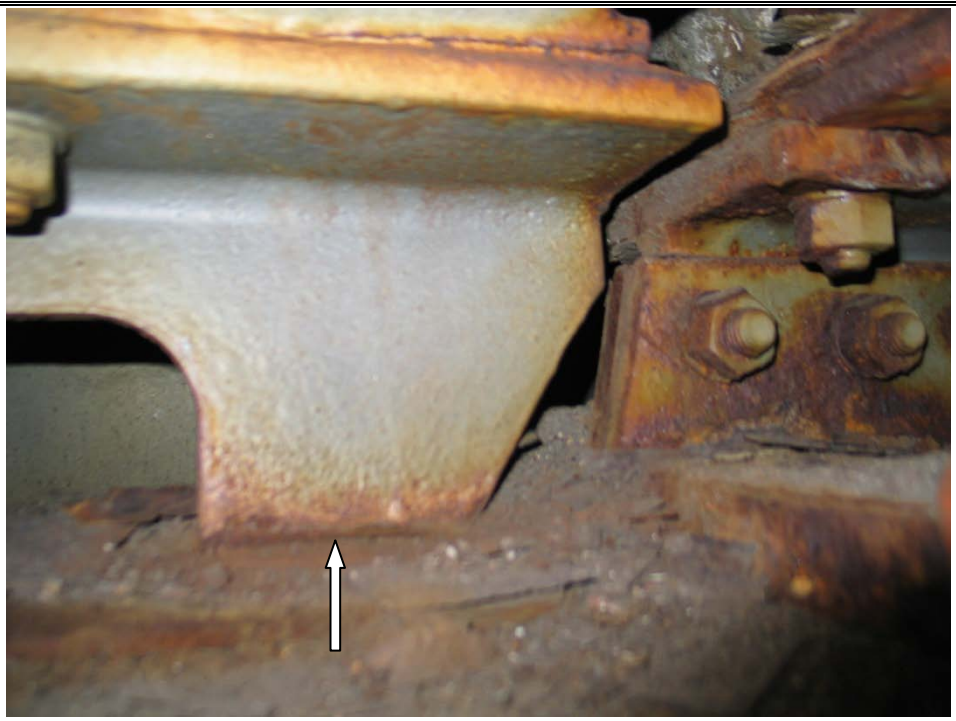


Photo No. 5

Location: Upper Level – Panel Point 43 between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

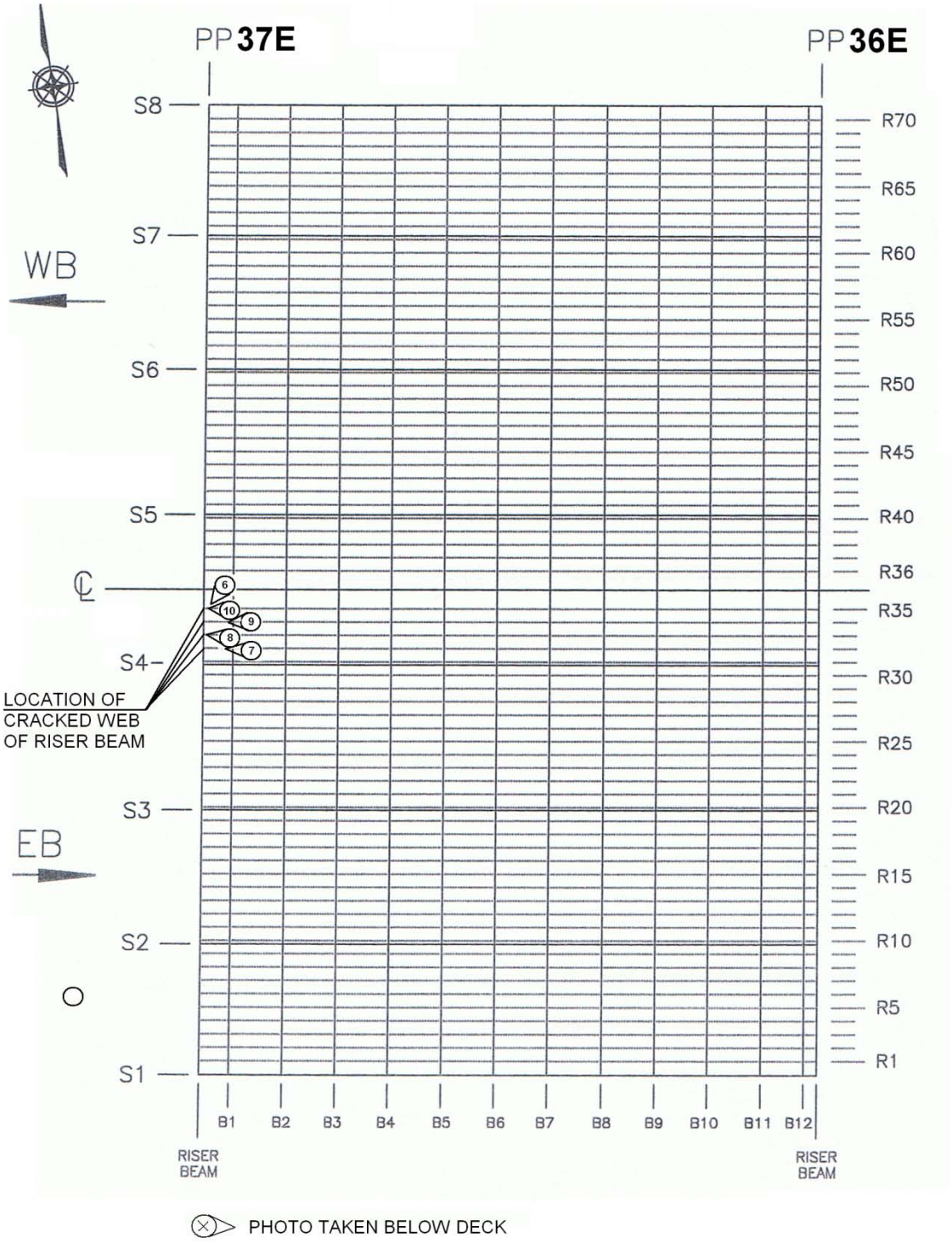
Photo No.

Location:

Description:

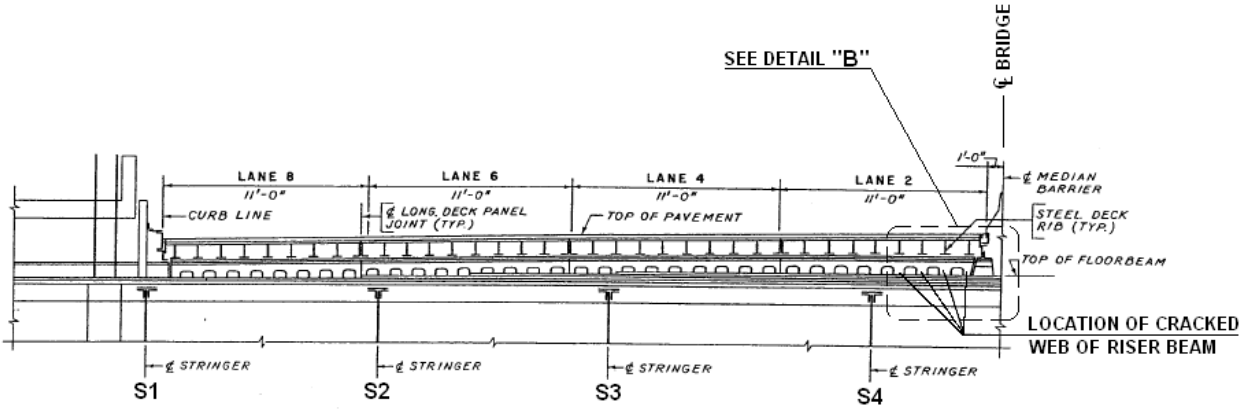
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



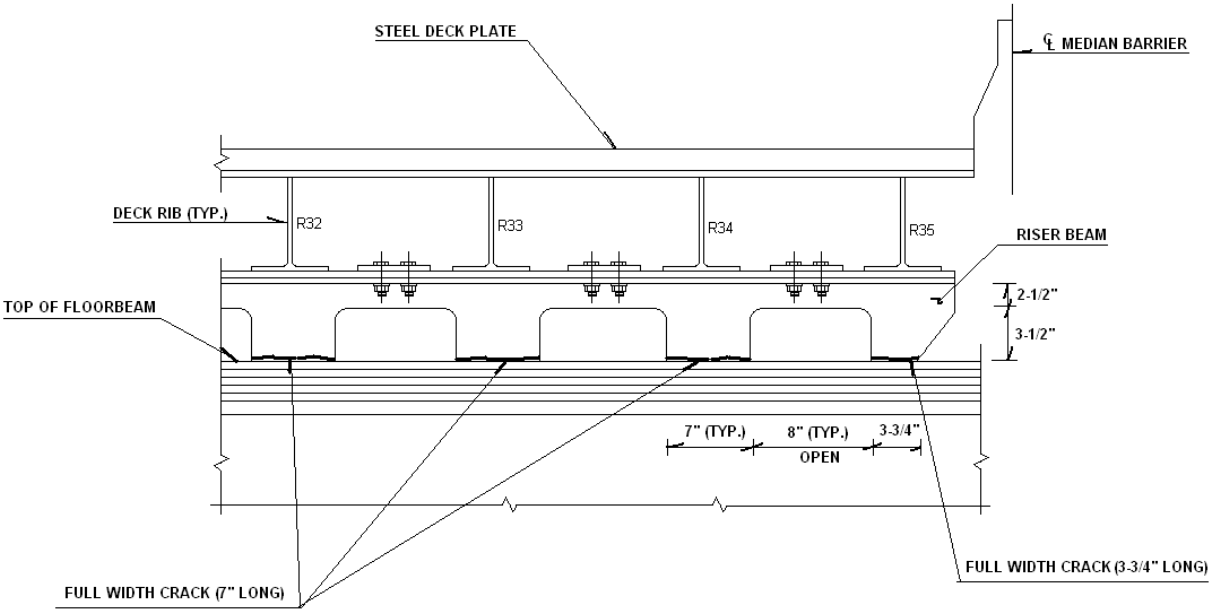
ELEVATION

FLOORBEAM AT PANEL POINT 37E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "B"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 37E
BETWEEN STRINGERS 4 AND 5

Photo No. 6

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Ribs R32 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 7

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R32.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 8

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

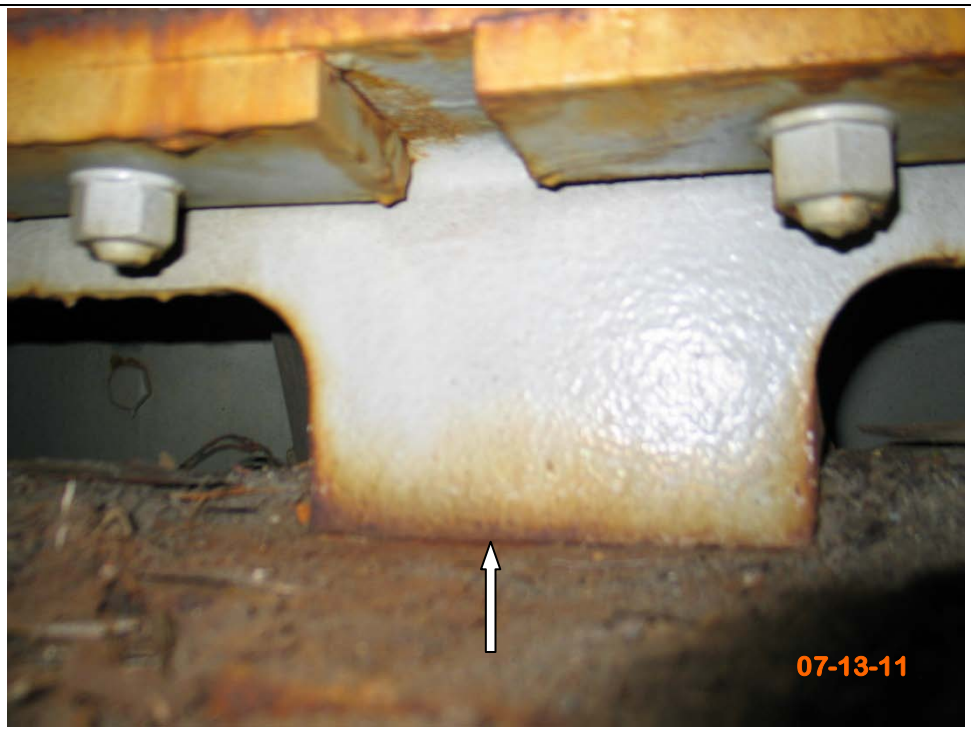


Photo No. 9

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 10

Location: Upper Level – Panel Point 37E between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

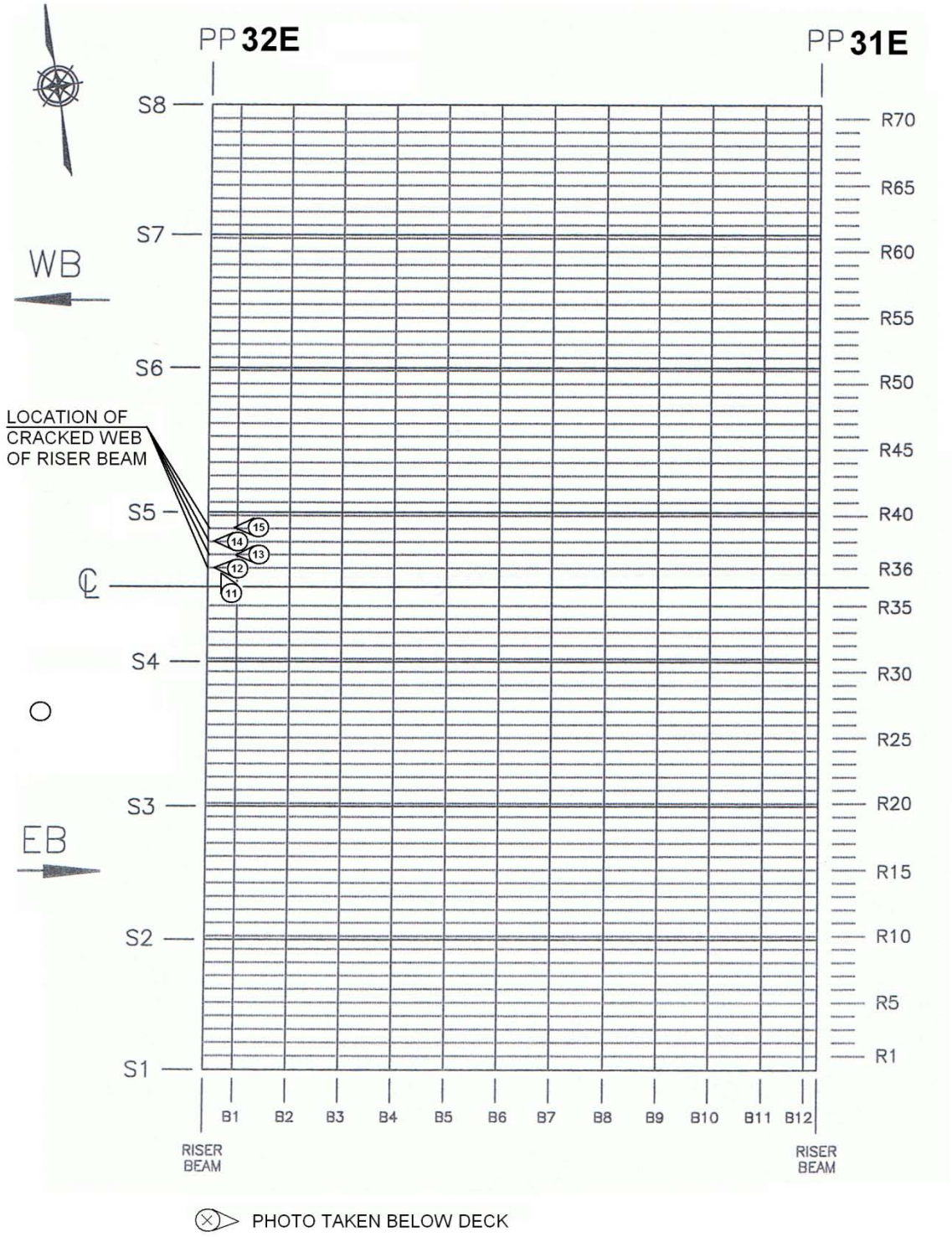
Photo No.

Location:

Description:

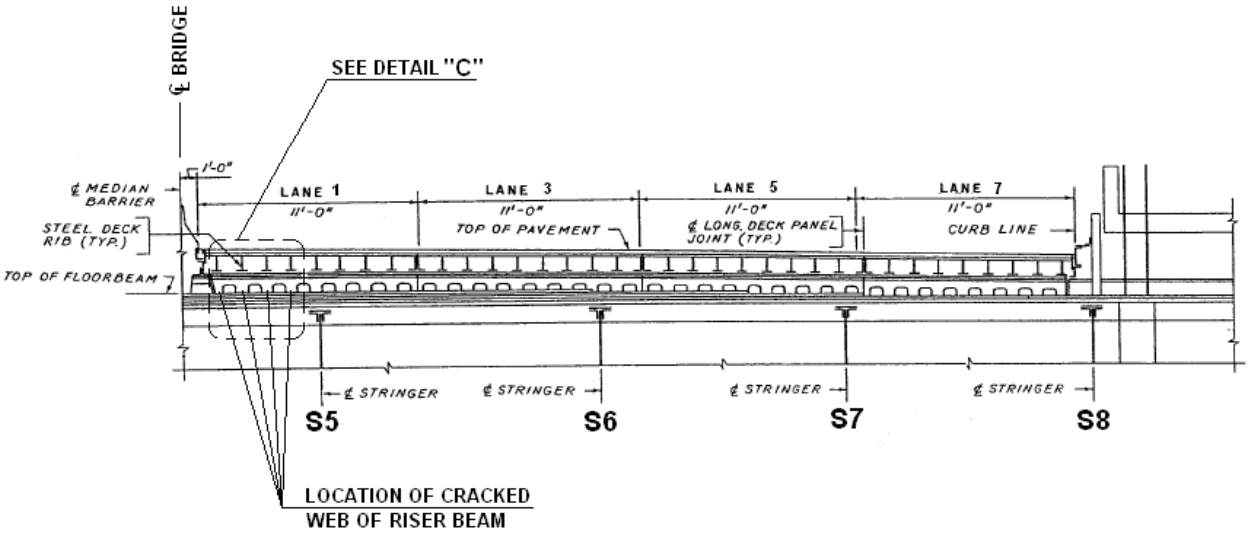
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



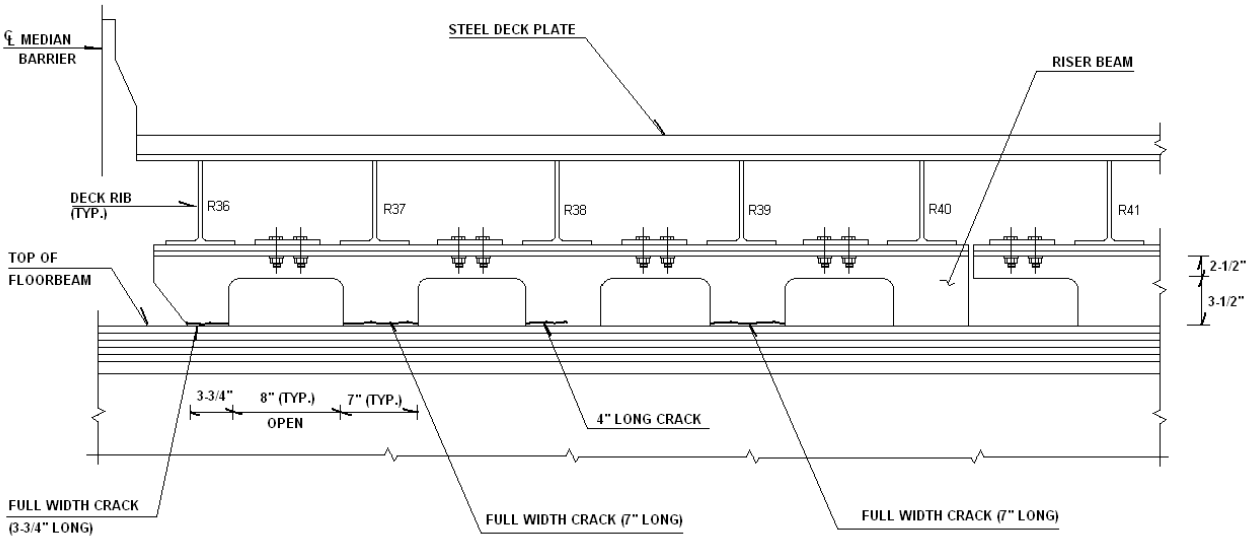
ELEVATION

FLOORBEAM AT PANEL POINT 32E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "C"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 32E
BETWEEN STRINGERS 4 AND 5

Photo No. 11

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits full/partial width cracks, looking northwest.

Photo No. 12

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R36.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

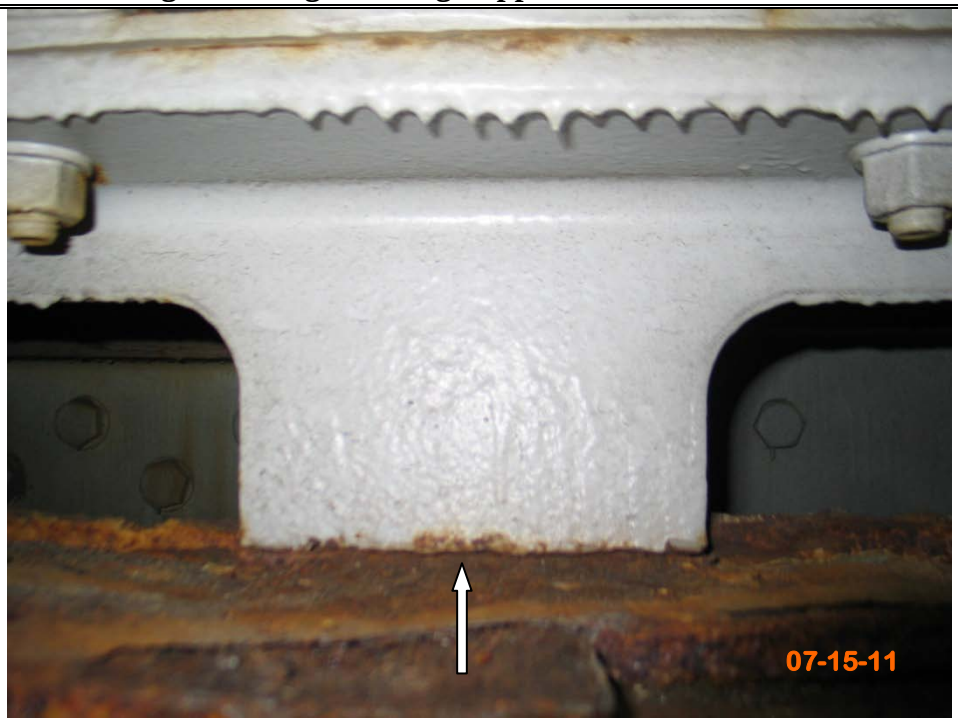


Photo No. 13

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R37.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 14

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R38.

Description: Web of riser beam above primary floorbeam exhibits a partial width crack 4" long, looking west.

Photo No. 15

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R39.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

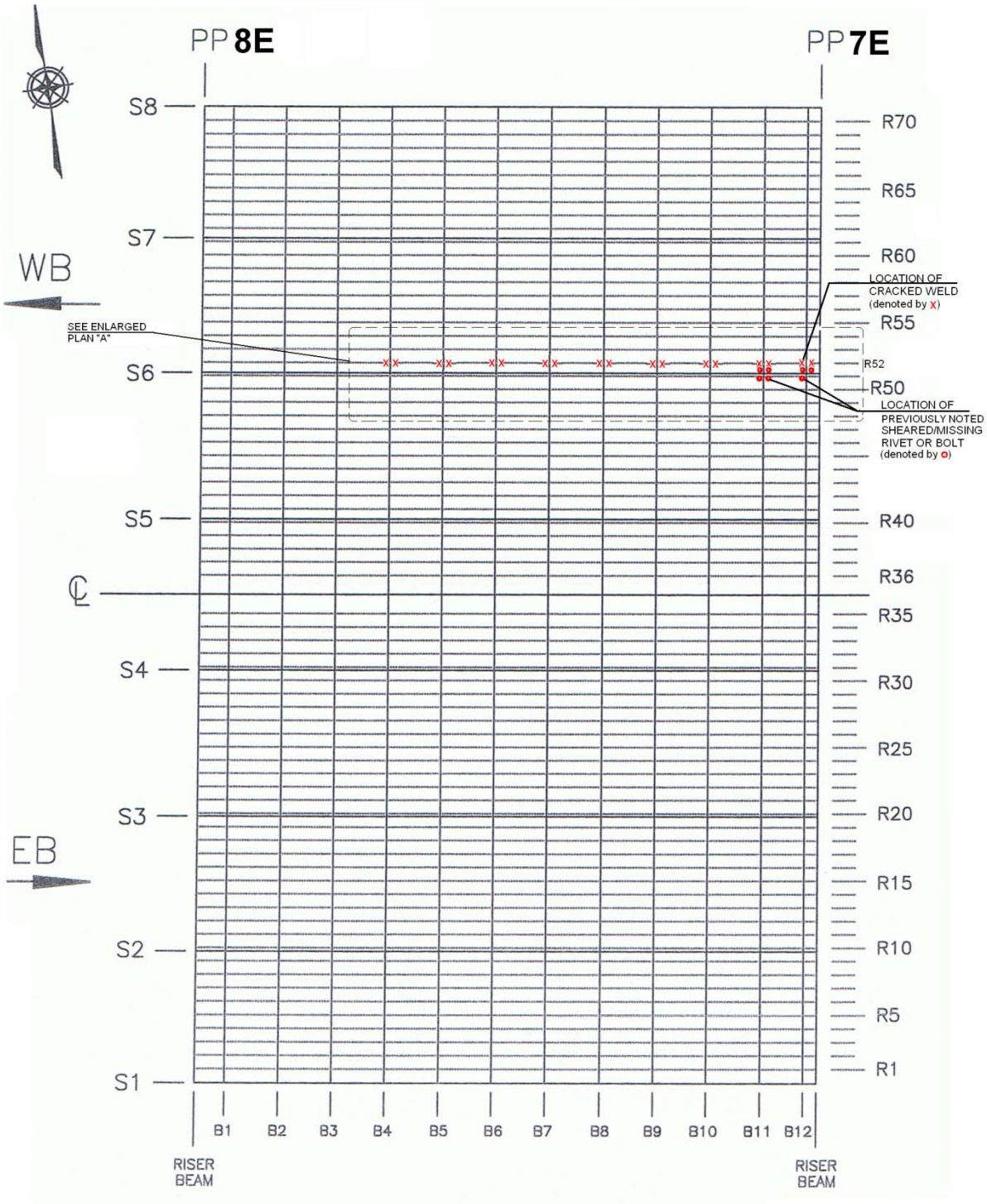
Photo No.

Location:

Description:

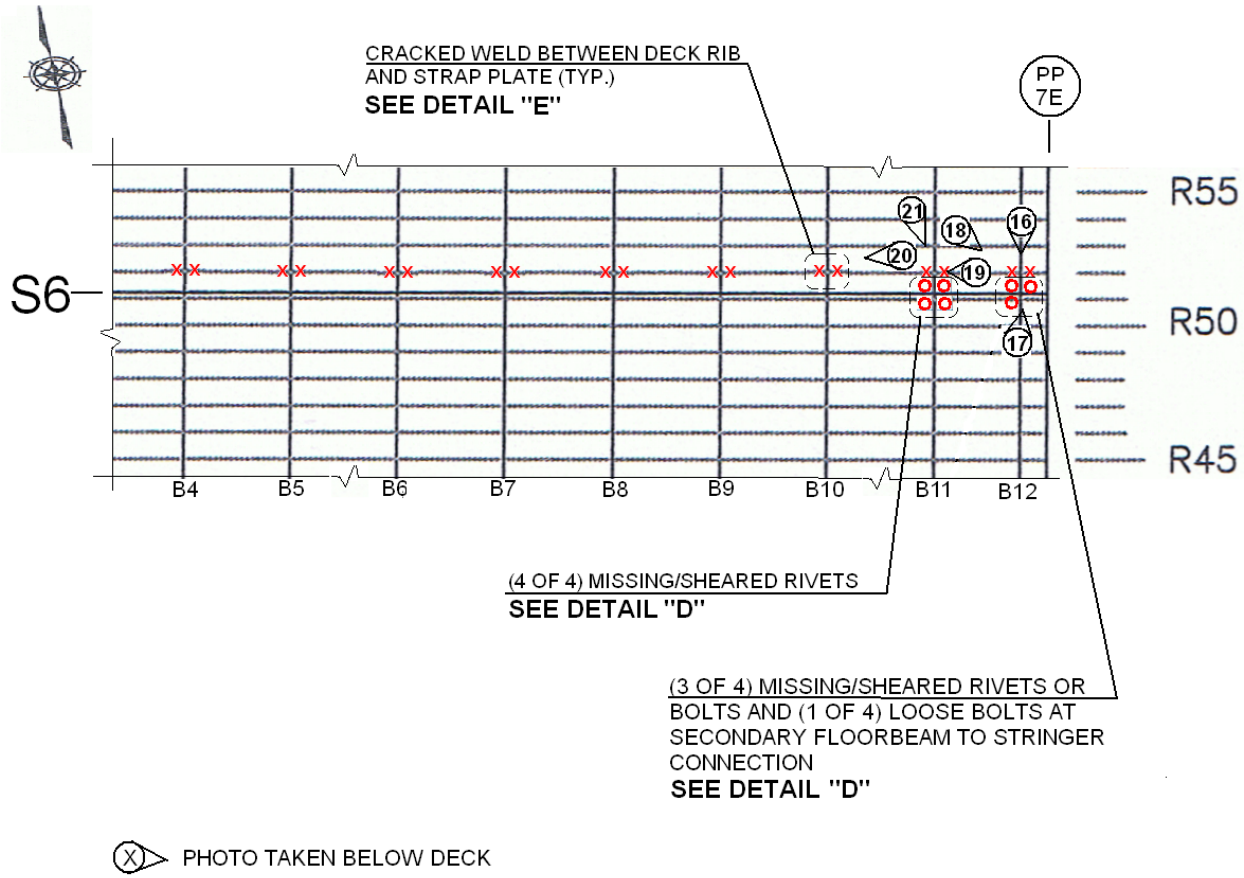
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOOSE SECONDARY FLOORBEAM TO STRINGER CONNECTION



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOOSE SECONDARY FLOORBEAM TO STRINGER CONNECTION

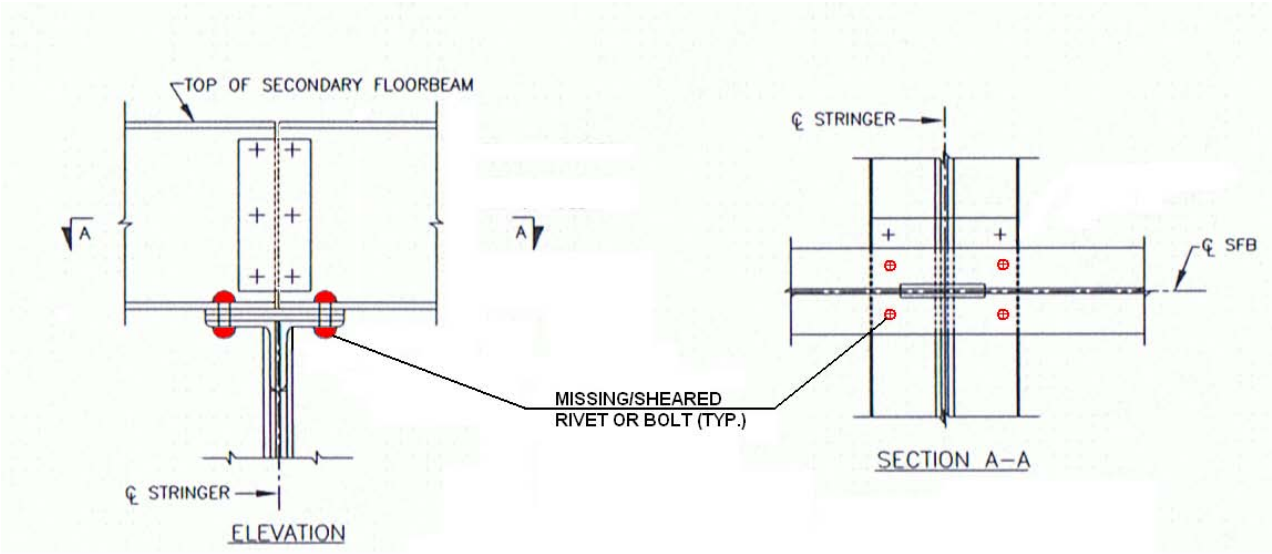


(X) PHOTO TAKEN BELOW DECK

ENLARGED PLAN "A"

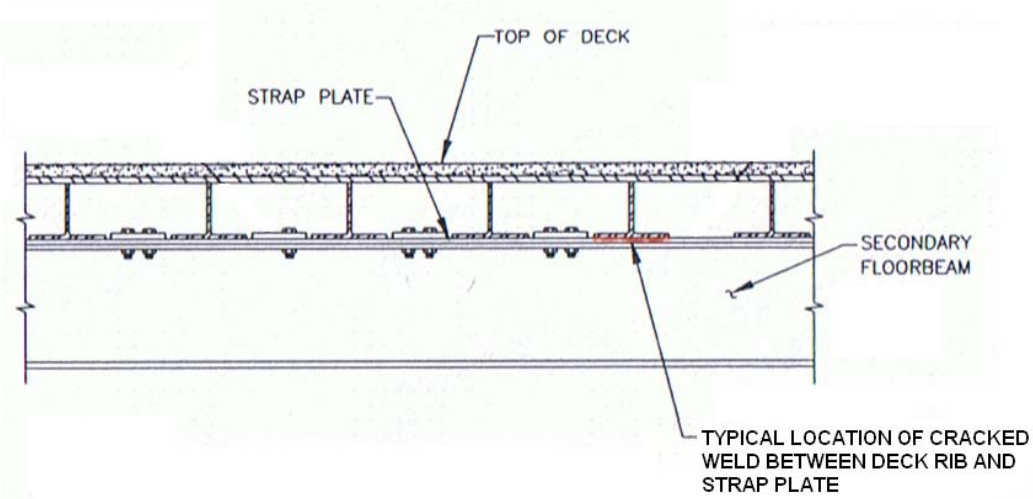
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOOSE SECONDARY FLOORBEAM TO STRINGER CONNECTION



DETAIL "D"

TYPICAL SECONDARY FLOORBEAM TO STRINGER CONNECTION



DETAIL "E"

TYPICAL SECTION THROUGH DECK AT SECONDARY FLOORBEAM

Photo No. 16

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: 2 of 4 sheared rivets/bolts (arrows) at secondary floorbeam to stringer connection, looking south (See Photo 17 below).

Photo No. 17

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 12 to Stringer 6 connection, south side.

Description: 1 of 4 sheared rivets/bolts and one loose bolt (arrow) at secondary floorbeam to stringer connection, looking northeast.

Photo No. 18

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 12 to Stringer 6 connection, west side.

Description: Secondary floorbeam bounces under live load and exhibits a 1/16" gap between the bottom flange and stringer top flange shim plates, looking southeast.

Photo No. 19

Location: Upper Level – Panel Point 7E-8E, Deck Rib 52 over Secondary Floorbeam 11, east side.

Description: Typical cracked weld between deck rib and secondary floorbeam strap plate, looking west.

Photo No. 20

Location: Upper Level–Panel Point 7E-8E, longitudinal Deck Rib R52 just north of Stringer 6.

Description: Deck Rib R52 exhibits cracked welds over Secondary Floorbeams SFB 4 through SFB 12, looking west from SFB 11.

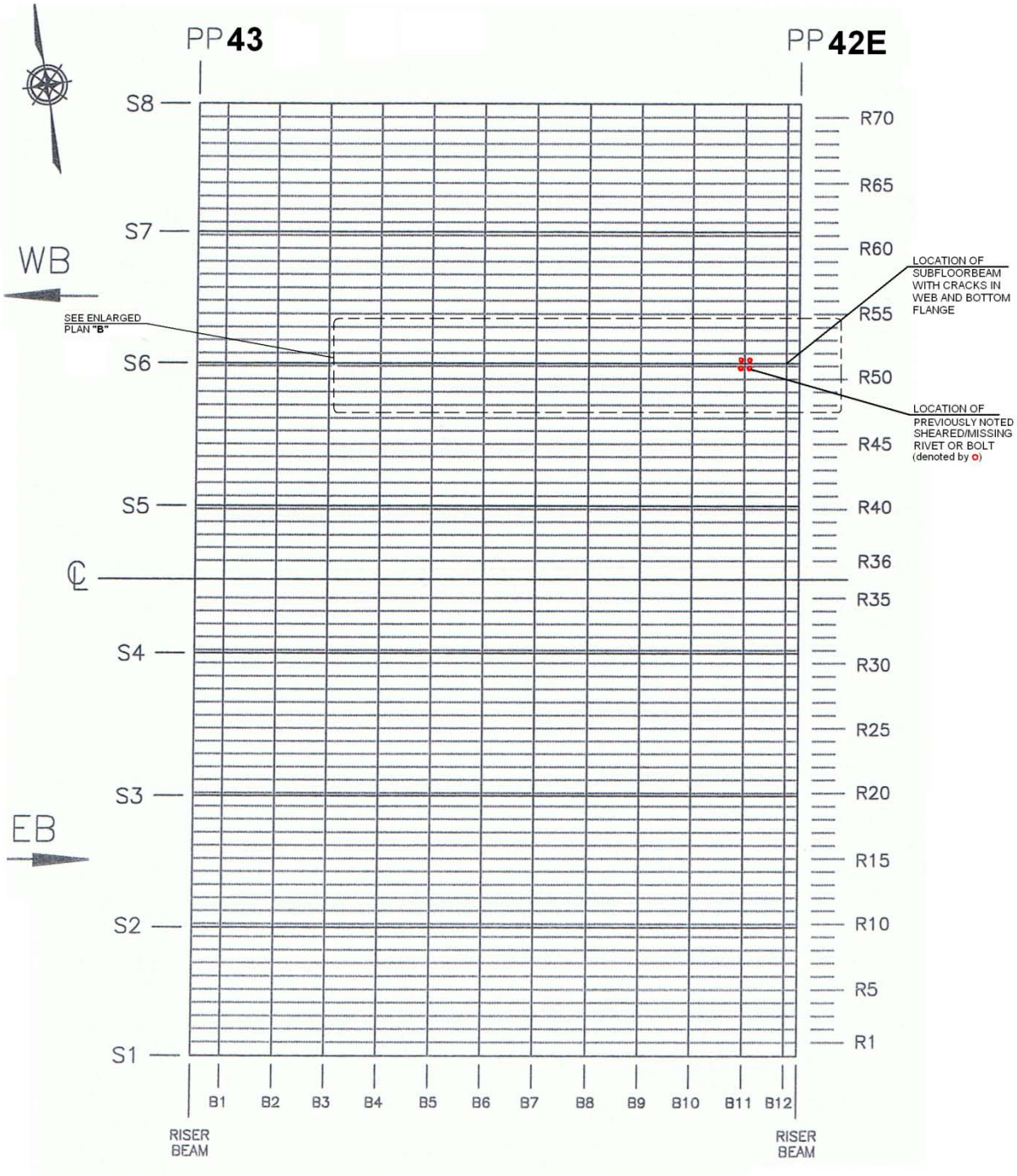
Photo No. 21

Location: Upper Level–Panel Point 7E-8E, Secondary Floorbeam 11 to Stringer 6 connection, west side.

Description: 2 of 4 total sheared rivets at secondary floorbeam to stringer connection, looking southeast. East side similar.

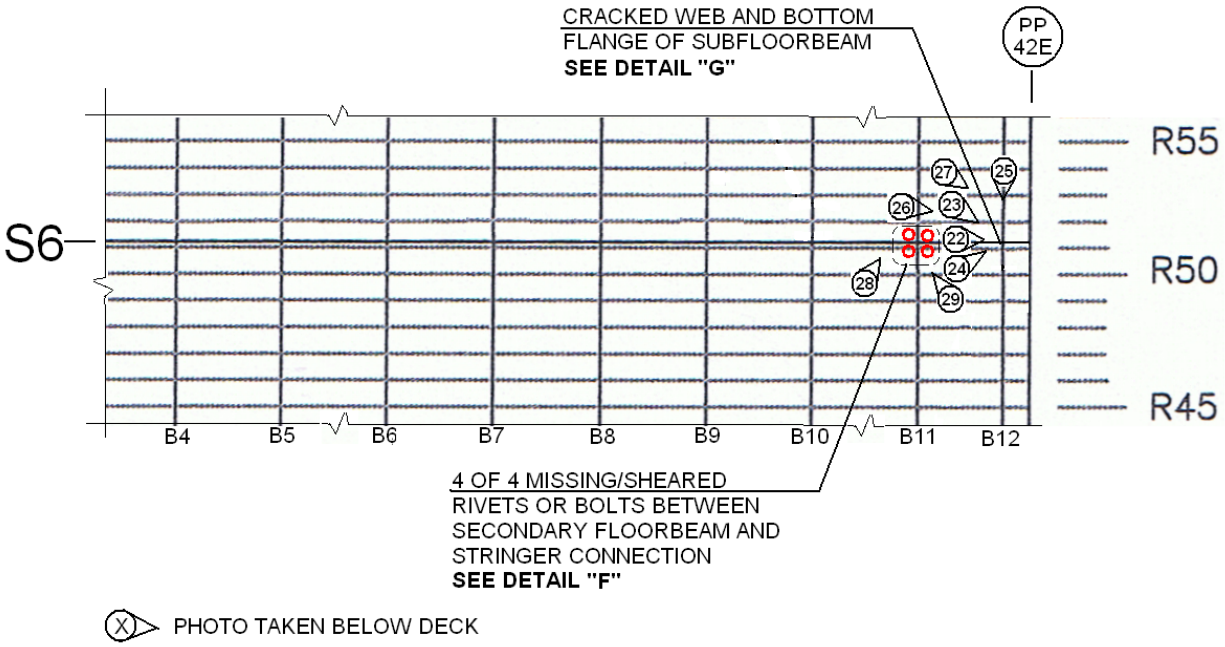
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12

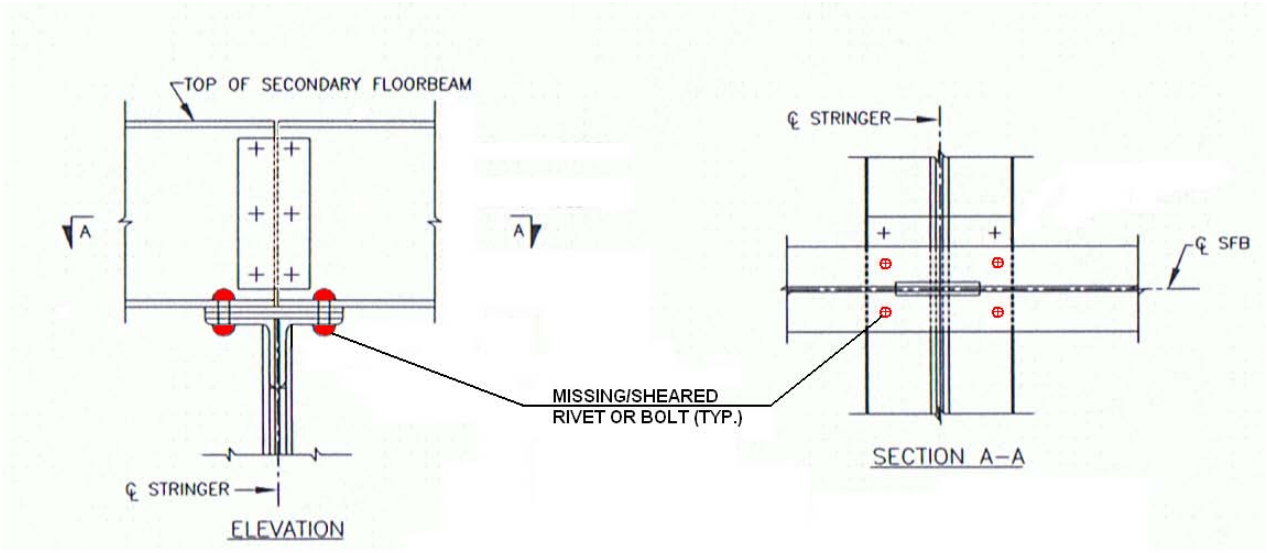


2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12



ENLARGED PLAN "B"

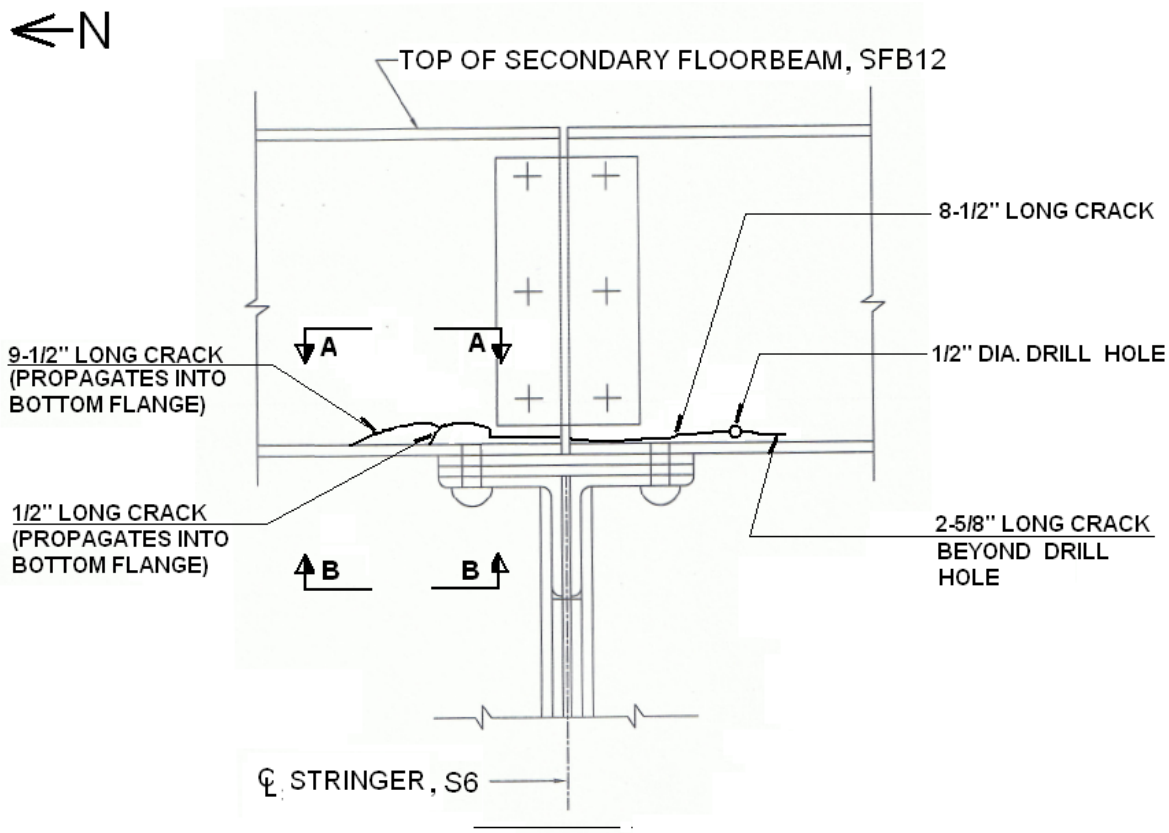


DETAIL "F"

TYPICAL SECONDARY FLOORBEAM TO STRINGER CONNECTION

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12



DETAIL "G"

ELEVATION - (PP 43-42E)

(Looking East)

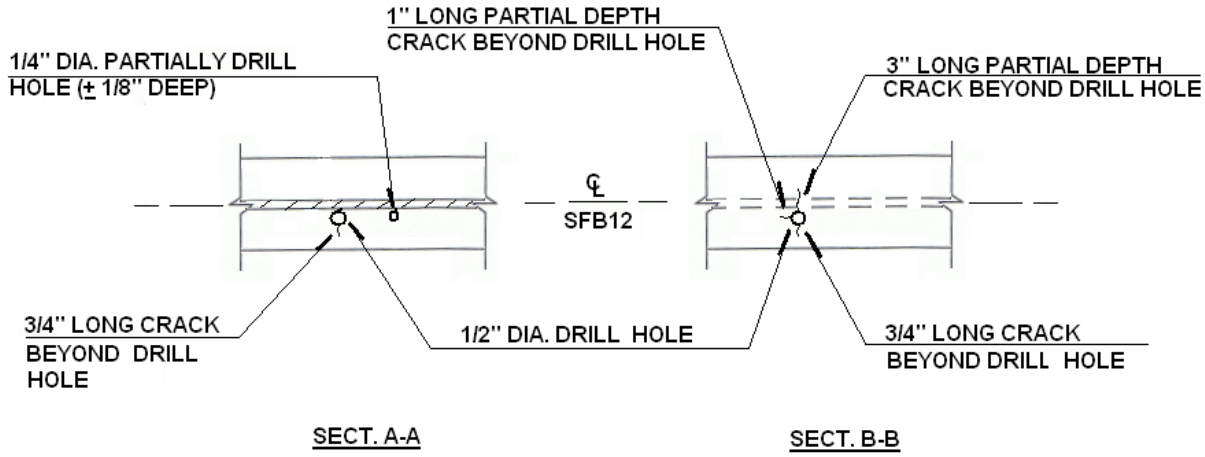


Photo No. 22

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection.

Description: Web of secondary floorbeam exhibits horizontal cracks along the base, looking east.

Photo No. 23

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Web of secondary floorbeam exhibits a 9-1/2" and 1/2" long cracks along the base of web extending into the bottom flange, looking southeast.

Photo No. 24

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, south side.

Description: Web of secondary floorbeam exhibits an 8-1/2" long horizontal crack along the base with a previous 1/2" diameter drill hole. A new 2-5/8" long horizontal crack has propagated beyond the drill hole, looking southeast.

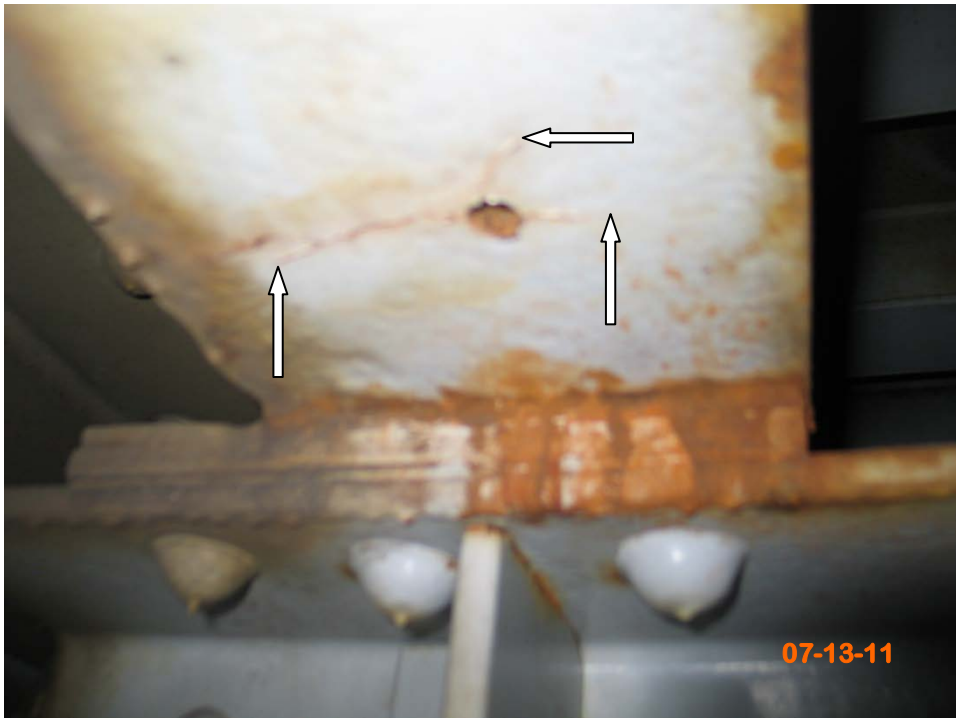


Photo No. 25

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Bottom flange of secondary floorbeam exhibits a 1/2" diameter drill hole with three new cracks propagating from the drill hole, looking up and south.

Photo No. 26

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Web of secondary floorbeam exhibits horizontal cracks along the base extending into the bottom flange, looking east. One new crack extends beyond the ½" diameter drill hole. (Subject area was prepared for dye penetrant test).

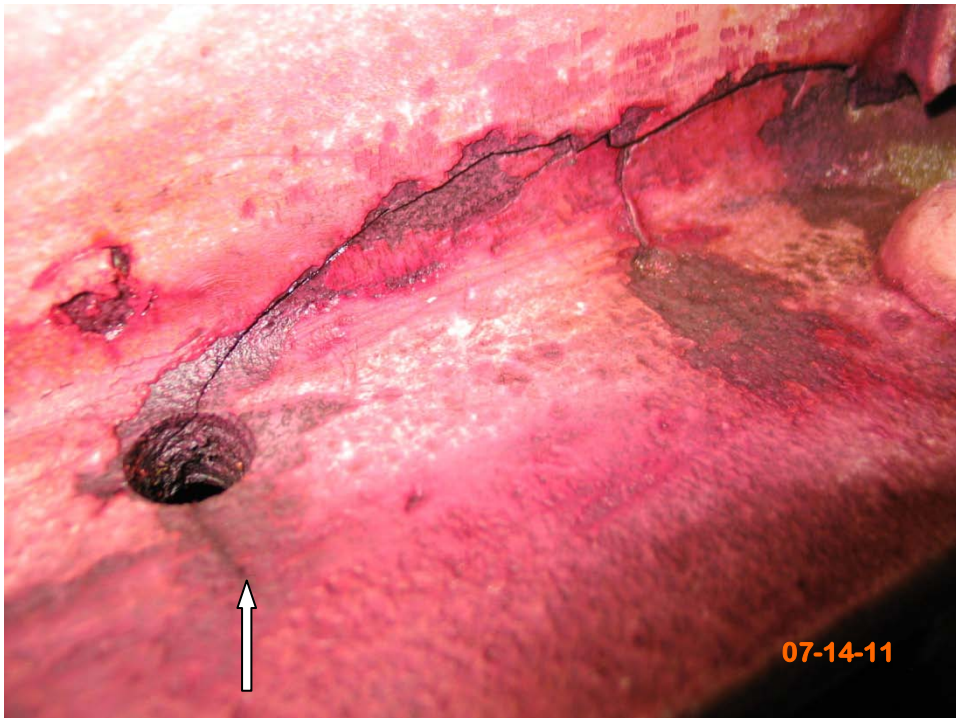


Photo No.27

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 12 to Stringer 6 connection, north side, looking southeast.

Description: Dye penetrant test revealed ¾" long crack in the bottom flange propagating from the 1/2" diameter drill hole and no additional crack propagation beyond the ¼" diameter drill hole.

Photo No. 28

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 11 to Stringer 6 connection, west side.

Description: 2 of 4 total sheared rivets/bolts (arrows) at secondary floorbeam to stringer connection, looking northeast. (Similar condition at east side, see Photo 13 below).

Photo No.29

Location: Upper Level – Panel Point 43-42E, Secondary Floorbeam 11 to Stringer 6 connection, east side.

Description: 2 of 4 total sheared rivets/bolts (arrows) at secondary floorbeam to stringer connection, looking northwest. The secondary floorbeam bounces noticeably during truck loads.

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HNTB

August 1, 2011

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3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)
Immediate Action – Cracked Web of Riser Beam at PP30E, PP29E & PP25E

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the riser beam (deck chair) which typically supports and maintains the proper elevation of the orthotropic deck. Consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R33 through R38 from south over the main floorbeam at Panel Point 30E below lane 1 of the westbound upper level roadway and lane 2 of the eastbound roadway, below orthotropic deck ribs R36 through R39 from south over the main floorbeam at Panel Point 29E below lane 1 of the westbound upper level roadway, and below orthotropic deck ribs R31 through R35 from south over the main floorbeam at Panel Point 25E below lane 2 of the eastbound upper level roadway (See attached sketches on pages 3-5, 10-12 & 16-18 and photographs 1 through 19).

The cracked riser beam web plates at PP30E, PP29E & PP25E are located between Stringers 4 & 5 from south adjacent to the median barrier location and are cracked fully through for their entire length. The deck riser beam was slightly bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within the westbound and eastbound lanes adjacent to the median exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

The cracked riser beam web plates between Stringers 4 & 5 at PP30E below deck ribs R33 through R38, at PP29E below deck ribs R36 through R39, and at PP25E below deck ribs R31 through R35 should be repaired as an immediate action (Repair plans are currently underway as requested).

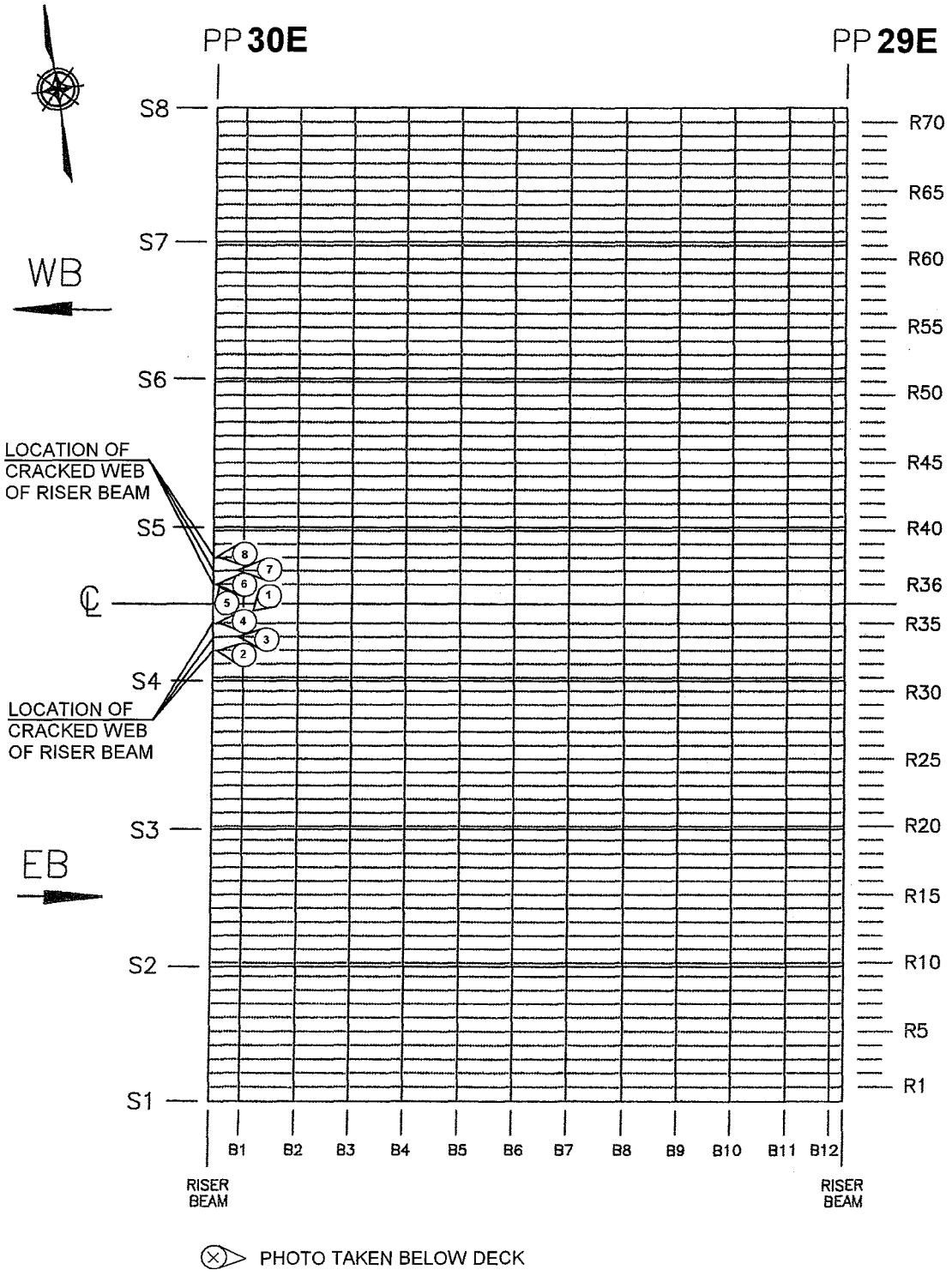
If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

Sincerely,

Matthew J. Nash, PE
Project Manager

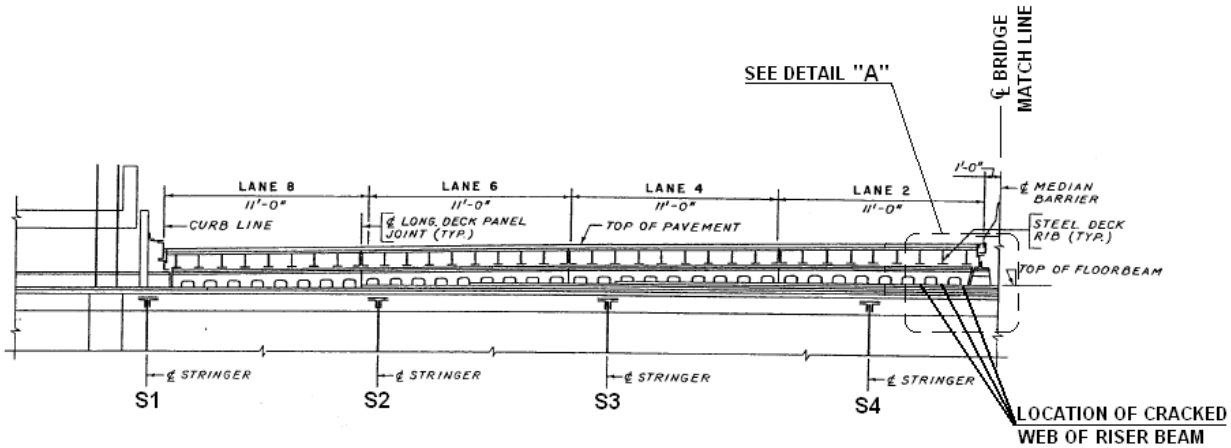
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

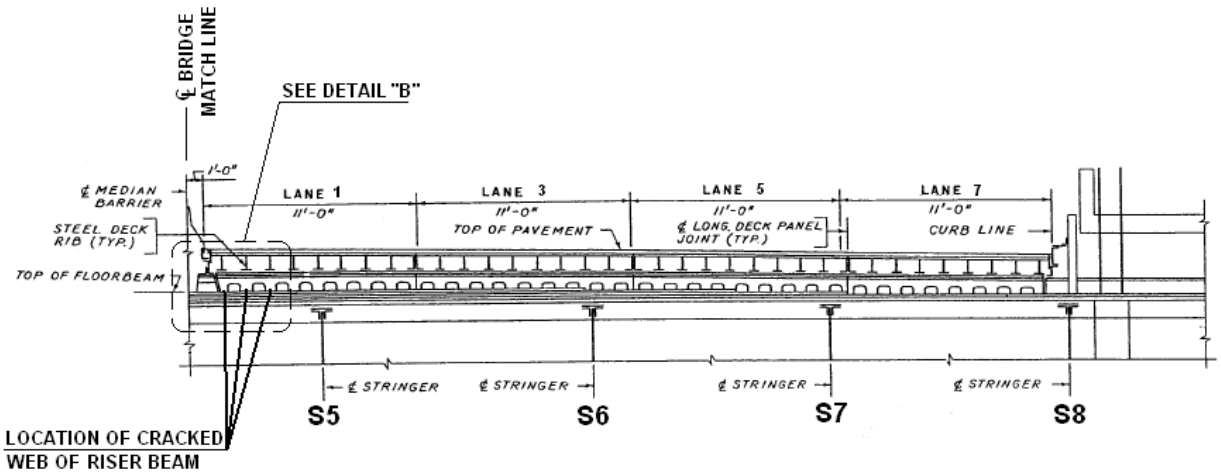
DETAIL SECTIONS FOR CRACKED WEB OF RISER BEAM



ELEVATION

FLOORBEAM AT PANEL POINT 30E - EASTBOUND ROADWAY

(LOOKING WEST)



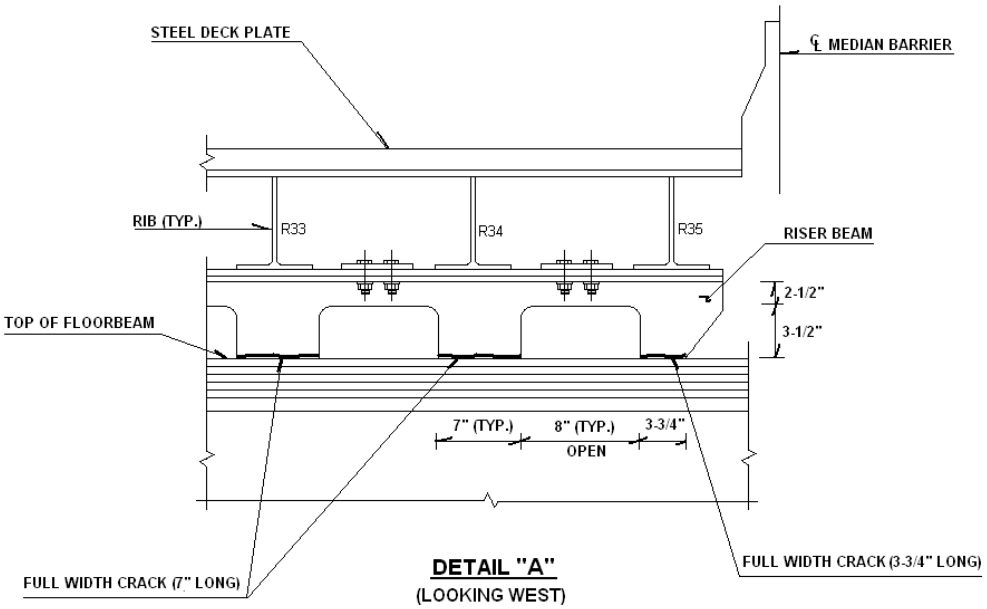
ELEVATION

FLOORBEAM AT PANEL POINT 30E - WESTBOUND ROADWAY

(LOOKING WEST)

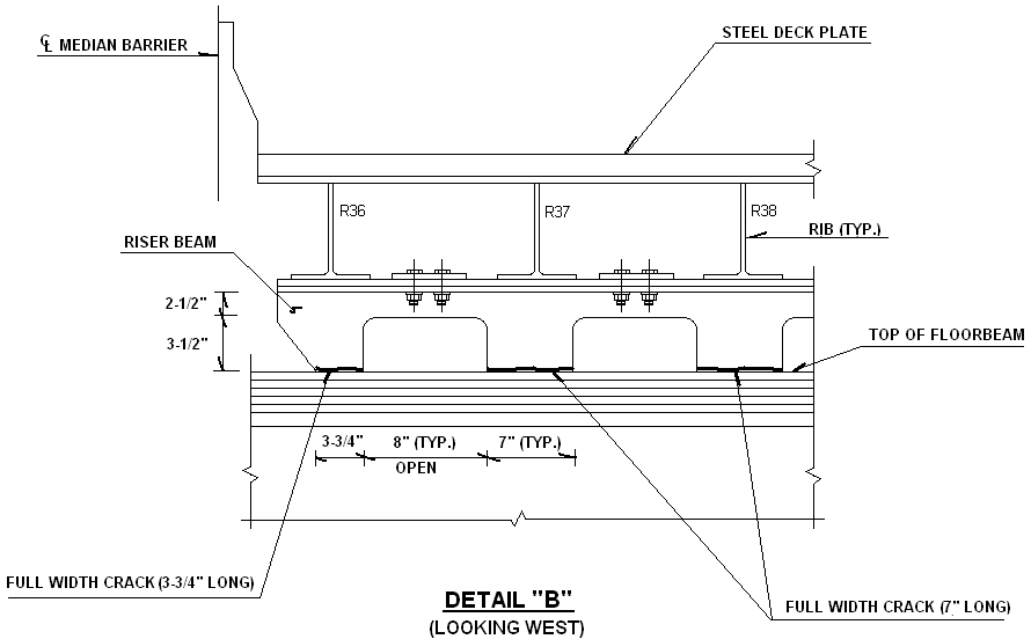
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTIONS FOR CRACKED WEB OF RISER BEAM



DETAIL "A"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 30E
BETWEEN STRINGERS 4 AND 5



DETAIL "B"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 30E
BETWEEN STRINGERS 4 AND 5

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 1

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Ribs R33 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 2

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 3

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 4

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

Photo No. 5

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Ribs R36 through R38.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northwest.

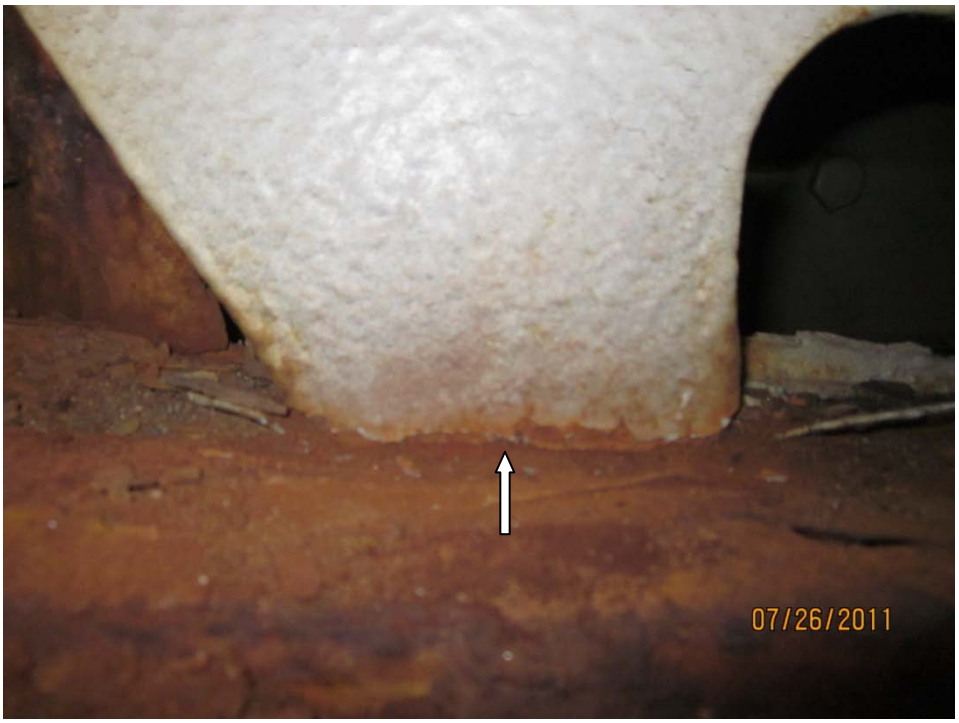


Photo No. 6

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Rib R36.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

Photo No. 7

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Rib R37.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

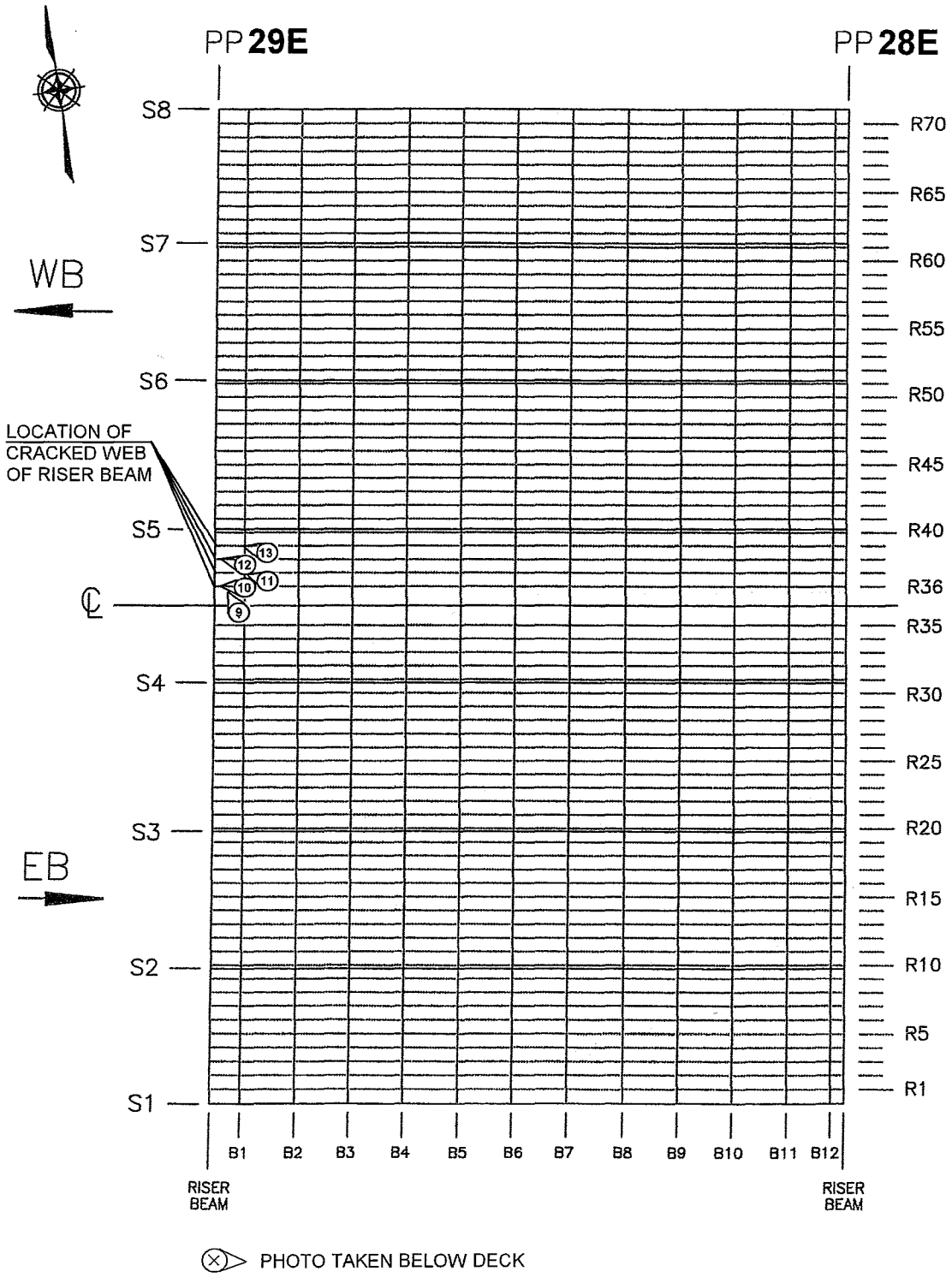
Photo No. 8

Location: Upper Level – Panel Point 30E between Stringers 4 and 5 below Deck Rib R38.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

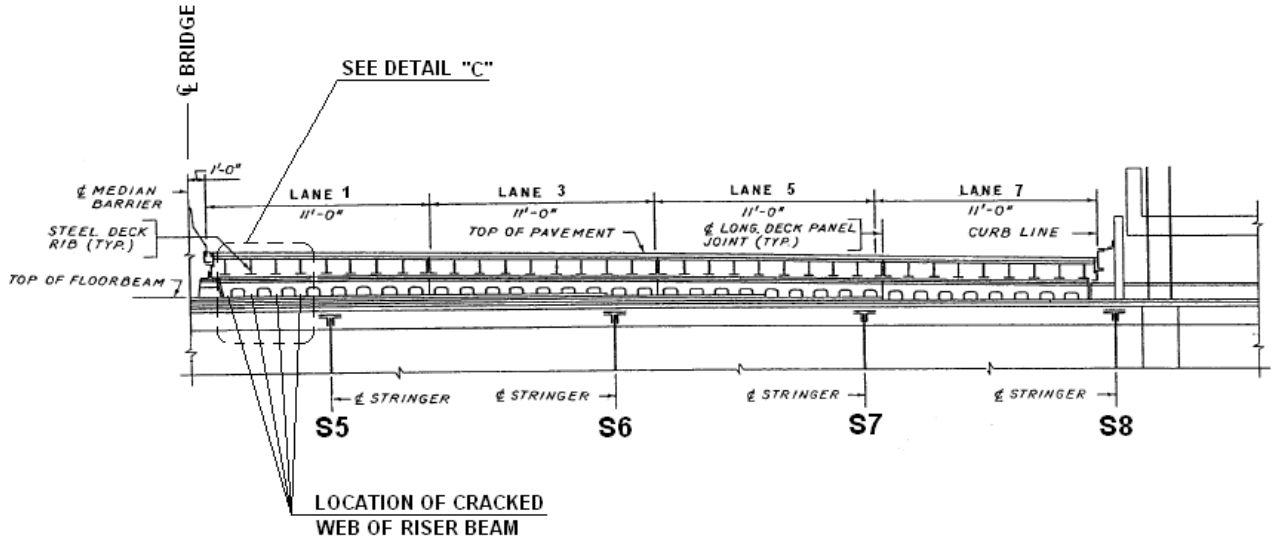
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



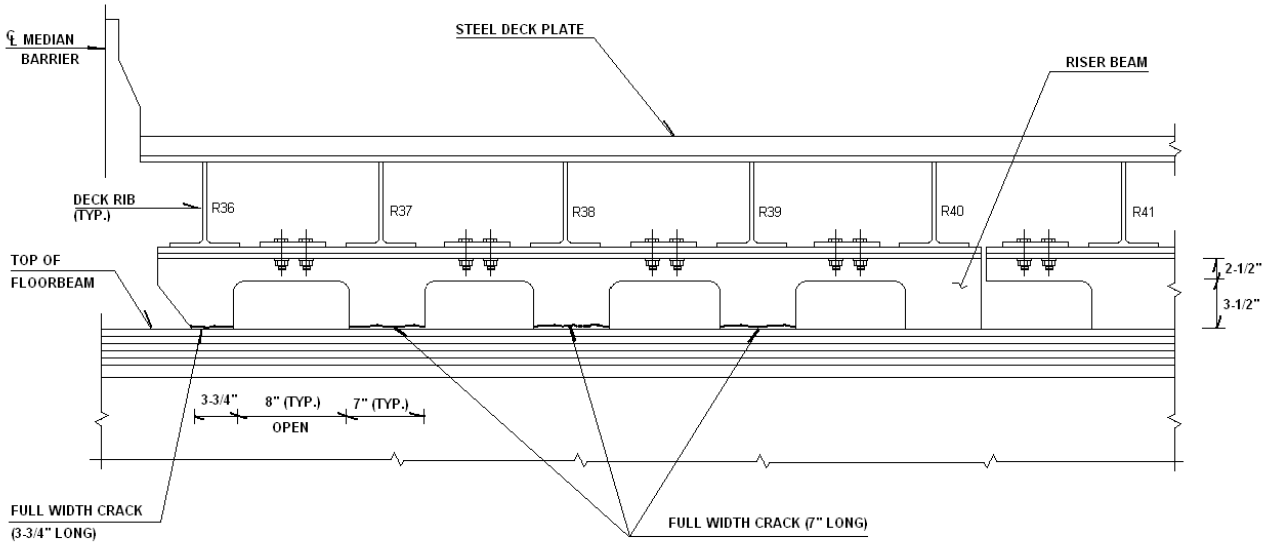
ELEVATION

FLOORBEAM AT PANEL POINT 29E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "C"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 29E
BETWEEN STRINGERS 4 AND 5

Photo No. 9

Location: Upper Level – Panel Point 29E between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northwest.

Photo No. 10

Location: Upper Level – Panel Point 29E between Stringers 4 and 5 below Deck Rib R36.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

Photo No. 11

Location: Upper Level – Panel Point 29E between Stringers 4 and 5 below Deck Rib R37.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking northwest.

Photo No. 12

Location: Upper Level – Panel Point 29E between Stringers 4 and 5 below Deck Rib R38.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking northwest.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 13

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R39.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking northwest.

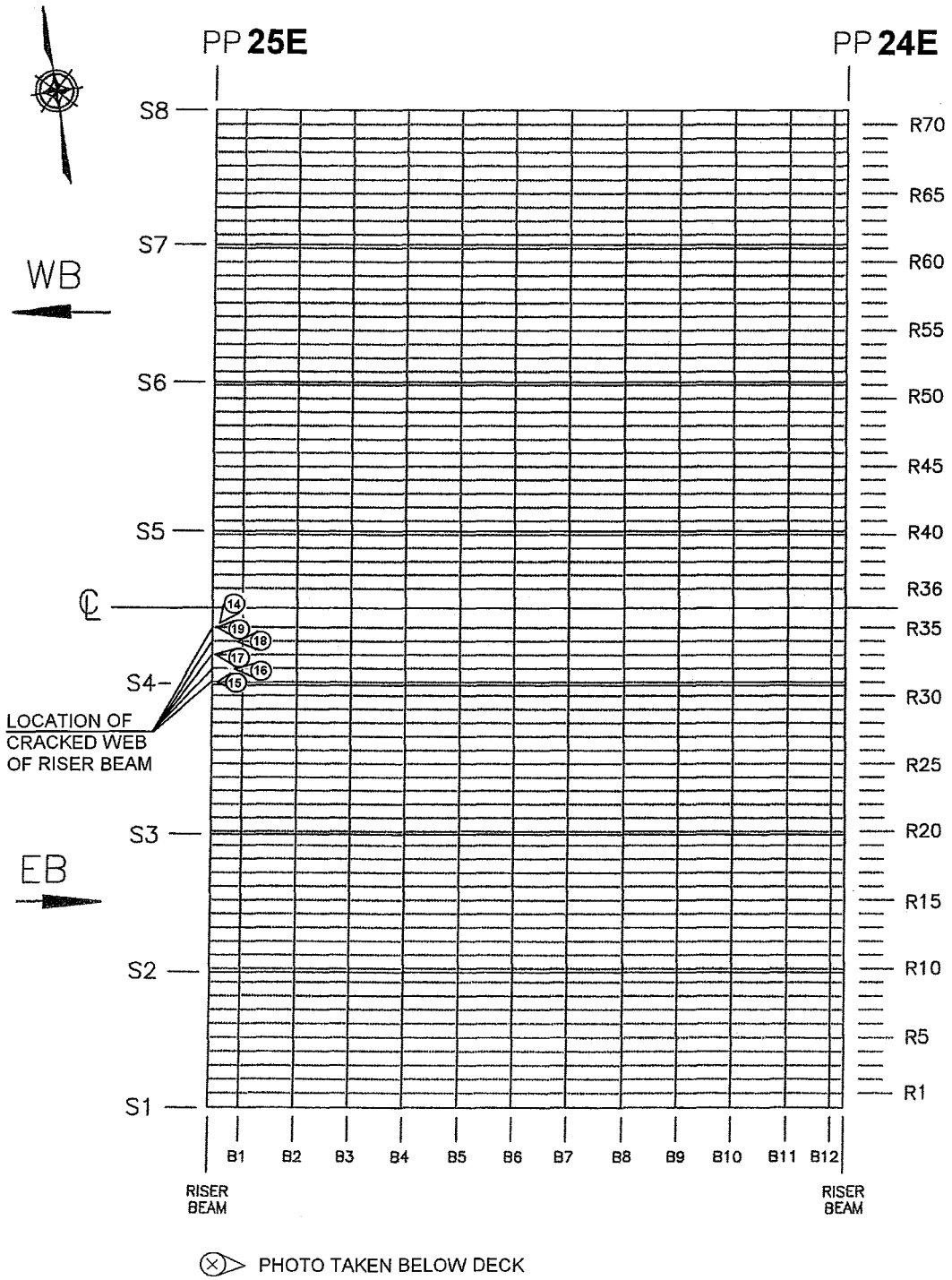
Photo No.

Location:

Description:

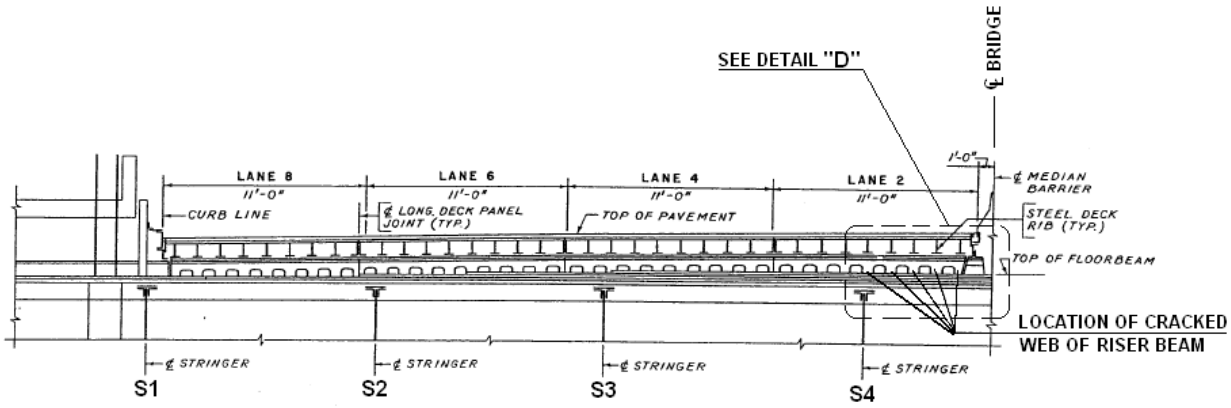
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



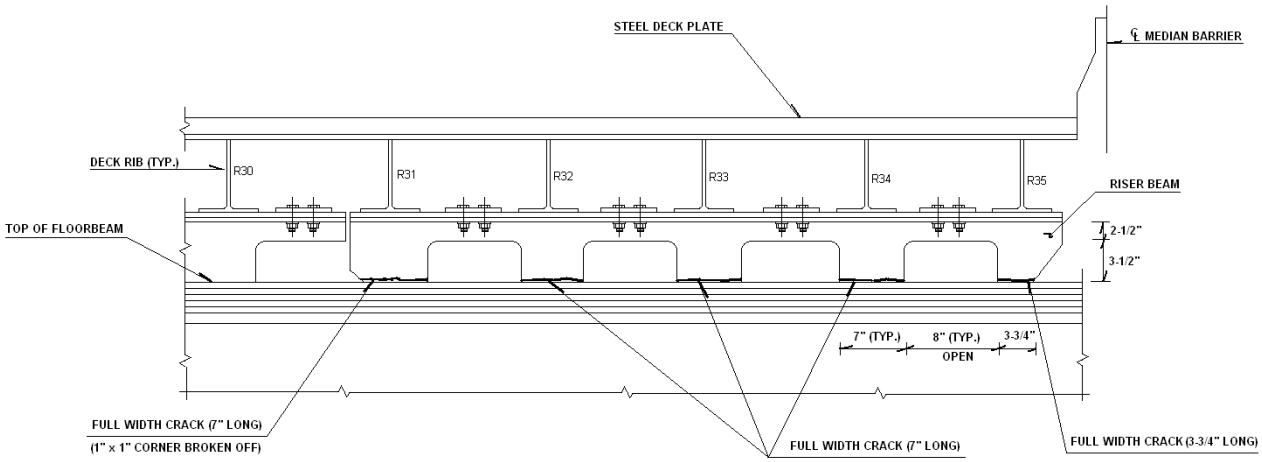
ELEVATION

FLOORBEAM AT PANEL POINT 25E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "D"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 25E
BETWEEN STRINGERS 4 AND 5

Photo No. 14

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Ribs R31 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

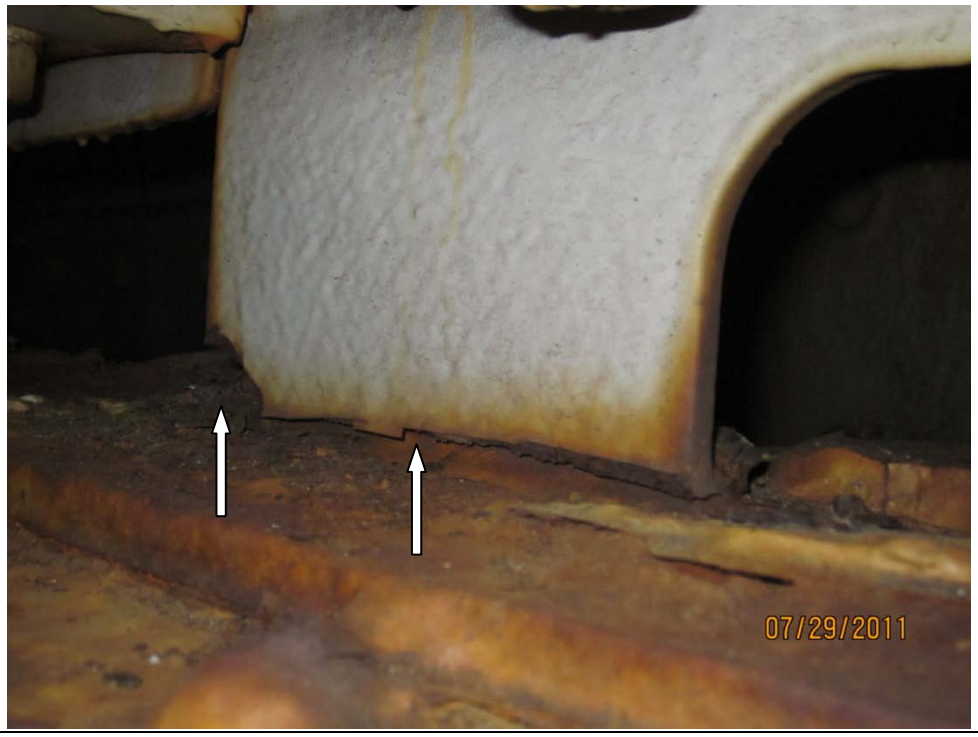


Photo No. 15

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R31.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long and a broken off corner (1" x 1"), looking southwest.

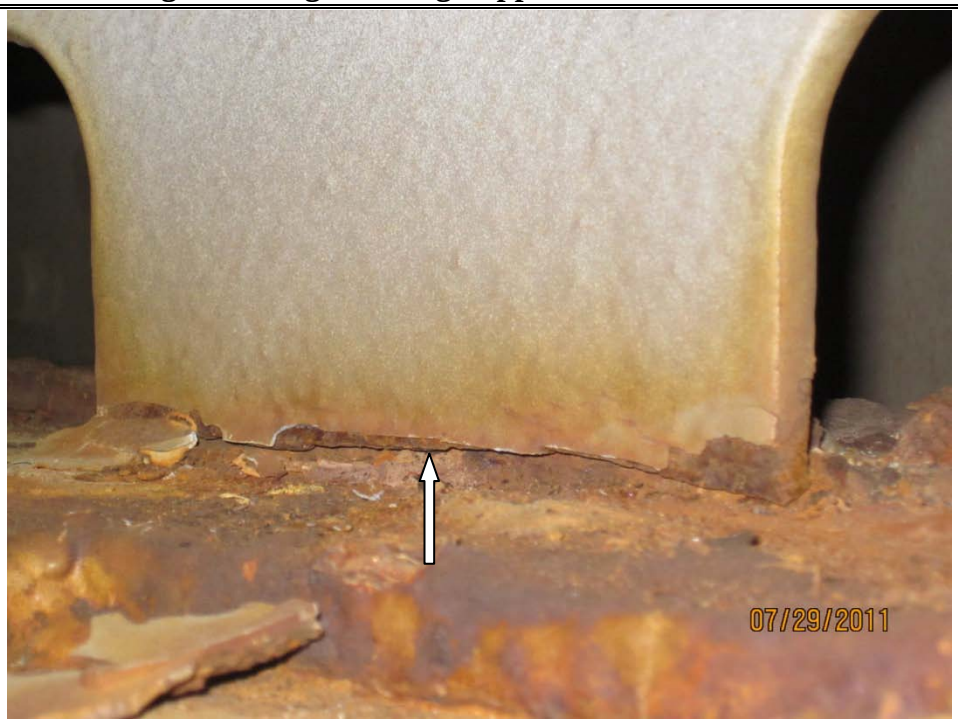


Photo No. 16

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R32.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 17

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R33.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 18

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R34.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 19

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

The HNTB Companies
Engineers Architects Planners

5 Penn Plaza
6th Floor
New York, NY 10001

Telephone (212) 594-9717
Facsimile (212) 947-4030
www.hntb.com

HNTB

August 5, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Orthotropic Deck Plate and Deck Rib R46 between PP38W & 39W, Stringers 5 & 6 and Secondary Floorbeams 2 & 3; Cracked Deck Rib R46 between PP38W & 39W, Stringers 5 & 6 and Secondary Floorbeams 3 & 4

Gentlemen:

During our biennial inspection of the Upper Level of the George Washington Bridge on August 4th and 5th, 2011, HNTB personnel found cracks in steel orthotropic Deck Ribs R45 and R46 and a cracked steel deck plate above Deck Rib 46 between Panel Points 38W & 39W below the left wheel path of lane 3 of the westbound upper level roadway.

The cracked orthotropic Deck Rib R46 is situated between Stringers 5 & 6 from south and between Secondary Floorbeams SFB2 & 3 from west and exhibits a cracked weld approximately 25 inches long extending along both sides of the connection to the steel deck plate. The crack along the welded connection has propagated into the steel deck plate approximately 2 to 5 inches long at three separate locations north and south of R46. In addition, R46 exhibits a "V" shaped crack in the web extending up to 5-1/2 inches high at the west end near Secondary Floorbeam 2, and a vertical crack extending approximately 3-1/2 inches high at the east end of the cracked weld. The cracked deck rib and steel plate were noticeably bouncing during passage of large trucks (See attached sketches on pages 3, 4 & 5 and photographs 1 through 6).

The cracked orthotropic Deck Rib R45 is situated between Stringers 5 & 6 from south and between Secondary Floorbeams SFB4 & 5 from west and exhibits a cracked weld approximately 17-1/2 inches long extending along both sides of the connection to the steel deck plate. The east end of the crack along the welded connection has propagated downward into the web approximately 7 inches long. The cracked deck rib and steel plate were noticeably bouncing

during passage of large trucks (See attached sketches on pages 9 & 10 and photographs 7 through 10).

The inspection of the top of deck wearing surface above the cracked deck rib locations between PP38W & 39W revealed a large (previously patched) area of deteriorated and uneven asphalt approximately 6 feet wide by 20 feet long within westbound lane 3 adjacent to PP 38W. The top of the steel deck plate is exposed approximately 3 feet wide by 2 feet long due to asphalt shoving within westbound lane 3 and a localized area of uneven asphalt was evident due to asphalt upheaval near the deck joint at PP38W. (See attached sketch on page 13 and photographs 11 through 14).

We recommend the following repairs be performed on an immediate basis:

1. Drill 1" diameter arrestor holes at the ends of the cracks in the steel deck plate above Deck Rib R46 and at the ends of the web cracks in Deck Ribs R45 & R46 between PP38W &39W, Stringers 5 & 6 and Secondary Floorbeams 2 & 3 and 4 & 5, respectively.

2. Install temporary steel plates approximately (7' x 2'-6" x 5/8") and (7' x 3' x 5/8") over the deteriorated deck Ribs R45 & R46 between PP38W &39W, Stringers 5 & 6 and Secondary Floorbeams 2 & 3 and 4 & 5, respectively. Repair drawings are currently being prepared.

The cracked Deck Ribs R45 and R46 will be recommended for repair on a priority basis and will be included with the Condition Survey Report.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

Sincerely,

Matthew J. Nash

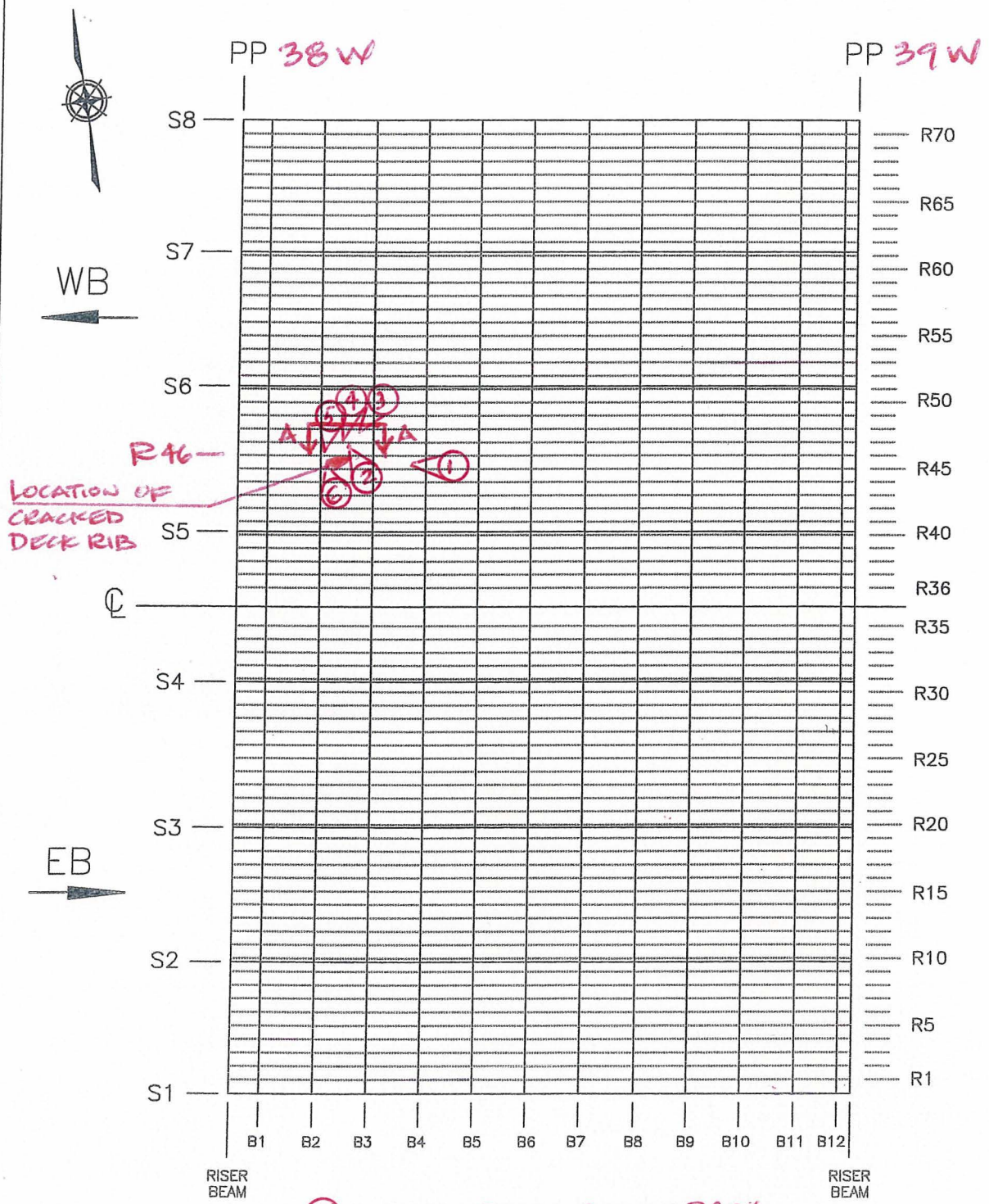
Matthew J. Nash, PE
Project Manager

2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508

JB DATE: 8/4/11



⊗ – PHOTO TAKEN BELOW DECK

LEGEND:

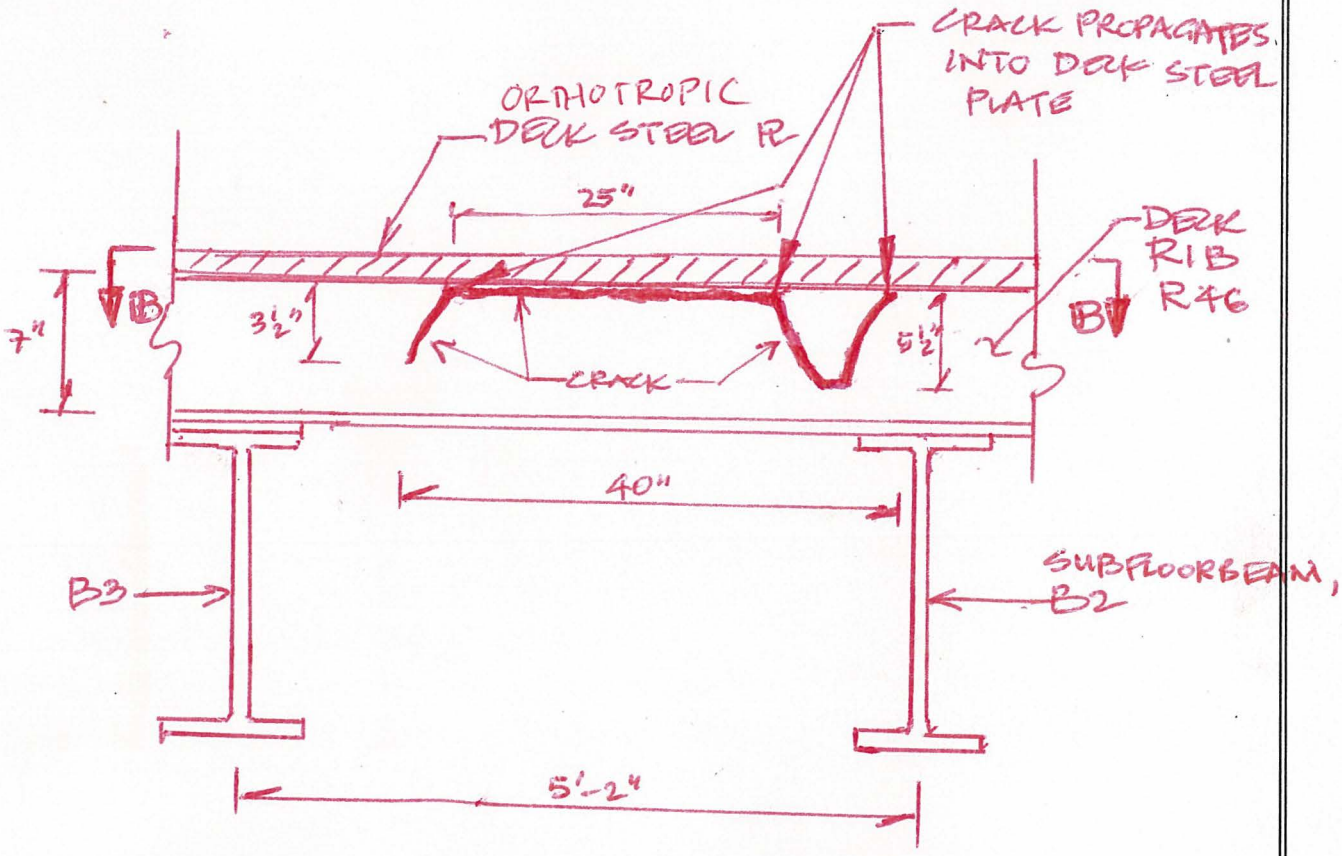
PP – PANEL POINT
S – STRINGER
B – SECONDARY FLOORBEAM
R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 8/4/11 JB Description: Job #: 47402

P.P. 38W-39W



SECTION A-A

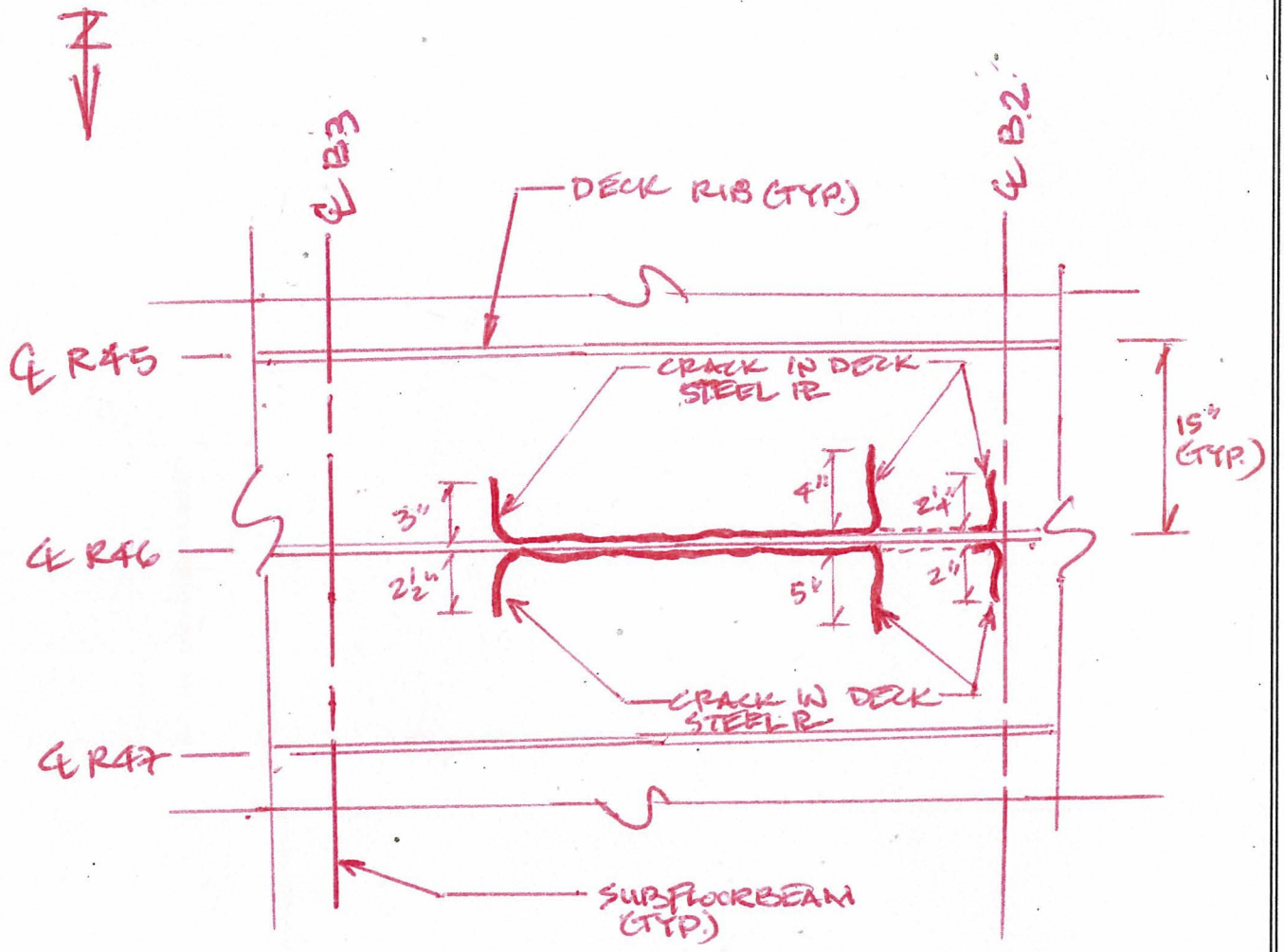
DECK RIB R46
BET. B2 & B3
(LOOKING SOUTH)

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 8/4/11 JTB Description: Job #: 47402

PP. 38W - 39W



SECT. B-B

LOOKING DOWN THRU DECK

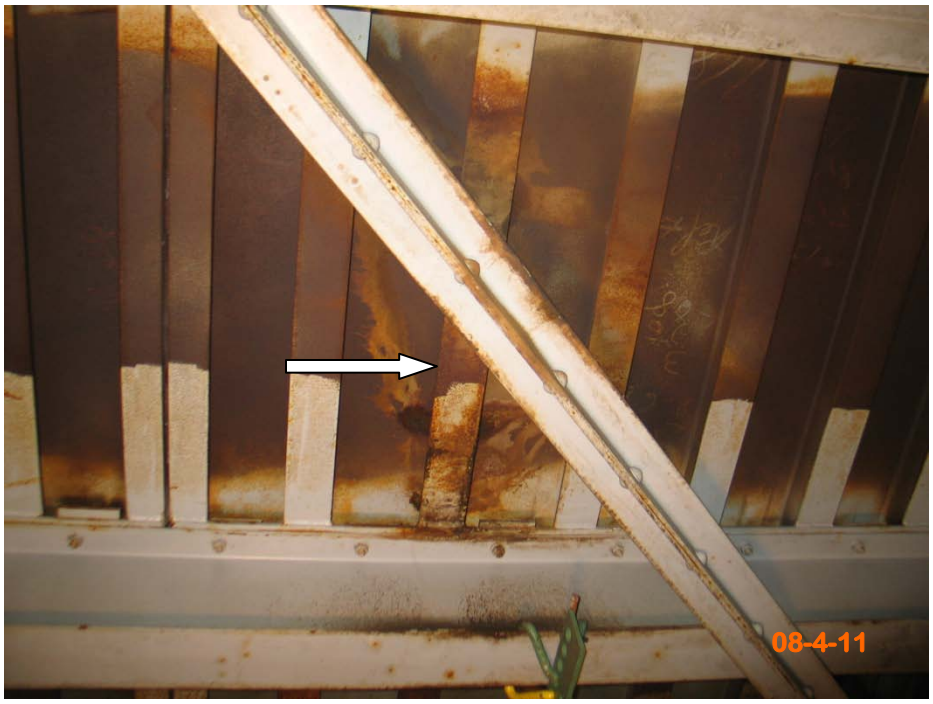


Photo No. 1

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB2 & SFB3 below Deck Ribs R44 through R49, looking up and west.

Description: General view of orthotropic Deck Rib R46 (arrow) looking toward SFB2.

Photo No. 2

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB2 & SFB3 along Deck Rib R46, looking up and northwest.

Description: Weld along Deck Rib 46 (south side) and steel deck plate exhibits a 25" long crack (arrow) extending into the steel deck plate at three separate locations (See Photos 4 through 6).

Photo No. 3

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB2 & SFB3 below Deck Rib R46, looking up and southwest.

Description: Weld along Deck Rib 46 (north side) and steel deck plate exhibits a 25" long crack (arrow) extending into the steel deck plate at three separate locations (See Photos 4 through 6).

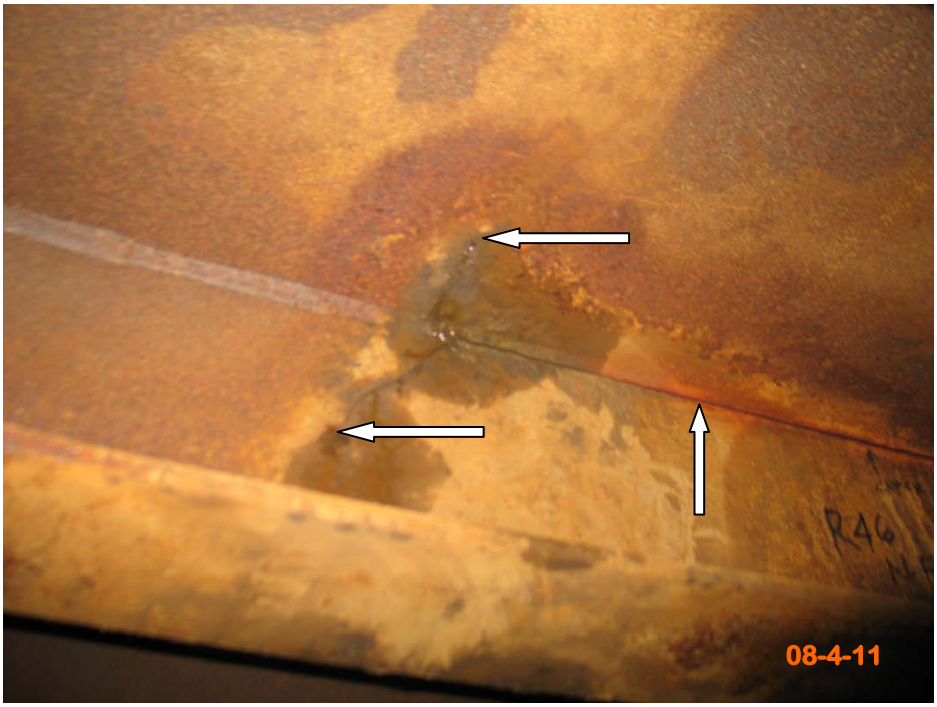


Photo No. 4

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB2 & SFB3 below Deck Rib R46, looking up and southwest.

Description: Deck Rib 46 exhibits a cracked weld along the deck plate extending into the web 3-1/2" high and steel deck plate 2-1/2" long at the east end of the cracked weld.

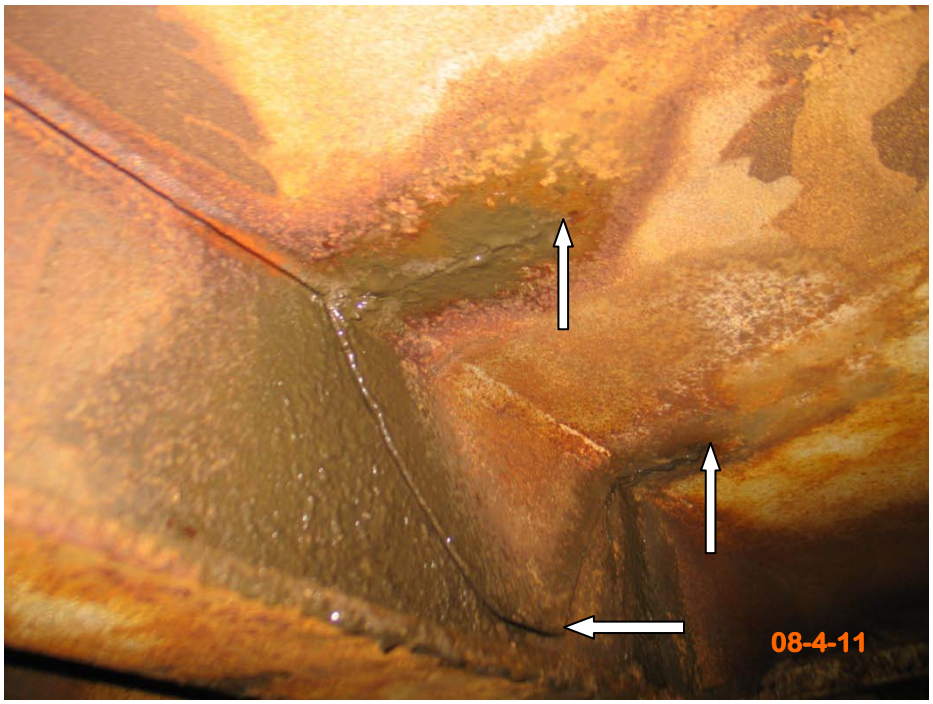


Photo No. 5

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB2 & SFB3 below Deck Rib R46, looking up and southwest.

Description: Deck Rib 46 exhibits a "V" shaped crack in the web 5-1/2" high and the steel deck plate is cracked in two locations 2" and 5" long at the west end near SFB2.

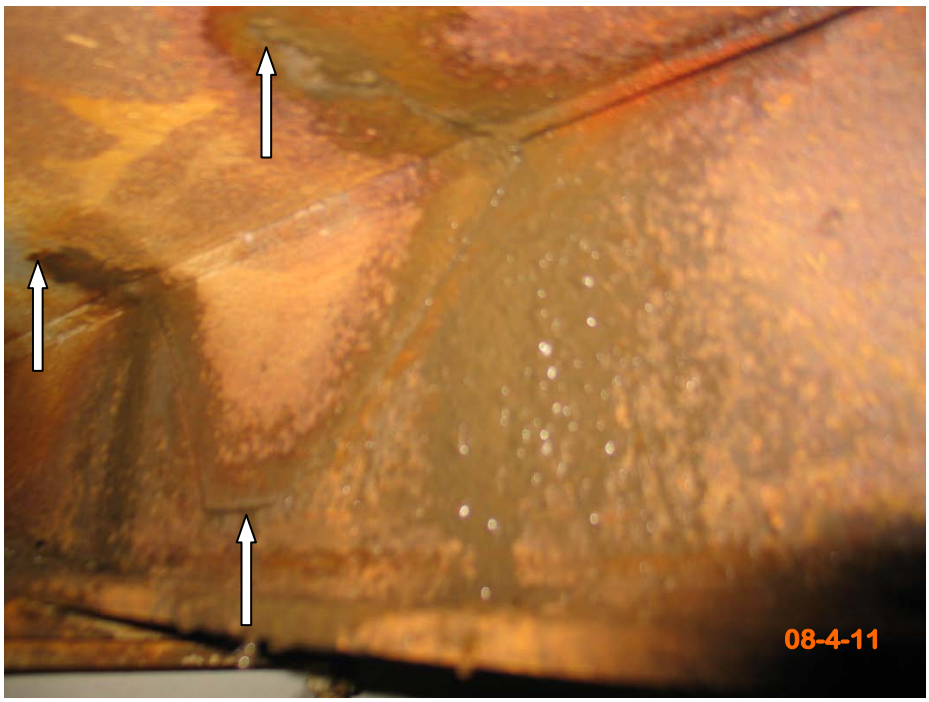


Photo No. 6

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB2 & SFB3 below Deck Rib R46, looking up and northwest.

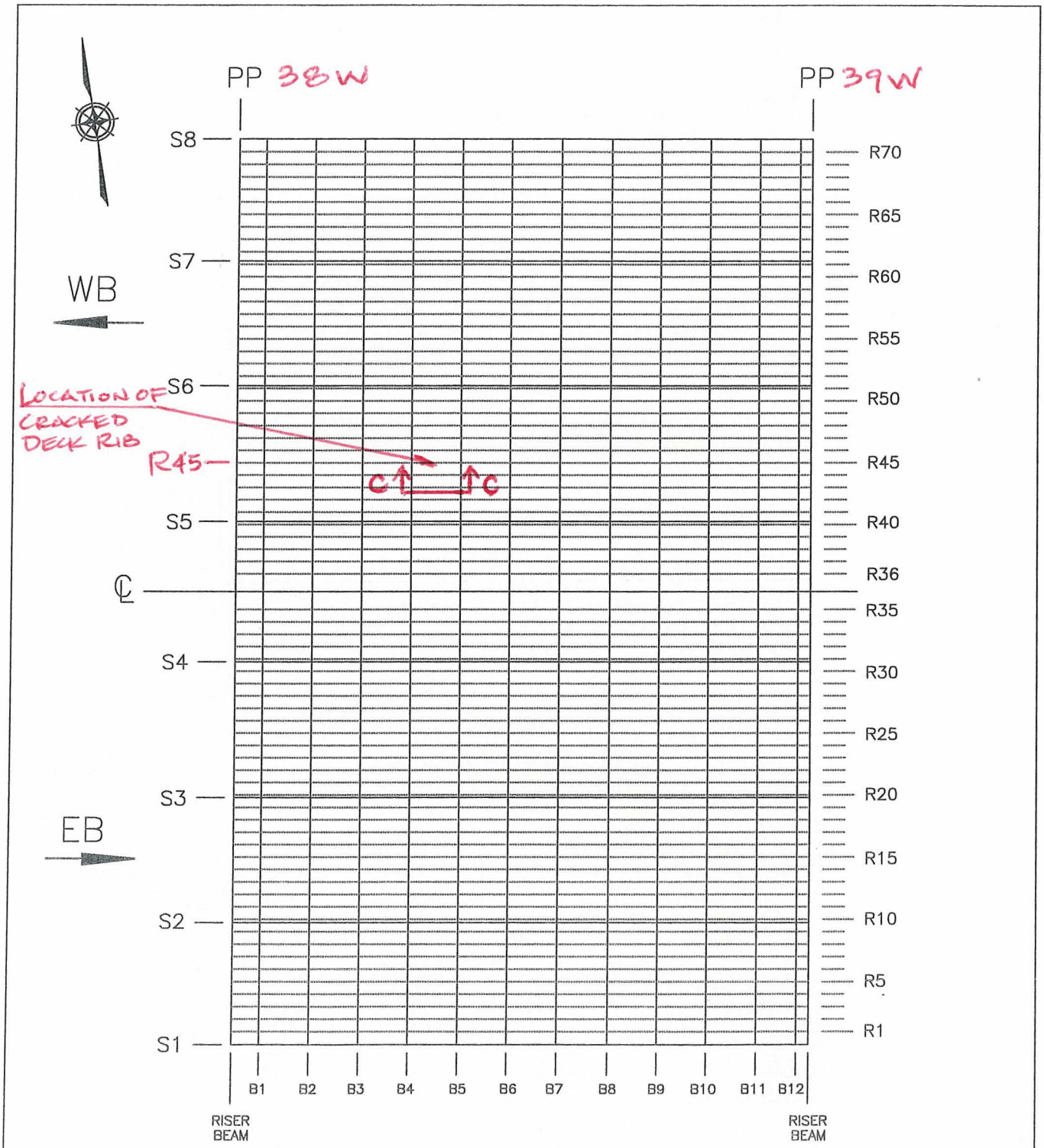
Description: Deck Rib 46 exhibits a "V" shaped crack in the web 5-1/2" high and the steel deck plate is cracked in two locations 2-1/2" and 4" long at the west end near SFB2.

2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508

JB DATE: 8-5-11



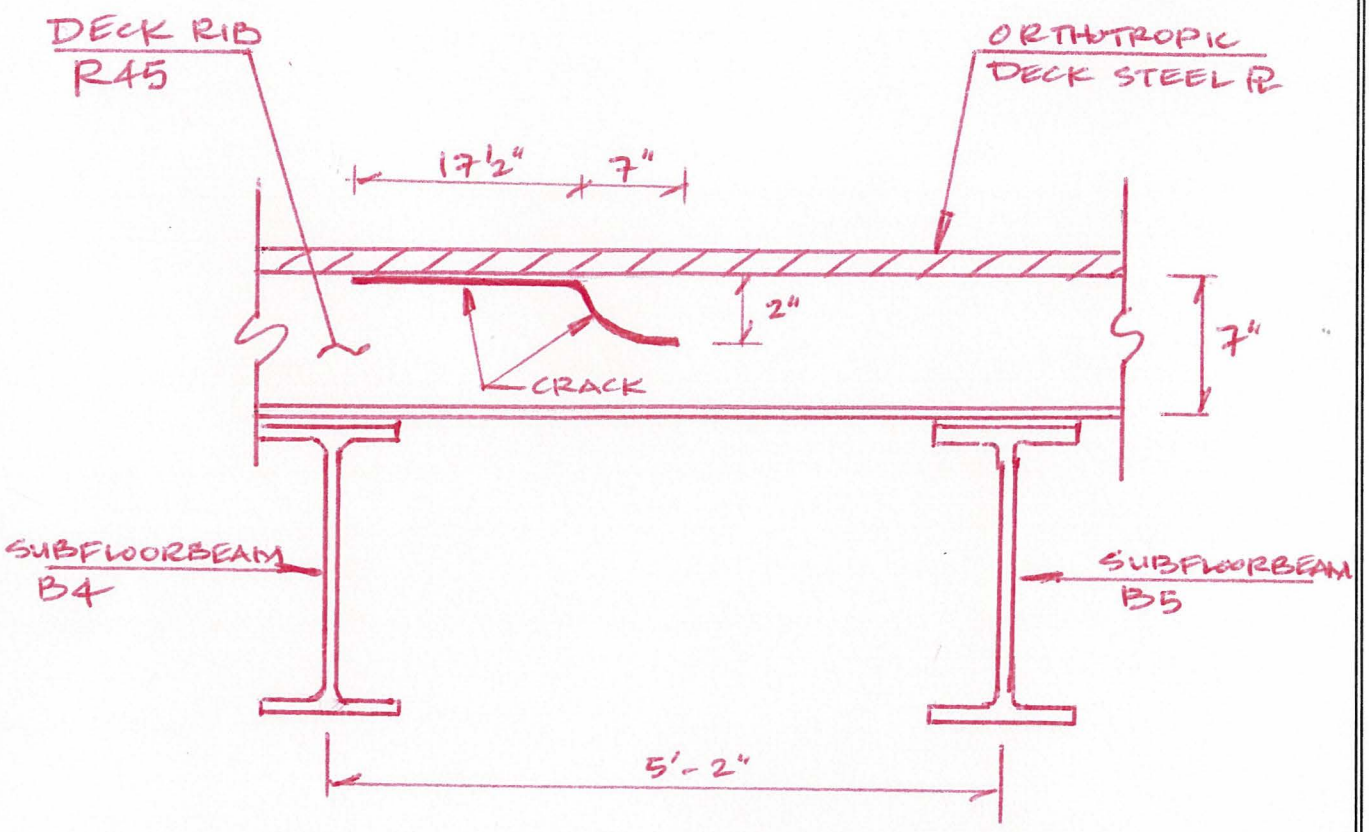
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 8-5-11 JB Description: Job #: 47402

P.P. 38W-39W



SECTION C-C

DECK RIB R45
BET. B4 & B5
(LOOKING NORTH)

Photo No. 7

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB4 & SFB5 below Deck Ribs R44 through R48, looking up and northwest.

Description: General view of orthotropic Deck Rib R45 (arrow) looking toward SFB4. Note longitudinal deck panel joint along Deck Rib 44.

Photo No. 8

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB4 & SFB5 along Deck Rib R46, looking up and northwest.

Description: Weld between Deck Rib 45 (south side) and steel deck plate exhibits a 17-1/2" long crack extending downward into the deck rib (arrow).

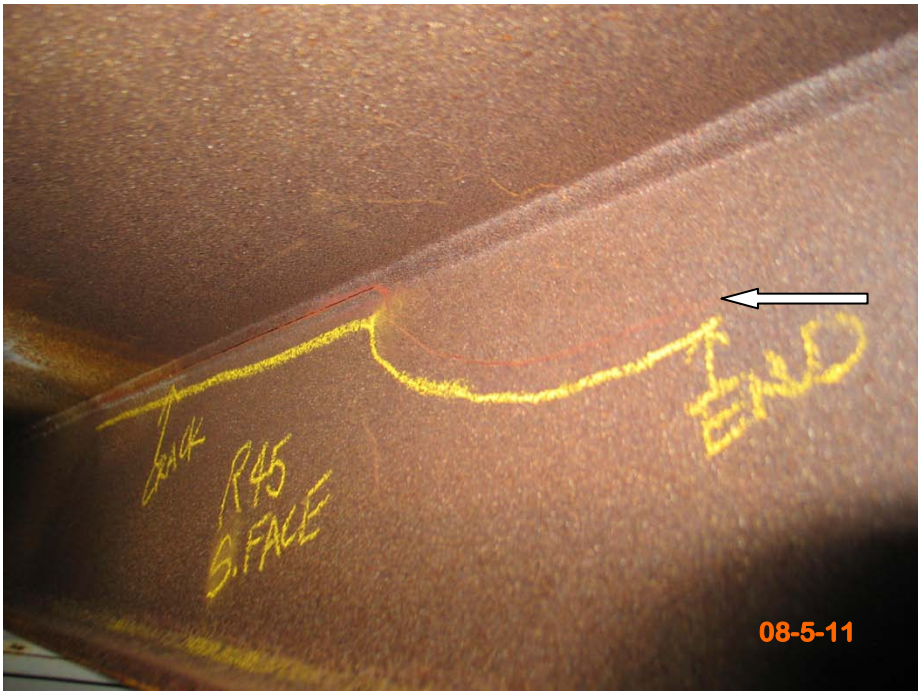


Photo No. 9

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB4 & SFB5 below Deck Rib R45, looking northwest.

Description: Deck Rib 45 (south side) exhibits a cracked weld along the deck plate extending downward into the web for a 7" length.

Photo No. 10

Location: Upper Level – Panel Point 38W-39W between Stringers 5 & 6 and Secondary Floorbeams SFB4 & SFB5 below Deck Rib R45, looking up and southwest.

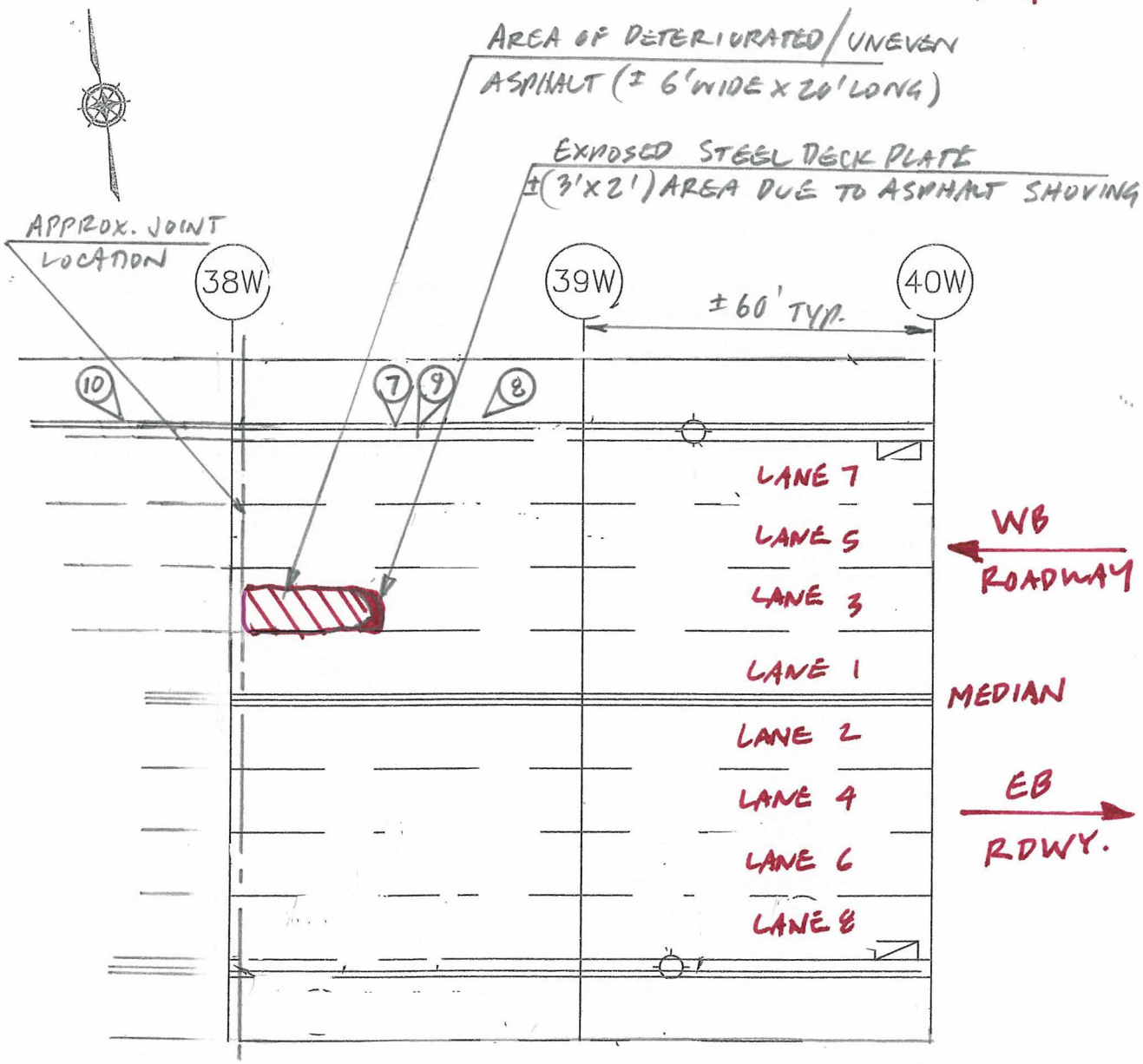
Description: Deck Rib 45 (north side) exhibits a cracked weld along the deck plate extending downward into the web for a 7" length.

MAIN SPAN
TOP OF DECK
UPPER LEVEL
PANEL 38W TO 40W

BIN 5522508

DATE: 8/4/11

RG, TJK



TOP OF DECK

(X) - PHOTO TAKEN ABOVE DECK

Photo No. 11

Location: Upper Level – Westbound Roadway, Lane 3 looking south.

Description: Large area of deteriorated asphalt and asphalt shoving resulting in exposure of the steel deck plate.

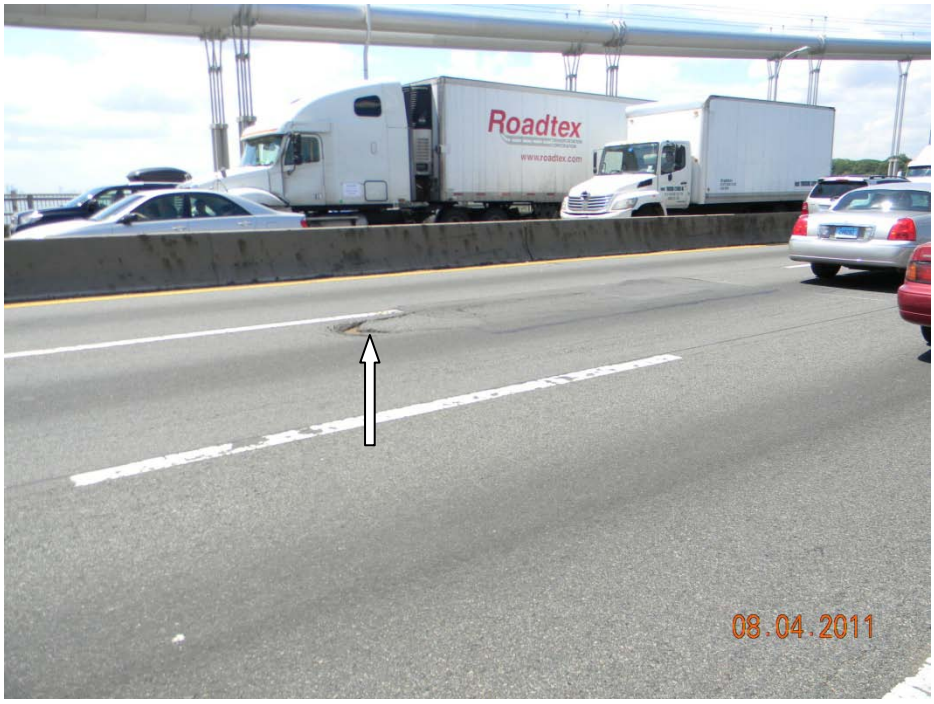


Photo No. 12

Location: Upper Level – Westbound Roadway, Lane 3 looking southwest.

Description: Large area of deteriorated and uneven asphalt within Lane 3.

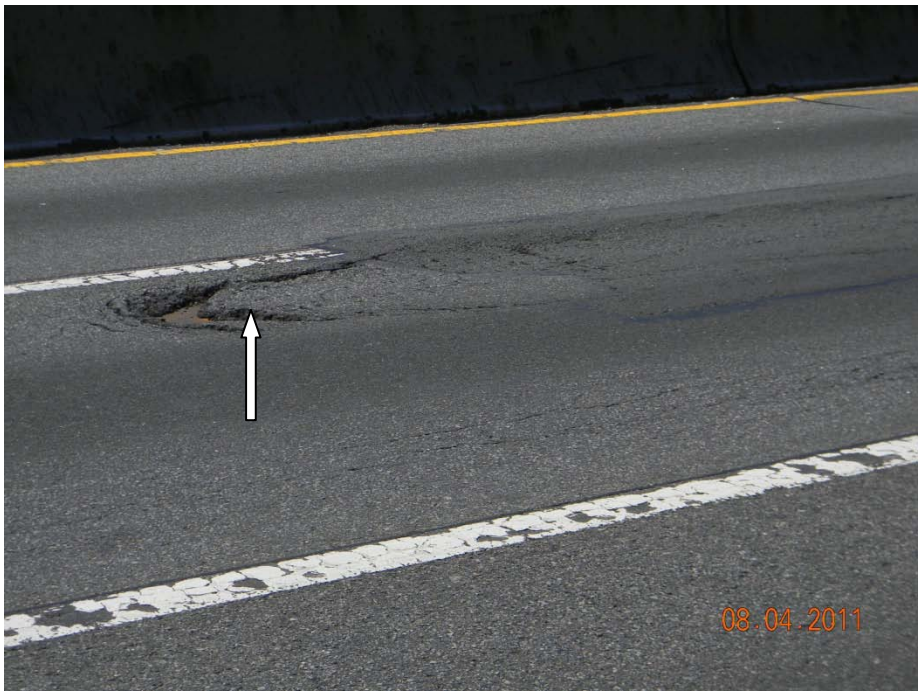


Photo No. 13

Location: Upper Level – Westbound Roadway, Lane 3 between Panel Points 38W-39W, looking southwest.

Description: Large area of deteriorated asphalt and asphalt shoving resulting in exposure of the steel deck plate.

Photo No. 14

Location: Upper Level – Westbound Roadway, Lane 3 between Panel Points 38W-39W, looking southeast near PP38W.

Description: Large area of uneven asphalt due to shoving.

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HNTB

August 24, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)
Immediate Action – Cracked Web of Riser Beam at PP25E (North of Median)

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the riser beam (deck chair) which typically supports and maintains the proper elevation of the orthotropic deck. Consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R36 through R39 from south over the main floorbeam at Panel Point 25E below lane 1 of the westbound upper level roadway (See attached sketches and photographs).

The cracked riser beam web plates at PP25E are located between Stringers 4 & 5 from south, north of the median barrier location, and are cracked fully through for their entire length. The deck riser beam was slightly bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within the westbound lane adjacent to the median exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

The cracked riser beam web plates between Stringers 4 & 5 at PP25E below deck ribs R36 through R39 should be repaired as an immediate action (See attached repair plans).

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

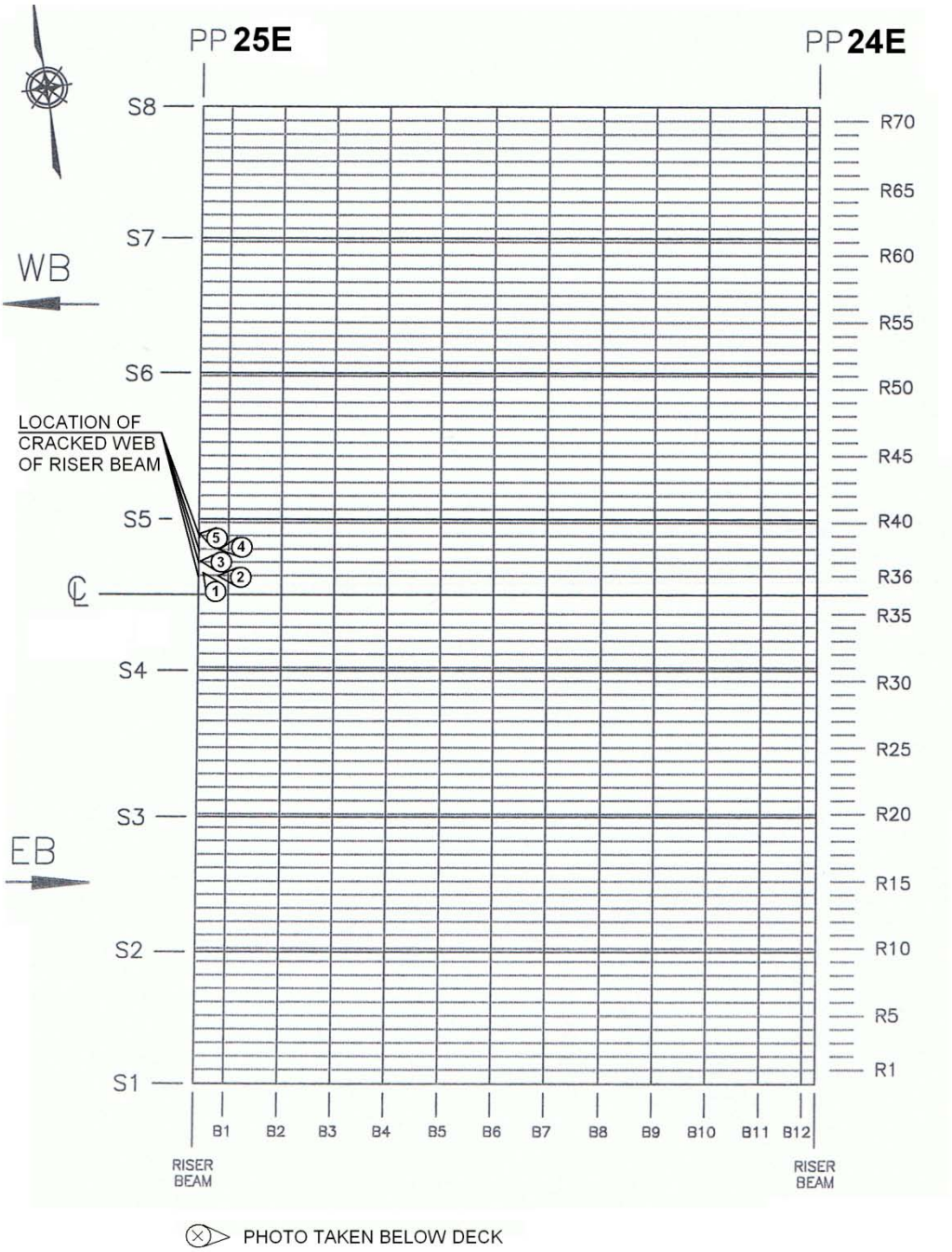
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

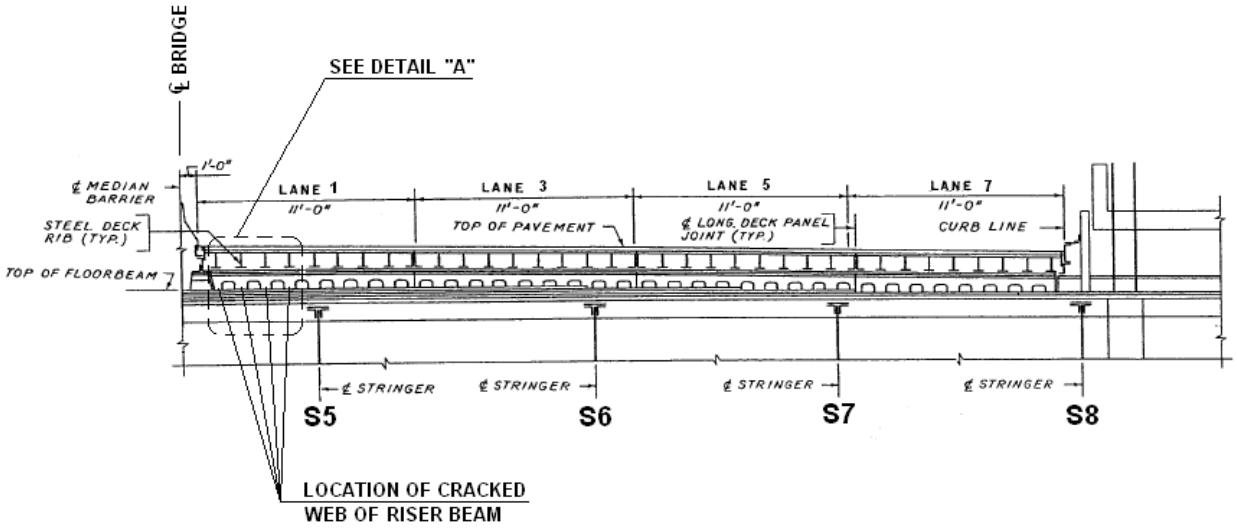
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED WEB OF RISER BEAM



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



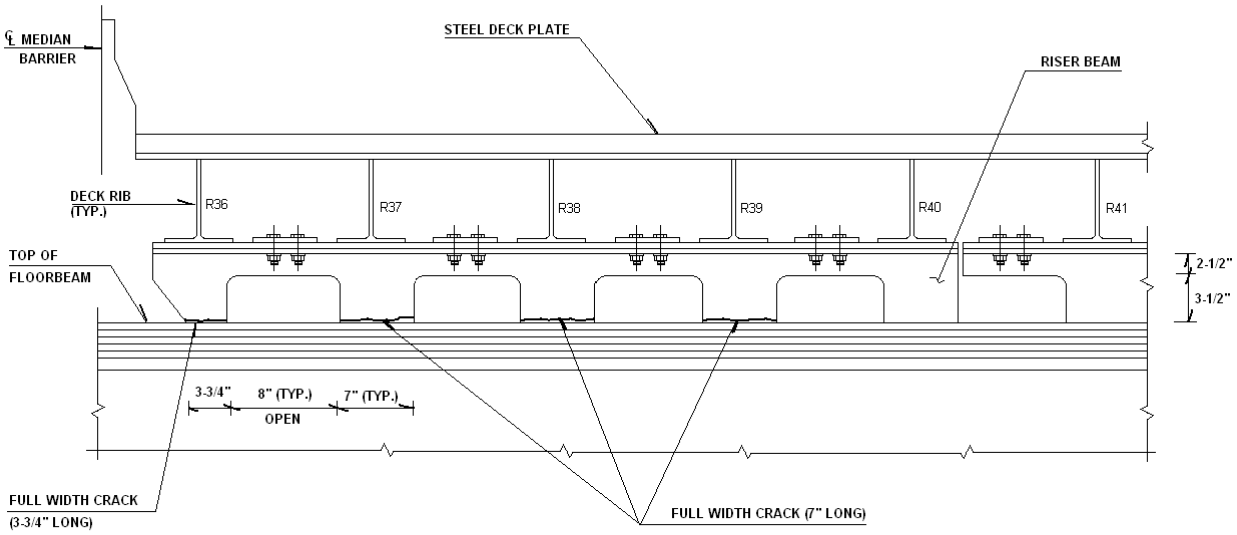
ELEVATION

FLOORBEAM AT PANEL POINT 25E

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

DETAIL SECTION FOR CRACKED WEB OF RISER BEAM



DETAIL "A"
(LOOKING WEST)

RISER BEAM OVER FLOORBEAM
AT PANEL POINT 25E
BETWEEN STRINGERS 4 AND 5

Photo No. 1

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northwest.

Photo No. 2

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R36.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 3-3/4" long, looking west.

Photo No. 3

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R37.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

Photo No. 4

Location: Upper Level – Panel Point 32E between Stringers 4 and 5 below Deck Rib R38.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking west.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 5

Location: Upper Level – Panel Point 25E between Stringers 4 and 5 below Deck Rib R39.

Description: Web of riser beam above primary floorbeam exhibits a full width crack 7" long, looking northwest.

Photo No.

Location:

Description:

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HNTB

September 19, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)
Immediate Action – GWB – UL -Finger Joint Plates at PP11W & 14E

Gentlemen:

As requested, HNTB performed an inspection of the Upper Level finger joints located at the George Washington Bridge NY & NJ towers at Panel Points 11E &14E and 11W & 14W, respectively.

No loose or missing tie-down bolts were observed during the 100% hands-on inspection of the joints assembly. However, an audible "banging noise" was heard at the following two locations indicated below: (See attached sketches and photographs)

1. NJ Tower - Panel Point 11W between Stringers 3 & 4 from south over the left lane of the EB Lower Level. (This section was recently replaced, however, a banging noise was still evident).

2. NY Tower – Panel Point 14E between Stringers 2 & 3 from south over the center lane of the EB Lower level.

The "banging noise" is an indication that the connection between the fingerplates and the bottom seat angle is not snug-tied and in time develops in a vertical movement that breaks the bolt.

We recommend to replace the tie-down bolts and shim the finger joint plates at the above referenced locations on an immediate basis.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

Sincerely,

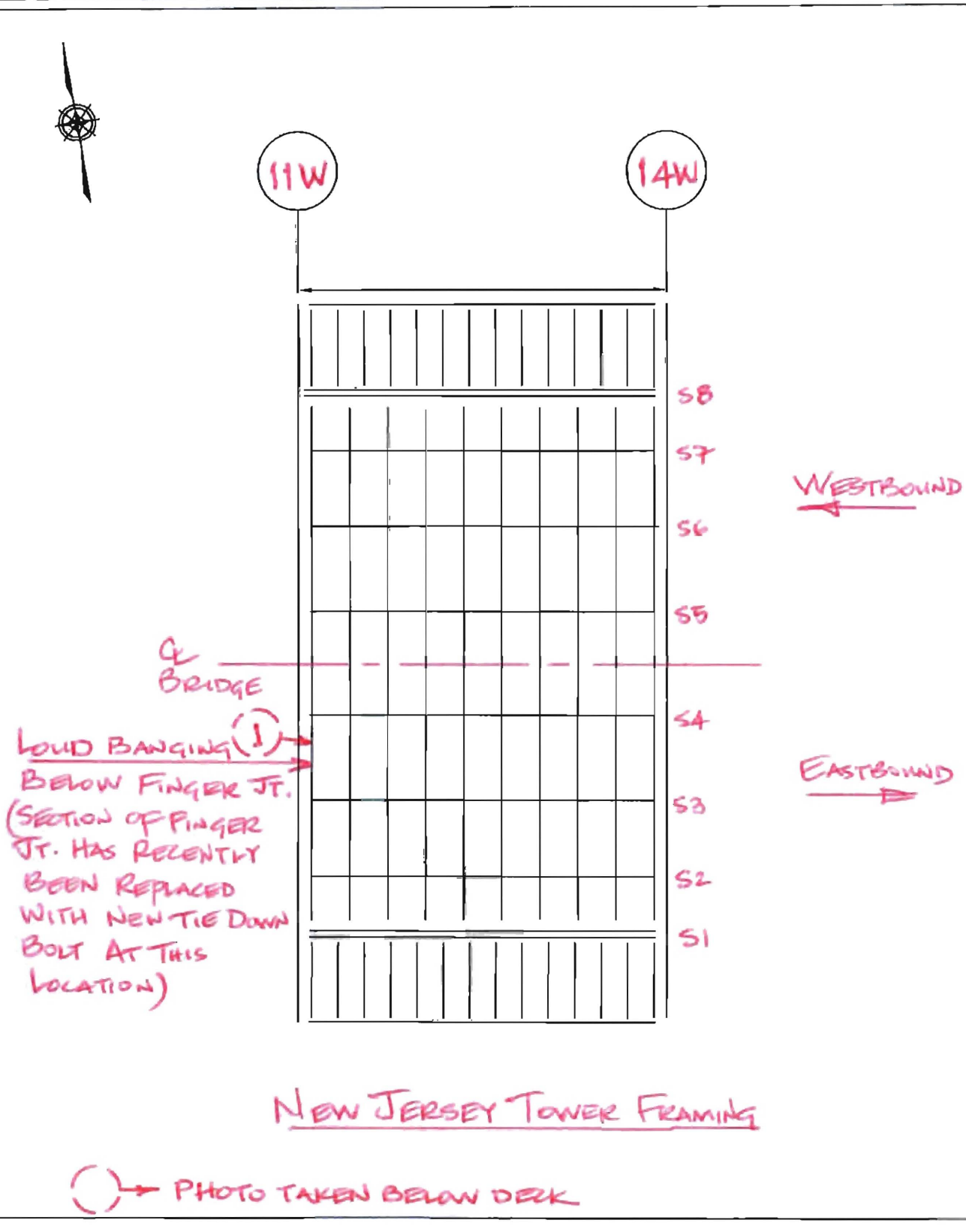
Matthew J. Nash, PE
Project Manager

2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
SUPERSTRUCTURE
UPPER LEVEL
PANEL 11W TO 14W

BIN 5522508

DATE: 9/14/11 JB



2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
SUPERSTRUCTURE
UPPER LEVEL
PANEL 14E TO 11E

BIN 5522508

DATE: 9/14/11 JB

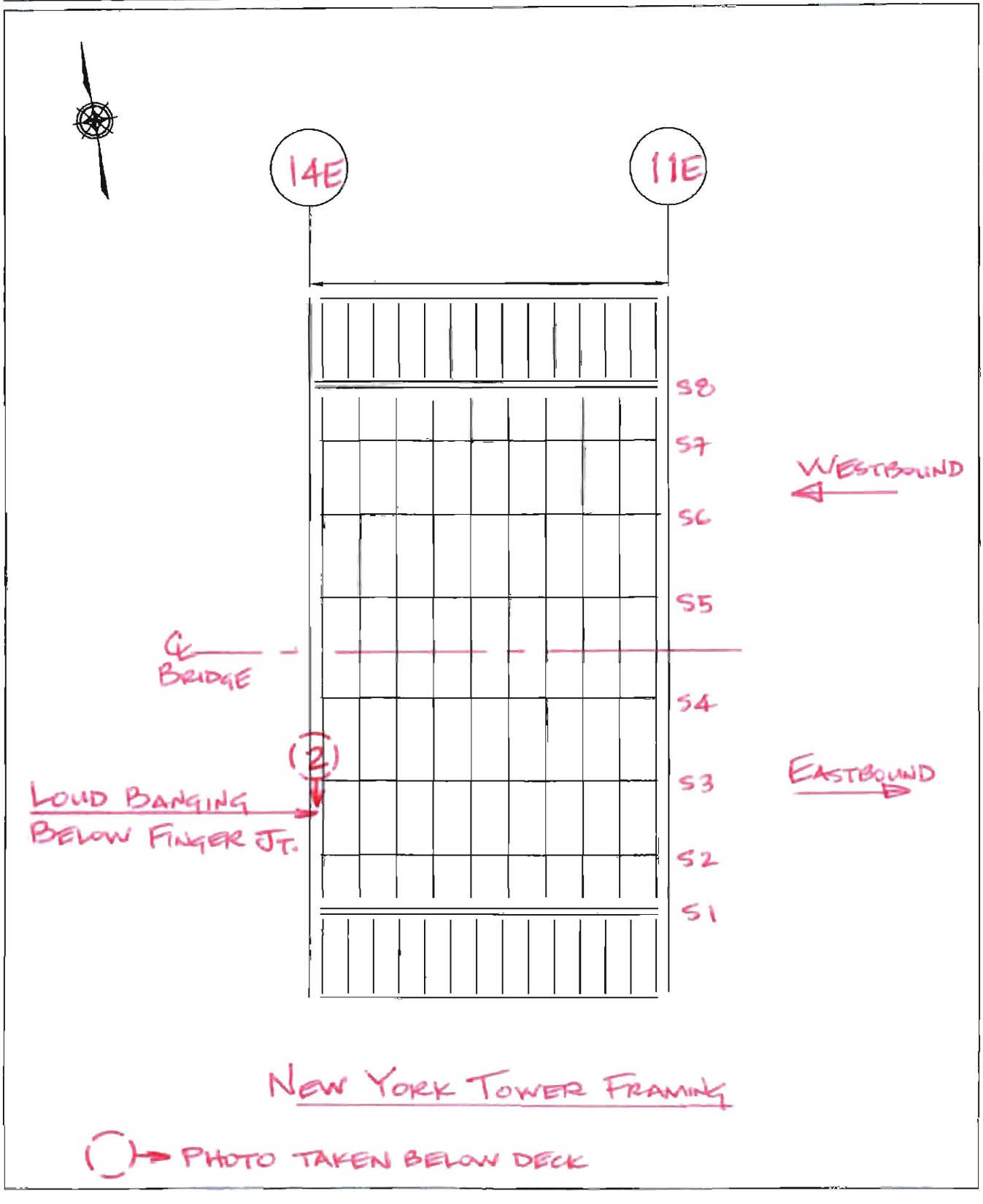


Photo No. 1

Location: Upper Level – Underside of finger joint at Panel Point 11W (NJ Tower Span) between Stringers 3 & 4, looking up and east.

Description: An audible banging noise was heard at the underside of the joint. Note: This section of finger joint was recently replaced with a new tie down bolt.

Photo No. 2

Location: Upper Level – Underside of finger joint at Panel Point 14E (NY Tower Span) between Stringers 2 & 3, looking up and south.

Description: An audible banging noise was heard at the underside of the joint.

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HNTB

October 19, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked and Delaminated Concrete along South Sidewalk fascia between PP36E to 32E, PP2E-1E and PP4W-2W

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge Upper Level, HNTB personnel removed several areas of loose concrete along the sidewalk fascias and found several additional locations of cracked and/or delaminated concrete along the south sidewalk which could not be safely removed. The deteriorated areas were noted between Panel Points PP36E to 32E (over the main navigable channel), between PP2E-1E (over a storage area at the New York Anchorage) and between PP4W-2W over the rock slope at the New Jersey Anchorage. The deteriorated concrete areas total approximately 100 square feet and range in size from 5' to 25' in length. (See attached sketches on pages 2, 3 and 4 and photographs 1, 2 and 3).

It is recommended that the cracked and delaminated concrete areas be removed to sound concrete on an immediate basis.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

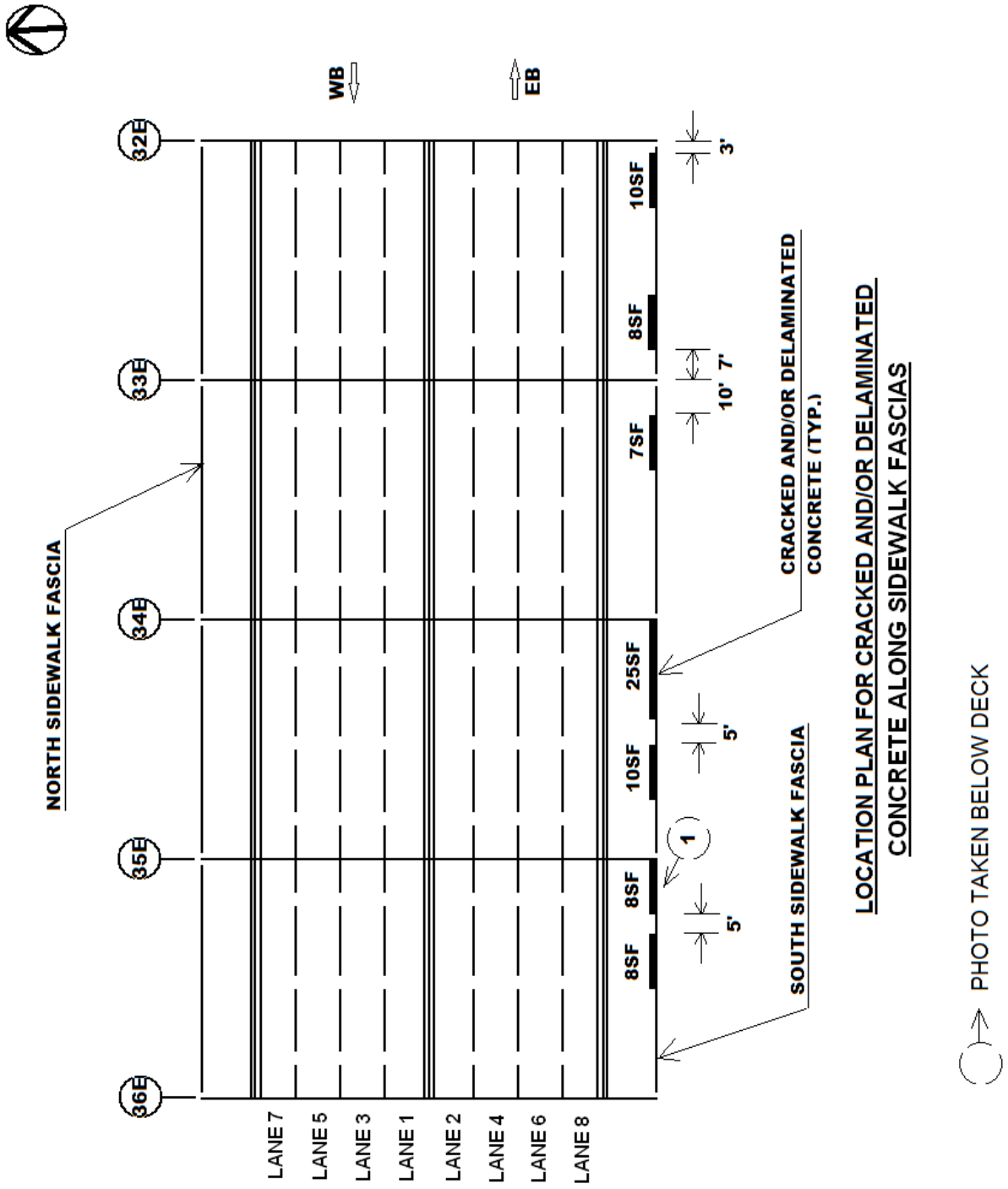
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

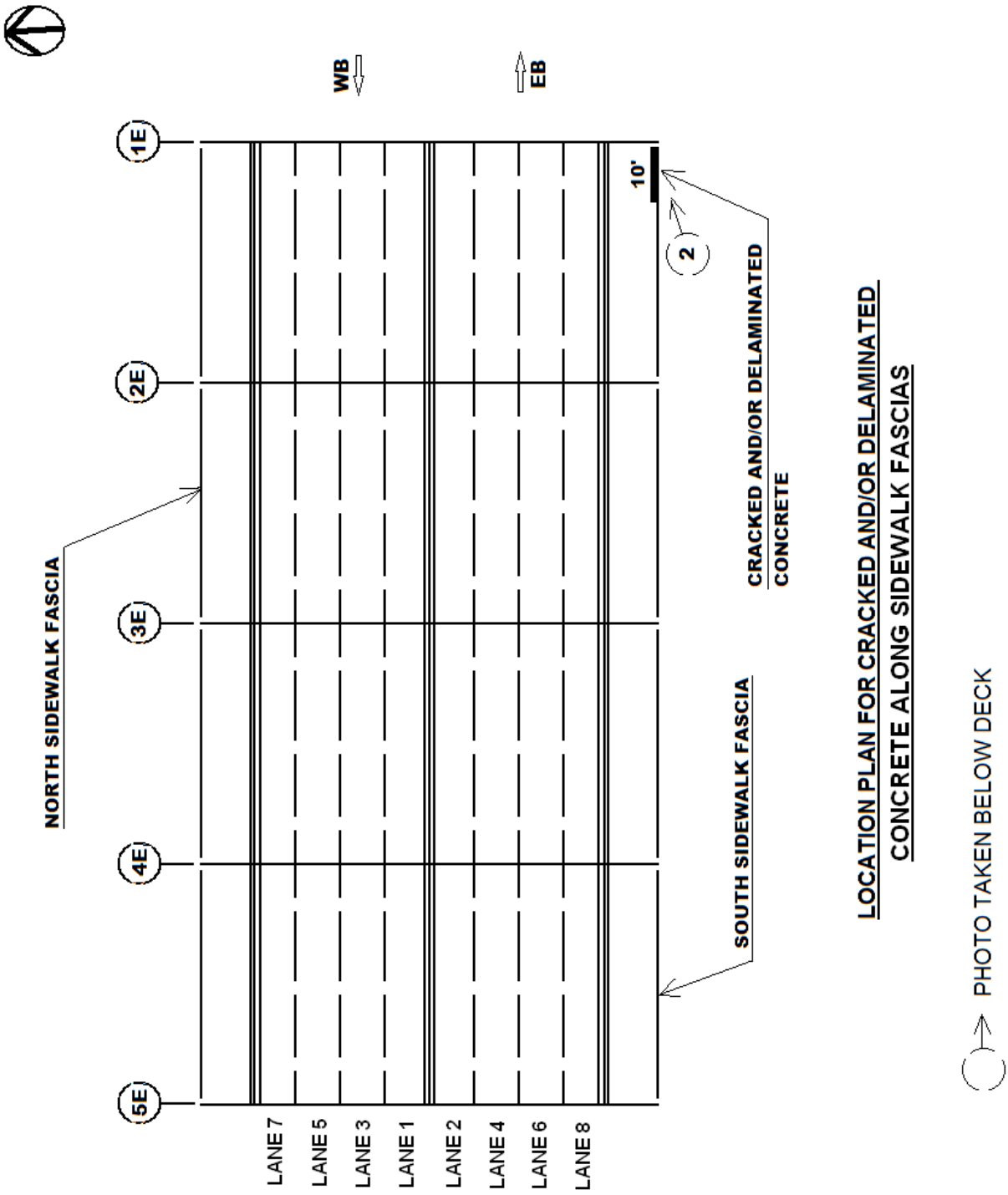
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED AND/OR DELAMINATED CONCRETE ALONG SIDEWALK FASCIA



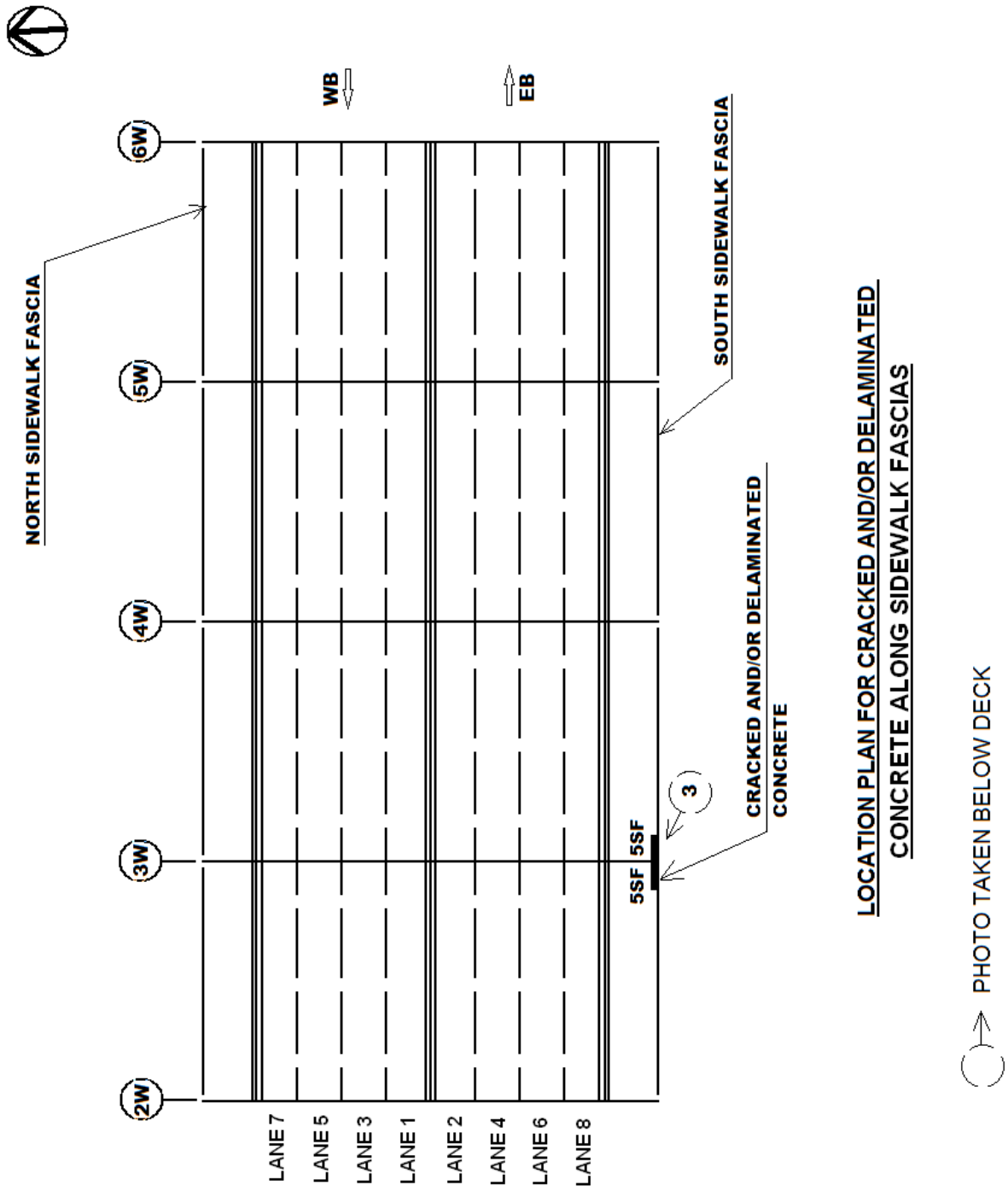
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED AND/OR DELAMINATED CONCRETE ALONG SIDEWALK FASCIA



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED AND/OR DELAMINATED CONCRETE ALONG SIDEWALK FASCIA



2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 1

Location: Upper Level – South Sidewalk Fascia Between Panel Points 35E and 36E.

Description: Cracked and delaminated concrete along south sidewalk fascia, looking northwest.

Photo No. 2

Location: Upper Level – South Sidewalk Fascia Between Panel Points 1E and 2E.

Description: Cracked and delaminated concrete along south sidewalk fascia, looking northeast.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 3

Location: Upper Level – South Sidewalk Fascia Between Panel Points 2W and 4W.

Description: Cracked and delaminated concrete along south sidewalk fascia near PP3W, looking northwest.

Photo No.

Location:

Description:

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October 5, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Web of Riser Beam at PP23W, PP26W, PP30W & PP37W, Loose Stringer 6 to Main Floorbeam Connection at PP 26W and Cracked Lateral Connection Plate at Stringer 3 to Secondary FB1 near PP21W

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the riser beam (deck chair) which typically supports and maintains the proper elevation of the orthotropic deck. Consecutively cracked riser beam web plates were found directly below orthotropic deck ribs R36 through R39 from south over the main floorbeam at Panel Points 23W, 26W & 30W below lane 1 of the westbound upper level roadway and directly below orthotropic deck ribs R32 through R35 from south over the main floorbeam at Panel Point 37W below lane 2 of the eastbound upper level roadway (See attached sketches on pages 3 through 10 and photographs 1 through 4).

The cracked riser beam web plates at PP23W, PP26W, PP30W & PP37W are located adjacent to the median barrier between Stringers 4 & 5 from south and are cracked fully through for their entire length. The deck riser beams were slightly bouncing with audible banging evident during passage of large trucks. The compression sealed deck joint area at the top of deck within the lane adjacent to the median exhibits minor deterioration with no signs of movement evident based on our recent visual inspections.

In addition, HNTB personnel found (4 of 4) missing/sheared rivets at the seated connection for Stringer 6 (from south) at the west side of the main floorbeam at Panel Point 26W. The stringer and sole plate have shifted ½" north and ¼" west relative to the bearing plate and there is a 1/8" gap between the sole plate and bearing plate, however, no noticeable movement was evident during passage of large trucks (See attached sketches on pages 11 & 12 and photographs 5 & 6).

HNTB personnel also found a severely corroded and cracked lateral bracing connection plate at the Stringer 3 to Secondary Floorbeam SFB1 connection on the east side of Panel Point 21W. The connection plate is cracked for a length of 11" along the 15" total length parallel to Stringer 3, and is cracked for a length of 5" along the 8" total length parallel to Secondary Floorbeam 1. The opposite end of the lateral connection plate at Stringer 4 is in good condition (See attached sketches on pages 13 & 14 and photographs 7 through 10).

The following repairs are recommended as an Immediate Action due to the noticeable bouncing evident at four consecutively cracked riser beam web plates at Panel Points 23W, PP26W, PP30W & PP37W, due to the loose Stringer 6 bearing connection at the west side of the main floorbeam at PP26W and due to the cracked lateral bracing connection plate at Stringer 3 to Secondary Floorbeam 1 east of PP21W:

1. Repair the cracked riser beam web plate between Stringers 4 & 5 at Panel Points 23W, PP26W and PP30W below deck ribs R36, R37, R38 and R39 and at PP37W below deck ribs R32, R33, R34 and R35.

2. Replace the missing and sheared rivets with high strength bolts at the Stringer 6 bearing connection at the west side of the main floorbeam at PP26W.

3. Replace the cracked lateral bracing connection plate at the Stringer 3 to Secondary Floorbeam 1 connection near the east side of PP21W.

Repair plans addressing the Immediate Actions will be prepared and provided upon request.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

Sincerely,

Matthew J. Nash

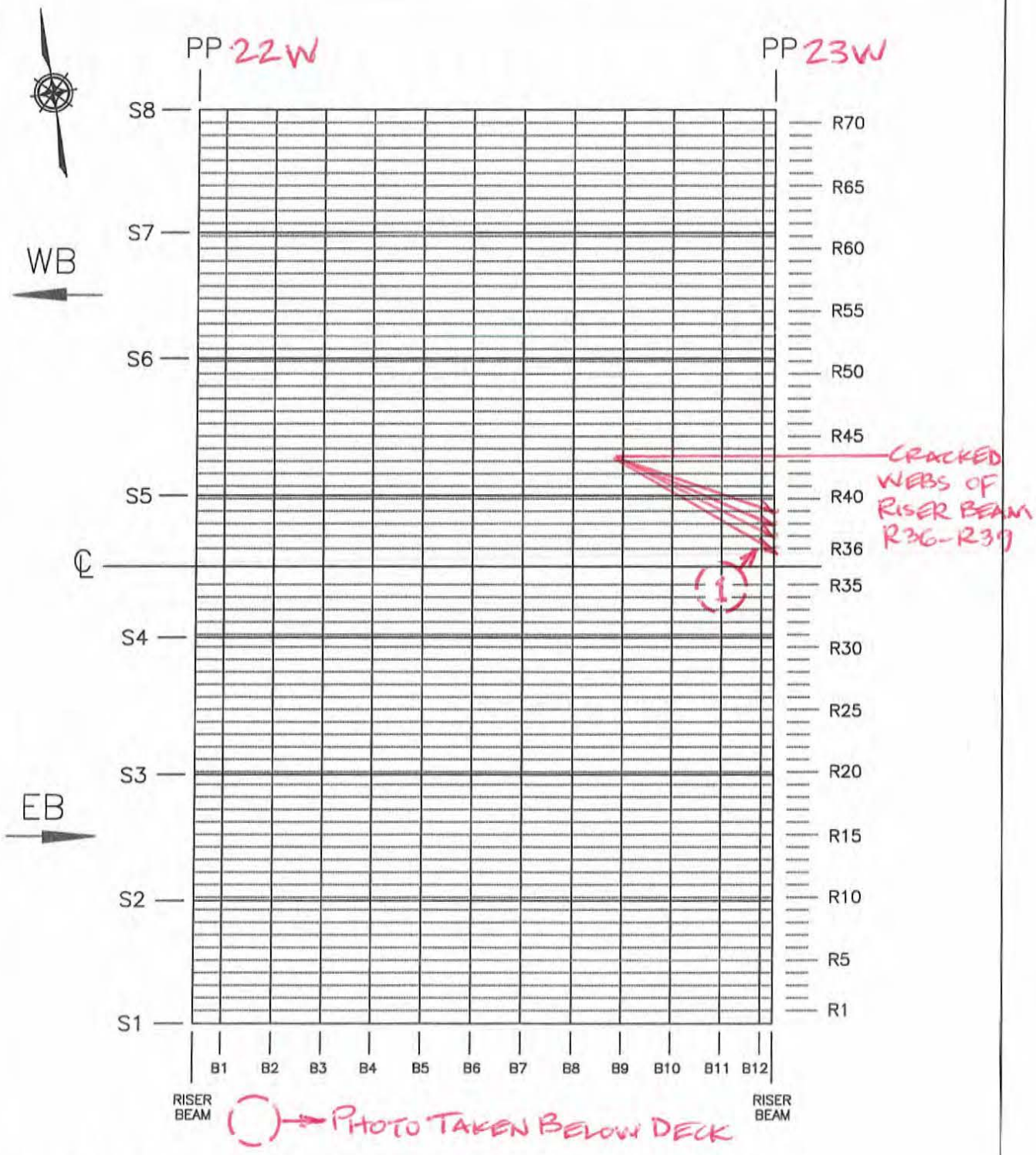
Matthew J. Nash, PE
Project Manager

2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508

DATE: 10/4/11 JB



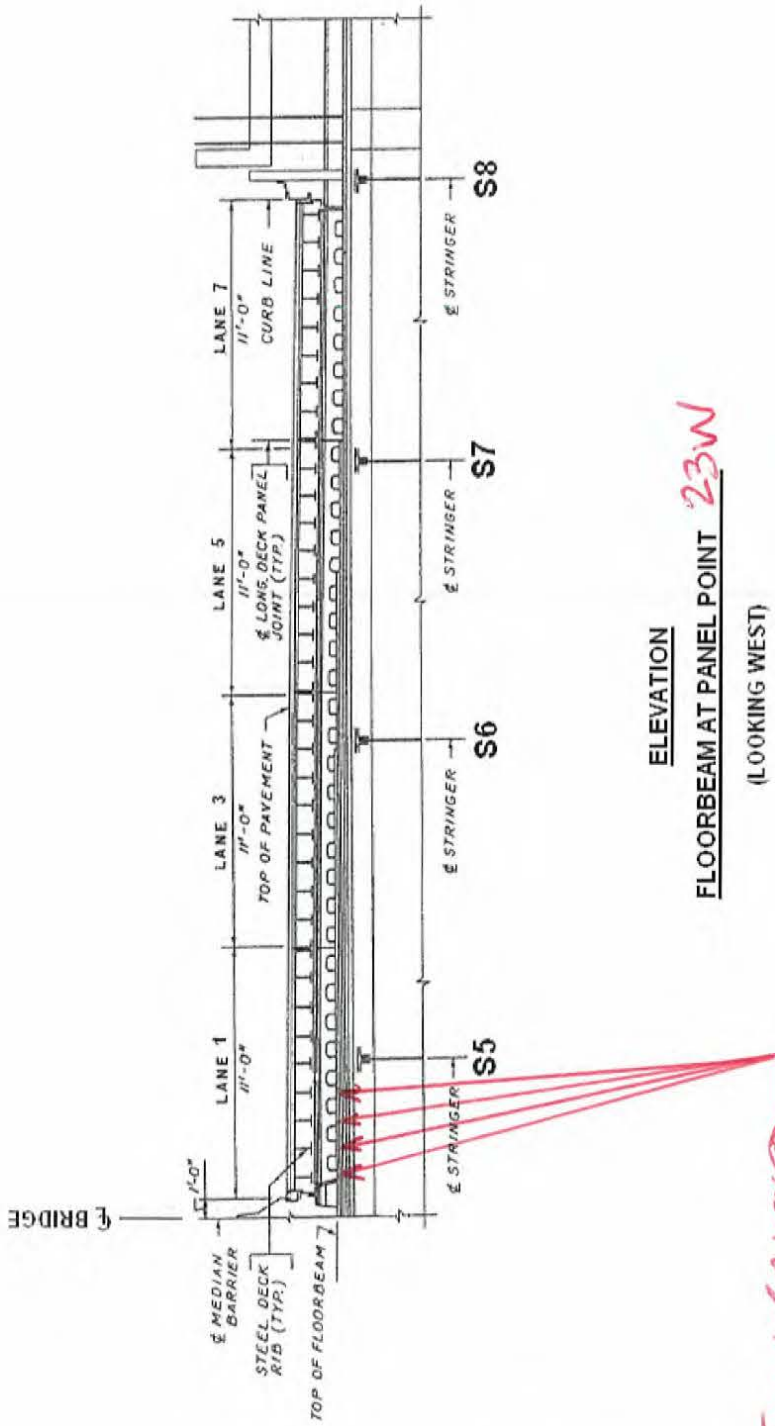
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/4/11 JB Description: Job #: 47402

RISER BEAM CRACKS



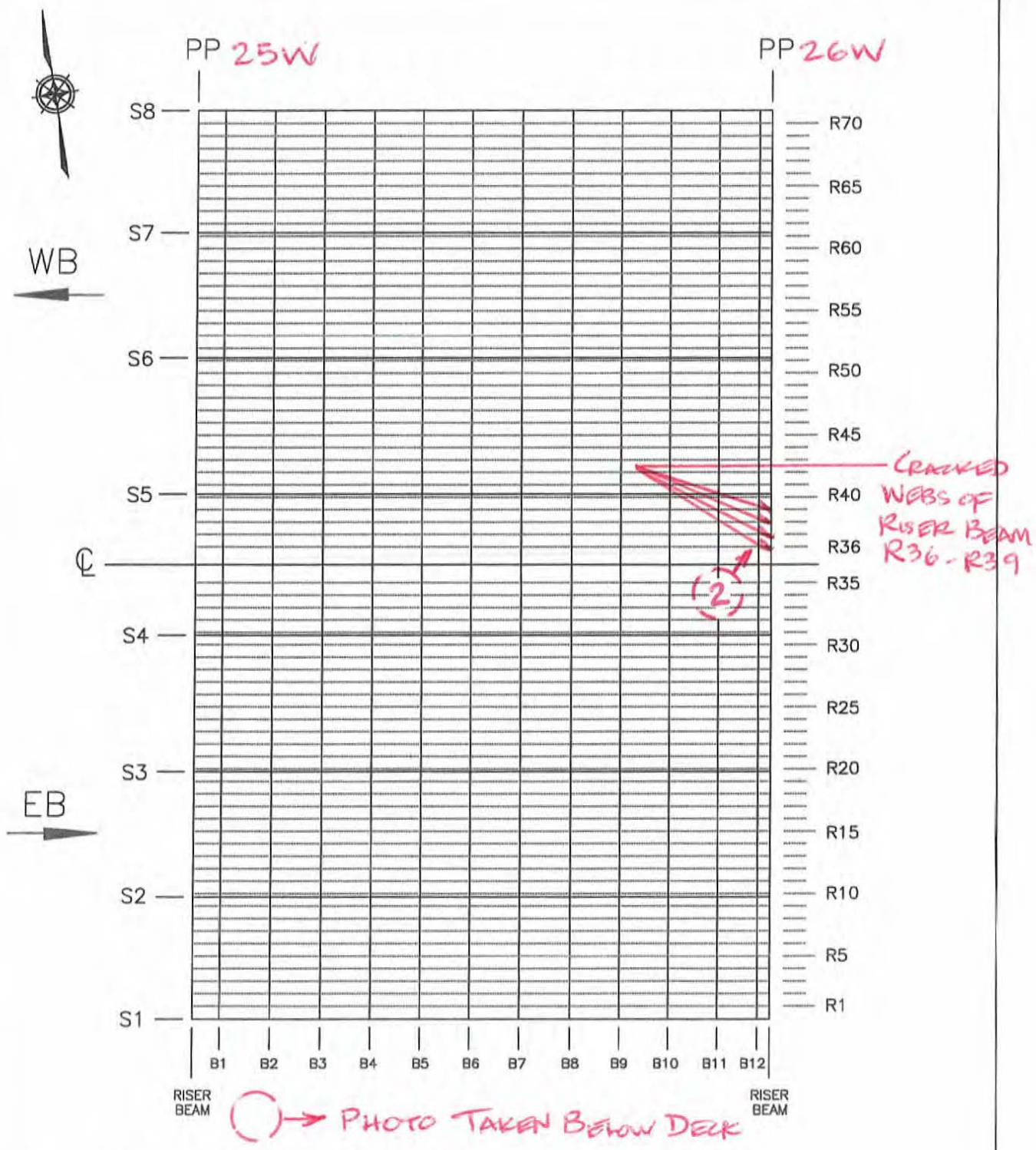
ELEVATION
FLOORBEAM AT PANEL POINT 23W
(LOOKING WEST)

2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508

JB DATE: 10/4/11



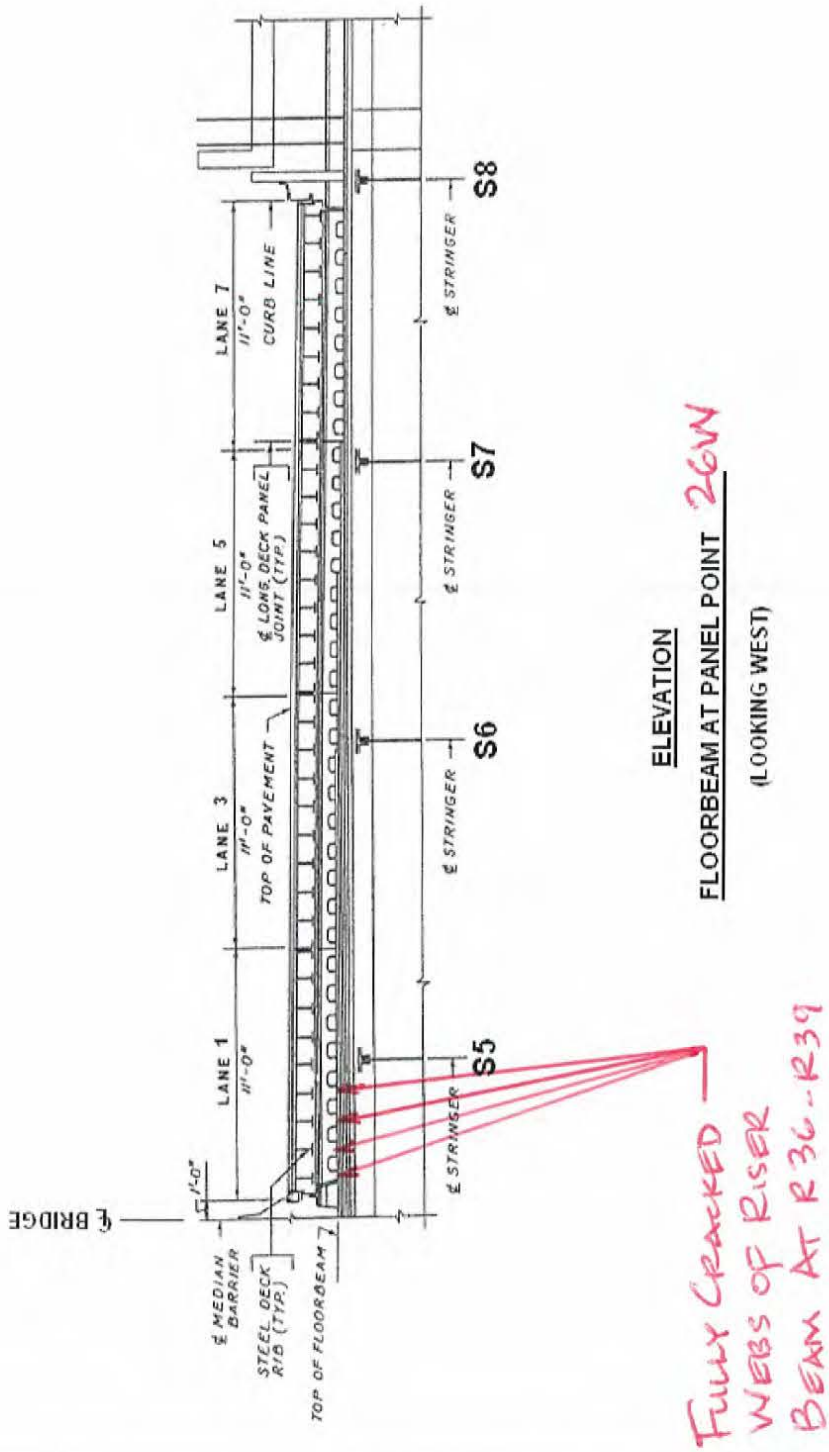
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: _____ Description: _____ Job #: 47402

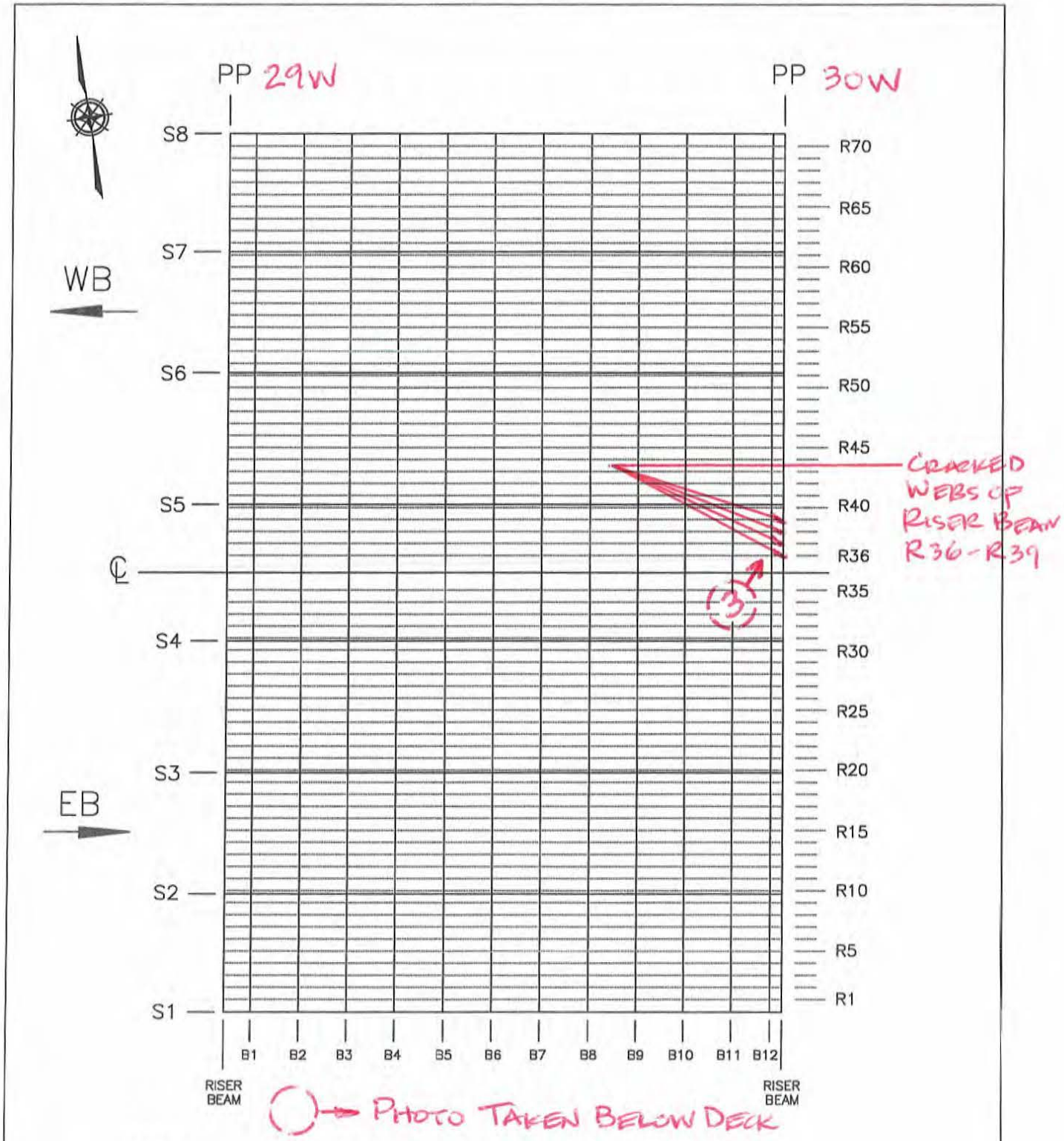
RISER BEAM CRACKS



2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508 JB DATE: 9/30/11

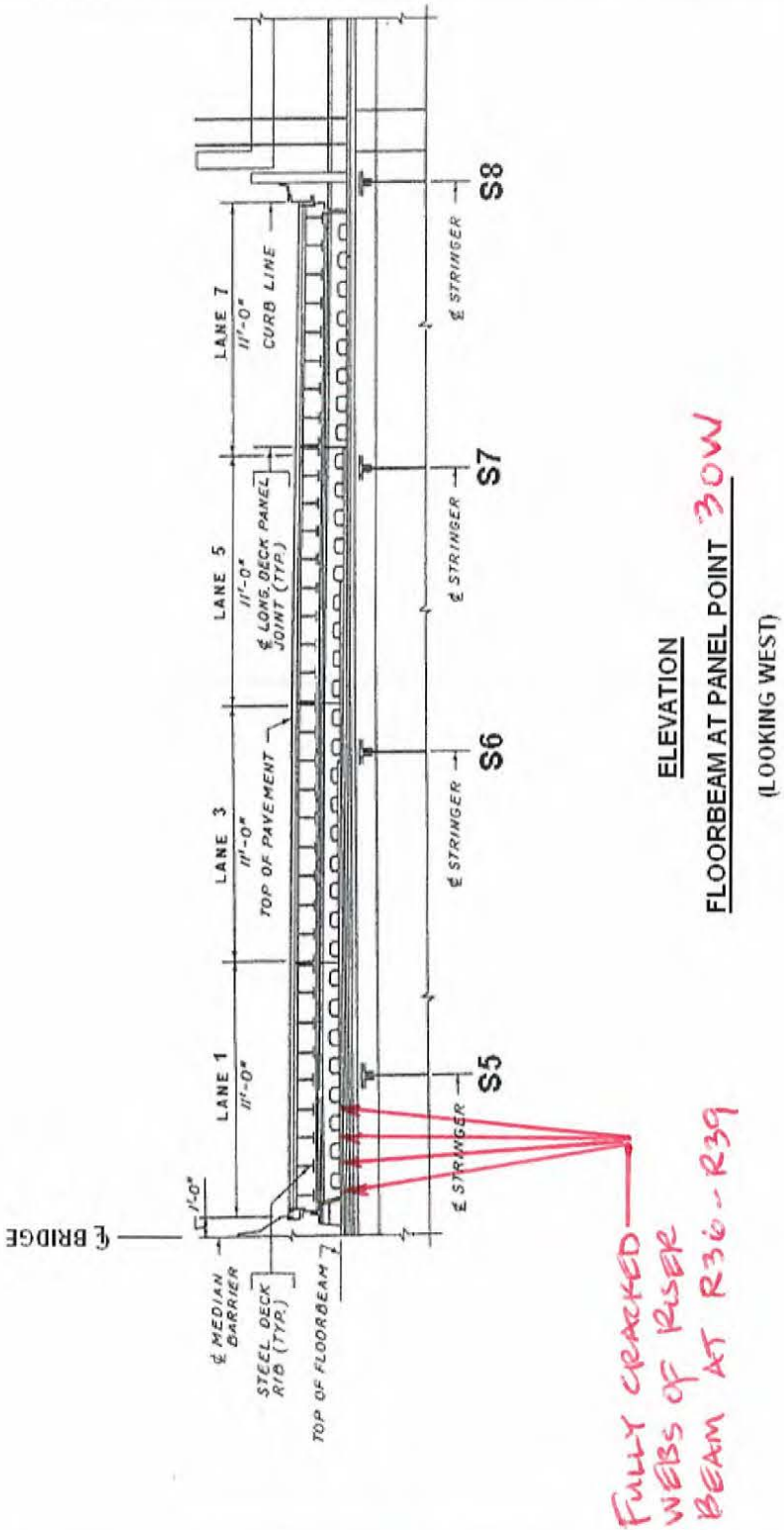


LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 9/30/11 JB Description: Job #: 47402

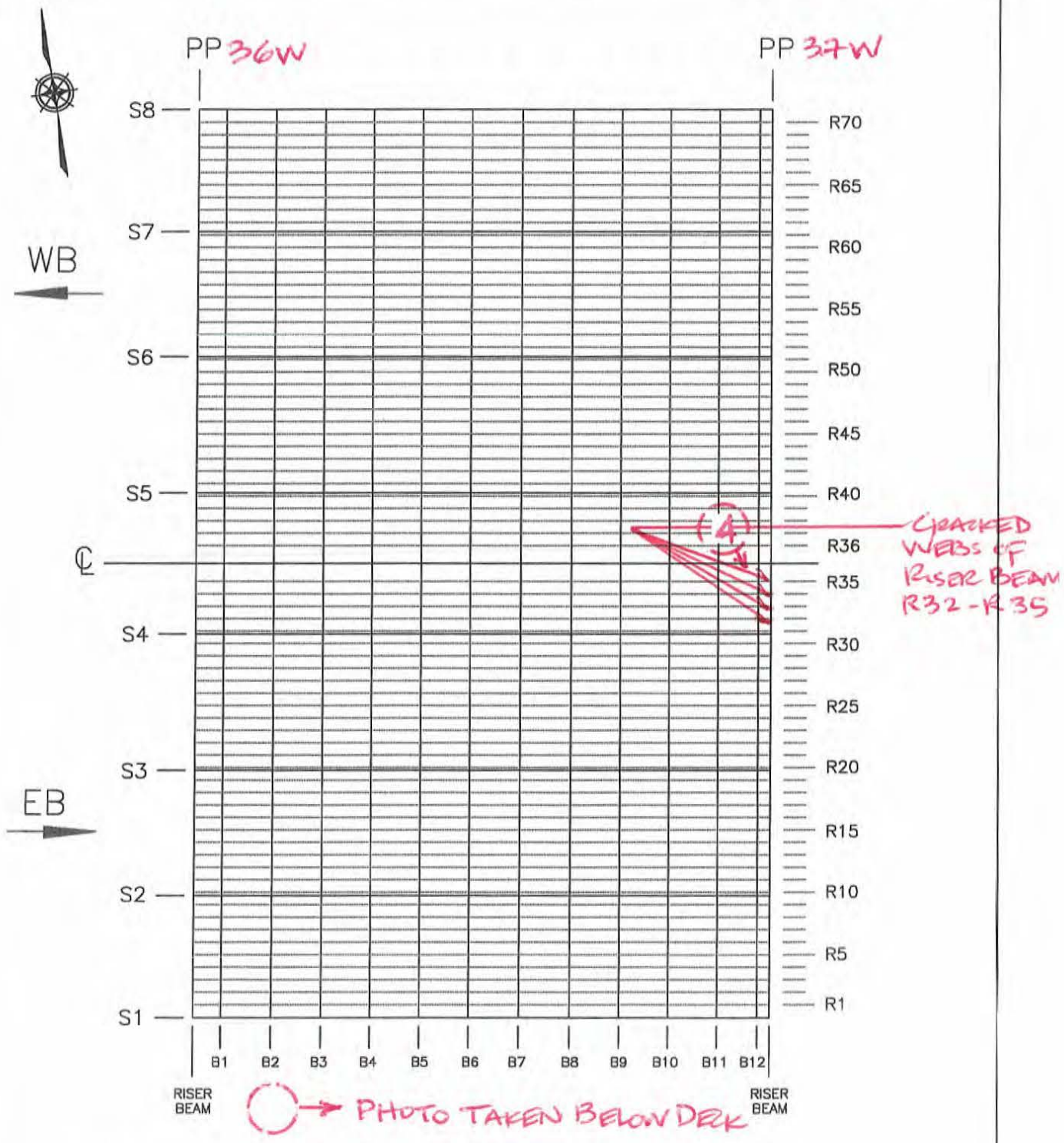


2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508

JB DATE: 9/29/11



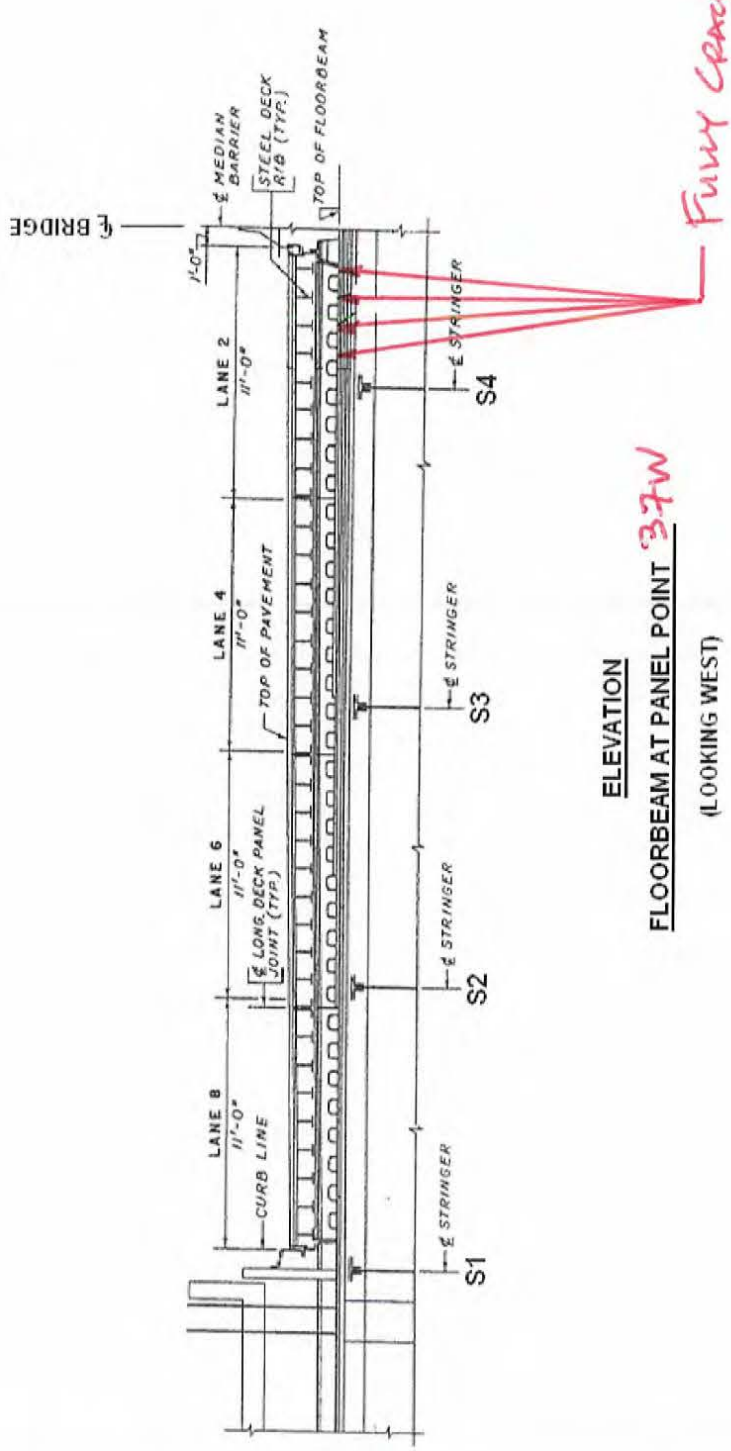
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 9/29/11 JB Description: Job #: 47402

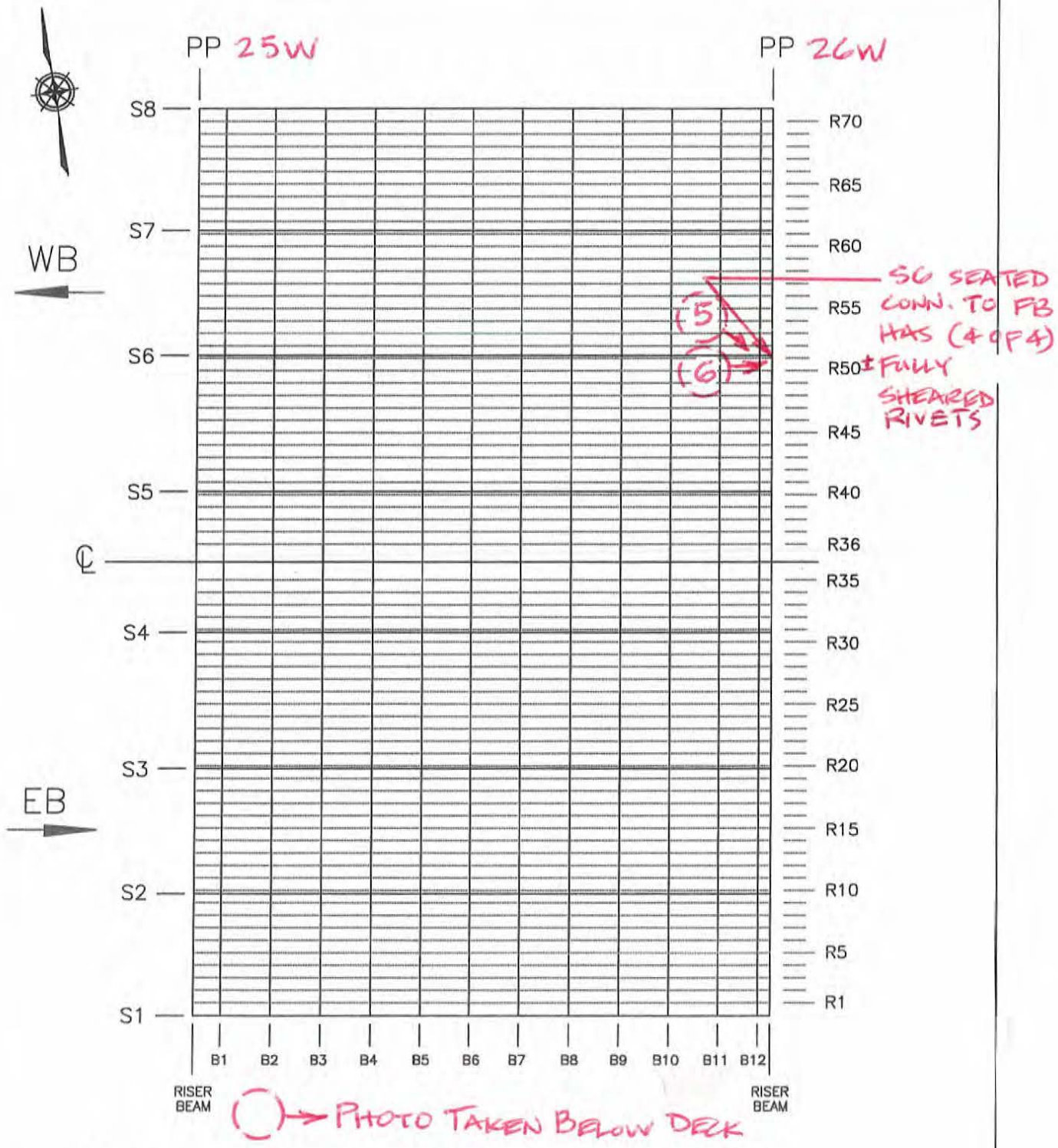
RISER BEAM CRACKS



2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508 JB DATE: 10-3-11

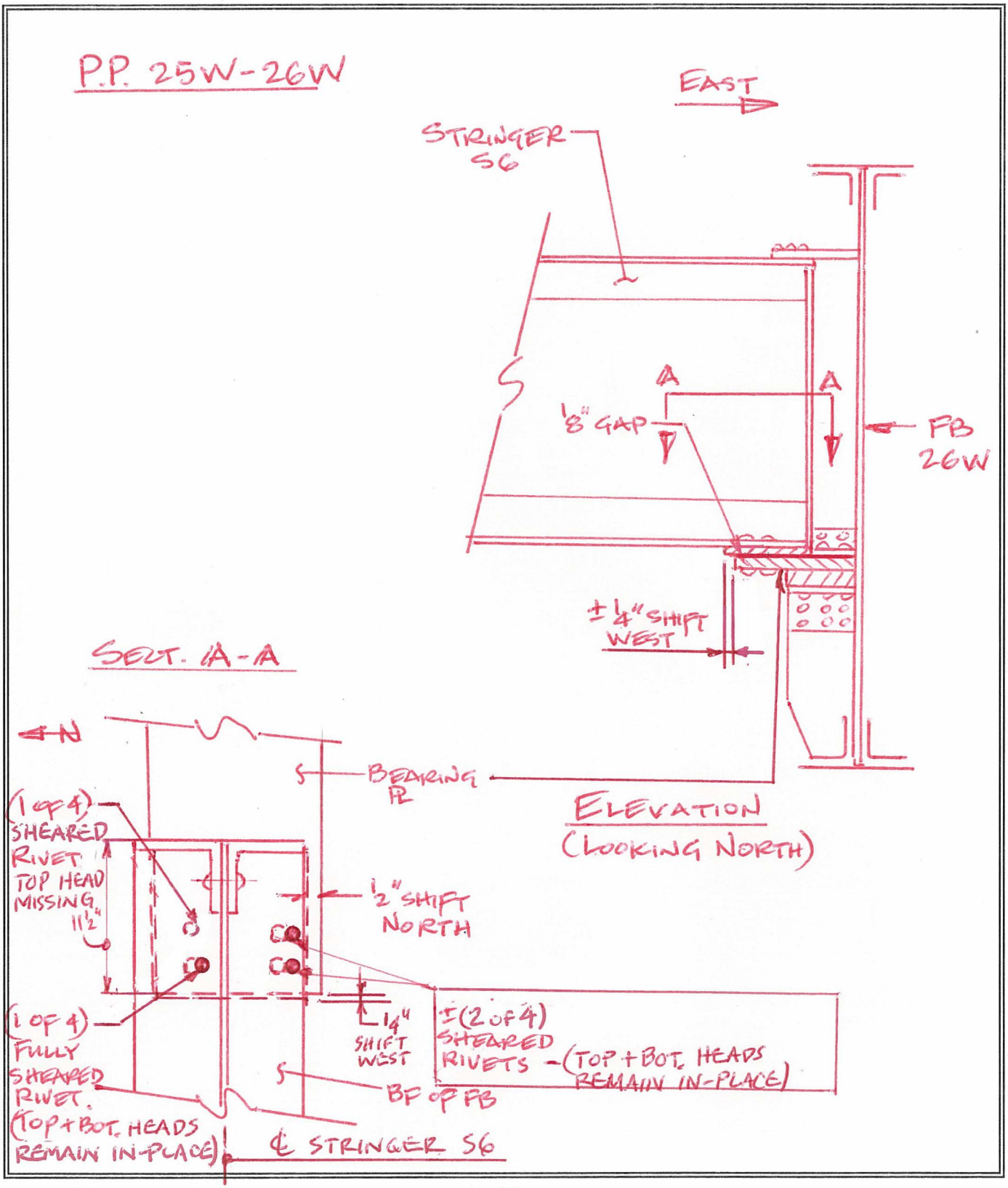


LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/3/11 Description: Job #: 47402

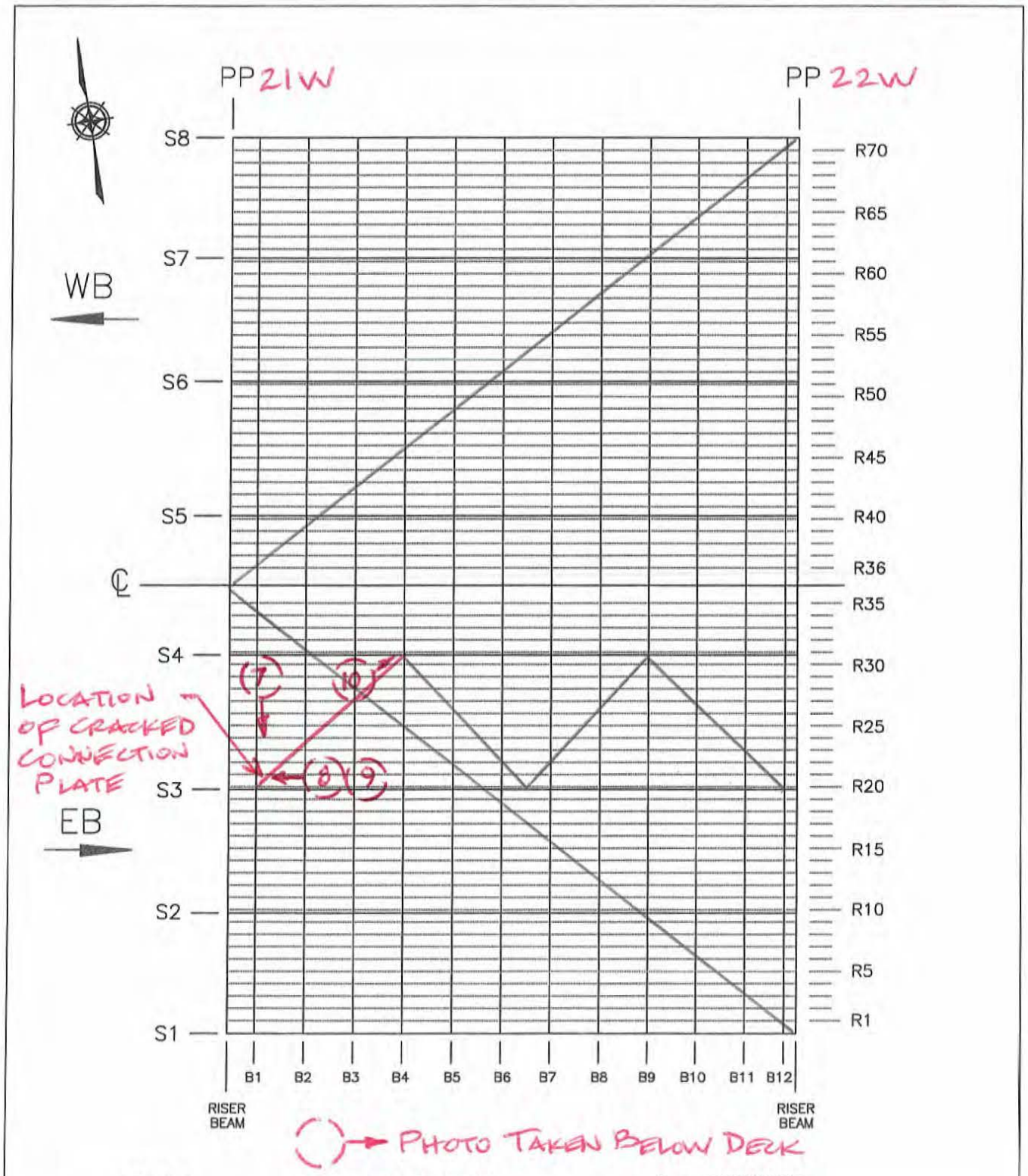


2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL TO

BIN 5522508

DATE: 10/4/11 JB

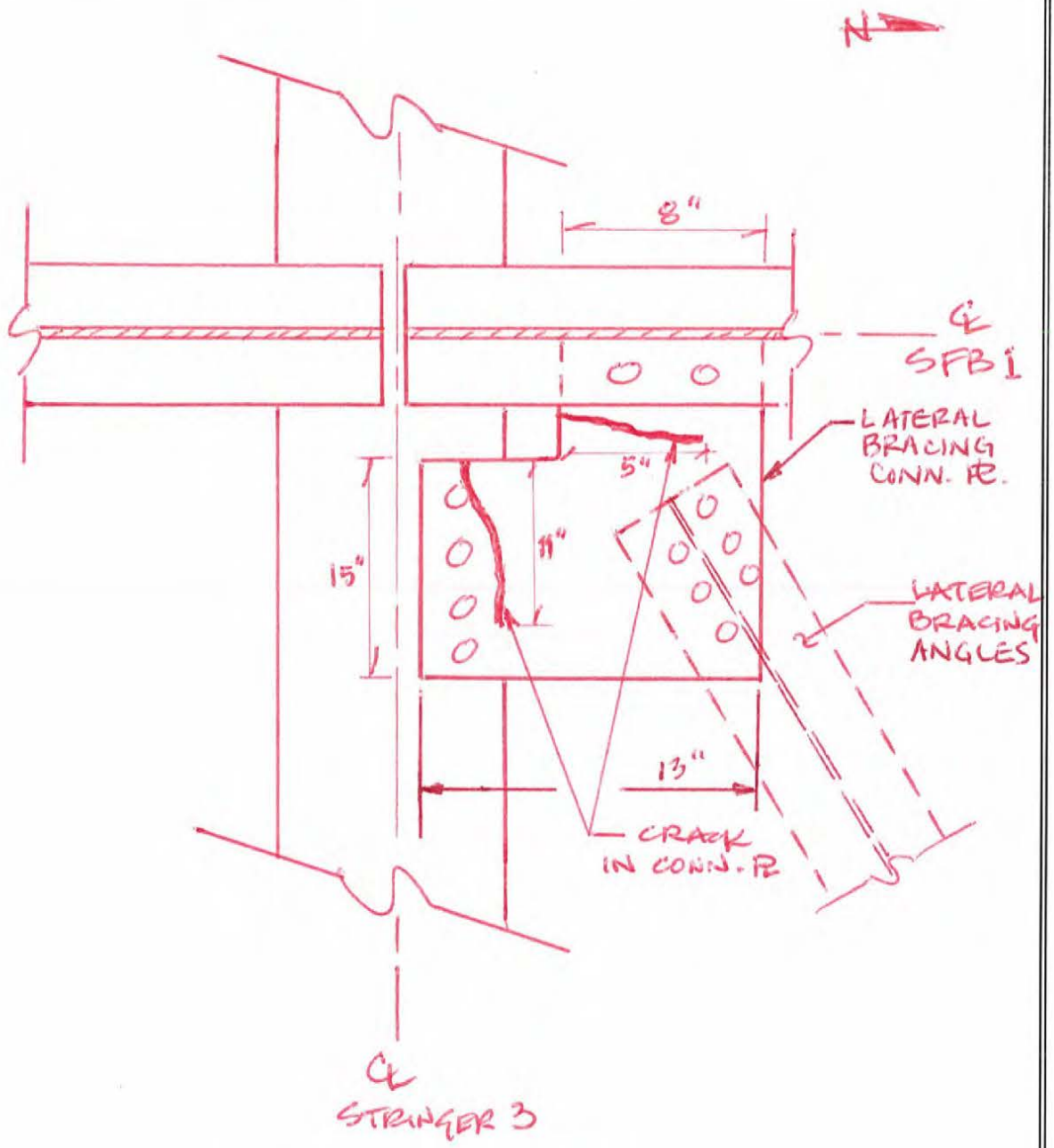


LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/4/11 JB Description: Job #: 47402



P.P. 21W - 22W

Photo No. 1

Location: Upper Level – Panel Point 23W between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northeast.

Photo No. 2

Location: Upper Level – Panel Point 26W between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits a full width cracks, looking northeast.

Photo No. 3

Location: Upper Level – Panel Point 30W between Stringers 4 and 5 below Deck Ribs R36 through R39.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northeast.

Photo No. 4

Location: Upper Level – Panel Point 37W between Stringers 4 and 5 below Deck Ribs R32 through R35.

Description: Web of riser beam above primary floorbeam exhibits a full width cracks, looking southeast.

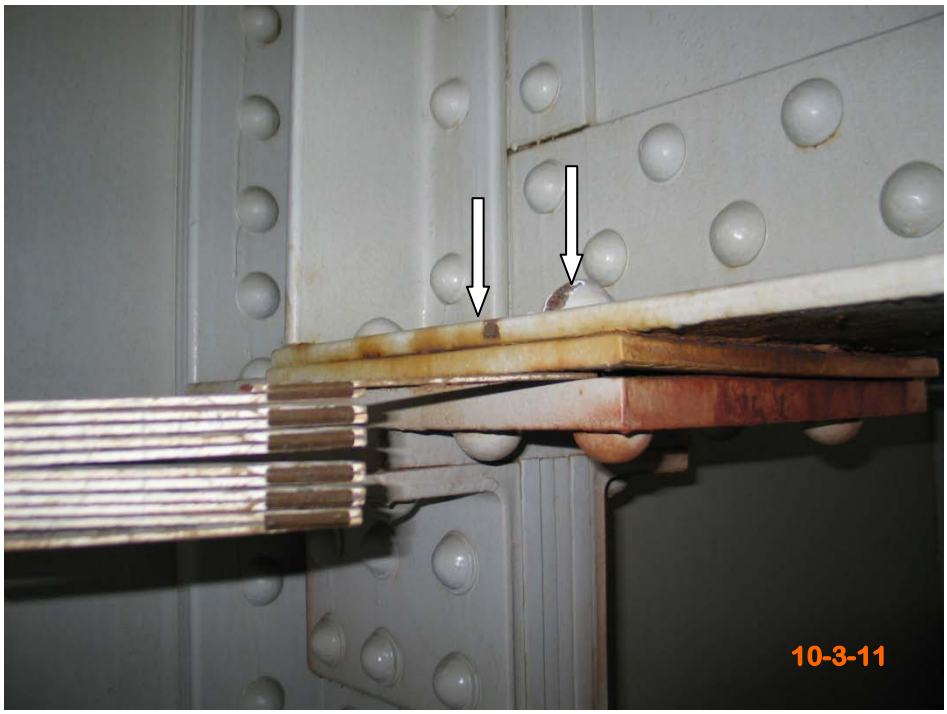


Photo No. 5

Location: Upper Level – Stringer 6 to main floorbeam connection at west side of Panel Point 26W.

Description: (2 of 4) sheared/missing rivets at north side of Stringer 6 to floorbeam connection, looking southeast. Note shifted sole plate and 1/8" gap between bearing plate and sole plate.

Photo No. 6

Location: Upper Level – Stringer 6 to main floorbeam connection at west side of Panel Point 26W.

Description: (2 of 4) sheared rivets at south side of Stringer 6 to floorbeam connection, looking east. Note Stringer 6 and sole plate shifted 1/2" north and 1/4" west.

Photo No. 7

Location: Upper Level –Lateral bracing connection plate at Stringer 3 to Secondary Floorbeam 1 near east side of Panel Point 21W.

Description: General view of lateral bracing connection between Panel Points 21W and 22W, looking southeast.

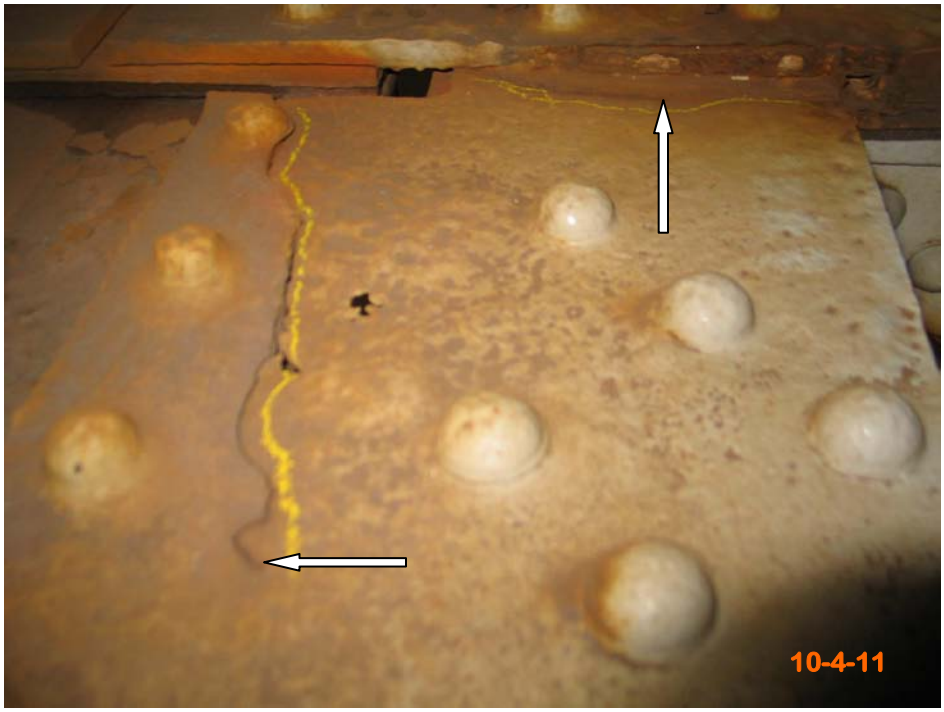


Photo No. 8

Location: Upper Level –Top of lateral bracing connection plate connection at Stringer 3 to Secondary Floorbeam 1 at east side of Panel Point 21W.
Description: Connection plate is severely corroded and cracked 11" long parallel to Stringer 3 (left arrow) and 5" long parallel to Secondary Floorbeam 1 (right arrow), looking down and west.

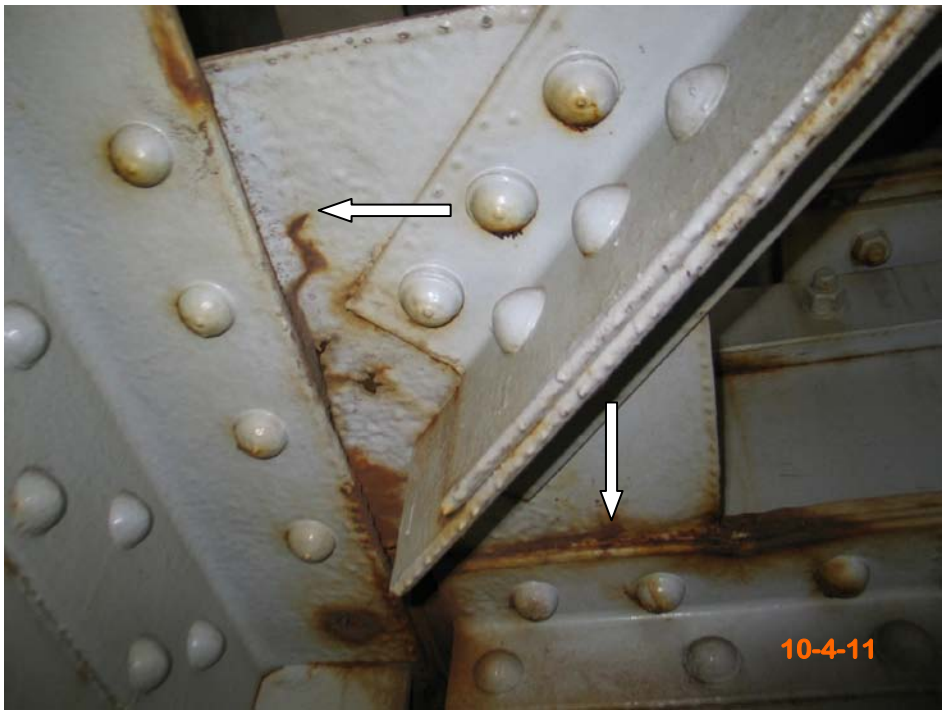


Photo No. 9

Location: Upper Level – Bottom of lateral bracing connection plate at Stringer 3 to Secondary Floorbeam 1 near east side of Panel Point 21W.

Description: Connection plate is severely corroded and cracked 11" long parallel to Stringer 3 (left arrow) and 5" long parallel to Secondary Floorbeam 1 (right arrow), looking up and west.

Photo No. 10

Location: Upper Level –Opposite end connection of lateral bracing at Stringer 4 between Panel Points 21W and 22W.

Description: Connection plate is in good condition, looking northeast.

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Engineers Architects Planners

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October 17, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Web of Riser Beam at Panel Points 15W, 10W, 9W, 6W, 5W, 4W & 3W and Cracked Secondary Floorbeam 12 at Stringer 6 between Panel Points 5W-6W

Gentlemen:

During our recent biennial inspection below the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web plate of the riser beam (deck chair) which typically supports and maintains the proper elevation of the orthotropic deck. Numerous consecutively cracked, broken and/or severely corroded riser beam web plates were found directly below various orthotropic deck ribs between Stringers 2 through 5 over the main floorbeam at Panel Points 15W, 10W, 9W, 6W, 5W, 4W and 3W below the eastbound upper level roadway, and below orthotropic deck ribs over the main floorbeam at Panel Points 5W and 3W below the westbound upper level roadway (See attached sketches on pages 3 through 18 and photographs 1 through 17).

The cracked riser beam web plates are typically cracked fully through for their entire length with the exception of four riser beam web plates which exhibit up to 90 percent section loss, broken sections or partial width cracks.

The deck riser beams were noticeably bouncing with audible banging noise evident during passage of large trucks. The compression sealed deck joints at the top of deck within the eastbound and westbound lanes over the primary floorbeams exhibit minor deterioration with no signs of movement evident based on our recent visual top of deck inspections.

Secondary Floorbeam SFB 12 from west between Panel Points 5W and 6W exhibits horizontal cracks extending along the base of web over Stringer 6 due to out of plane movement. A crack was previously noted in the base of the SFB 12 web extending 7-1/4" north of Stringer 6 and 9-3/4" south of Stringer 6. The web crack north of Stringer 6 extends 1-1/2" into the bottom flange beyond a previously drilled 1/2" diameter arrestor hole. The web crack extending south of Stringer 6 has continued to propagate for a total length of 11" along the web, however, the crack does not propagate into the bottom flange. Noticeable bouncing was evident along the Secondary Floorbeam 12 web cracks during passage of large trucks. (See attached sketch on page 18 and photographs 15, 16 &17).

The following repairs are recommended as an Immediate Action due to the noticeable bouncing evident at consecutively cracked riser beam web plates at PP15W, 10W, 9W, 6W, 5W, 4W and 3W and due to continued fatigue crack propagation into the bottom flange of SFB 12 north of Stringer 6 and along the web south of Stringer 6 between Panel Points 5W & 6W:

1. Repair the cracked, broken and/or severely corroded riser beam web plate at the following locations:

Panel Point Location	Between Stringers	Riser Beam (South of Median)	EB Lane No.	Riser Beam (North of Median)	WB Lane No.
15W	S3 to S4	R23 through R27	4	N/A	N/A
10W	S2 to S4	R15 through R28	2,4,6	N/A	N/A
9W	S3 to S4	R20 through R30	2,4	N/A	N/A
6W	S4 to S5	R31 through R35	2	N/A	N/A
5W	S2 to S5	R16 through R35	2,4,6	R36 through R40	1
4W	S2 to S5	R19 through R35	2,4	N/A	N/A
3W	S2 to S5	R14 through R35	2,4,6	R36 through R40	1

2. Drill 1" diameter holes at the crack tip and reinforce the cracked web and bottom flange of Secondary Floorbeam 12 north and south of Stringer 6 between PP5W & 6W.

Repair plans addressing the recommended Immediate Actions will be prepared and provided upon request.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

Sincerely,

Matthew J. Nash

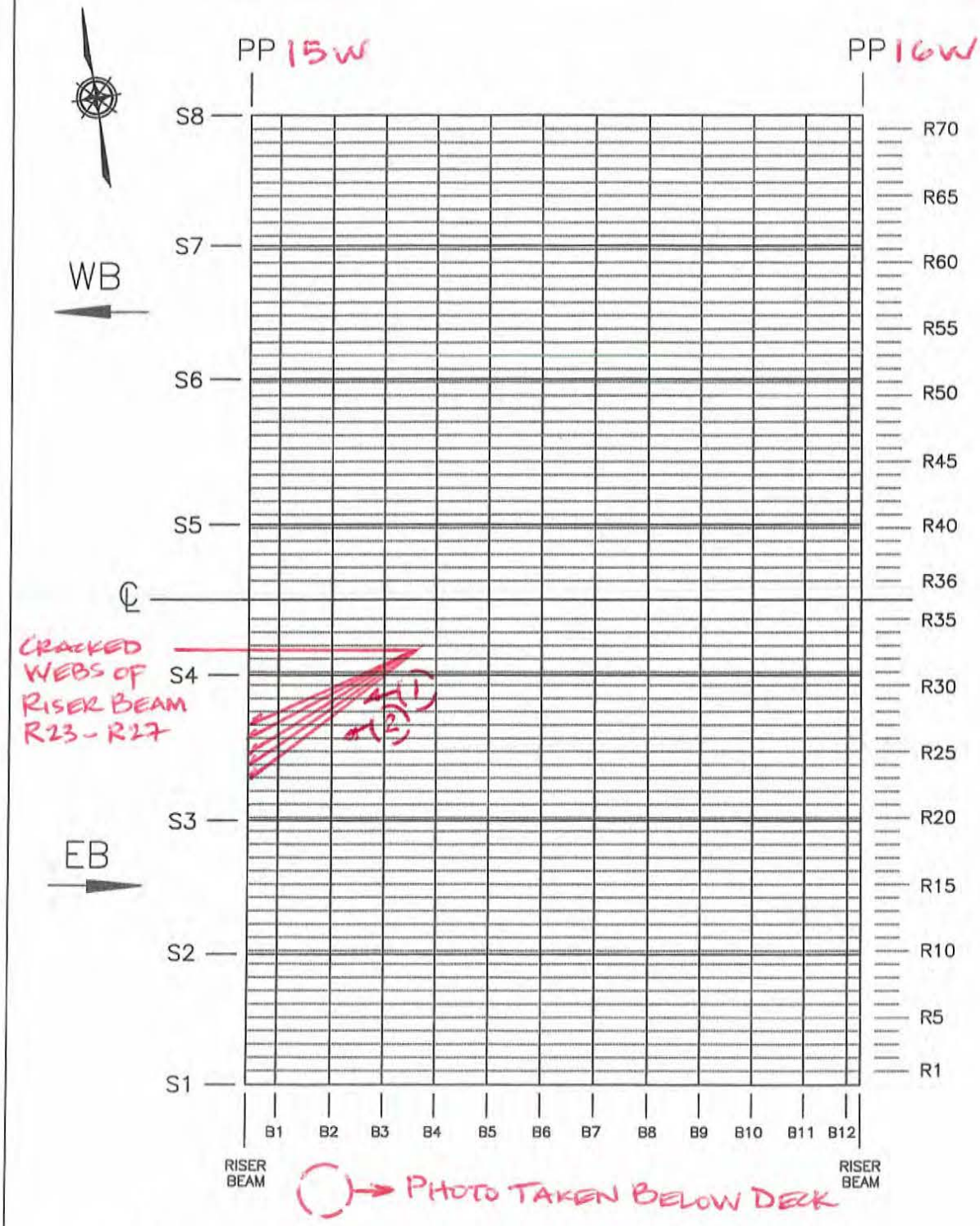
Matthew J. Nash, PE
Project Manager

2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL 15W TO 16W

BIN 5522508

DATE: 10/6/11 MC



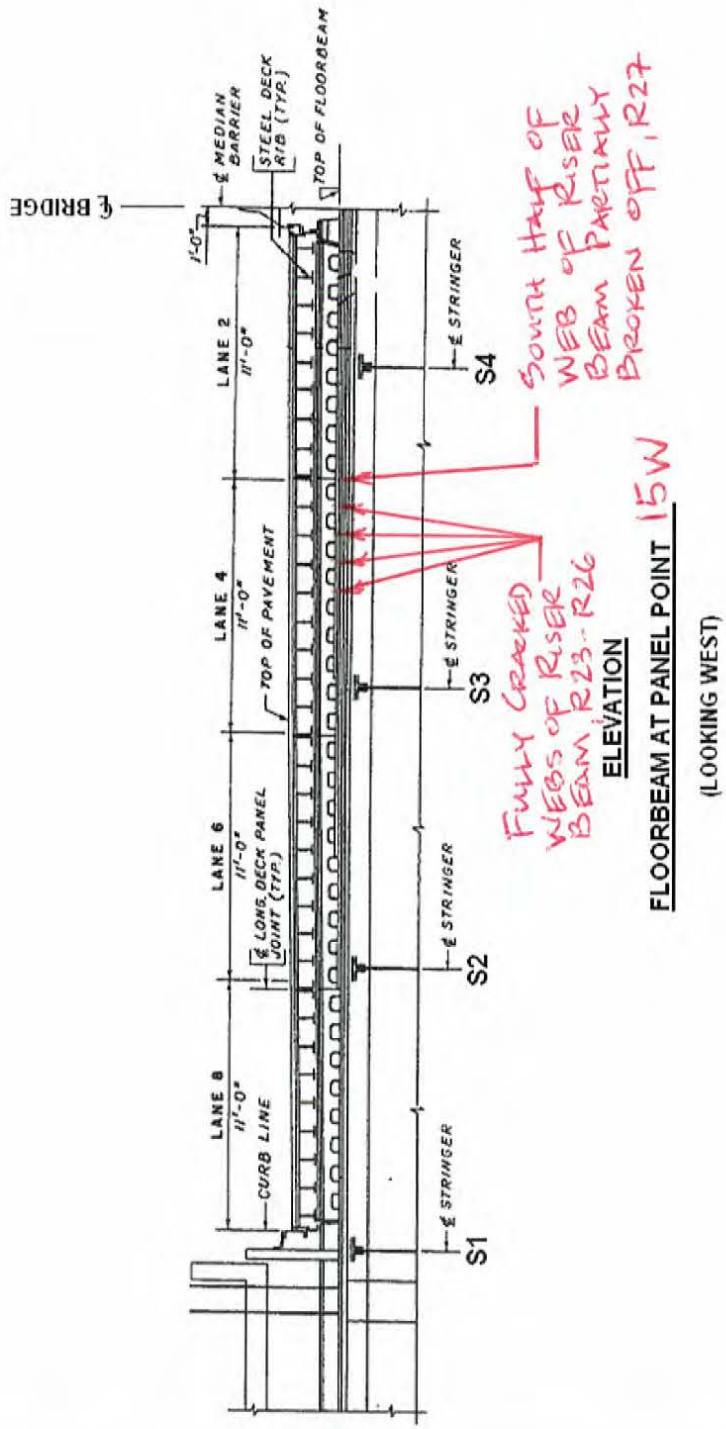
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/6/11 MC Description: CRACKED WEBS OF RISER BM Job #: 47402

RISER BEAM CRACKS

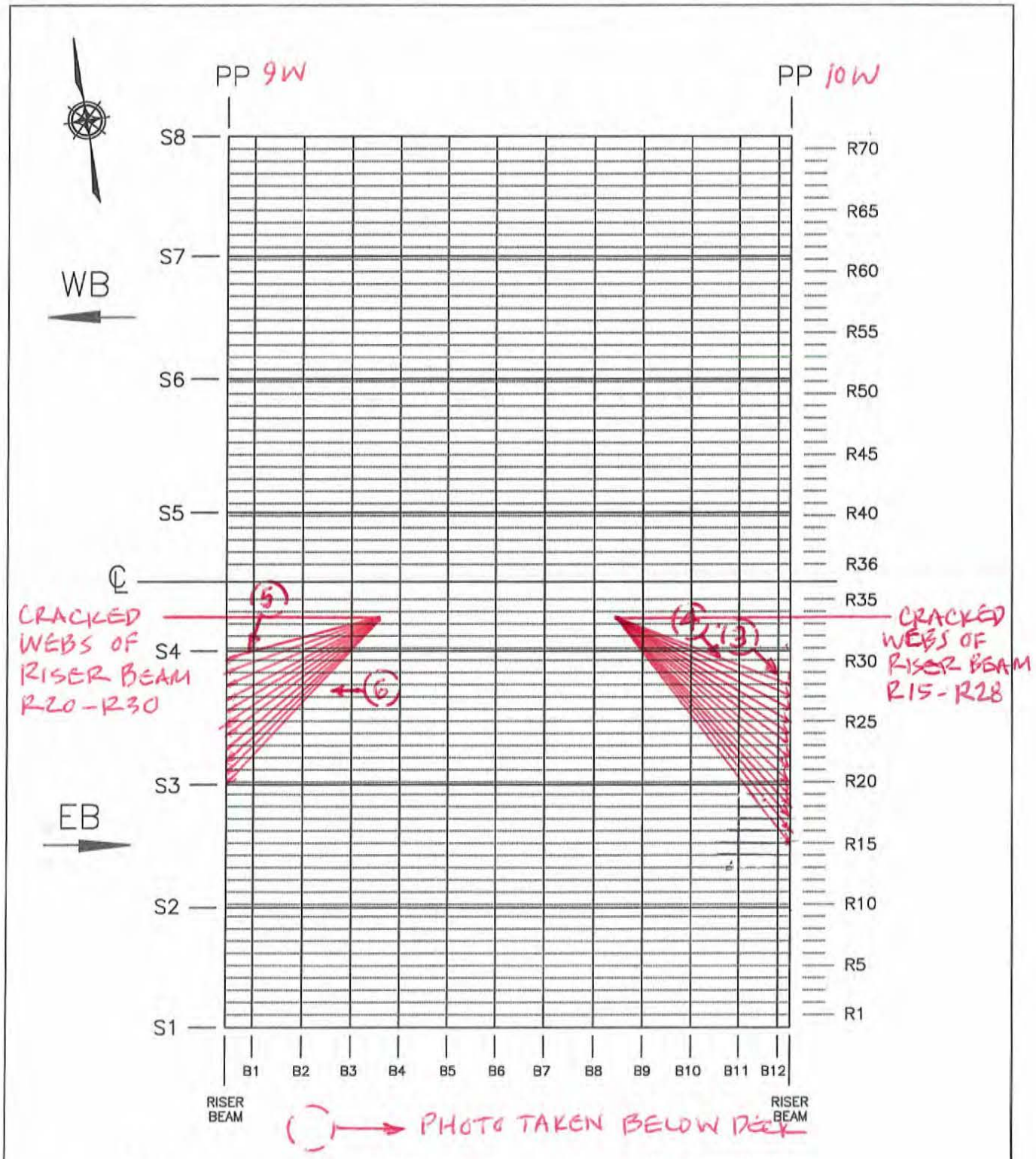


2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL 9W TO 10W

BIN 5522508

DATE: 10/11/11 MC

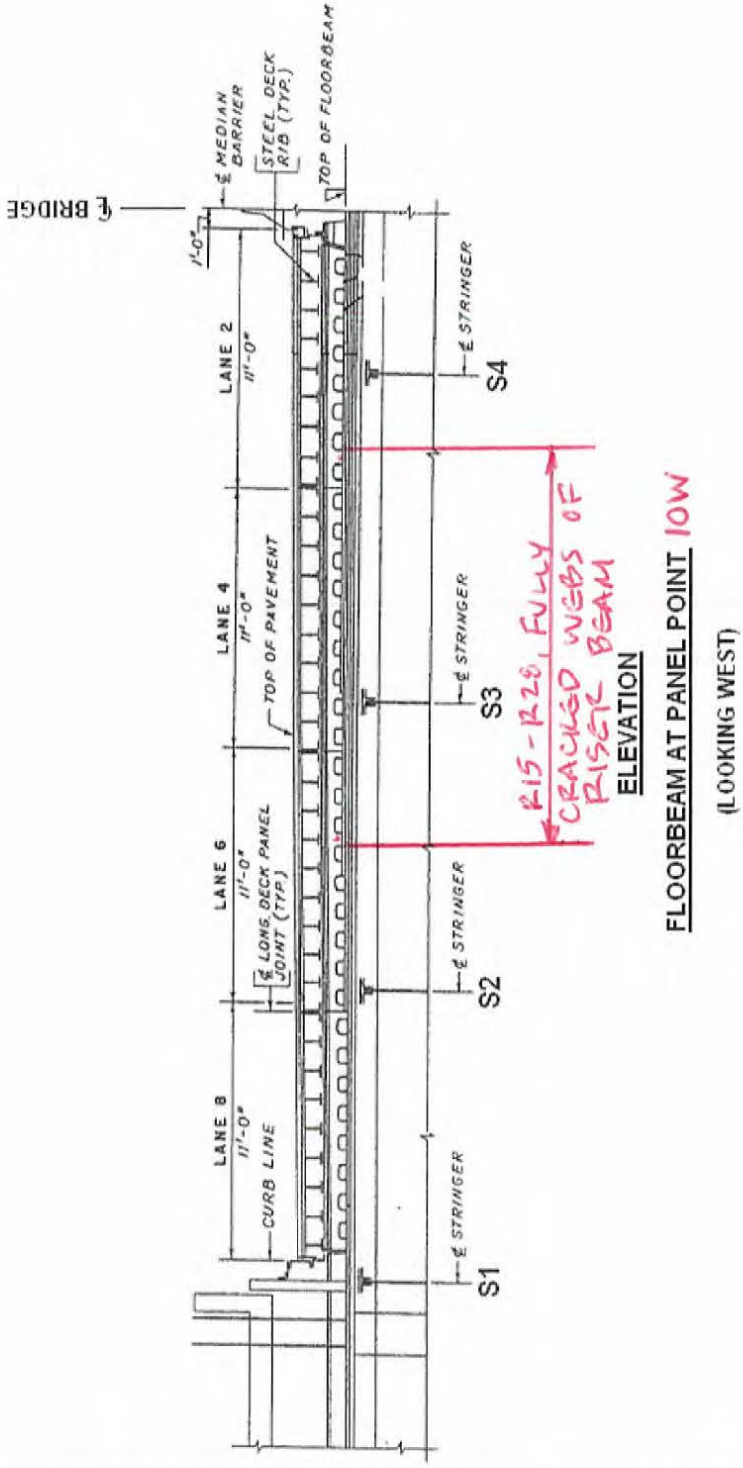


LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/7/11 Description: CRACKED WEBS OF RISER BEAM Job #: 47402

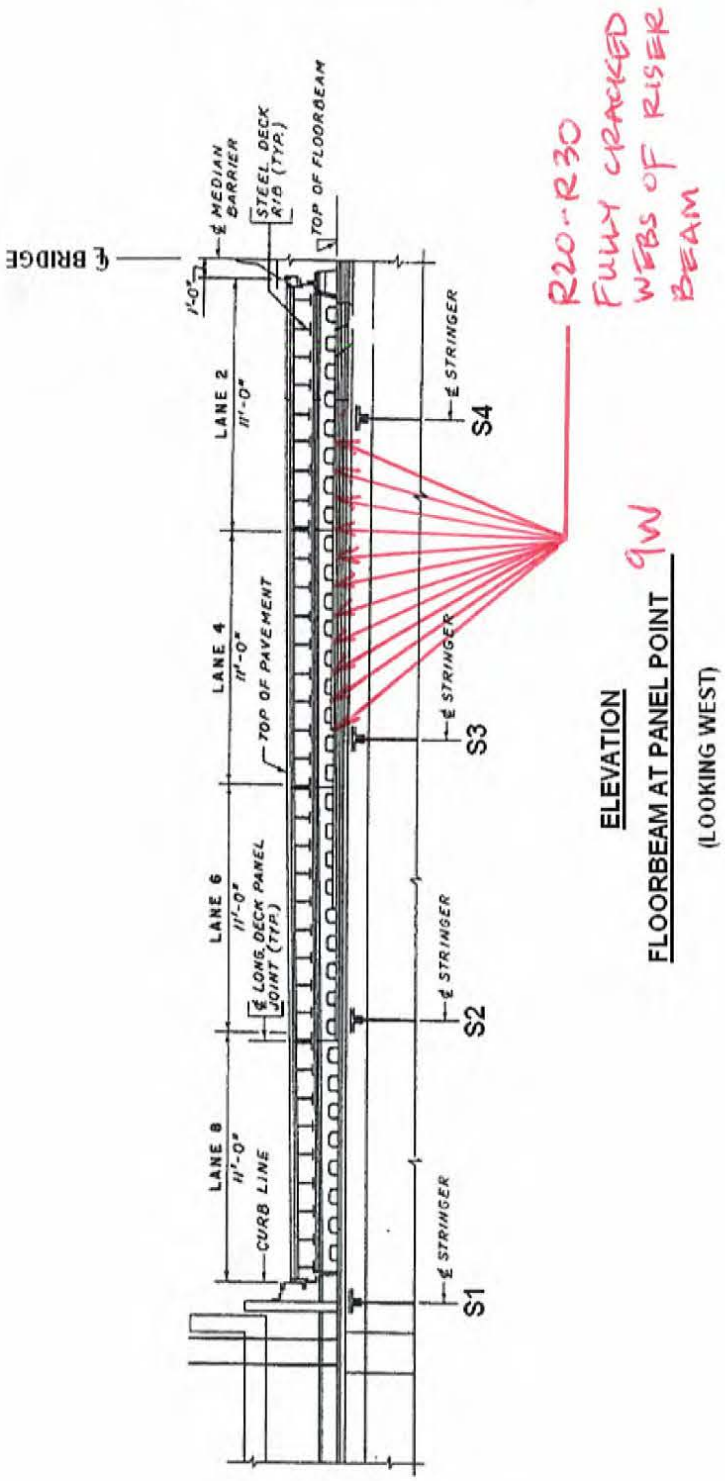


Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/11/11 NIC Description: CRACKED WEBS OF RISER BEAM Job #: 47402

RISER BEAM CRACKS

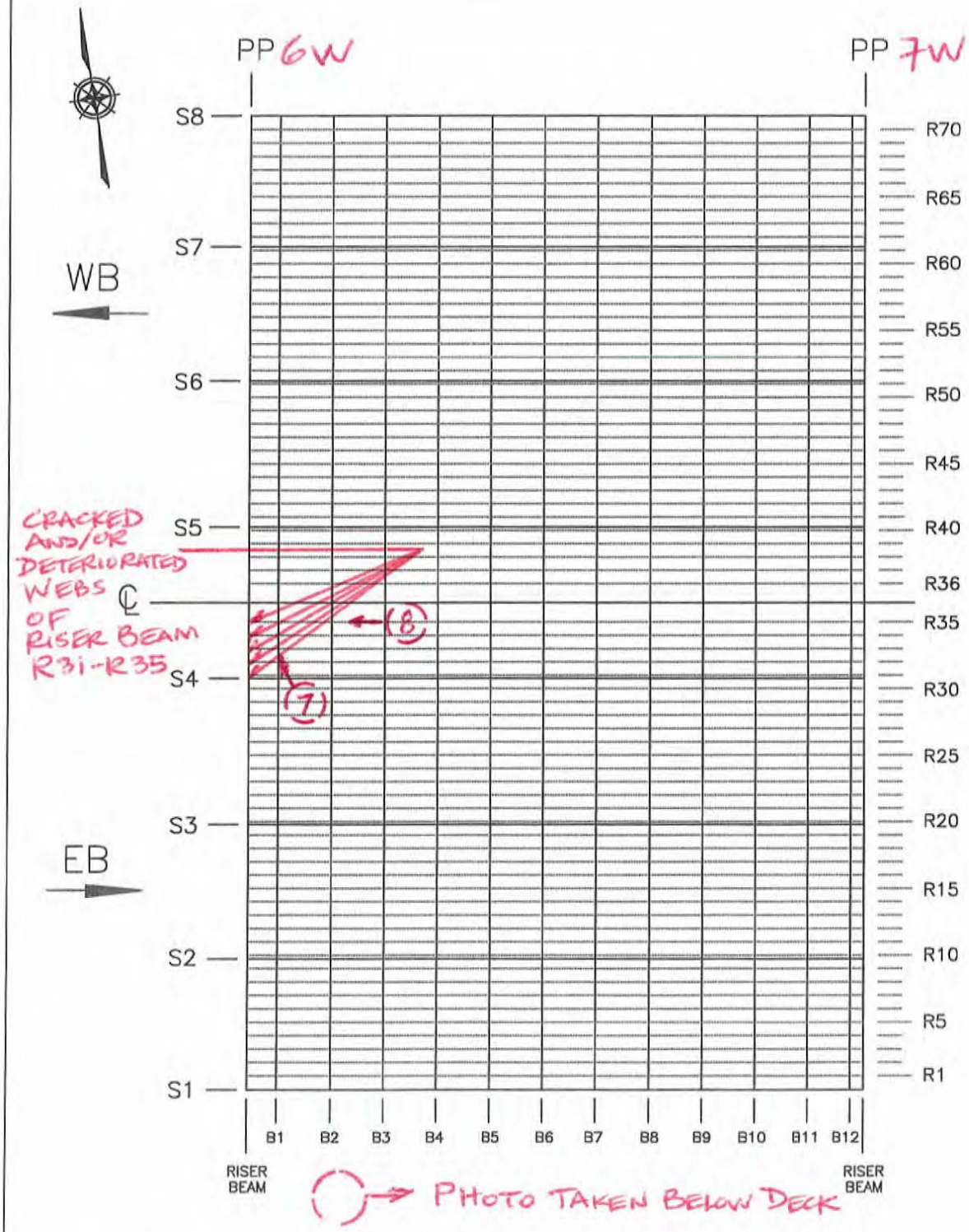


2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL 6W TO 7W

BIN 5522508

DATE: 10/11/11 JB



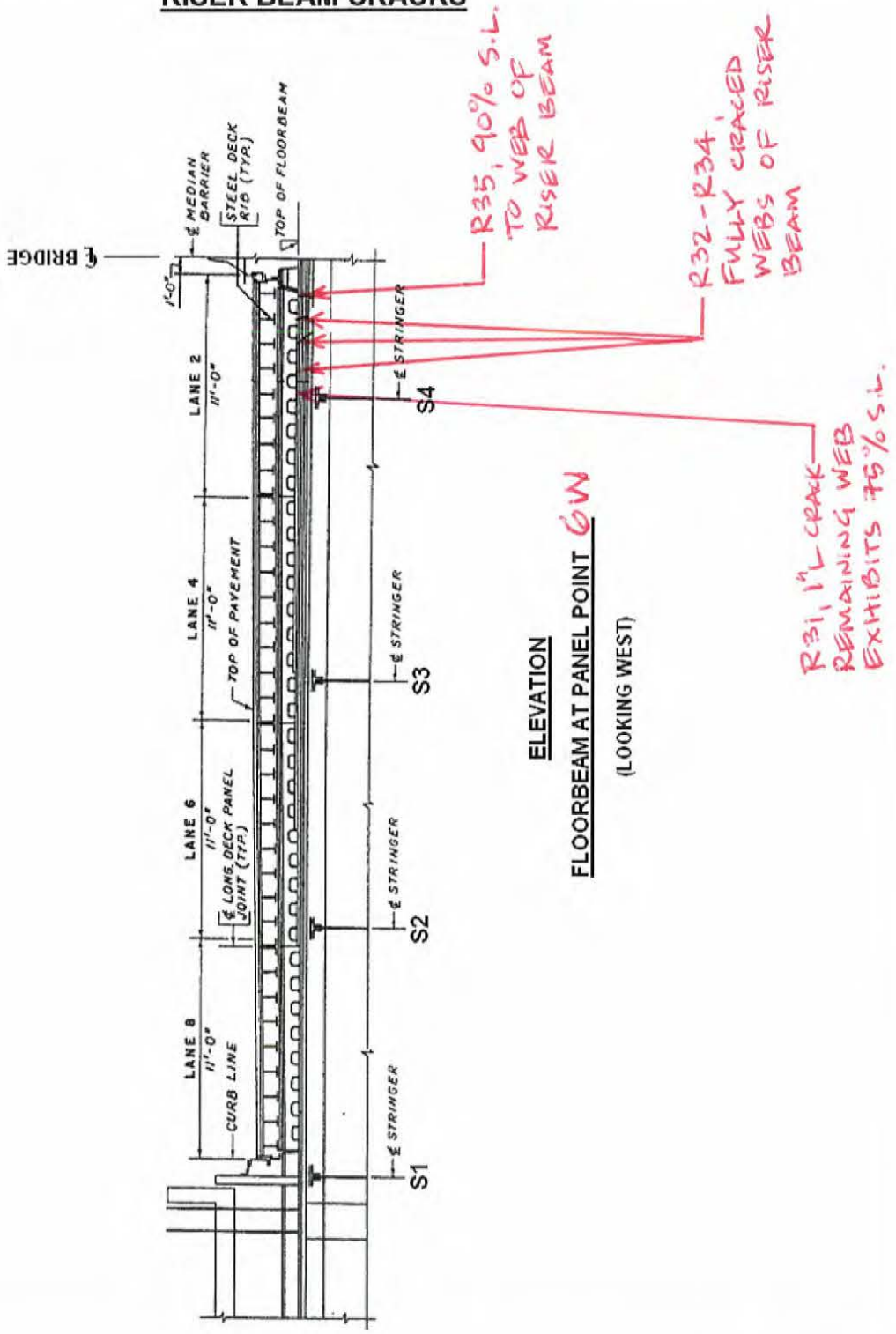
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/11/11 JB Description: CRACKED/DETER. WEBS OF RISER BM Job #: 47402

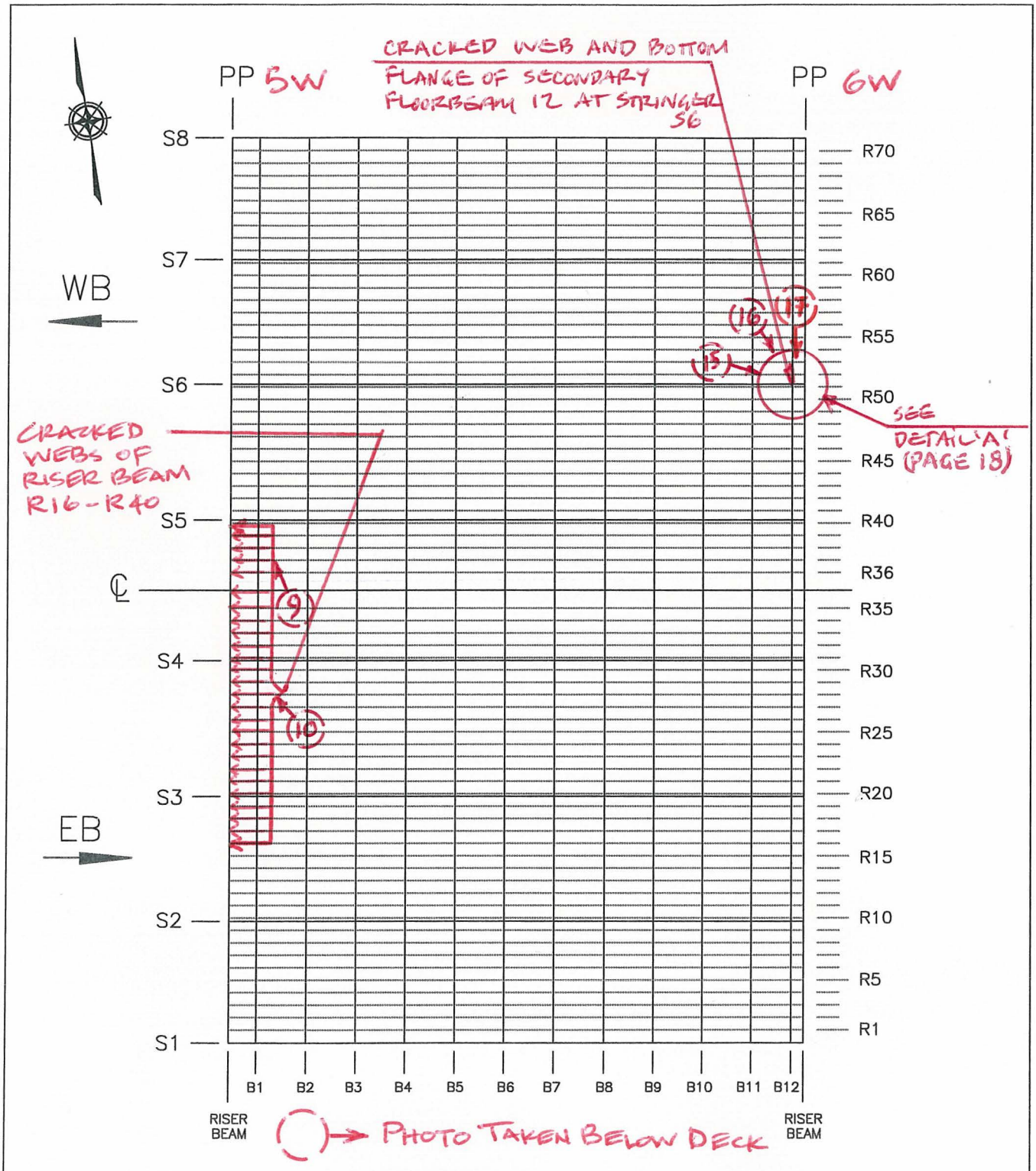
RISER BEAM CRACKS



2011 CONDITION SURVEY INSPECTION OF THE GEORGE WASHINGTON BRIDGE
PANY&NJ AGREEMENT # 405-11-002

MAIN SPAN
UPPER LEVEL
PANEL 5W TO 6W

BIN 5522508 DATE: 10/12/11



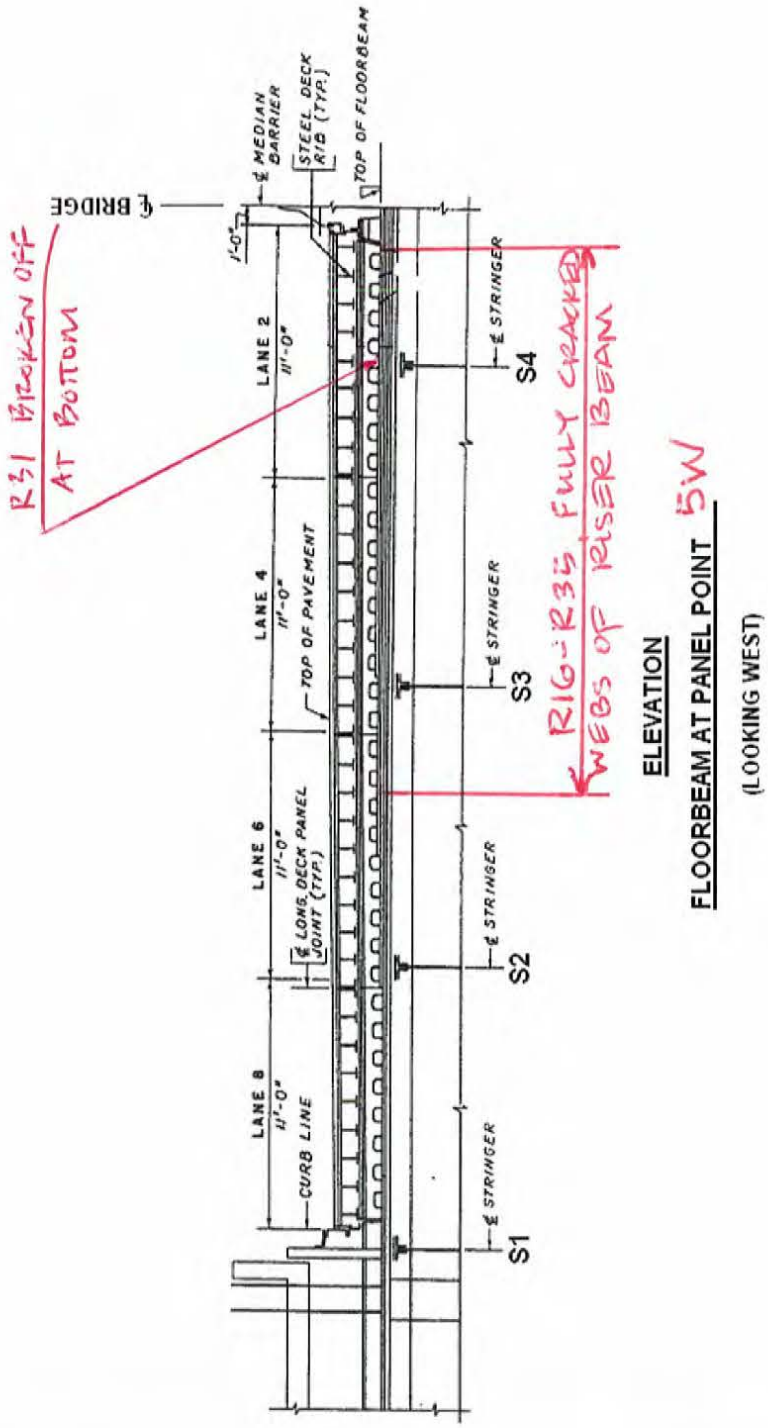
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/12/11 JB Description: CRACKED WEBS OF RISER BEAM Job #: 47402

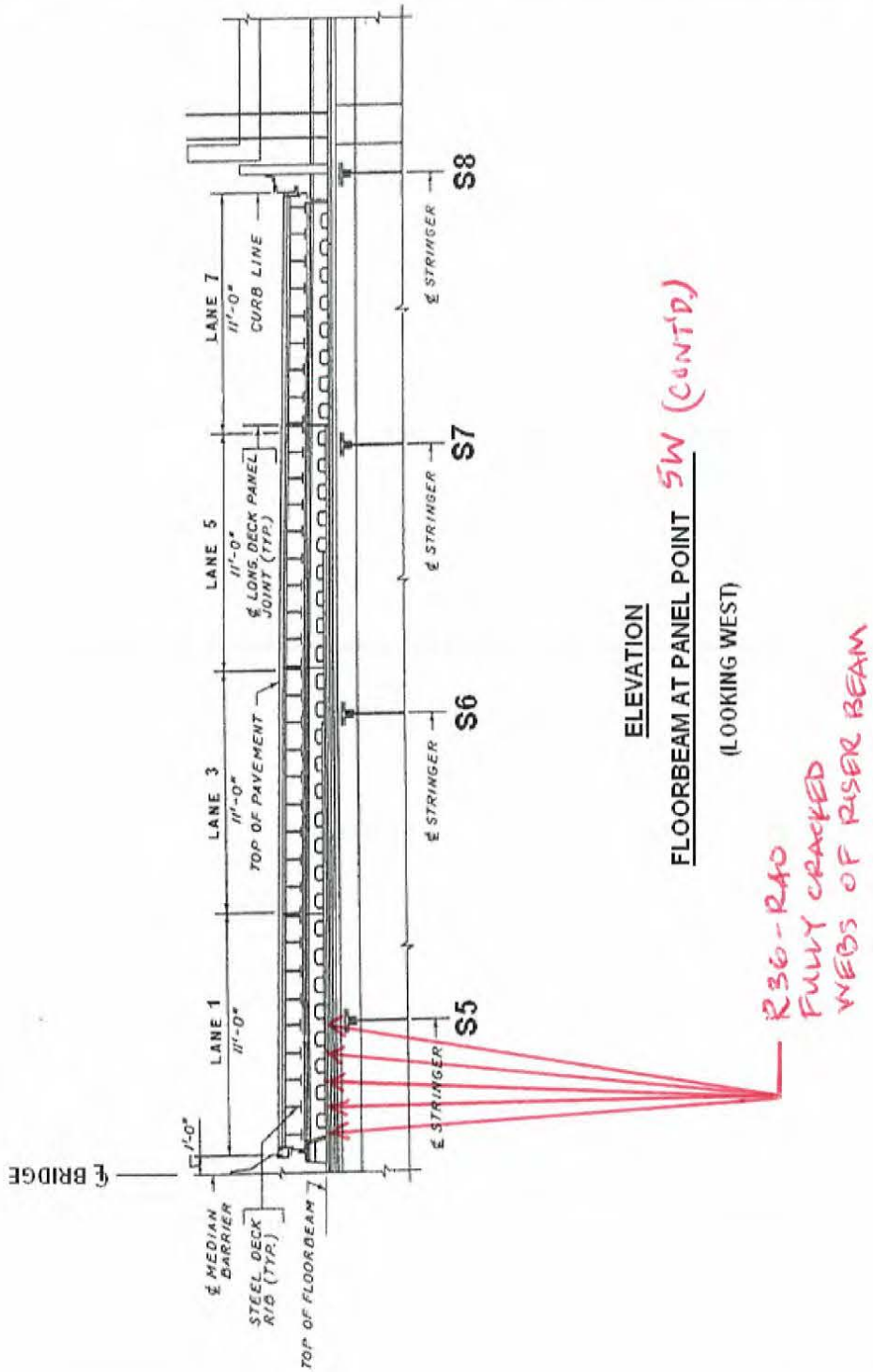
RISER BEAM CRACKS



Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

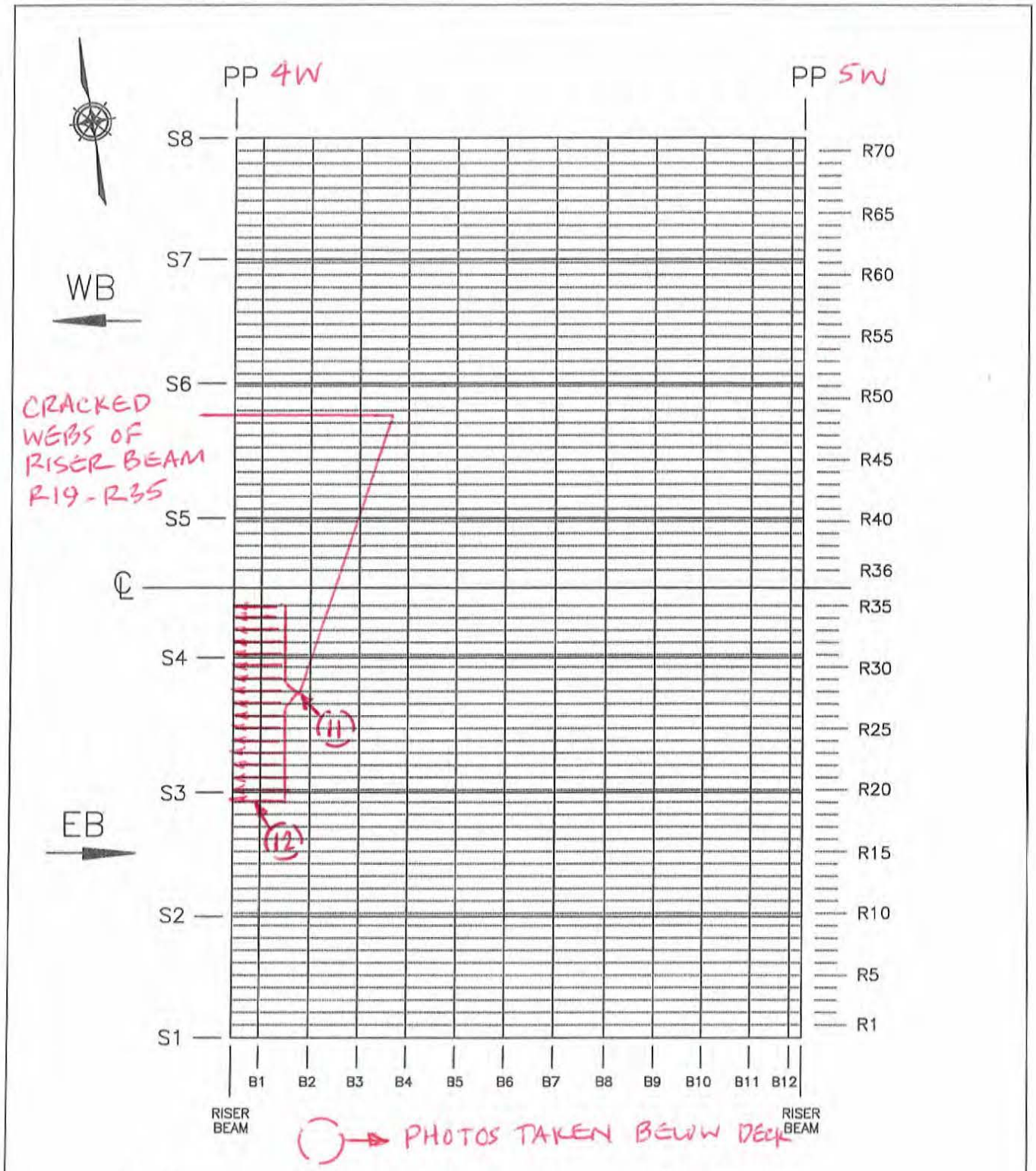
Date: 10/12/11 JB Description: CRACKED WEBS OF RISER BEAM Job #: 47402



MAIN SPAN
UPPER LEVEL
PANEL 4W TO 5W

BIN 5522508

DATE: 10/13/11 JB



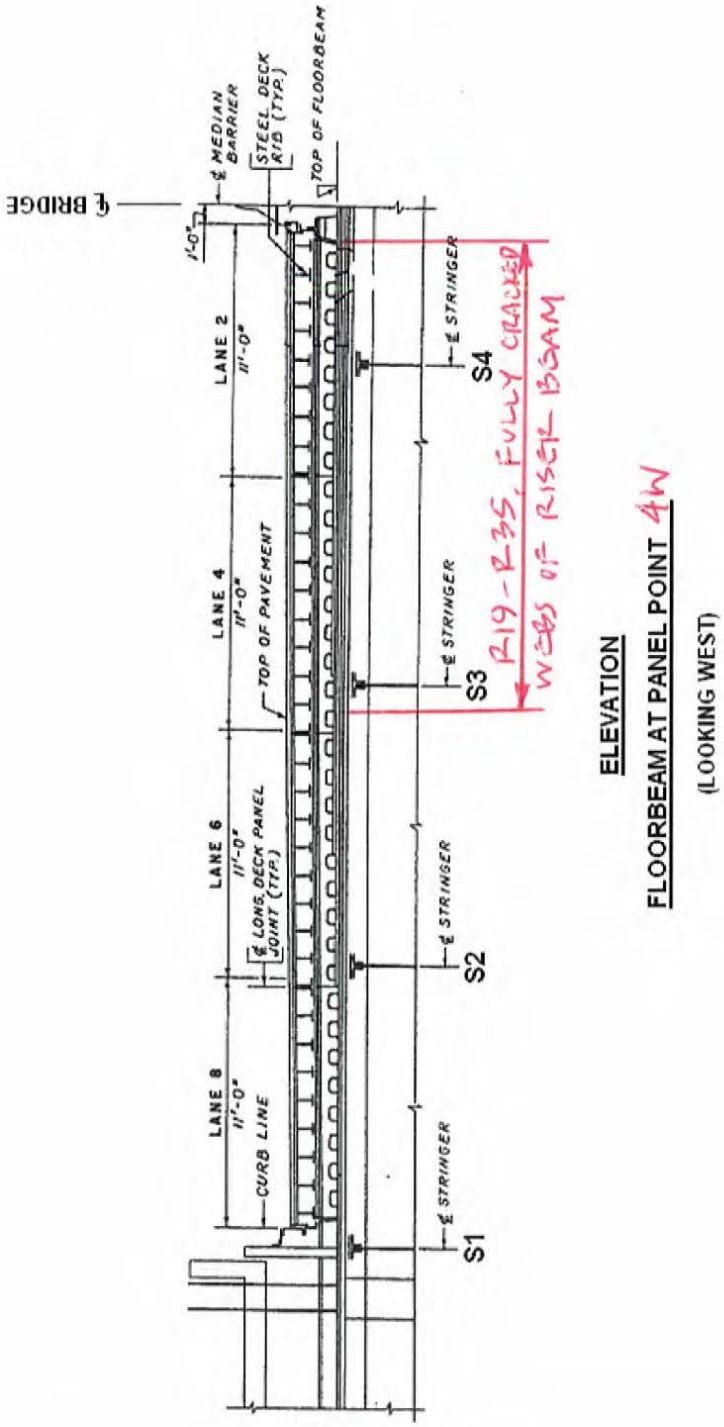
LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/13/11 Description: CRACKED WEBS OF RISER BEAM Job #: 47402

RISER BEAM CRACKS



ELEVATION

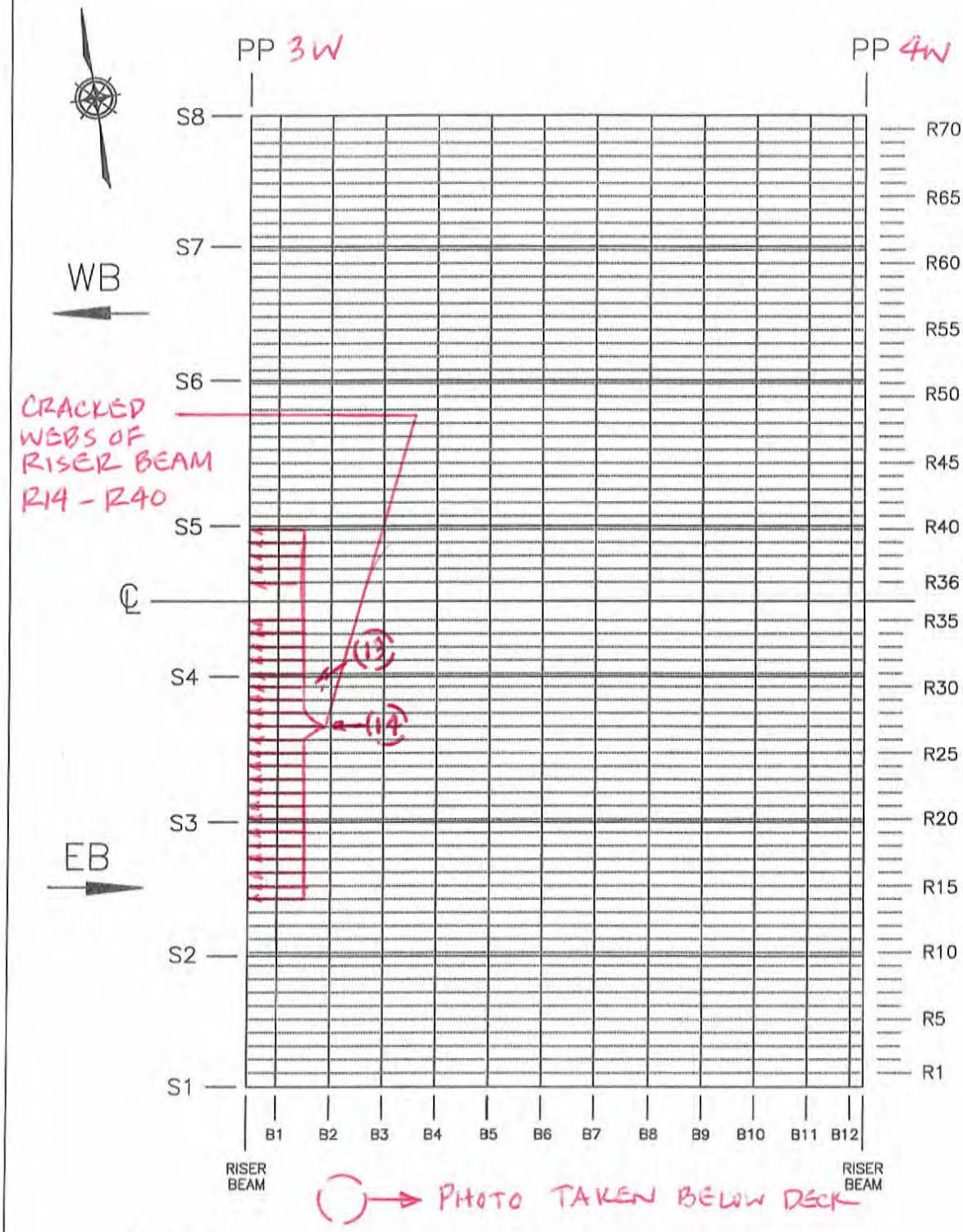
FLOORBEAM AT PANEL POINT 4W

(LOOKING WEST)

MAIN SPAN
UPPER LEVEL
PANEL 3W TO 4W

BIN 5522508

DATE: 10/13/11

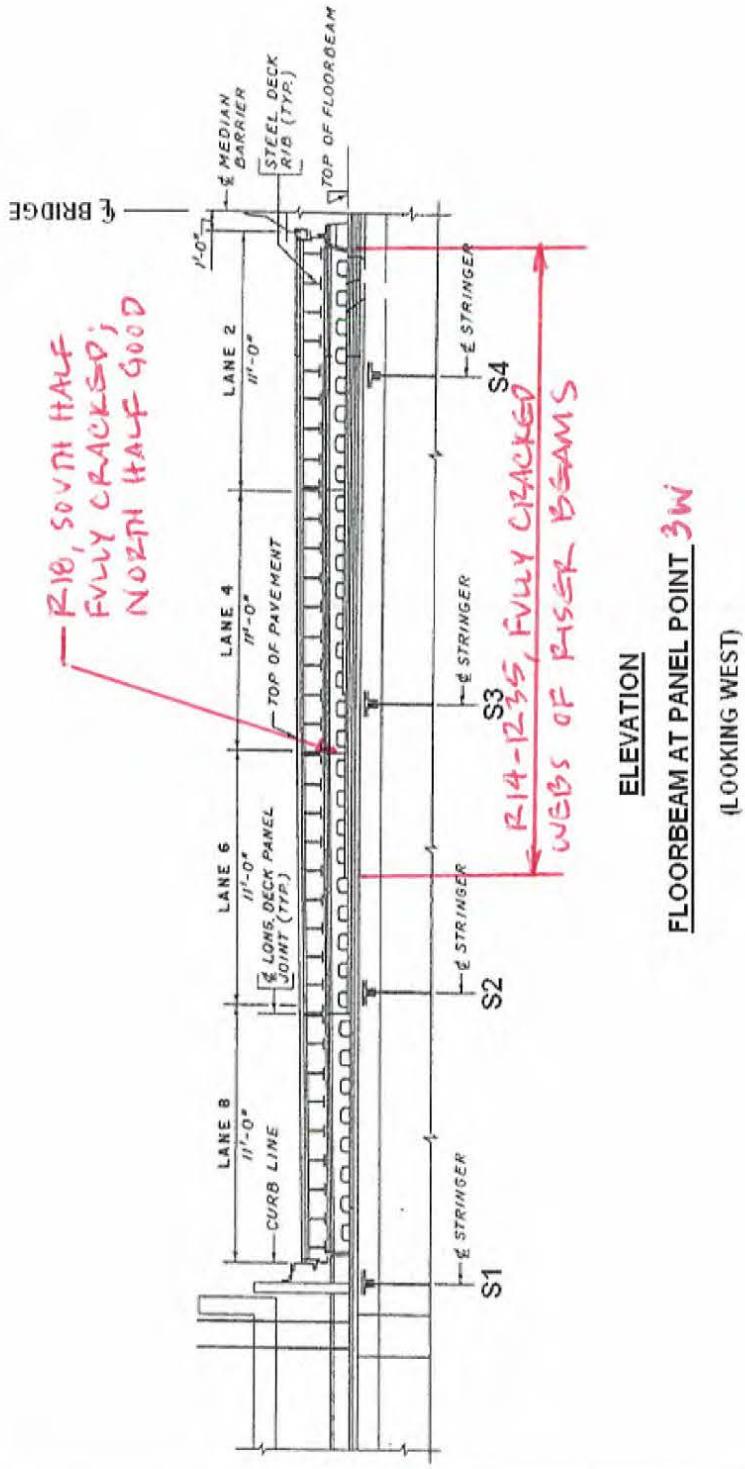


LEGEND: PP – PANEL POINT S – STRINGER
B – SECONDARY FLOORBEAM R – DECK RIB

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/13/11 JB Description: CRACKED WEBS OF RISER BEAM Job #: 47402



ELEVATION

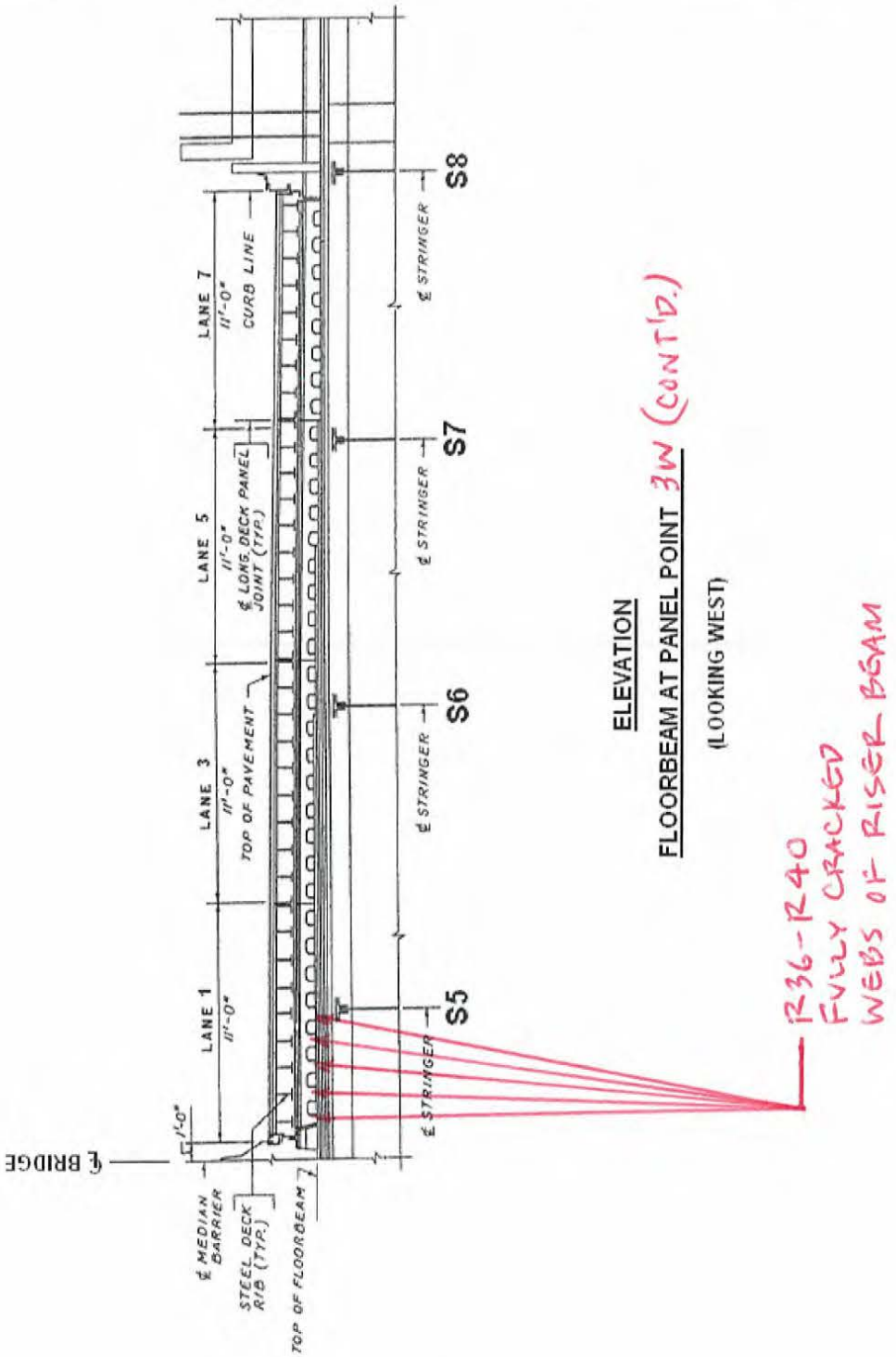
FLOORBEAM AT PANEL POINT 3W

(LOOKING WEST)

Field Sketch

Bridge No.: 5522508 Bridge Name: George Washington Bridge Main Span

Date: 10/13/11 JB Description: CRACKED WEBS OF RISER BEAM Job #: 47402



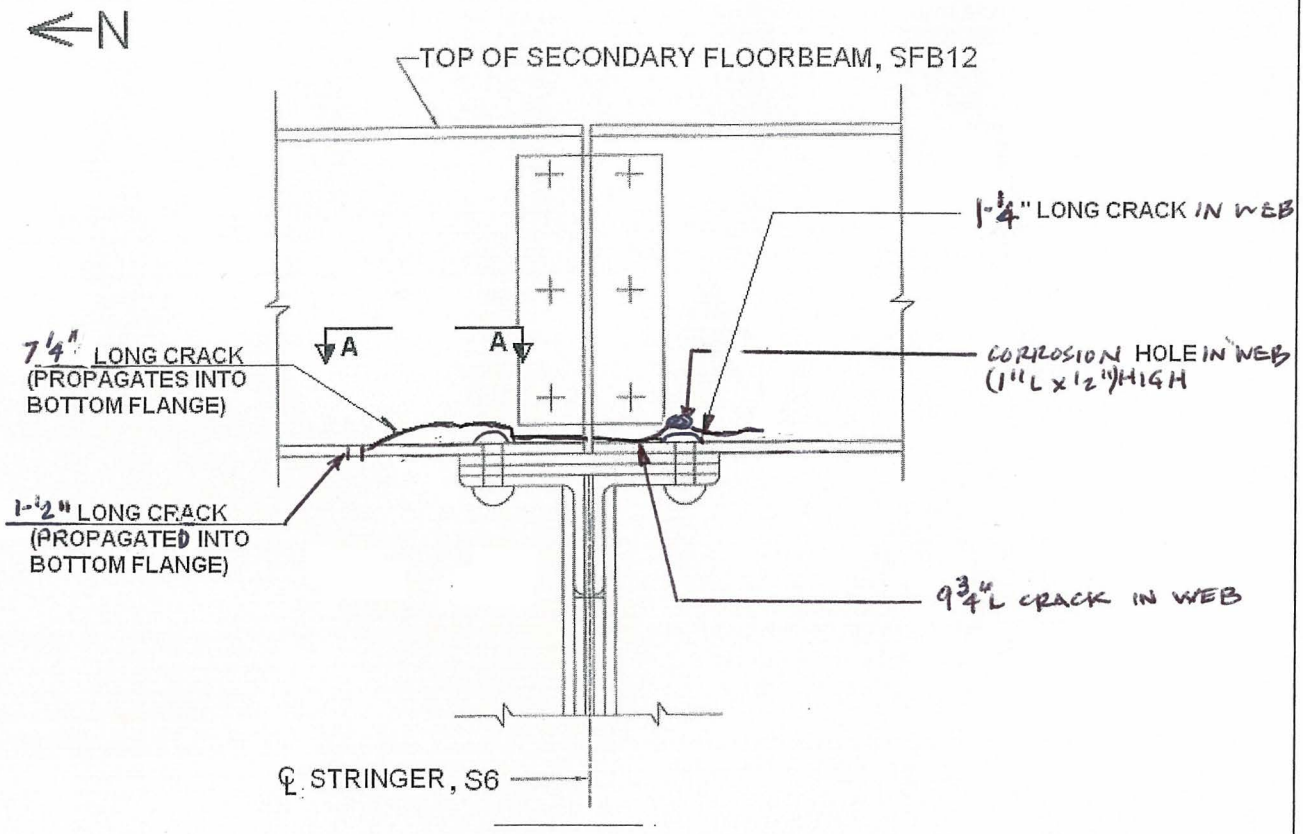
ELEVATION

FLOORBEAM AT PANEL POINT 3W (CONT'D.)

(LOOKING WEST)

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

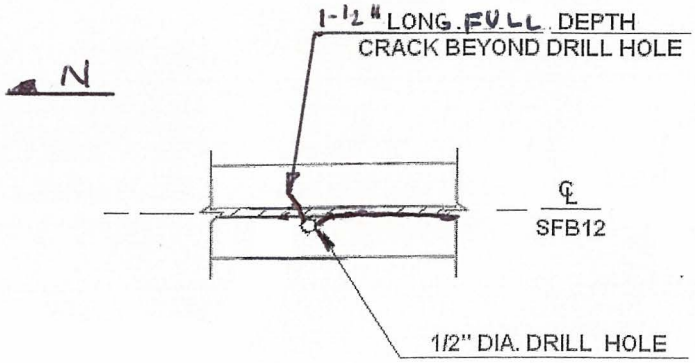
DETAIL SECTION FOR CRACKED WEB AND BOTTOM FLANGE OF SUBFLOORBEAM 12



DETAIL "A"

ELEVATION - (PP5W-PP6W)

(Looking East)



SECT. A-A

Photo No. 1

Location: Upper Level – Panel Point 15W between Stringers 3 and 4 below Deck Ribs R23 through R27.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest. South half of Rib R27 is broken off.

Photo No. 2

Location: Upper Level – Panel Point 15W between Stringers 3 and 4 below Deck Ribs R23 through R27.

Description: Web of riser beam above primary floorbeam exhibits full width cracks 7" long, looking southwest from Rib R26.

Photo No. 3

Location: Upper Level – Panel Point 10W between Stringers 2 and 4 below Deck Ribs R15 through R28.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southeast.

Photo No. 4

Location: Upper Level – Panel Point 10W between Stringers 2 and 4 below Deck Rib R15 through R28.

Description: Web of riser beam above primary floorbeam exhibits a full width crack at Deck Rib R22, looking southeast.

Photo No. 5

Location: Upper Level – Panel Point 9W between Stringers 3 and 4 below Deck Ribs R20 through R30.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

Photo No. 6

Location: Upper Level – Panel Point 9W between Stringers 3 and 4 below Deck Ribs R27 and R28.

Description: Web of riser beam above primary floorbeam exhibits a full width cracks long, looking west.

Photo No. 7

Location: Upper Level – Panel Point 6W between Stringers 4 and 5 below Deck Ribs R31 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northwest.

Photo No. 8

Location: Upper Level – Panel Point 6W between Stringers 4 and 5 below Deck Rib R35.

Description: Web of riser beam above primary floorbeam exhibits severe corrosion with up to 90% section loss, looking west.

Photo No. 9

Location: Upper Level – Panel Point 5W between Stringers 4 and 5 below Deck Ribs R36 through R40.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northwest.

Photo No. 10

Location: Upper Level – Panel Point 5W between Stringers 2 and 5 below Deck Ribs R16 through R35.

Description: Web of riser beam above primary floorbeam exhibits a full width crack and broken section at base of Rib R31, looking northwest.

Photo No. 11

Location: Upper Level – Panel Point 4W between Stringers 4 and 5 below Deck Ribs R31 through R35.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking northwest.

Photo No. 12

Location: Upper Level – Panel Point 4W between Stringers 2 and 5 below Deck Rib R19 through R35.

Description: Web of riser beam above primary floorbeam exhibits a full width cracks, looking northwest.

Photo No. 13

Location: Upper Level – Panel Point 3W between Stringers 3 and 4 below Deck Ribs R28 through R30.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking southwest.

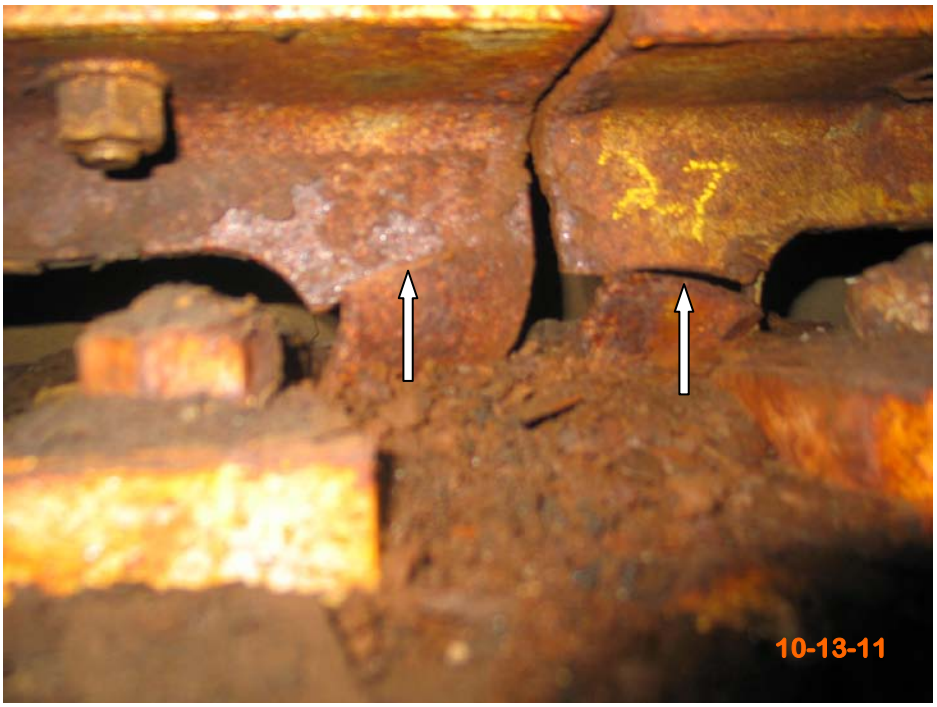


Photo No. 14

Location: Upper Level – Panel Point 3W between Stringers 3 and 4 below Deck Rib R27.

Description: Web of riser beam above primary floorbeam exhibits full width cracks, looking west.

Photo No. 15

Location: Upper Level – Panel Point 5W-6W, Secondary Floorbeam 12 to Stringer 6 connection.

Description: Web of secondary floorbeam exhibits horizontal crack along the base, looking southeast.

Photo No. 16

Location: Upper Level – Panel Point 5W-6W, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Web of secondary floorbeam exhibits a 7-1/4" long crack along the base of web extending 1-1/2" into the bottom flange beyond a 1/2" diameter drilled arrestor hole, looking southeast.

Photo No. 17

Location: Upper Level – Panel Point 5W-6W, Secondary Floorbeam 12 to Stringer 6 connection, north side.

Description: Secondary floorbeam exhibits a web crack propagating 1-1/2" into the bottom flange beyond the 1/2" drilled arrestor hole, looking up and south.

Photo No.

Location:

Description:

The HNTB Companies
Engineers Architects Planners

5 Penn Plaza
6th Floor
New York, NY 10001

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Facsimile (212) 947-4030
www.hntb.com

HNTB

October 19, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked and Delaminated Concrete along South Sidewalk fascia between PP36E to 32E, PP2E-1E and PP4W-2W

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge Upper Level, HNTB personnel removed several areas of loose concrete along the sidewalk fascias and found several additional locations of cracked and/or delaminated concrete along the south sidewalk which could not be safely removed. The deteriorated areas were noted between Panel Points PP36E to 32E (over the main navigable channel), between PP2E-1E (over a storage area at the New York Anchorage) and between PP4W-2W over the rock slope at the New Jersey Anchorage. The deteriorated concrete areas total approximately 100 square feet and range in size from 5' to 25' in length. (See attached sketches on pages 2, 3 and 4 and photographs 1, 2 and 3).

It is recommended that the cracked and delaminated concrete areas be removed to sound concrete on an immediate basis.

If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

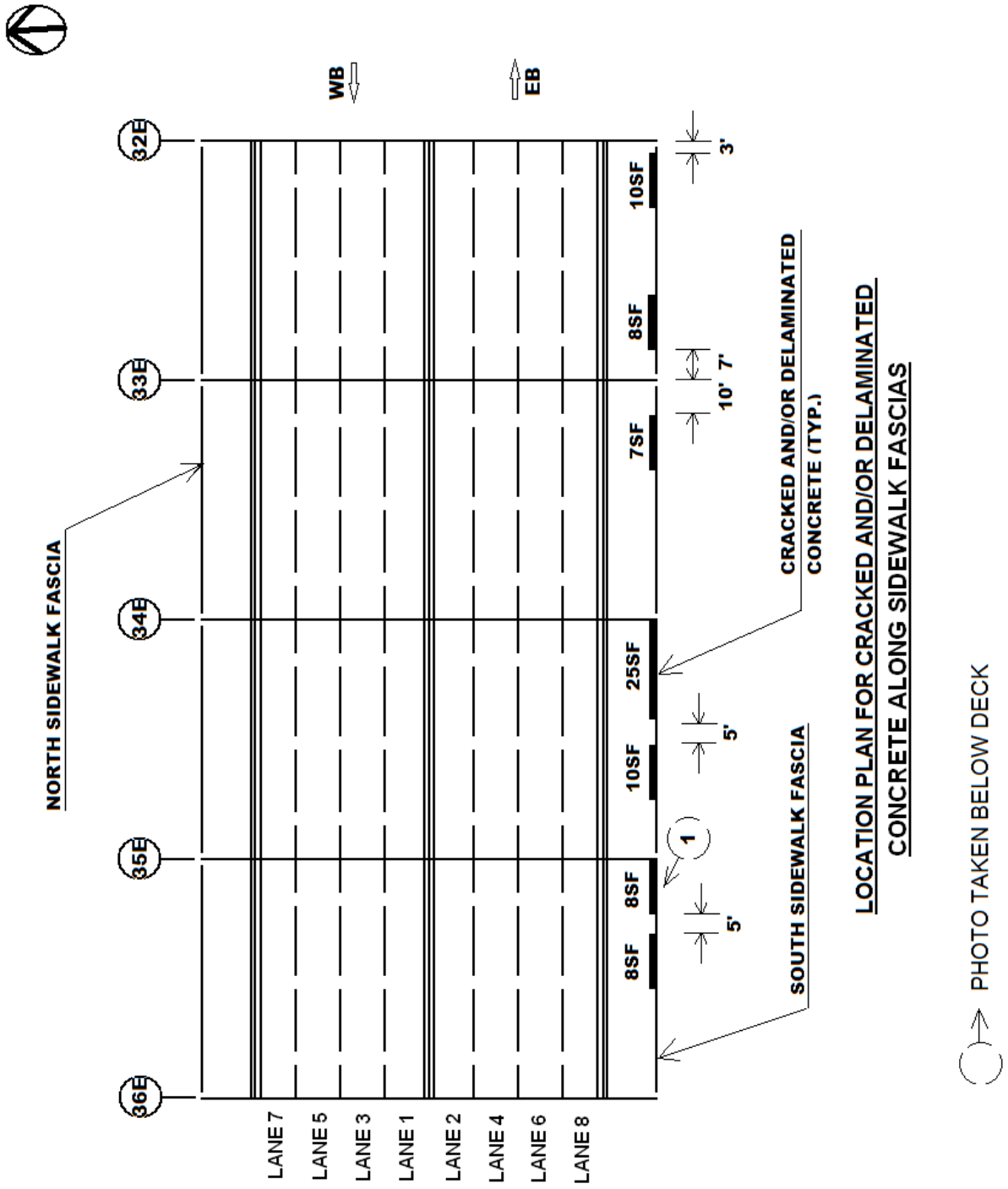
Sincerely,

Matthew J. Nash

Matthew J. Nash, PE
Project Manager

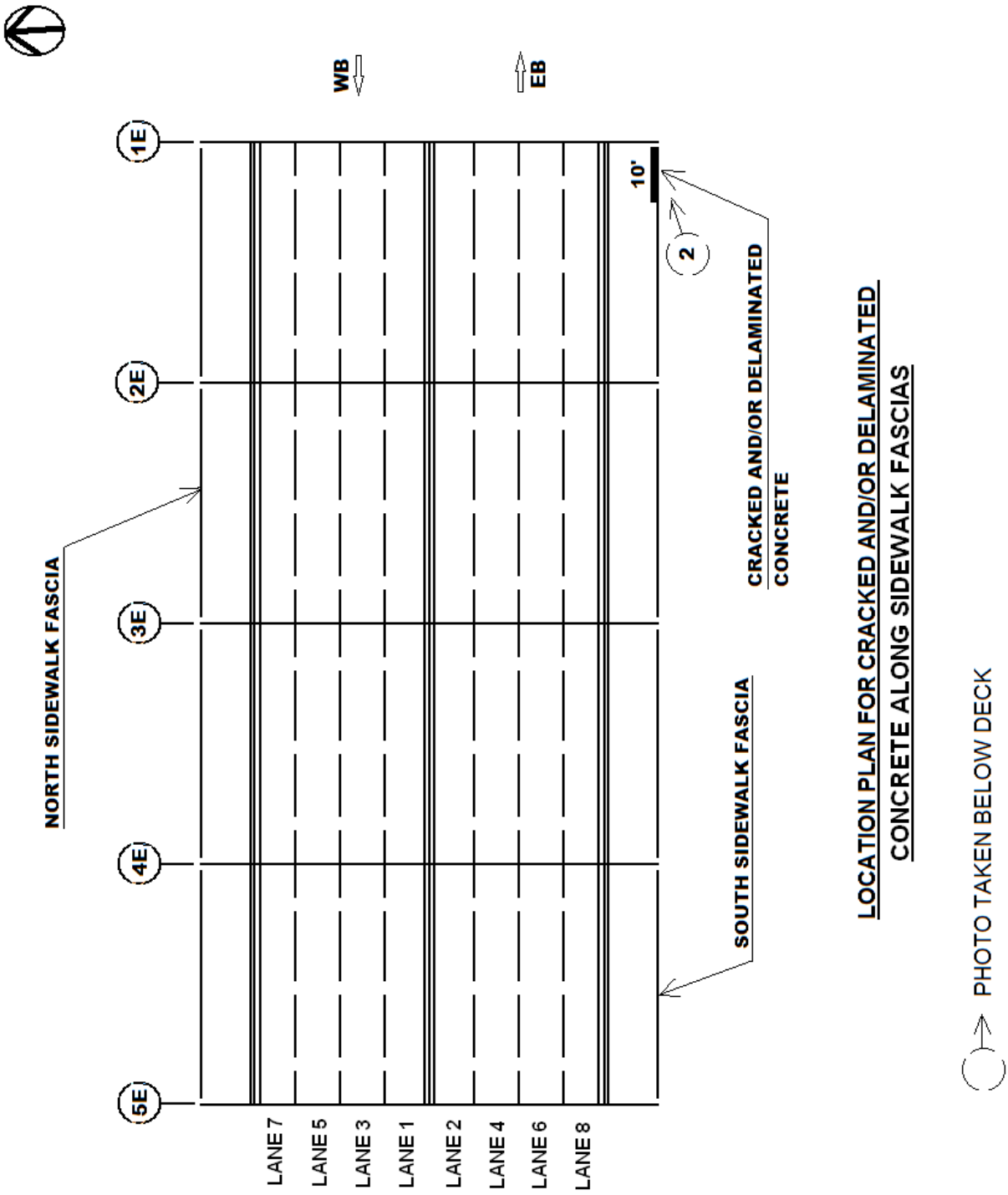
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED AND/OR DELAMINATED CONCRETE ALONG SIDEWALK FASCIA



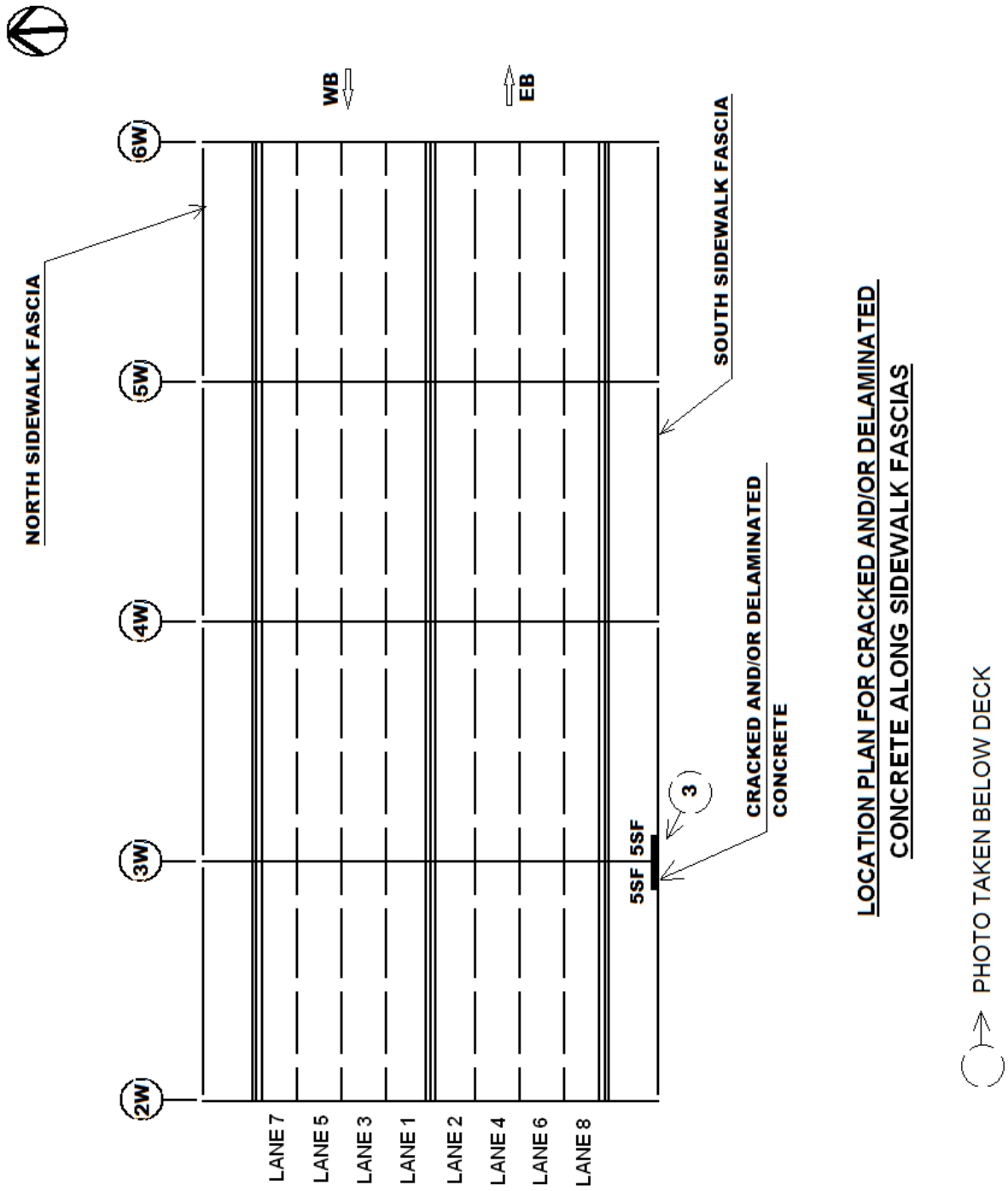
2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED AND/OR DELAMINATED CONCRETE ALONG SIDEWALK FASCIA



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508

LOCATION PLAN FOR CRACKED AND/OR DELAMINATED CONCRETE ALONG SIDEWALK FASCIA



2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 1

Location: Upper Level – South Sidewalk Fascia Between Panel Points 35E and 36E.

Description: Cracked and delaminated concrete along south sidewalk fascia, looking northwest.

Photo No. 2

Location: Upper Level – South Sidewalk Fascia Between Panel Points 1E and 2E.

Description: Cracked and delaminated concrete along south sidewalk fascia, looking northeast.

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 3

Location: Upper Level – South Sidewalk Fascia Between Panel Points 2W and 4W.

Description: Cracked and delaminated concrete along south sidewalk fascia near PP3W, looking northwest.

Photo No.

Location:

Description:

The HNTB Companies
Engineers Architects Planners

5 Penn Plaza
6th Floor
New York, NY 10001

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Facsimile (212) 947-4030
www.hntb.com

HNTB

October 21, 2011

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attn: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of 2011 Biennial Inspection of The George Washington Bridge Upper and Lower Level
Call-in Basis (**P.A. Agreement No. 405-11-002; Purchase Order #4900006602**)

Immediate Action – Cracked Web of Secondary Floorbeams at various Stringers between Panel Points 2W-5E

Gentlemen:

During our biennial inspection of the Upper Level of the George Washington Bridge, HNTB personnel found cracks in the web of 60 Secondary Floorbeams which bear directly on longitudinal stringers. The secondary floorbeam web cracks are apparently due to out of plane movement and mostly occur at the ends of Secondary Floorbeams B1 & B12 and typically extend horizontally along the base of the web north and/or south of the longitudinal stringers. Numerous holes varying in size from 1/4" to 3/4" diameter were previously drilled at the ends of the web cracks, however, the cracks have continued to propagate beyond the drill holes at 31 locations. In addition, web cracks without arrestor holes were noted at the ends of secondary floorbeams at 29 locations. Few cracks have propagated into the bottom flange and were already recommended for repair as an immediate action involving drilling of arrestor holes and installation of bolted repair angles. Noticeable movement was evident along nearly all of the secondary floorbeam web cracks during passage of large trucks. (See attached sketches on pages 4 through 8 and typical photographs 1 through 8).

The following repair is recommended as an Immediate Action due to the noticeable movement and continued fatigue crack propagation evident along the web of numerous secondary floorbeams: (Contract GWB244.022 is currently underway and is scheduled to include replacement of the end Secondary Floorbeams B1 & B12 or B13)

1. Drill a 1" diameter arrestor hole at the crack tip at the ends of the following upper level secondary floorbeams:

Panel Point	Secondary Floorbeam	Stringer	Side of Stringer	Length of Crack (2009)	Length of Crack (2011)	Drilled Arrestor Hole	Length of Crack Beyond Drilled Arrestor Hole	Photo
2W-3W	B13	S1	North	5”	5-1/2”	No		
4W-5W	B12	S4	North	2-1/2”	2-1/2”	Yes	6”	
4W-5W	B12	S4	South	3-1/2”	3-1/2”	Yes	4”	
6W-7W	B12	S3	South	3/4”	3-1/2”	Yes	2”	
6W-7W	B12	S6	South	-	2”	No		1
7W-8W	B12	S4	South	5-1/2”	5-1/2”	Yes	2”	
8W-9W	B12	S3	North	4”	4”	Yes	1-1/2”	
8W-9W	B12	S3	South	8-1/4”	8-1/2”	Yes	1/2”	
8W-9W	B12	S6	North	7-3/4”	7-3/4”	No		
11W-14W	B2*	S4	North	-	6”	No		2
17W-18W	B1	S3	North	4”	4”	Yes	4”	
17W-18W	B1	S3	South	2”	4”	Yes	6”	
17W-18W	B1	S6	North	3/8”	3/8”	No		
18W-19W	B1	S4	North	1-7/8”	1-7/8”	No		
18W-19W	B1	S4	South	1-1/4”	1-1/4”	No		
26W-27W	B1	S5	North	1-1/2”	2-1/2”	Yes	1/2”	
26W-27W	B1	S5	South	1-3/4”	2-1/2”	Yes	5/8”	
26W-27W	B1	S6	North	-	1”	No		
29W-30W	B1	S5	North	-	2-1/4”	No		
29W-30W	B1	S6	North	1-3/4”, 3/4”	1”, 3/4”	Yes	3/8”	3
32W-33W	B1	S6	South	1-1/2”	1-1/2”	No		
36W-37W	B1	S3	North	1-1/2”	1-1/2”	No		
36W-37W	B1	S3	South	2-1/2”	2-1/2”	No		
40W-41W	B1	S3	North	8”	8”	No		4
41W-42W	B1	S6	North	2-1/2”	3-1/4”	Yes	3-1/2”	
41W-42W	B1	S6	South	-	3-1/2”, 1/2”	Yes	2-1/2”	
42W-43	B13	S5	North	1”	2”	No		
42W-43	B13	S5	South	1/2”	1”	No		
42E-41E	B12	S3	South	1”	1-3/4”	Yes	1/2”	
42E-41E	B12	S6	North	2.5”	4”	Yes	2”	
42E-41E	B12	S6	South	-	4-1/2”	No		
41E-40E	B12	S6	North	1-1/4”	1-1/2”	No		
39E-38E	B12	S6	North	2-1/2”	2-1/2”	Yes	1/2”	
39E-38E	B12	S6	South	2”	2”	Yes	3/4”	
38E-37E	B12	S2	North	-	1”	No		
35E-34E	B12	S3	North	3-1/4”	3-1/2”	Yes	1-1/4”	
31E-30E	B12	S4	South	-	1-1/2”	No		
31E-30E	B12	S6	North	8”	9”	Yes	1”	
31E-30E	B12	S6	South	8”	9”	Yes	1/2”	
29E-28E	B12	S6	North	5-1/4”	5-1/2”	Yes	1-1/2”	
29E-28E	B12	S6	South	5”	6”	Yes	1”	

Panel Point	Secondary Floorbeam	Stringer	Side of Stringer	Length of Crack (2009)	Length of Crack (2011)	Drilled Arrestor Hole	Length of Crack Beyond Drilled Arrestor Hole	Photo
28E-27E	B12	S6	South	1"	1"	No		
23E-22E	B12	S6	North	-	7"	No		5
23E-22E	B12	S6	South	-	4"	No		5
21E-20E	B12	S5	North	-	2-1/2"	No		6
21E-20E	B12	S5	South	-	2-1/2"	No		6
21E-20E	B12	S6	North	-	3"	No		
21E-20E	B12	S6	South	5/8"	3/4"	No		
19E-18E	B12	S4	North	-	1-1/4"	No		
19E-18E	B12	S4	South	-	1-1/8"	No		
18E-17E	B12	S6	North	1-1/2"	1-1/2"	Yes	1-1/4"	
18E-17E	B12	S6	South	-	1"	No		
17E-16E	B12	S6	North	3"	3"	Yes	3-1/4"	
17E-16E	B12	S6	South	2-1/2"	3"	Yes	1-5/8"	
10E-9E	B12	S5	South	-	1/2"	No		
9E-8E	B7*	S3	North	3-1/2"	3-1/2"	No		7
9E-8E	B12	S6	North	4"	4"	Yes	1-3/4"	8
9E-8E	B12	S6	South	1", 2"	1-1/4", 2"	Yes	3-1/4"	8
6E-5E	B12	S6	North	7"	7"	Yes	2-1/4"	
6E-5E	B12	S6	South	4"	4"	Yes	3-1/2"	

(*) Interior Secondary Floorbeams B2 & B7 are not scheduled for replacement under Contract GWB244.022, currently underway

We will be available to provide additional support services involving the location and identification of the crack tips recommended for drilling of arrestor holes, if requested.

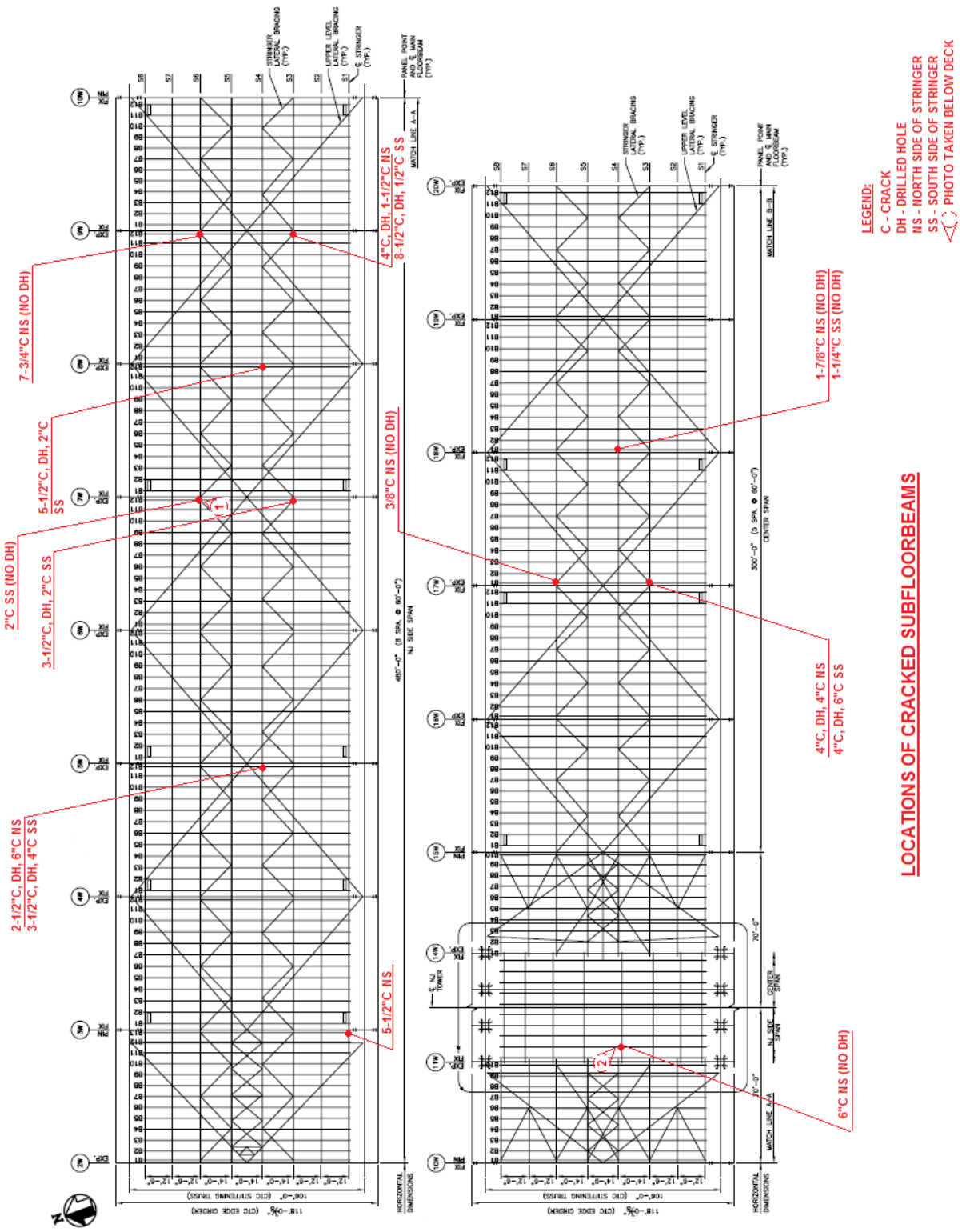
If you have any questions regarding the above, or if any additional information is needed, please do not hesitate to call me at 201-528-9067.

Sincerely,

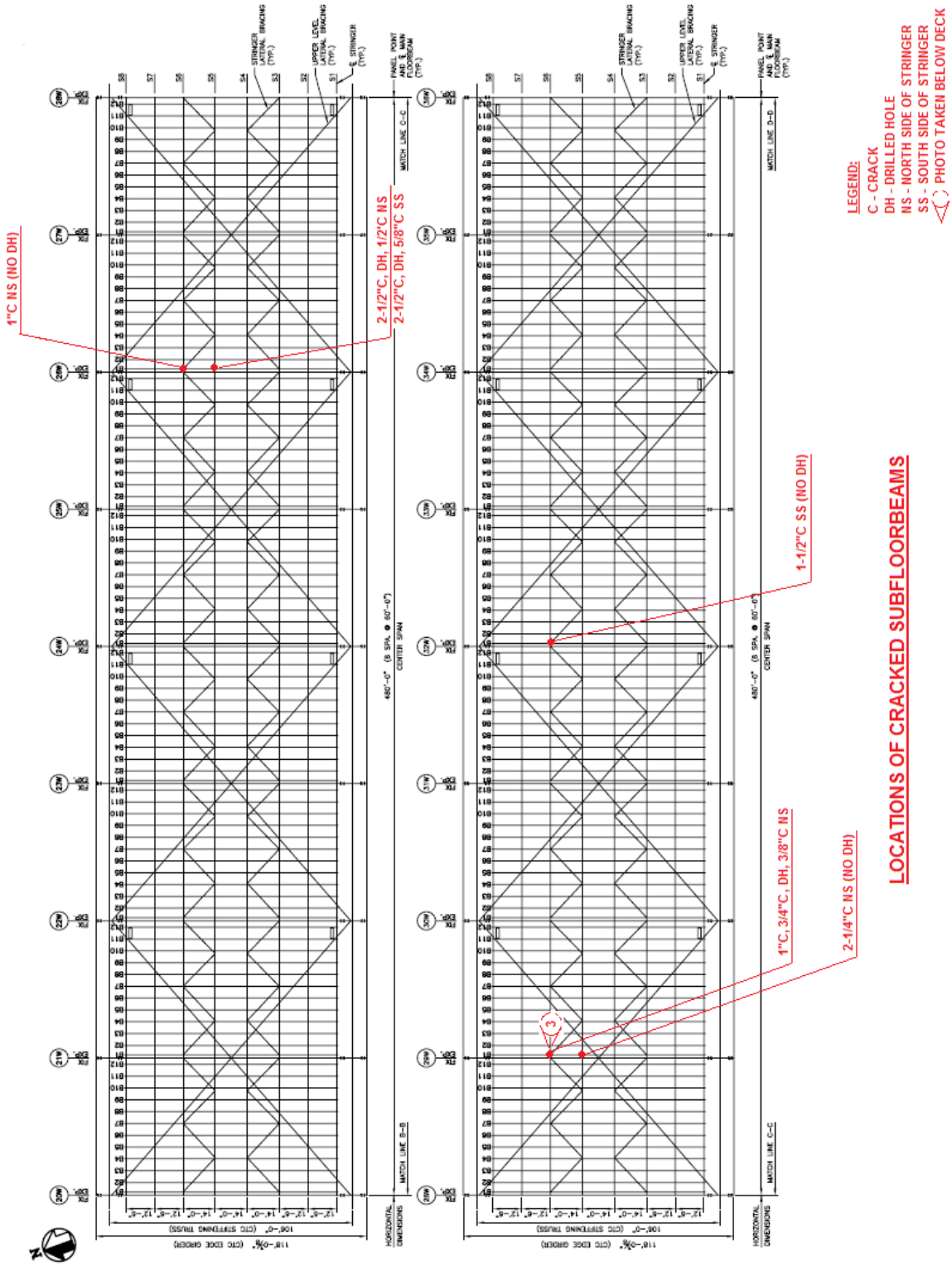
Matthew J. Nash

Matthew J. Nash, PE
Project Manager

2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508



2011 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE UPPER LEVEL BIN 5522508



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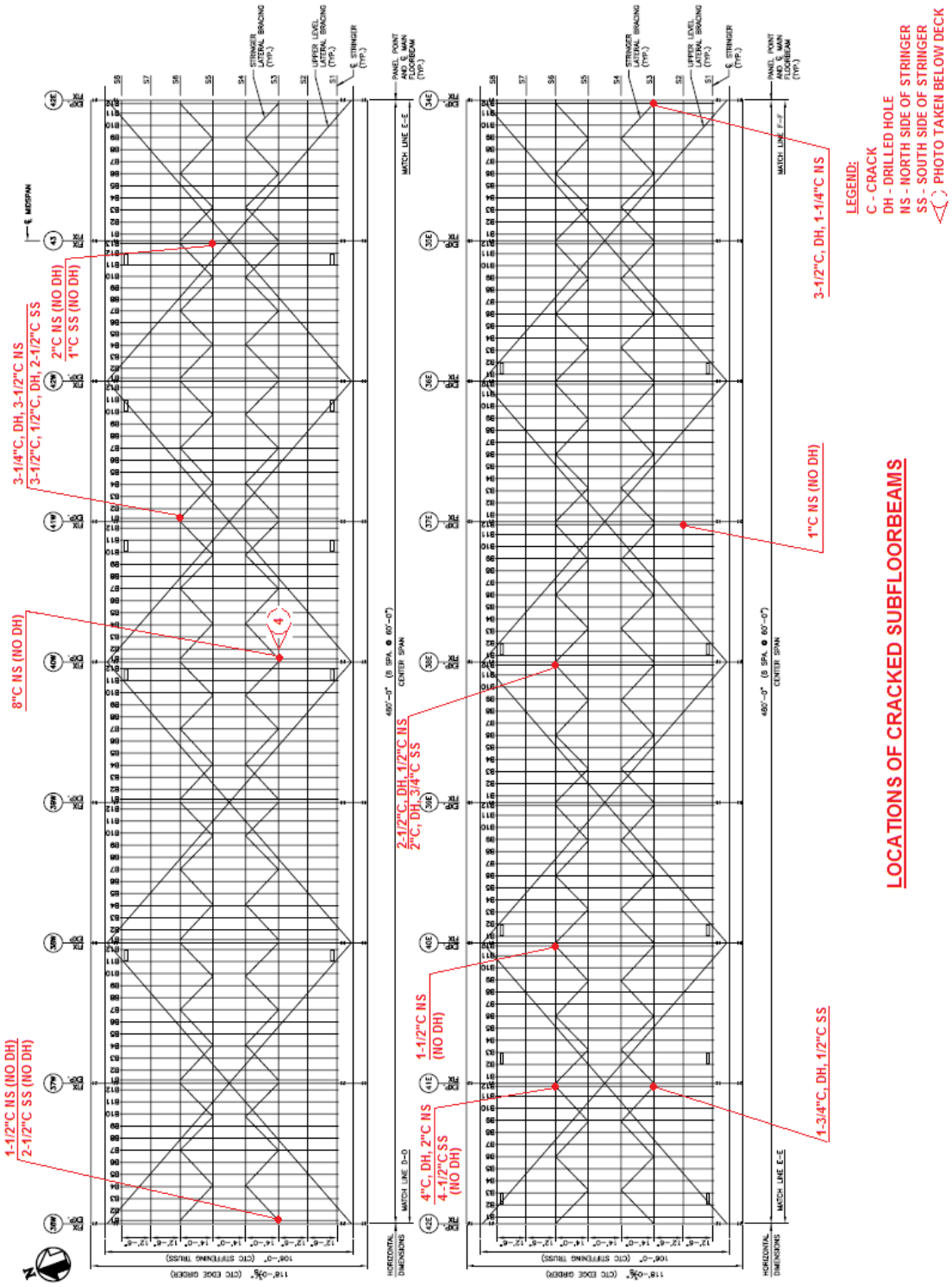

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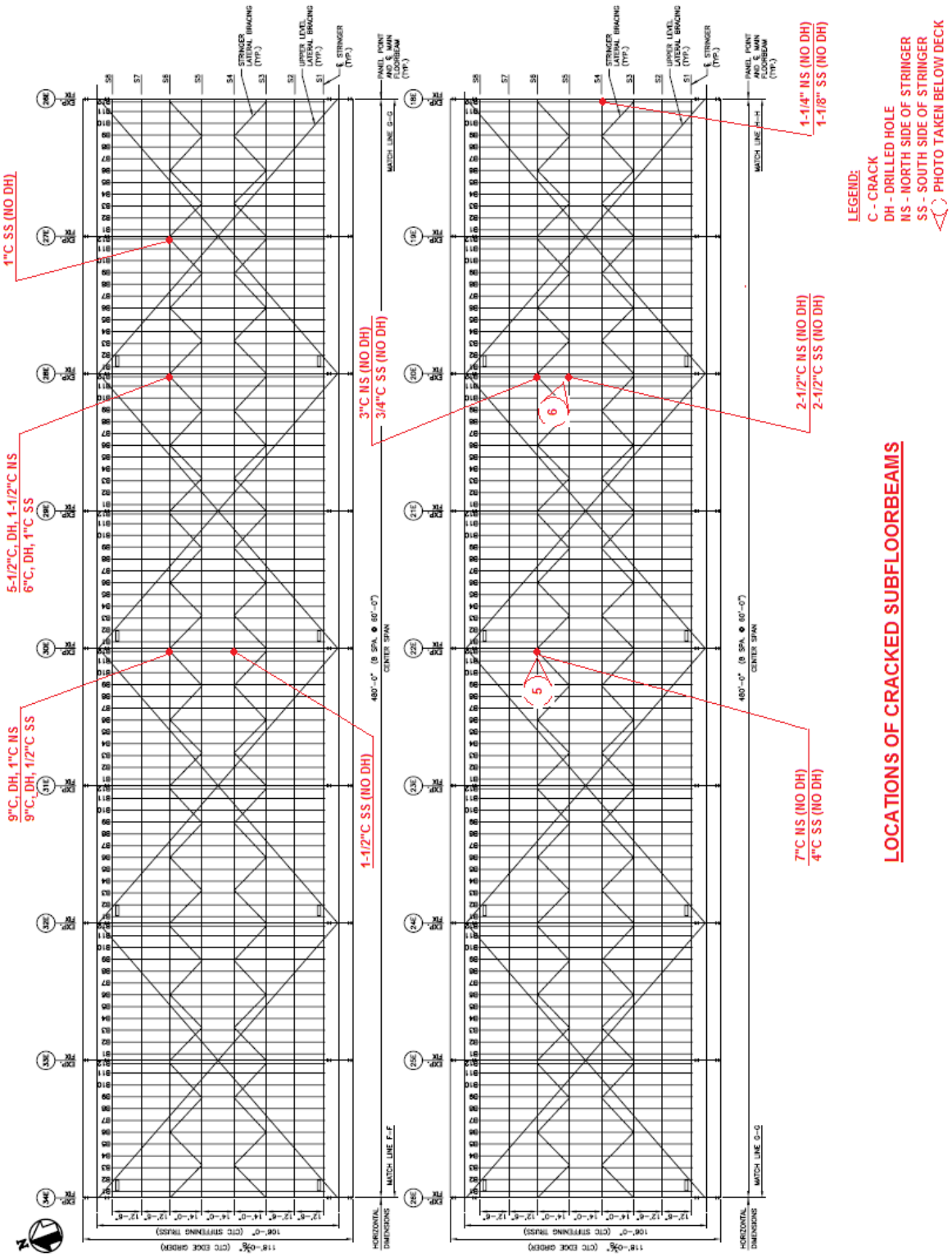

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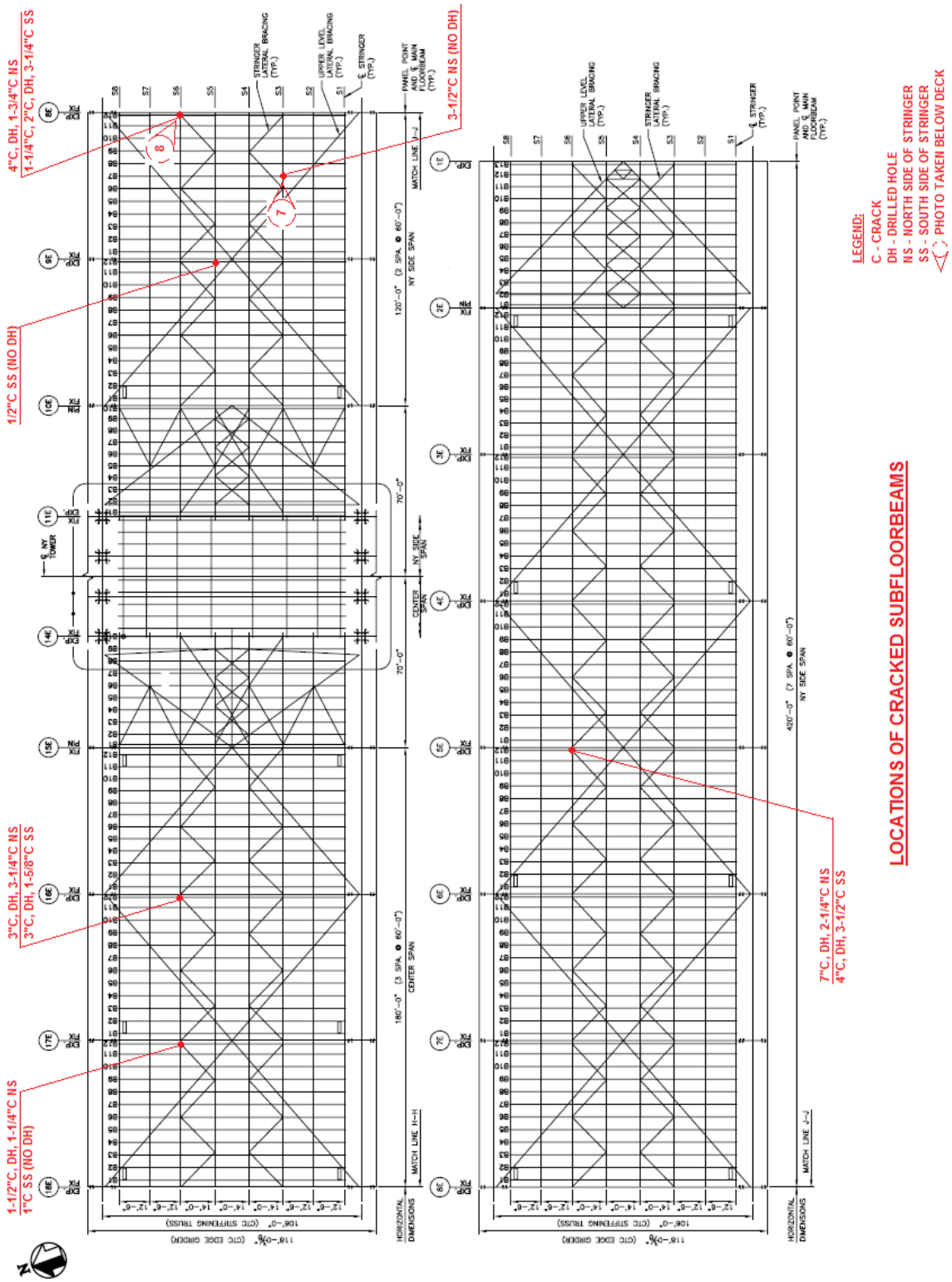

2011 Biennial Inspection of
The George Washington Bridge Upper Level - BIN 5522508

Photo No. 1

Location: Upper Level – Panel Point 6W-7W, west face of Secondary Floorbeam B12 at Stringer S6.

Description: Upper web of Secondary Floorbeam B12 exhibits a 2" long crack south of Stringer S6, looking northeast. (Note: No drilled arrestor hole.)

Photo No. 2

Location: Upper Level – Panel Point 11W-14W (NJ Tower), west face of Secondary Floorbeam B2 at Stringer S4.

Description: Web of Secondary Floorbeam B2 exhibits a 6" long crack north of Stringer S4, looking southeast. (Note: No drilled arrestor hole.)

Photo No. 3

Location: Upper Level – Panel Point 29W-30W, east face of Secondary Floorbeam B1 at Stringer S6.

Description: Lower web of Secondary Floorbeam B1 exhibits cracks (1", 3/4" and 3/8" long) propagating from multiple drilled arrestor holes north of Stringer S6, looking west. (Note: the crack south of Stringer S6 terminates at a drilled arrestor hole.)

Photo No. 4

Location: Upper Level – Panel Point 40W-41W, east face of Secondary Floorbeam B1 at Stringer S3.

Description: Lower web of Secondary Floorbeam B1 exhibits an 8" long crack north of Stringer S3, looking west. (Note: the crack south of Stringer S3 terminates at a drilled arrestor hole.)

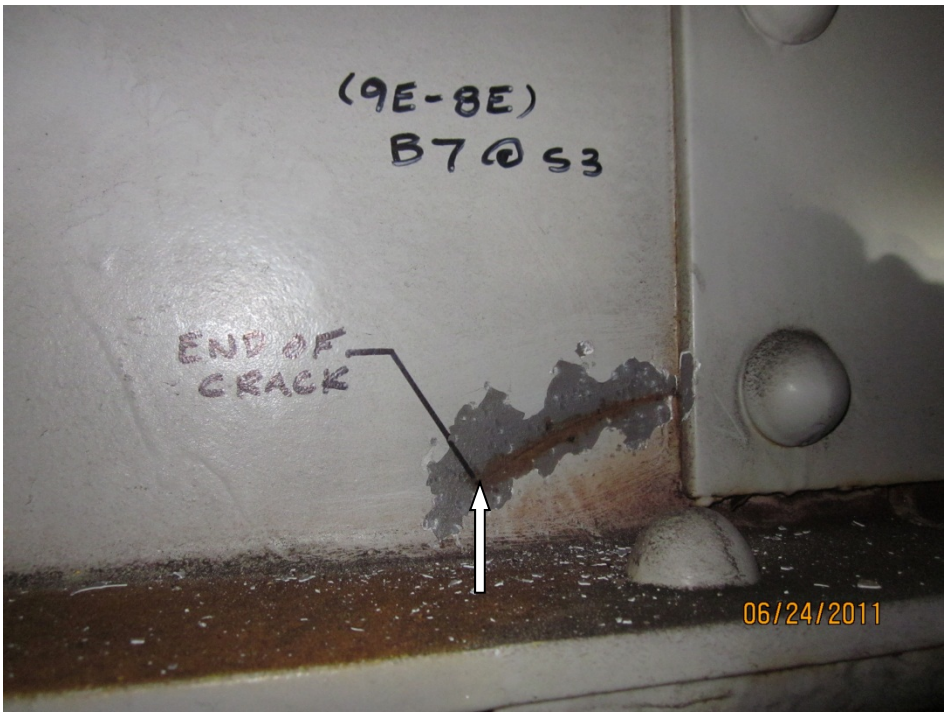

Photo No. 7

Location: Upper Level – Panel Point 9E-8E, west face of Secondary Floorbeam B7 at Stringer S3.

Description: Lower web of Secondary Floorbeam B7 exhibits a 3-1/2" long crack north of Stringer S3, looking east. (Note: No drilled arrestor hole.)

Photo No. 8

Location: Upper Level – Panel Point 9E-8E, west face of Secondary Floorbeam B12 at Stringer S6.

Description: Lower web of Secondary Floorbeam B12 exhibits cracks 1-3/4" and 3-1/4" propagating beyond drilled arrestor holes north and south of Stringer S6 respectively, looking southeast.

Engineering Quality
Assurance Division
B04-925.110

Port Authority Facility Condition Survey Program

George Washington Bridge Main Span Upper Level 2013 Biennial Inspection

Volume 1 of 2

December 2013

Engineering Department

THE PORT AUTHORITY OF NY & NJ

Stantec Consulting Services Inc.
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Stantec

January 23, 2014

Mr. C. John Lin, P.E.
Assistant Chief Engineer
Quality Assurance
Engineering Department
The Port Authority of NY & NJ
100 Mulberry Street
Gateway 3, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Re: Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127

Gentlemen:

We are forwarding herewith twelve (12) copies of the 2013 Final Condition Survey Report of the George Washington Bridge Upper Level.

The thoroughness and accuracy of all work on this project has been ensured by independent quality control by our senior technical and management staff.

If you have any questions or need additional information, please contact us.

Very truly yours,

STANTEC CONSULTING SERVICES INC.

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SNB: ga

EXECUTIVE SUMMARY

Stantec Consulting Services Inc. in association with PK Engineering, P.C. (PKE) and SI Engineering, P.C. (SI) performed the 2013 Biennial Inspection of the George Washington Bridge Upper Level (BIN 5522508), from May through October of 2013. The inspection was performed with the assistance of SEMAC personnel. The inspection included upper level roadway and framing, the stiffening trusses (except for the bottom gusset plates and bottom chord members which were included in the George Washington Bridge Lower Level inspection), the main cables, suspender ropes, towers, anchorages, and a mechanized flag hoisting and storage system inspection at the New Jersey Tower. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The George Washington Bridge Upper Level is in overall good condition. All major structural components were found in good condition with the exception of the steel orthotropic deck and suspender ropes which were found in fair condition due to severely corroded and cracked orthotropic deck ribs occurring primarily adjacent to the deck joint areas and broken wire strands noted at the lower suspender rope socket areas.

During the inspection, there were 8 conditions found that required immediate action. Repairs have been completed at 7 of the 8 immediate action conditions involving cracked upper web coping of stringer at connection to the floorbeam in the New York Anchorage, severely corroded web bottom with cracks of the ribs at Panel Points 11W (West side), 11W (East side), 14W (East side), 14E (West side) and 11E (East side), and cracked/delaminated concrete on the south sidewalk concrete fascia. Work is currently in progress for the 1 remaining immediate action condition to repair the severely corroded web bottom with cracks of the ribs at Panel Point 11E (West side) (see Appendix B for correspondence).

Out of a total of 39 priority repair recommendations at 5,367 locations identified in the previous inspection report, 6 priority repairs at 13 locations have been completed, 15 priority repairs were partially completed at 767 locations and 2 priority repairs at 8 locations have been re-evaluated to a routine repair. As a result, there are 31 priority repairs at 4,579 locations that remain outstanding. A total of 5 new priority repairs were found at 1,003 locations and 131 new locations were found for existing priority repairs for a total of 36 priority repairs at 5,713 locations recommended for repair in this report section. The majority of these recommendations include the repair of cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeams, replace the missing tie down bolts and plates that connect the deck strap plate to the secondary floorbeams, replace the missing or sheared rivets/bolts at the secondary floorbeam to stringer connections, and repair the cracked and/or holed webs of the secondary floorbeams, orthotropic deck ribs (tees) and riser beams.

At the time of inspection, a major rehabilitation was ongoing under Contract GWB244.022 to replace the deck joint systems directly over the main floorbeams. These replacements which include the deck panels, end secondary floorbeams, and riser beams near the deck joints will eliminate a majority of the priority repair recommendations noted above.

There are also 18 non-structural safety repairs recommended at 81 locations and 122 routine repairs recommended at 3,314 locations.

All conditions are listed in the Inspection Findings, Conclusions and Recommendations section and are located on the Deficiency & Photo Location Plans.

An in-depth inspection of all gusset plate connections at the upper chord of the stiffening truss was performed and all gusset plates were found to be in good overall condition.

The engineering assessment used to determine the overall condition rating and to recommend repairs was based on the deficiencies found at the time of the inspection. This assessment is not intended to imply long-term viability.

The report contains conclusions concerning the causes of the noted deterioration and recommendations for the rehabilitation of the structure. The repair procedures contained in the recommendation section of the report outline the general extent of the required rehabilitation work. The presentation of these conceptual repairs does not preclude the necessity of performing further investigation and preliminary design work for the purpose of establishing the complete scope of work and the final rehabilitation design.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Top of Deck		
	None		None	
		Underside of Deck		
GWB-BR002-142	Repair the severely corroded support for the access catwalk at the New Jersey Tower.	Repaired (1 Location)	---	---
GWB-BR002-141	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 2W, 11W, 14W, 19W, 22W, 15E, 14E and 11E.	Repaired (18 Locations) Outstanding (54 Locations)	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 2W, 11W, 14W, 19W, 22W, 15E, 14E and 11E.	U-2 and U-5 *(Photo A1)*
GWB-BR002-167	---	New (996 Locations)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	U-2 thru U-5 *(Photo A2)*
GWB-BR002-054	Repair the severely spalled pedestal of south sidewalk stringer bearing between Cap Beams 2 and 3, pedestal of floorbeam at Panel Point 1E and pedestal of stringer S1 at Cap Beam 10 of the New York Anchorage.	Repaired (1 Location) Outstanding (2 Locations)	Repair the severely spalled pedestal of floorbeam at Panel Point 1E and pedestal of stringer S1 at Cap Beam 10 of the New York Anchorage.	U-6 *(Photo A3)*
GWB-BR002-122 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-104)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	Repaired (240 Locations) Outstanding (1,663 Locations)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	U-2 thru U-5 *(Photo A4)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Underside of Deck (cont'd)		
GWB-BR002-123 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-105)	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, between 18W-19W, 20W, 22W, 23W, 24W, 26W, 29W, 30W, 32W-34W, 36W, 39W, 40W, 41W, 42W, 42E, 37E, 36E, 34E, 30E, 29E, 26E, 25E, 23E, 21E, 19E, 18E, 17E, 16E, 15E, 14E, 11E, 10E, 9E, 8E, 7E, 6E, 5E, 4E & 2E.	Repaired (2 Bolts) Outstanding (106 Locations, 210 Bolts)	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, between 18W-19W, 20W, 22W, 23W, 24W, 26W, 29W, 30W, 32W-34W, 36W, 39W, 40W, 41W, 42W, 42E, 37E, 36E, 34E, 30E, 29E, 26E, 25E, 23E, 21E, 19E, 18E, 17E, 16E, 15E, 14E, 11E, 10E, 9E, 8E, 7E, 6E, 5E, 4E & 2E.	U-2 thru U-5 *(Photo A5)*
GWB-BR002-155	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	Repaired (281 Locations) Outstanding (2,237 Locations)	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam.	U-2 thru U-5 *(Photo A6)*
GWB-BR002-156	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, 20W, 21W, 24W, 31W, 34W, 36W, 40W, 41W, 42W, 38E, 37E, 36E, 32E, 31E, 30E, 25E, 20E, 19E, 18E, 16E, 15E, 11E, 10E, 7E, 6E and 3E.	Repaired (4 Locations, 10 Bolts) Outstanding (51 Locations, 90 Bolts) New (37 Locations, 86 Bolts)	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, 20W, 21W, 24W, 31W, 36W, 40W, 41W, 42W, 38E, 32E, 31E, 30E, 25E, 20E, 19E, 18E, 16E, 15E, 11E, 10E, 6E, 3E, **3W, 5W, 8W, 11W, 18W, 24W, 30W, 32W, 35W, 36W, 41W, 42W, 43, 35E, 34E, 30E, 29E, 28E, 24E, 23E, 21E, 20E, 9E, 8E, 7E and 5E.**	U-2 thru U-5 *(Photo A7)*
GWB-BR002-157	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 7W, 19W, 22W, 43, 36E, 15E, 11E, 6E and 4E.	Outstanding (13 Locations) New (38 Locations)	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 7W, 19W, 22W, 43, 36E, 15E, 11E, 6E 4E, **2W, 11W, 14W, 22W, 14E, 11E and 6E.**	U-2, U-4 and U-5 *(Photo A14)*

Note: New locations found during this inspection are in bold.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Superstructure Steel		
GWB-BR002-134	Repair the connection angle between the main floorbeam and the deck truss top chord which exhibits a crack and extensive section loss at Panel Points 22E, 16E and 15E.	Repaired (5 Locations)	---	---
GWB-BR002-146	Repair the bent angle on the girder bearing connection of Stringer S6 to Capbeam 7 and Stringer S6 at Capbeam 4 at the New York Anchorage.	Repaired (2 Locations)	---	---
GWB-BR002-113	Repair the diagonal brace which exhibits over 50% section loss and holes in the web or flanges at Bents 3 and 4 of the New York Anchorage.	Repaired (3 Locations)	---	---
GWB-BR002-151	Repair the severely deteriorated seated bearing of stringer S4 at Capbeam 7 of the New York Anchorage with extensive pack rust and two sheared off tie-down bolts.	Repaired (1 Location)	---	---
GWB-BR002-132	Repair the pin that connects the stringer to the main floorbeam which exhibits 1/4" section loss at Panel Points 3W, 10W, 15W, 15E, 10E and 2E.	Re-evaluated to Routine Repair (7 Locations)	---	---
GWB-BR002-161	Repair the pin that connects Stringer S1 to the main floorbeam which exhibits 1/4" section loss at Panel Point 2E.	Re-evaluated to Routine Repair (1 Location)	---	---
GWB-BR002-127 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-059, GWB-BR002-109)	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 7W, 10W, 15W, 17W, 25W, 27W, 28W, 32W, 34W, 35W, 39W, 38E, 36E, 24E, 19E, 10E, 8E, 7E and 6E-3E.	Repaired (7 Locations) Outstanding (19 Locations)	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 7W, 10W, 17W, 25W, 28W, 32W, 34W, 35W, 39W, 38E, 36E, 19E, 10E, 7E, 6E, 5E and 3E.	S-2 thru S-7 *(Photo A8)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Superstructure Steel (cont'd)		
GWB-BR002-128 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-014, GWB-BR002-057, GWB-BR002-089, GWB-BR002-110)	Repair the stringers that exhibit thru holes with moderate corrosion in the web over the bearings at the following locations: Web of S1 east of 10W, Web of S2 west of 11W, Web of S3 west of 14W, Web of S7 west of 14W, Web of S1 east of 26W, Web of S8 east of 37W, Web of S1 east of 40W, Web of S3 east of 40W, Web of S1 west of 31E, Web of S1 west of 30E , Web of S1 west of 28E, Web of S1 west of 27E, Web of S1 west of 25E, Web of S1 & S8 east of 15E, Web of S1 & S3 west of 14E, Web of S1, S3 through S7 east of 14E, Web of S1 west of 11E, Web of S1 west of 9E, Web of S8 east of 2E, Web of S1 & S8 west of 1E, Web of S17 east of 1E and Webs of S8, S10 & S11 west of Capbeam 4, S5 to S8 east of Capbeam 7 and S10 & S12 west of Capbeam 10 of the New York anchorage.	Repaired (15 Locations) Outstanding (23 Locations)	Repair the stringers that exhibit thru holes with moderate corrosion in the web over the bearings at the following locations: Web of S1 east of 10W, Web of S2 west of 11W, Web of S3 west of 14W, Web of S7 west of 14W, Web of S1 east of 26W, Web of S1 east of 40W, Web of S3 east of 40W, Web of S1 west of 31E, Web of S1 west of 25E, Web of S1 & S8 east of 15E, Web of S1 & S3 west of 14E, Web of S1, S3 through S7 east of 14E, Web of S1 west of 11E, Web of S1 west of 9E, Web of S8 east of 2E, Web of S1 west of 1E.	S-2 and S-4 thru S-7 *(Photo A9)*
GWB-BR002-124 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-106)	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	Repaired (105 Locations) Outstanding (178 Locations)	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	S-2 thru S-8 *(Photo A10)*
GWB-BR002-062	Repair the severe rust and hole in the bearing stiffener and the bottom flange of the bearing system of Stringers S6 and S7, east of PP 14E.	Outstanding (2 Locations)	Repair the severe rust and hole in the bearing stiffener and the bottom flange of the bearing system of Stringers S6 and S7, east of PP 14E.	S-6 *(Photo A11)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Superstructure Steel (cont'd)		
GWB-BR002-168	---	New (1 Location)	Replace the cracked shim plate and sheared off tie down bolt connecting Stringer S9 bottom flange to the seated angle at Capbeam 4.	S-8 *(Photo A12)*
GWB-BR002-169	---	New (3 Locations)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	S-5 and S-6 *(Photo A13)*
GWB-BR002-133	Repair the main floorbeam/capbeam with extensive section loss and/or holes in web at the following locations: Panel Points 2W, 10W, 40W, 36E, 3E, 1E and Capbeams 4, 7 & 10 of the New York Anchorage.	Repaired (6 Locations) Outstanding (5 Locations)	Repair the main floorbeam with extensive section loss and/or holes in web at the following locations: Panel Points 2W, 40W, 3E and 1E.	S-2, S-4, S-7 and S-8 *(Photo A15)*
GWB-BR002-158	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 9W,17W, 20W, 21W, 25W, 34W, 37W, 40W, 42E, 27E, 23E, 21E, 19E, 9E and 6E-3E.	Repaired (4 Locations) Outstanding (19 Locations) New (45 Locations)	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 9W, 17W, 20W, 21W, 25W, 37W, 40W, 42E, 27E, 23E, 21E, 19E, 9E, 6E, 3E, **3W-8W, 10W, 16W, 22W, 27W-29W, 32W, 34W, 36W, 39W, 40W, 42W, 41E, 37E, 35E, 31E, 29E, 26E, 25E, 21E, 20E, 18E and 9E.**	S-2 thru S-7 *(Photo A16)*
GWB-BR002-129 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-027, GWB-BR002-111)	Replace the sheared anchor bolts and anchor bolt nuts which exhibit severe corrosion at the following locations: south column at Capbeams 4 & 8 in the New York Anchorage.	Outstanding (2 Locations)	Replace the sheared anchor bolts and anchor bolt nuts which exhibit severe corrosion at the following locations: south column at Capbeams 4 & 8 in the New York Anchorage.	S-8 *(Photo A17)*

Note: New locations found during this inspection are in bold.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Superstructure Steel (cont'd)		
GWB-BR002-164	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	Outstanding (1 Location)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	S-3 *(Photo A18)*
GWB-BR002-159	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S2 east of 14E.	Outstanding (1 Location)	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S2 east of 14E.	S-6 *(Photo A19)*
GWB-BR002-160	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	Repaired (9 Locations) Outstanding (22 Locations)	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection.	S-2 thru S-7 *(Photo A20)*
GWB-BR002-131 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-114)	Repair the stringer bearings that have the bearing sliding plate bouncing under live load and/or are frozen due to pack rust at Panel Points 25W, 27W and 1E.	Outstanding (9 Locations)	Repair the stringer bearings that have the bearing sliding plate bouncing under live load and/or are frozen due to pack rust at Panel Points 25W, 27W and 1E.	S-4 and S-7 *(Photo A21)*
GWB-BR002-170	---	New (2 Locations)	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S5 west of 14W and S7 west of 14E.	S-2 and S-6 *(Photo A22)*
GWB-BR002-165	Repair the bent angle on the girder bearing connection of Stringer S5 to Capbeam 7 at the New York Anchorage.	Outstanding (1 Location)	Repair the bent angle on the girder bearing connection of Stringer S5 to Capbeam 7 at the New York Anchorage.	S-8 *(Photo A23)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Superstructure Steel (cont'd)		
GWB-BR002-125 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-107)	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points of the main span: 3W, 4W, 5W, 6W, 7W, 8W, 9W, 15W, 16W, 17W, 18W, 20W, 21W, 22W, 26W, 27W, 29W, 31W, 32W, 36W, 37W, 39W, 40W, 41W, 42W, 43, 41E, 40E, 39E, 38E, 34E, 30E, 29E, 28E, 27E, 26E, 25E, 21E, 20E, 19E, 17E, 16E, between 15E-14E, 9E, 8E, 5E, 4E and 2E.	Repaired (38 Locations) Outstanding (65 Locations)	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points of the main span: 3W, 4W, 5W, 6W, 7W, 8W, 9W, 15W, 16W, 17W, 18W, 20W, 21W, 22W, 26W, 27W, 29W, 31W, 32W, 36W, 37W, 39W, 40W, 41W, 43, 41E, 40E, 39E, 38E, 34E, 30E, 29E, 28E, 27E, 26E, 25E, 21E, 20E, 19E, 17E, 16E, between 15E-14E, 9E, 8E, 5E and 2E.	S-2 thru S-7 *(Photo A24)*
GWB-BR002-126 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-108)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	Repaired (35 Locations) Outstanding (15 Locations)	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam.	S-3, S-4, S-6 and S-8 *(Photo A25)*
GWB-BR002-163	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points 6W, 7W, 9W, 11W-14W, 22W, 26W, 29W, 37W-38W, 41W, 41E, 37E, 30E, 22E, 20E and 17E.	Repaired (3 Locations) Outstanding (19 Locations) New (10 Locations)	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points 6W, 7W, 9W, 11W-14W, 22W, 26W, 29W, 37W-38W, 41W, 41E, 37E, 30E, 22E, 20E, 17E, **28E, 27E, 24E, 23E, 21E, 19E, 18E, 16E and 6E**.	S-2 thru S-7 *(Photo A26)*
GWB-BR002-153	Repair the worn thru bottom flange of Stringer S2 at the diagonal bracing connection between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E.	Outstanding (4 Locations)	Repair the worn thru bottom flange of Stringer S2 at the diagonal bracing connection between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E.	S-2, S-5 and S-6 *(Photo A27)*
GWB-BR002-162	Repair Stringer S8 bearing that has the bearing sliding plate bouncing under live load and is frozen due to pack rust at Panel Point 1E.	Oustanding (1 Location)	Repair Stringer S8 bearing that has the bearing sliding plate bouncing under live load and is frozen due to pack rust at Panel Point 1E.	S-7 *(Photo A28)*

Note: New locations found during this inspection are in bold.

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
		Towers		
GWB-BR002-147	Repair the severe corrosion and holes on the catwalk support member at Levels 3 and 3M on the south leg of the New Jersey Tower.	Repaired (1 Location) Outstanding (1 Location)	Repair the severe corrosion and holes on the catwalk support members at Level 3M on the south leg of the New Jersey Tower.	TW-2 *(Photo B1)*
GWB-BR002-171	---	New (1 Location)	Repair the severe corrosion and holes on the catwalk support members at Level 3M on the south leg of the the New York Tower.	TW-1 *(Photo B2)*
		Cables and Suspension Ropes		
GWB-BR002-152	Replace 4 of 4 missing bolts connecting the clamp plates together directly above the socket for a pair of suspender ropes, 9 & 10, at Panel Point 34E.	Repaired (1 Location)	---	---
GWB-BR002-098 (This includes all outstanding recommendations from QAD Ref.# GWB-BR002-097)	Seal the leaking upper level sidewalk / roadway joint over Cables B and C near the splay saddle castings at the New York Anchorage.	Outstanding (2 Locations)	Seal the leaking upper level sidewalk / roadway joint over Cables B and C near the splay saddle castings at the New York Anchorage.	*(Photo C1)*
GWB-BR002-148	Repair the leaking pipe above the upper cable strands of Cable B in the New York Anchorage.	Cannot be verified due to covered tarp (1 Location)	Repair the leaking pipe above the upper cable strands of Cable B in the New York Anchorage.	*2011 GWB Upper Level Report (Photo C2)*

SUMMARY AND CONDITION STATUS TABLE OF PRIORITY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

QAD Repair Reference Number	Repair Recommendation 2011 Inspection	Current Status	Repair Recommendation 2013 Inspection	Dwg. No. *(Photo No.)*
Cables and Suspension Ropes (cont'd)				
GWB-BR002-042	Replace or reinstall the missing, slipped or non-protruding galvanized steel liners under the suspender collars.	Outstanding (42 Locations) 21 Locations cannot be verified due to safespan access platform cables. 2 Locations cannot be verified due to inability to open encasement cabinet.	Replace or reinstall the missing, slipped or non-protruding galvanized steel liners under the suspender collars.	*(Photo C2)*
GWB-BR002-101	Remove the remaining protective wrapping left in place around the suspender ropes, from previous painting operation, above the socket area but below the sidewalk slab.	Cannot be verified due to safespan access platform cables (15 Locations)	Remove the remaining protective wrapping left in place around the suspender ropes, from previous painting operation, above the socket area but below the sidewalk slab.	*2011 GWB Upper Level Report (Photo C4)*
GWB-BR002-135	[redacted] lar at 0E.	Outstanding (1 Location)	[redacted]	*(Photo C3)*
GWB-BR002-166	Repair the severely deteriorated diagonal bracing members at the base of the strand shoes of Cables C and D in the New Jersey Anchorage.	Outstanding (5 Locations) New (1 Location)	Repair the severely deteriorated diagonal bracing members at the base of the strand shoes of Cables C and D in the New Jersey Anchorage.	*(Photo C4)*

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

Repair Recommendation 2013 Inspection	Dwg. No. (*Photo No.*)
Main Span	
1. Repair the disconnected conduit or secure the loose electrical box covers with exposed wires on the lighting standard or railing posts. (4 Locations)	T-2 and T-6 *(Photo A29)*
2. Replace the missing, severely deteriorated, and/or secure the disconnected rails from posts along the roadway and sidewalk railings. (13 Locations)	T-2, T-5 and T-6 *(Photo A30)*
3. Secure the railing posts that are loose, cracked or disconnected at its base over the New York or New Jersey Anchorage. (6 Locations)	T-1 and T-6 *(Photo A31)*
4. Repair the misaligned median barrier at Panel Point 11W. (1 Location)	T-2 *(Photo A32)*
5. Cover or remove the exposed electrical wires at the base of the missing light standard. (1 Location)	T-6 *(Photo A33)*
6. Remove the excessive debris accumulated on the steel members at Panel Point 14E and Stringer S8. (1 Location)	U-5 *(Photo A34)*
7. Repair the severely deteriorated flooring at the mid-level of New York Anchorage. (3 Locations)	U-6 *(Photo A35)*
8. Replace the severely deteriorated maintenance platform grating at its south support below the south sidewalk access hatch between Panel Points 10W & 11W. (1 Location)	U-2 *(Photo A36)*
9. Secure the utility conduits and utility conduit supports which are partially detached. (4 Locations)	U-2, U-3, U-5 and U-6 *(Photo A37)*
10. Secure the loose support for the underdeck lighting fixture. (1 Location)	U-5 *(Photo A38)*
11. Repair the deteriorated section of catwalk grating inside the New York Anchorage. (1 Location)	U-6 *(Photo A39)*
Towers	
1. Repair the loose bolt at the connection to the ladder between Levels 10 and 11 at the north leg of the New York Tower. (1 Location)	TW-1 *(Photo B3)*
2. Repair the corrosion and holes in the railing of the catwalk at Level 3M at the south leg of the New Jersey Tower. (1 Location)	TW-2 *(Photo B4)*
3. Repair the crack in the stair between Levels 3M and 4 at the south leg of the New Jersey Tower. (1 Location)	TW-2 *(Photo B5)*
4. Replace the severely deteriorated or missing bolts in the catwalk support members at Level 3M on the New Jersey Tower. (2 Locations)	TW-2 (Photos B6 & B7)

SUMMARY OF SAFETY REPAIR RECOMMENDATIONS

2013 Biennial Inspection of the George Washington Bridge Upper Level

Repair Recommendation 2013 Inspection	Dwg. No. (*Photo No.*)
Main Cables and Suspender Ropes	
1. Tighten the bolts connecting the stanchions to the cable bands that are not fully engaged. (32 Locations)	*(Photo C5)*
2. Replace the missing, loose or worn bolts/nuts that connect the messenger (utility) cable bracket to the main cable band at PP 37E, 36E, 35E, 23E, 21E, and 18E on Cable A. (6 Locations)	*(Photo C6)*
3. Remove the hanging electrical wire between PP 10W-11W on Cable A and at PP 10W on Cable B. (2 Locations)	*(Photo C7)*

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Volume 2

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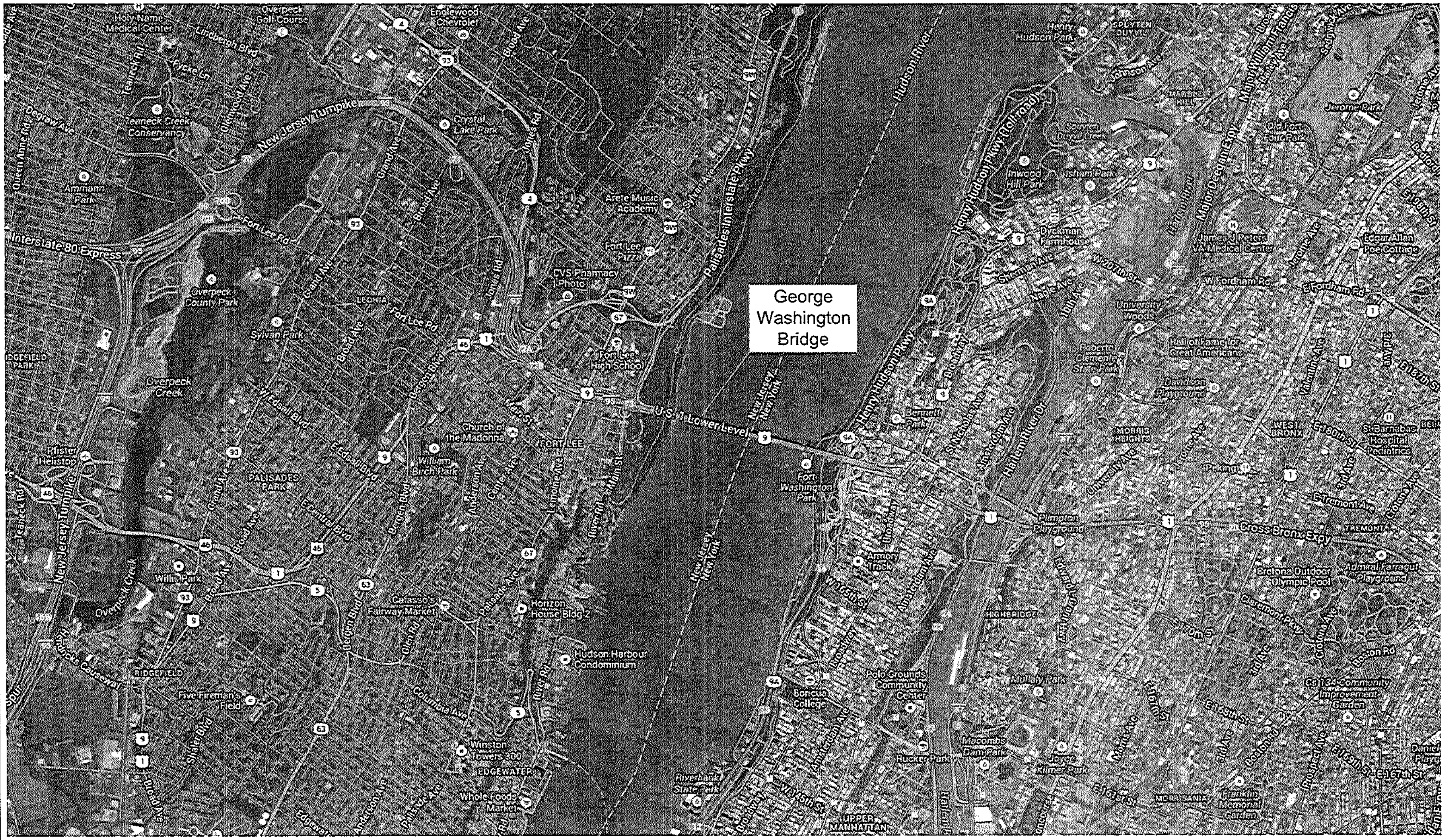
Location Plan



Sheet 1 of 1

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508
UPPER LEVEL

LOCATION PLAN

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number LP-1

General Plan, Elevation and Cross-Section

I. Scope of Work, Inspection Procedures and Terminology

Scope of Work, Inspection Procedures and Terminology

A. SCOPE OF WORK

Stantec Consulting Services Inc. in association with PK Engineering, P.C. (PKE) and SI Engineering, P.C. (SI), performed the 2013 Biennial Inspection of the George Washington Bridge Upper Level (BIN 5522508), from May through October of 2013. The inspection was performed with the assistance of SEMAC personnel. The inspection included upper level roadway and framing, the stiffening trusses (except for the bottom gusset plates and bottom chord members which were included in the George Washington Bridge Lower Level inspection), the main cables, suspender ropes, towers, and anchorages. The purpose of this inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies.

The limits of the condition survey for the George Washington Bridge Upper Level extends between the New York and New Jersey Anchorages at Stations 29+28 to Station 80+10.

The scope of work also included a structural, electrical, and mechanical inspection of the mechanized flag hoisting and storage system at the New Jersey Tower. The inspection of the electrical and mechanical components was performed by Stafford Bandlow Engineering, Inc., with assistance from Port Authority Maintenance personnel. (For detailed inspection findings regarding the mechanized flag hoisting and storage system, refer to the 2013 George Washington Bridge Mechanized Flag Hoisting and Storage System condition survey report).

The inspections were performed in compliance with the latest requirements of New York State Department of Transportation and included the preparation and the submittal of a state Biennial Bridge Inspection Report.

B. INSPECTION PROCEDURES

The structural inspection was performed between May and October 2013, utilizing at least two inspection teams each led by a professional engineer licensed in the state of New York. The field work included a 100% hands-on inspection of all non-redundant, fracture-critical members and fatigue prone details, including the underside of the orthotropic deck as well as a thorough visual inspection of all the remaining structural and non-structural elements. Dye penetrant tests were performed where cracks were suspected in critical areas. Also, ultrasonic testing was performed at several pins, which exhibit moderate corrosion with section losses, connecting stringer ends to floorbeams near towers and end panels of suspended spans. Additionally, all concrete elements, which included the underside of the sidewalks, both fascias and portions of the anchorage walls, were sounded by hammer and all areas of loose concrete were removed during this inspection. All structural and non-structural deficiencies were recorded, photographed and located on the Deficiency & Photo Location Plans, which are included in this report.

This report is divided into four sections; upper level roadway and framing, towers, cables and suspender ropes and bridge mounted sign structures. Inspection access and procedures for each section is as follows:

1. Upper Level Roadway and Framing

The upper level roadway framing and upper truss chords and gusset plates were inspected using 35' and 60' bucket trucks, mostly during weeknights (see Photos 1 & 2). Main floorbeams and the ends of panels were inspected during the daytime, utilizing temporary scaffolding platform recently installed as part of ongoing Contract GWB-244.022 (see Photos 3 & 4). The temporary platforms are 15' wide and span between the north and south stiffening trusses below the main floorbeams between Panel Points 3W to 10W, 15W to 15E and 10E to 2E. A 100% hands-on inspection was performed on all non-redundant, fracture critical and primary structural elements of the bridge, including main floorbeams, stringers, secondary floorbeams, upper truss chords, verticals and diagonals, gusset plates, fatigue details, and the underside of the steel orthotropic deck and concrete sidewalks. The right lane of lower level roadways were typically closed to traffic by contractors during daytime hours from 9:00 am to 3:00 pm and fully closed at nighttime hours from 11:00 pm to 5:00 am for ongoing Contract GWB-244.022 and other concurrent bridge rehabilitation projects. These roadway closures were utilized for the inspection of the upper level. Generators were used to provide sufficient lighting and a shadow vehicle with an impact attenuator and a flashing arrow board protected the inspection crews at all times. Inspection of the upper level roadway within the anchorage chambers was performed with step and extension ladders and by tethered climbing. A 135' manlift was used to inspect portions of the interior (see Photo 7) and exterior faces of the New York Anchorage walls (see Photo 8). The top of deck elements were inspected from both sidewalks and within night-time right lane closings on the upper level and daytime and night-time closings on the lower level roadway.

2. Towers

The tower framing was inspected visually from tower elevators, sidewalks, catwalks and upper and lower struts. A hands-on inspection was performed at localized areas with suspect deficiencies via tethered climbing (see Photo 5). At the base of the tower, the eight main vertical box members comprising each of the four tower legs were inspected hands-on using an extension ladder. At select locations, the lowest hatch cover was removed by SEMAC personnel to inspect the interiors at the base of the columns (see Photo 6). The concrete encased steel pedestals and lower stone faced portions of the tower pedestals were inspected above the waterline.

3. Cables and Suspender Ropes

The four main cables were inspected hands-on by walking the entire length of each cable from anchorage to anchorage. The condition of the cable wrapping wire, cable bands, suspender ropes, safety ropes, stanchions, lighting components, as well as the condition of the protective paint coating throughout were assessed. The wire strands were inspected and assigned the appropriate corrosion Stage I through IV. The underside of the main cables, cable bands and upper portions of the suspender ropes were inspected utilizing tethered pole-mounted mirrors (see Photo 9). The cable wire wrapping was checked for soft spots, wire breaks, corrosion and general integrity. The cable bands were inspected for missing, ruptured or de-bonded caulking, rust or oil staining, water leakage and general integrity. The safety

ropes, stanchions and lighting components were inspected for loose or missing connectors/hardware. The unwrapped portions of the main cables at the tower saddle assemblies and inside the anchorages from the splay saddles to the strand shoes were closely examined for any defects. Inside the anchorages, the cable strands were inspected hands-on at all strand shoes and eyebar connections. The lower portions of the cable strands were closely examined for wire breaks and corrosion by climbing (see Photo 10). Below sidewalk level, select suspender ropes, including lower socket areas, were inspected hands-on utilizing temporary scaffolding platform recently installed as part of ongoing Contract GWB-244.022. The steel blast protection encasements at the lower suspender sockets were opened at selected locations to inspect these areas of the suspenders (see Photo 11).

4. Bridge Mounted Sign Structures

All bridge mounted sign structures were inspected as part of the bridge inspection survey. Only sign panels measuring 10SF or more received 100% hands-on inspection, including those of combined panels with directional value, and are included in the tables of Surveyed Sign Structures in Section D of this report. On the upper level roadway, all sign panels affixed to the lighting standards along both sidewalks and the overhead cantilever sign structure framed into at the New York tower were inspected. On the lower level, all sign panels and sign structures attached to the upper level framing, vertical members of the stiffening truss and drainage downspouts, and lower level deck/median-grating framing were inspected. Inspection access was obtained by walking and utilizing a 35' bucket truck with impact attenuator trucks on the upper level and lower level closings (see Photo 12).

Photo No.: 1 **Location:** Lower Level westbound roadway, looking east. **Description:** Inspection of the underside of the Upper Level roadway using a 35' bucket truck with an attenuator truck.	
Photo No.: 2 **Location:** Lower Level eastbound roadway, looking east. **Description:** Inspection of the underside of the Upper Level sidewalk and fascia using a 60' bucket truck with an attenuator truck.	

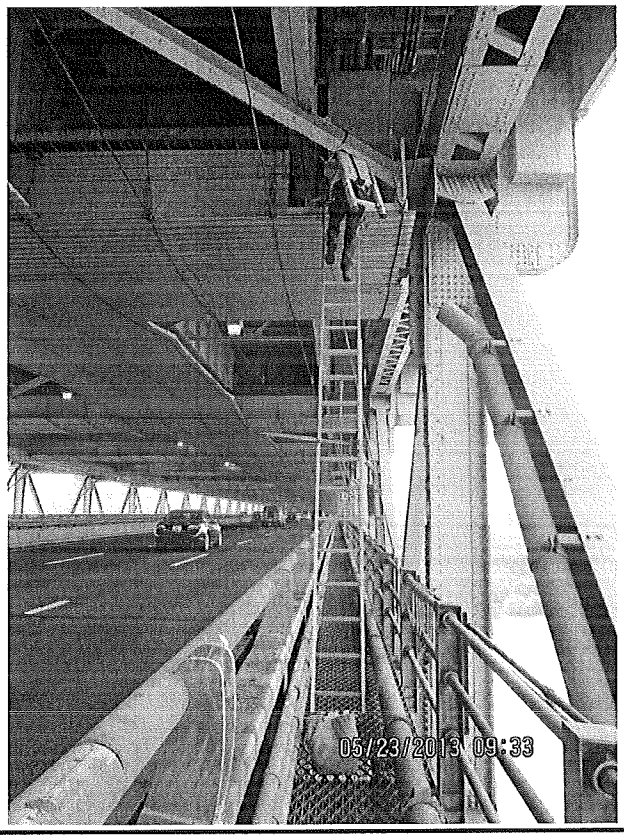
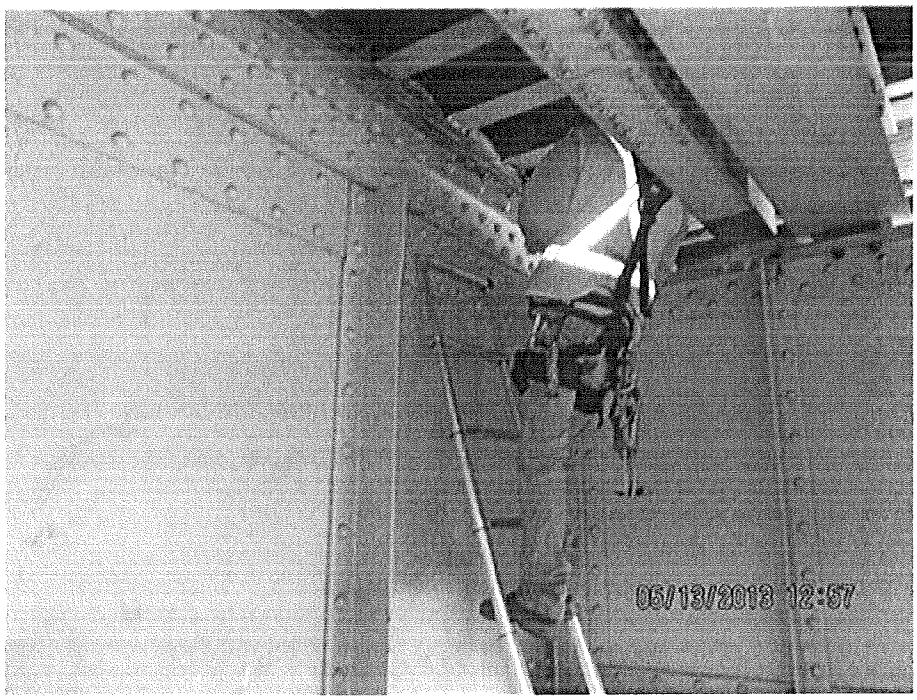
Photo No.: 3 **Location:** Lower Level eastbound roadway at Panel Point 38W, looking east. **Description:** Inspection of main floorbeam and end of stiffening truss panel utilizing temporary scaffolding platform accessed with an extension ladder.	
Photo No.: 4 **Location:** Underside of Upper Level roadway at Panel Point 15W, looking northwest. **Description:** Inspection of main floorbeam utilizing an extension ladder from the temporary scaffolding platform.	

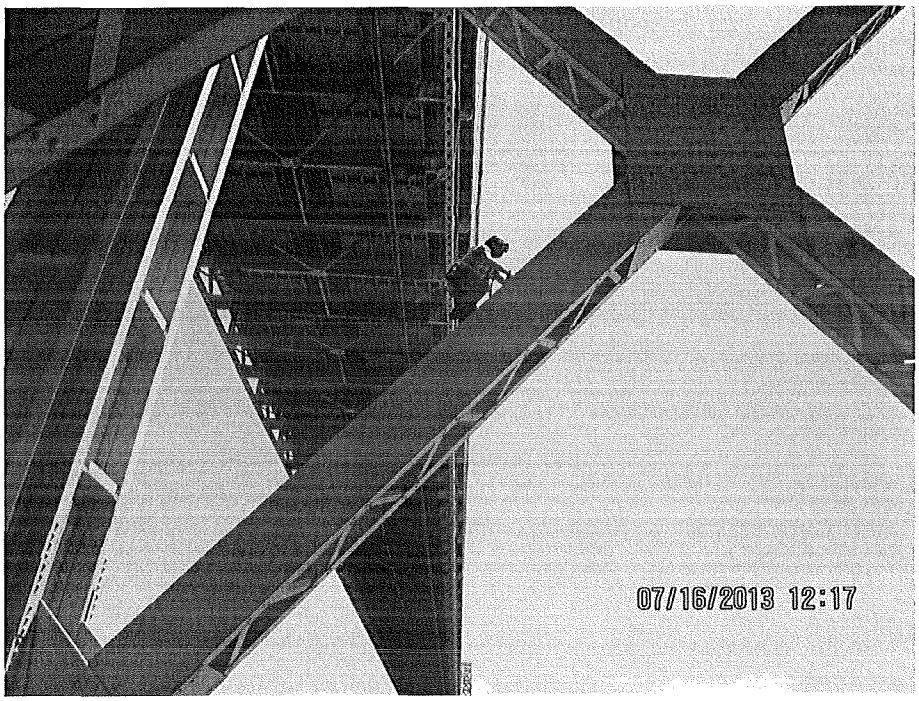
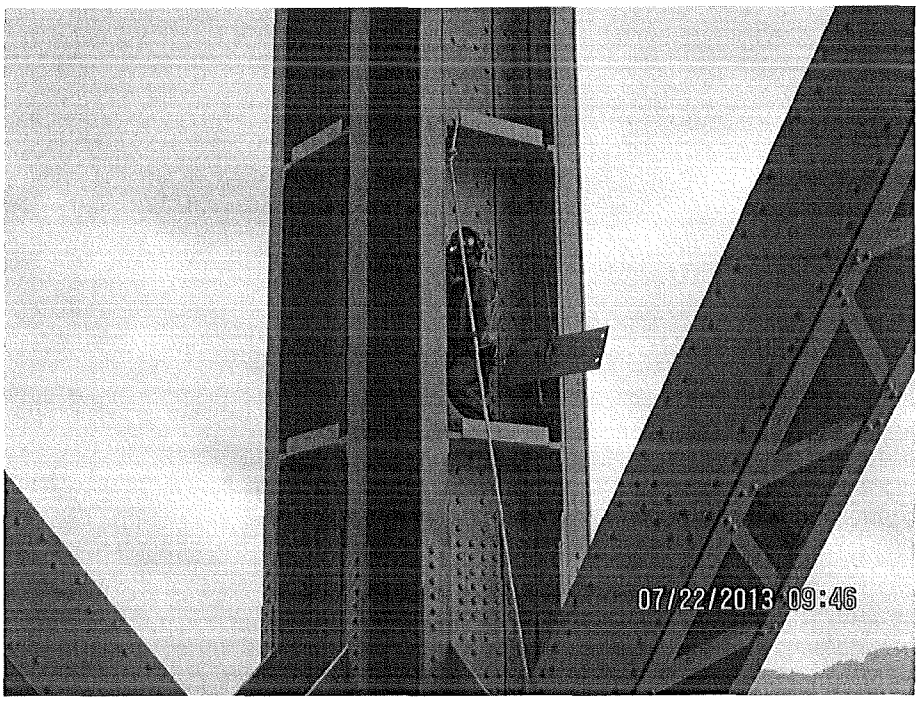
Photo No.: 5 **Location:** South leg of New Jersey Tower between northeast and southeast exterior columns, looking east. **Description:** Inspection of diagonals and vertical connection plates via tethered climbing.	
Photo No.: 6 **Location:** North leg of New Jersey Tower at northeast exterior column, looking northeast. **Description:** Interior inspection of column base performed with SEMAC assistance involving removal of access hatches.	

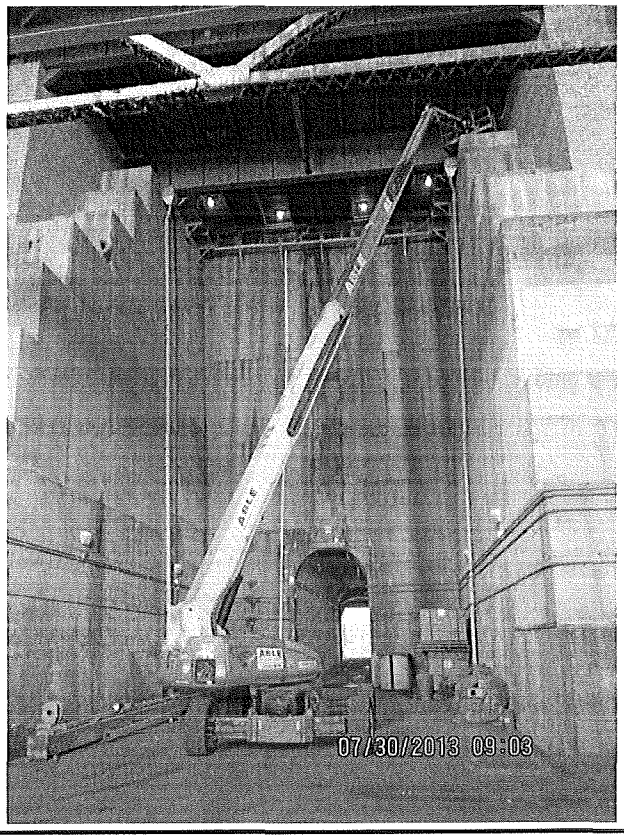
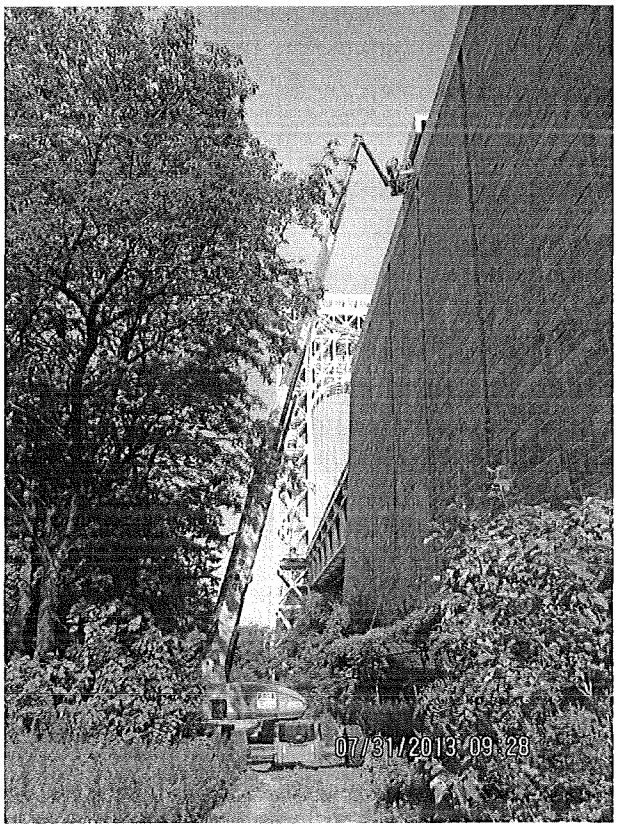
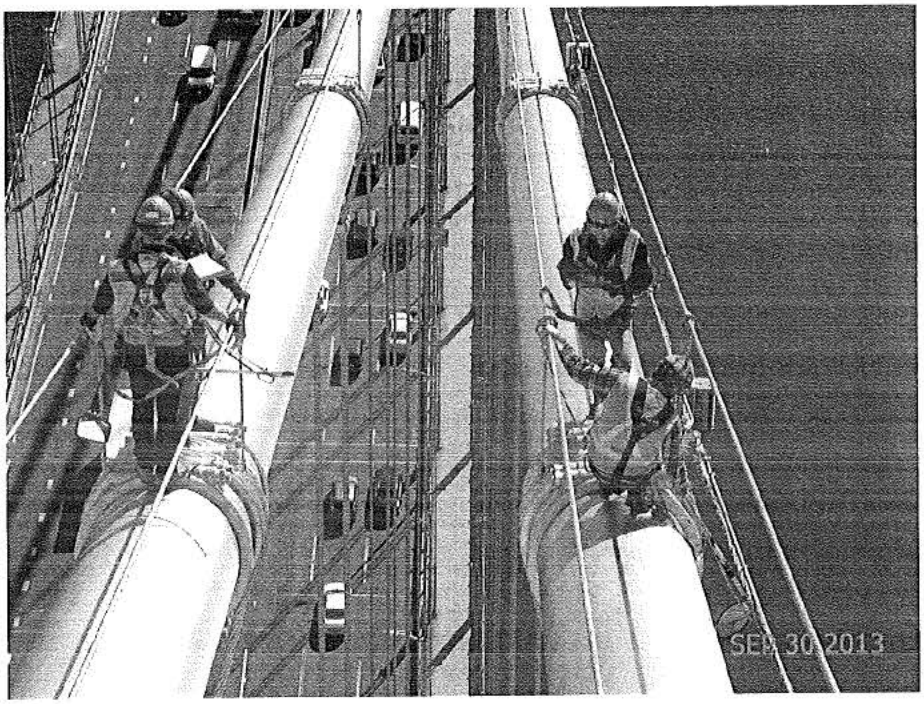
Photo No.: 7 **Location:** New York Anchorage, interior walls, looking east. **Description:** Inspection of the concrete anchorage walls utilizing a 135' manlift.	
Photo No.: 8 **Location:** New York Anchorage, exterior walls, looking west. **Description:** Inspection of the anchorage walls utilizing a 135' manlift.	

Photo No.: 9

Location: Main Cables A & B of the Main Span, looking east.

Description: Inspection of the main suspension cables using pole-mounted mirrors.



[redacted]

[redacted]

Photo No.: 12

Location: Upper Level westbound roadway at Panel Point 3E, looking northeast.

Description: Hands-on inspection of signs and lighting standards utilizing a 35' bucket truck with an attenuator truck.

C. CONDITION SURVEY DEFINITIONS AND TERMINOLOGY

DEFINITIONS OF RECOMMENDATION CATEGORIES

The inspection involves one of the following methods:

Hands-on Inspection Close-up inspection from no further away than arm's length where the member or element can be physically touched.

Visual Inspection The inspection from a reasonable distance of a member or element where initial determination of the condition can be made.

Four categories of recommendations are identified and defined as follows:

Immediate Requires immediate action including possible closing of the structure or areas affected for safety reasons until interim remedial measures, such as shoring or removal of potentially unsafe structures (or elements), can be implemented. These closings or interim remedial actions, if any, always require immediate action upon discovery.

Priority Conditions for which no immediate action may be required or for which immediate action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work.

Safety Conditions that present a potential hazard and which should be repaired as soon as possible.

Routine Conditions requiring further investigation or remedial work, which can be undertaken as part of a scheduled maintenance program, other scheduled project, or routine facility maintenance, depending on the action required.

RATING CRITERIA

Terms used to describe the condition of a structural system or component are listed and defined below. When the term is applied to an overall structure or system, this does not indicate that all elements of the structure or system are in the same condition.

Excellent "As New" Condition

Good The structure system is sound and performing its function, although it shows signs of wear and may require some minor repairs, mostly routine.

Fair The structure system is still performing adequately at this time, but needs "priority" and/or "routine" repair to prevent future deterioration and to restore it to good condition.

Poor The structure system cannot be relied upon to continue to perform its original function without "immediate" and/or "priority" repair.

INSPECTION TERMINOLOGY

The following terms may be used during inspection to describe the condition of structural members.

1) **STEEL MEMBERS**

a) **Corrosion**

- Minor (or Light) – A light surface rust.
- Moderate – Rust that is loose and flaking with some pitting. This scaling, or exfoliation, can be removed with some effort by use of a scraper or chipping hammer. Element exhibits measurable but not significant loss of section.
- Severe – Heavy, stratified rust or rust scales with extensive pitting. Removal requires exerted effort and may require mechanical means. Significant loss of section.

b) **Pack Rust** – Rust collected between two interfacing surfaces, usually two steel plates. Pack rust can be minor, moderate, or severe as described above. Pack rust can severely deform the steel members due to the expansive nature of rust.

c) **Pitting** – Formation of cavities due to corrosion. Minor, moderate, and severe pitting categories are used based upon depth and density of cavities.

- Minor – Typically less than ¼ inch diameter and $^1/_{32}$ inch deep.
- Moderate – ¼ inch to ½ inch diameter and up to $^1/_8$ inch deep.
- Severe – Greater than ½ inch diameter and over $^1/_8$ inch deep.

2) **CONCRETE MEMBERS**

a) **Cracking** – A separation into two or more parts with a space between the fractured concrete surfaces.

- Hairline- Crack width less than $^1/_{32}$ inch.
- Fine – Crack width between $^1/_{32}$ inch and $^1/_{16}$ inch.
- Medium – Crack width between $^1/_{16}$ inch and $^1/_8$ inch.
- Wide – Crack width greater than $^1/_8$ inch.

The above definitions for cracks can be modified, depending on the type of structural element. Other terminology, such as map cracking, pattern cracking, etc., may be used as appropriate.

b) **Efflorescence** – A white deposit caused by crystallization of soluble salts brought to the surface by moisture leaching through concrete.

c) **Delamination** – A layered separation of the concrete. When a delaminated area of concrete is struck (sounded) with a hammer, a hollow sound will be emitted.

d) **Leaching** – The dissolution and washing away of the calcium hydroxide in concrete. The moisture enters the concrete through exposed cracks in the surface.

e) **Spall** – A roughly circular, oval, or elongated depression in the surface of a concrete element caused by separation of a portion of the surface concrete.

- Small (Pop-out) – Less than 6 inches in diameter and 1 inch deep.
- Medium – Between 6 inches and 12 inches in diameter and up to 2 inches deep.
- Large – Over 12 inches in diameter and any depth.

f) **Scaling** – The gradual loss of surface mortar and aggregates.

- Light Scaling – Loss of surface mortar up to ¼ inch deep.
- Medium Scaling – Loss of surface mortar between ¼ inch and ½ inch deep, including loss between large aggregate.
- Heavy Scaling – Loss of mortar greater than ½ inch in depth significantly exposing large aggregate.

g) **Hollow area** – An area of concrete which emits a hollow sound when struck with a hammer and indicates the existence of a fracture plane beneath the surface.

h) **Honeycomb** – Typically small pocket voids formed by the entrapment of air during the placement of the concrete.

3) **CABLES**

a) **Corrosion Stages of Zinc-coated Wires as per National Cooperative Highway Research Program (NCHRP) Report 534 "Guidelines for Inspection and Strength Evaluation of Suspension Bridge Parallel Wire Cables (Section 1.4.2.2), dated 2004:**

Wire corrosion is categorized visually by corrosion stage. The four corrosion stages are characterized by the presence of the following:

Stage 1: Spots of zinc oxidation on the wires.

Stage 2: Zinc oxidation on the entire wire surface; wire may have white surface dust indicting zinc oxidation, but that does not necessarily imply depleted zinc. Depletion is indicated by a dull gray color or a dark gray to black color if sulfur is involved.

Stage 3: Spots of brown rust covering up to 30% of the surface of a 3-inch to 6-inch length of wire; Laboratory tests have shown that 5% to 20% of Stage 3 wires may have cracks.

Stage 4: Brown rust covering more than 30% of the surface of a 3-inch to 6-inch length of wire; Laboratory tests have shown that 60% of Stage 4 wires may have cracks.

II. Inspection Findings, Conclusions and Recommendations

A. Upper Level

Inspection Findings, Conclusions and Recommendations

A. UPPER LEVEL

Major Inspection Findings

The upper level framing is in overall good condition. Since the previous inspection, several structural steel repairs have been completed which includes: cracked welds between the deck ribs (tees) and the deck strap plate, severely corroded support for the access catwalk at the New Jersey Tower, cracked and/or holed through webs/flanges of the secondary floorbeam/orthotropic deck rib (tee), missing or sheared bolts/rivets at connections of secondary floorbeam to stringer/deck strap plate, cracked with section loss connections of main floorbeam to deck truss top chord, bent/severely deteriorated seated bearing angle connections of stringer to floorbeam/capbeam, cracked and holed through web of the riser beams, holes with corrosion in the web of stringers over the bearing, and section loss and/or holes in the web of floorbeams/capbeams.

During the inspection, there were 8 conditions found that required immediate action. Repairs have been completed at 7 of the 8 immediate action conditions involving cracked upper web coping of stringer at connection to the floorbeam in the New York Anchorage, severely corroded web bottom with cracks of the ribs at Panel Points 11W (West side), 11W (East side), 14W (East side), 14E (West side) and 11E (East side), and cracked/delaminated concrete on the south sidewalk concrete fascia above the top flange of the steel fascia stringer between Panel Points 15W-16W, 17W-18W, 21W-23W, 24W-25W, 27W-29W, 30W-32W, 33W-35W, 43-42E, 23E-22E and 6E-5E. Work is currently in progress for the 1 remaining immediate action condition to repair the severely corroded web bottom with cracks of the ribs at Panel Point 11E (West side) (see page A-7).

Out of a total of 31 priority repair recommendations at 5,298 locations identified in the previous inspection report, 5 priority repairs at 12 locations have been completed, 14 priority repairs were partially completed at 766 locations and 130 new locations were found for existing priority repairs. In addition, 2 priority repairs at 8 locations have been re-evaluated to a routine repair. As a result, there are 24 priority repairs at 4,512 locations that remain outstanding. A total of 4 new priority repairs were found at 1,002 locations for a total of 28 priority repairs at 5,644 locations recommended for repair in this report section. The majority of these recommendations include the repair of cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeams, replace the missing tie down bolts and plates that connect the deck strap plate to the secondary floorbeams, replace the missing or sheared off rivets/bolts at the secondary floorbeam to stringer connections, and repair the cracked and/or holed webs of the secondary floorbeams, orthotropic deck ribs (tees) and riser beams.

There are also 11 safety repairs recommended at 36 locations and 88 routine repairs recommended at 2,519 locations.

Below are inspection findings for major bridge components in the Upper Level. Although the inspection findings do not affect the overall structural integrity, they are noted as follows:

Stringers, Columns, Bearings & Pedestals

The stringers are in overall good condition.

Several stringers in the main suspended spans exhibit moderate section loss at isolated locations with or without small corrosion holes in their webs above the bearings below the deck joint areas (see Photos A9, A19 and A22). Several stringers exhibit moderate section loss at the framed connection to the capbeams over the New York Anchorage. Some stringers within this area also exhibit fine cracks in the web which were previously arrested by a drilled hole near the top or bottom coping at the connections. No crack propagation was observed during this inspection in the locations where arrestor holes were previously drilled.

The tie-down bolts/rivets at numerous locations, for the seated bearing connection of the stringer to floorbeam within the suspended spans and stringer to capbeams at the New York Anchorage, exhibit severe section loss or are sheared off (see Photos A13, A18 and A25). At other isolated locations within the New York Anchorage, the stringer bearing seats are bent due to pack rust at the stiffener angles (see Photo A23). There is one location where the shim plate is cracked and the tie down bolt is sheared off (see Photo A12). Within the suspended spans, there are isolated locations of pack rust noted between sliding plates of the stringer bearing limiting the bearing movement (see Photos A21 and A28).

The lateral bracing connection at the stringers has worn into the stringer bottom flange up to 1/8" deep between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E (see Photo A27).

The stringer pedestals/bearing stools at the New York Tower exhibit localized section loss on the bottom flange, bearing stiffeners and anchor bolts most notably below Stringer S7 at Panel Point 14E (see Photo A11).

The stringers are connected to the floorbeam via a pinned-connection within truss panels adjacent to the towers and end panels of suspended spans. At some of these locations, the pins exhibit moderate corrosion with section losses up to 1/4" on the exterior surface. Ultrasonic testing was performed at these pins and no cracks were noted (see Photo A40 and Appendix C for ultrasonic inspection report). In addition, section loss due to corrosion at the pins is not significant (<5%). As a result, previously recommended priority repair for this condition has been re-evaluated to a routine repair.

The concrete pedestals are in overall fair condition.

The intermediate bearing at south sidewalk pedestal of floorbeam at Panel Point 1E inside the New York Anchorage is spalled resulting in approximately 10% undermining below the masonry plate (see Photo A3). Previously noted intermediate bearing pedestal below the south sidewalk at Stringer S4, between Capbeams 2 and 3, has been repaired.

The columns are in overall good condition.

Several columns exhibit minor to moderate section loss at their base or at their base connections over the New York Anchorage.

Primary Floorbeams, Capbeams and Upper Truss Chords

The floorbeams, upper truss chords, verticals, diagonals and gusset plate connections to the floorbeams, are in overall good condition.

The webs of several main floorbeams in the main suspended spans exhibit areas of localized heavy pitting and up to 1/4" section loss with small corrosion holes mostly occurring below the joints, median areas, and curb lines (see Photo A15). Isolated rivet heads along the floorbeam bottom flanges exhibit up to 50% head loss. The capbeams in the New York Anchorage exhibit large areas of pitting up to 1/4" deep with small localized corrosion holes in the web.

The "box shaped" upper chords comprising the stiffening trusses are in overall good condition.

Evidence of water ponding was noted on top of the upper chord ends, near the connections to the floorbeams. The top plate exhibits localized pitting of up to 1/4" deep and various rivet heads exhibit up to 50% head loss at isolated locations. Previously noted partially cracked with localized section loss in the outboard leg of the riveted connection angles between the main floorbeams and the upper chord of the truss has been arrested with a drilled hole. These cracks occur just above the upper chord location and do not significantly affect the overall shear capacity of the floorbeam connection.

Secondary Floorbeams and Riser Beams

The secondary floorbeams and riser beams are in overall fair condition.

Several secondary floorbeams in the main suspended spans exhibit fine horizontal web cracks, with or without corrosion holes, mostly occurring at the ends of Secondary Floorbeams SFB1 & SFB12 (or SFB13). The cracks typically exist along the base of the web and extend north and/or south of the longitudinal stringer location (see Photo A24). Numerous crack arrestor holes varying in size from 1/4" to 3/4" diameter were previously drilled at the ends of the web cracks, however the cracks have continued to propagate beyond the drill holes at several locations (see Photo A26). Ongoing Contract GWB244.022 is scheduled to replace all end Secondary Floorbeams SFB1 & SFB12 (or SFB13).

There are numerous locations throughout the main suspended spans and the New York Anchorage with missing or sheared off rivets/bolts at the connection of the secondary floorbeam bottom flanges to the stringer top flanges (see Photos A10 and A20). Previously noted immediate repair at secondary floorbeams SFB11 & SFB12 over Stringer S6, which exhibited missing rivets/bolts and were loose with noticeable movement evident under live load between Panel Points 43-42E and 8E-7E, has been repaired.

The riser beams, which support and maintain the proper elevation of the steel orthotropic deck panels near the deck joint, are located directly over the main floorbeams. There are isolated locations throughout the main span where the web plates are fully cracked with movement under truck live loads (see Photos A8 and A16). The new deck joint system to be installed under ongoing Contract GWB244.022, will eliminate all riser beams over the end floorbeams.

Secondary Members

The secondary members which include diaphragms, lateral bracings and connecting gusset plates are in overall good condition.

Isolated areas of localized heavy corrosion, small corrosion holes, and pack rust were evident mostly below the deck joints and median areas. The end diaphragm inside the New Jersey Anchorage, below the abutment joint between Stringers S18-S19, exhibits a 5'L x 1'H corrosion hole. All other diaphragms at this location are in good condition. Localized moderate pitting and corrosion, and extensive dirt and debris accumulation were typically noted on the horizontal connection plates for the main lateral bracings below the median. There is heavy pack rust build-up and heavy corrosion to the lateral bracing members at the bottom flange of the stringer at numerous locations, particularly where the main lateral bracing angles connect to the bottom flanges of the stringers.

Orthotropic Deck

The steel orthotropic deck panels are in overall fair condition and generally in poor condition near the joints.

There are numerous partial and full length cracks noted at the welded connection of the orthotropic deck rib "tee" and the strap plate, which is bolted to the top flange of the secondary floorbeam (see Photos A2, A4 and A6). The tie down bolts and plates connecting the strap plate to the secondary floorbeam top flange are missing at isolated locations (see Photo A5 and A7).

Numerous deck ribs exhibit severe corrosion, holes and/or cracks in the web or bottom flanges (see Photos A1 and A14). The severely corroded deck ribs at the tower, Panel Points 11W, 14W, 14E and 11E, were recommended as an immediate repair (see Appendix B for correspondence). Orthotropic deck rib R44 at Secondary Floorbeam SFB10, between Panel Points 10W-11W, was cracked along the web up to 6" long. The crack propagated into the steel deck plate approximately 2" long. This condition was also recommended as an immediate repair (see Appendix B for correspondence and page A-7 for status of immediate actions).

Superstructure Paint Condition

The paint system protecting the superstructure steel in the suspended spans is in overall good condition.

Moderate corrosion was observed on the riser beams, at the lower suspender rope sockets below the joint areas, and at many locations due to leakage through the deck joints.

The condition of the paint on the superstructure steel over the New Jersey and New York Anchorage is in overall good condition.

The columns and isolated locations of the superstructure exhibit areas of peeling paint and moderate corrosion due to leakage through the joints. The paint is in poor condition at most column bases.

All four main cables were repainted since the previous inspection and the paint was found to be in very good condition.

Deck Joints

The intermediate deck joints within the main suspended spans are in overall poor condition.

The deck joints exhibit segments of debonded, depressed, torn or missing joint sealers. The active water leakage through these joints has resulted in moderate to heavy corrosion of the riser beams and the end secondary floorbeams. The joints on the sidewalks typically exhibit slightly torn and depressed sealers. Ongoing Contract GWB244.022 is scheduled to replace all deck joints on the main suspended spans.

The transverse support beams for the finger joints exhibit localized section losses on the web plate and small corrosion holes at the base of numerous intermediate stiffeners. The joint troughs remain completely clogged and are overflowing with dirt and debris onto other structural members (see Photo A34).

The deck joints within the New Jersey and New York Anchorages are in overall fair condition and exhibit minor to moderate leakage due to missing or torn sections of joint sealer and minor deficiencies to the joint troughs below.

Sidewalks and Fascias

The sidewalks are in overall fair to good condition.

Several shallow spalls exist at various locations throughout the bridge particularly along the joints. The south sidewalk fascia is in overall poor condition exhibiting numerous areas of spalled concrete with or without exposed rebar ranging from 1' to 30' long x up to 1' wide. The north sidewalk fascia is in overall good condition with small isolated spalls. Areas of cracked and/or delaminated concrete along the sidewalks could not be safely removed during the inspection and was recommended for removal on an immediate basis (see Appendix B for correspondence).

Curbs, Parapets, Medians and Railings

The curbs, parapets and median are in overall fair to good condition.

The built-up steel curbs and parapets in the main suspended spans exhibit small to medium localized holes in the vertical or horizontal faces allowing water to penetrate onto the structural steel below, primarily near the joints. The parapets exhibit numerous missing, sheared off or deteriorated connection bolts throughout the exterior face. The north concrete parapet over the New Jersey and New York Anchorages exhibit a few large spalls with exposed corroded rebar. The steel median barrier within the main suspended spans exhibit areas of pitting up to 1/4" deep, scrape marks and localized corrosion holes up to 3" diameter at isolated locations. In addition, the median barrier is misaligned at Panel Point 11W (see Photo A32).

The steel bridge railings along both sidewalks within the main suspended spans and over the New York Anchorage are in overall fair condition.

The railings exhibit minor to moderate section loss and localized corrosion holes in the railing posts and horizontal rails. The railings also exhibit several disconnected horizontal rails, broken or cracked collar plates, missing bolts connecting the horizontal rails to the posts, and broken rail post caps (see Photo A30). At the New

York Anchorage, one of the posts is disconnected at the base of the south railing (see Photo A31).

Bridge Lighting & Misc. Utilities

The bridge lighting and utilities are in overall fair condition.

The electrical box covers at the base of several lighting standards are missing with exposed electrical wires (see Photo A29). A few lighting standards are missing, one of which exhibits exposed electrical wires at the base (see Photo A33). One lighting standard over the New York Anchorage is missing an arm. Also, an emergency light is missing from the post at the north sidewalk.

The underside of deck bridge lighting deficiencies typically consist of non-functioning, disconnected, loose, broken or abandoned lighting fixtures, open and deteriorated junction boxes, hanging electric wires and deteriorated conduits. Several locations of partially disconnected conduits and conduit supports were also noted (see Photo A37). One underdeck lighting fixture support at the New York Tower is partially disconnected due to (1 of 2) missing nuts at the U-bolt connection (see Photo A38).

The maintenance platform gratings are deteriorated at a few locations, particularly at Panel Points 10W and 11W, and inside the New York Anchorage (see Photos A36 and A39).

Drainage

The drainage system throughout the structure is in overall fair condition.

The tower finger joint troughs are heavily clogged and are overflowing with dirt and debris which is accumulating onto structural members below (see Photo A34). Several of the vertical supports for the troughs and sloped deflector shields exhibit severe corrosion with through holes. Numerous roadway scuppers are clogged at several locations across the bridge. Corrosion holes were noted in several downspouts and drainage troughs at various locations. New drainage scuppers are currently being installed throughout the main suspended spans under ongoing Contract GWB244.022. Some of the troughs below the joints at the anchorages are clogged with dirt and debris and exhibit missing sections.

STATUS OF IMMEDIATE ACTION REPAIRS

Immediate: The following immediate actions were recommended during this inspection.

No.	Description	Status
1	Panel Point 11W (East side), Ribs 1 thru 4 between Stringers S1 & S2 exhibit severely corroded web bottom with cracks between Secondary Floorbeams SFB1 and SFB2. (4 Locations)	Repaired
2	The upper web coping of stringer S4 at the connection to the east face of floorbeam 8 in the New York Anchorage exhibits a crack. (1 Location)	Repaired
3	Panel Point 11E (East side), Ribs 45 thru 48 between Stringers S5 & S6 exhibit corroded web bottom with cracks between the Main and Secondary Floorbeam SFB1. Also, Ribs 45 thru 47 exhibit cracks in the bottom flange that have propagated from the web cracks. (4 Locations)	Repaired
4	Panel Point 14W (East side), Ribs 1 thru 4, 33 thru 36, 39 thru 42, and 66 thru 70 exhibit severely corroded web bottom with cracks between the Main and Secondary Floorbeam SFB1. (17 Locations)	Repaired
5	Panel Point 14E (West side), Ribs 37 thru 40, 61, 63 thru 66, 69 and 70 exhibit severely corroded web bottom with cracks and corrosion holes between the Main and Secondary Floorbeam SFB10. Also, Rib 40 exhibit a transverse crack in the bottom flange propagating from the crack in the web. (11 Locations)	Repaired
6	Panel Point 11E (West side), Ribs 47 thru 49 exhibit severely corroded web bottom with cracks between Secondary Floorbeam SFB9 and SFB10. Also, Ribs 47 and 48 exhibits transverse cracks in the bottom flange propagating from the web cracks. (3 Locations)	In Progress
7	Panel Point 11W (West side), Ribs 1 thru 5, 15 thru 17, 19 thru 22, 28 thru 31, 35 thru 43, 57, 58 and 70 exhibit severely corroded web bottom with cracks and corrosion holes between the Main Floorbeam at Panel Point 11W and Secondary Floorbeam SFB10. Also, Rib 44 exhibits a crack at the top of the web which branches out to a transverse crack in the deck plate. (28 Locations)	Repaired
8	Cracked and delaminated concrete on the south sidewalk concrete fascia above the top flange of the steel fascia stringer. (14 Locations)	Repaired

For immediate action correspondence, see Appendix B.

RECOMMENDATIONS

Priority: The following priority repairs are recommended:

No.	Description	Dwg. No.
Underside of Deck:		
1*	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 2W, 11W, 14W, 19W, 22W, 15E, 14E and 11E. *(Photo A1)* (54 locations)	U-2 and U-5
2	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam. *(Photo A2)* (996 Locations)	U-2 thru U-5
3*	Repair the severely spalled pedestal of floorbeam at Panel Point 1E and pedestal of stringer S1 at Cap Beam 10 of the New York Anchorage. *(Photo A3)* (2 Locations)	U-6
4*	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam. *(Photo A4)* (1,663 Locations)	U-2 thru U-5
5*	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, between 18W-19W, 20W, 22W, 23W, 24W, 26W, 29W, 30W, 32W-34W, 36W, 39W, 40W, 41W, 42W, 42E, 37E, 36E, 34E, 30E, 29E, 26E, 25E, 23E, 21E, 19E, 18E, 17E, 16E, 15E, 14E, 11E, 10E, 9E, 8E, 7E, 6E, 5E, 4E & 2E. *(Photo A5)* (106 Locations, 210 Bolts)	U-2 thru U-5
6*	Repair the cracked welds between the deck ribs (tees) and the deck strap plate at the top of the secondary floorbeam. *(Photo A6)* (2,237 Locations)	U-2 thru U-5
7*	Replace the missing tie down bolt and plate that connect the deck strap plate to the secondary floorbeam at or near the following Panel Points of the main span: 3W-9W, 11W, 15W, 17W, 18W, 20W, 21W, 24W, 31W, 36W, 40W, 41W, 42W, 38E, 32E, 31E, 30E, 25E, 20E, 19E, 18E, 16E, 15E, 11E, 10E, 6E, 3E, **3W, 5W, 8W, 11W, 18W, 24W, 30W, 32W, 35W, 36W, 41W, 42W, 43, 35E, 34E, 30E, 29E, 28E, 24E, 23E, 21E, 20E, 9E, 8E, 7E and 5E.** *(Photo A7)* (88 Locations, 171 Bolts)	U-2 thru U-5
14*	Repair the cracks and/or holes in the web or flange of the orthotropic deck rib (tee) at Panel Points 7W, 19W, 22W, 43, 36E, 15E, 11E, 6E, 4E, **2W, 11W, 14W, 22W, 14E, 11E and 6E.** *(Photo A14)* (51 Locations)	U-2, U-4 and U-5
Superstructure Steel:		
8*	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 7W, 10W, 17W, 25W, 28W, 32W, 34W, 35W, 39W, 38E, 36E, 19E, 10E, 7E, 6E, 5E and 3E. *(Photo A8)* (19 Locations)	S-2 thru S-7

No.	Description	Dwg. No.
9*	Repair the stringers that exhibit thru holes with moderate corrosion in the web over the bearings at the following locations: Web of S1 east of 10W, Web of S2 west of 11W, Web of S3 west of 14W, Web of S7 west of 14W, Web of S1 east of 26W, Web of S1 east of 40W, Web of S3 east of 40W, Web of S1 west of 31E, Web of S1 west of 25E, Web of S1 & S8 east of 15E, Web of S1 & S3 west of 14E, Web of S1, S3 through S7 east of 14E, Web of S1 west of 11E, Web of S1 west of 9E, Web of S8 east of 2E, Web of S1 west of 1E. *(Photo A9)* (23 Locations)	S-2 and S-4 thru S-7
10*	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection. *(Photo A10)* (178 Locations)	S-2 thru S-8
11*	Repair the severe rust and hole in the bearing stiffener and the bottom flange of the bearing system of Stringers S6 and S7, east of PP 14E. *(Photo A11)* (2 Locations)	S-6
12	Replace the cracked shim plate and sheared off tie down bolt connecting Stringer S9 bottom flange to the seated angle at Capbeam 4. *(Photo A12)* (1 Location)	S-8
13	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam. *(Photo A13)* (3 Locations)	S-5 and S-6
15*	Repair the main floorbeam with extensive section loss and/or holes in web at the following locations: Panel Points 2W, 40W, 3E and 1E. *(Photo A15)* (5 Locations)	S-2, S-4, S-7 and S-8
16*	Repair the cracked or holed through web of riser beam supporting the deck above the floorbeam at Panel Points 9W, 17W, 20W, 21W, 25W, 37W, 40W, 42E, 27E, 23E, 21E, 19E, 9E, 6E, 3E, **3W-8W, 10W, 16W, 22W, 27W-29W, 32W, 34W, 36W, 39W, 40W, 42W, 41E, 37E, 35E, 31E, 29E, 26E, 25E, 21E, 20E, 18E and 9E.** *(Photo A16)* (64 Locations)	S-2 thru S-7
17*	Replace the sheared anchor bolts and anchor bolt nuts which exhibit severe corrosion at the following locations: south column at Capbeams 4 & 8 in the New York Anchorage. *(Photo A17)* (2 Locations)	S-8
18*	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam. *(Photo A18)* (1 Location)	S-3
19*	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S2 east of 14E. *(Photo A19)* (1 Location)	S-6
20*	Replace the missing or sheared off rivets or bolts at the secondary floorbeam to stringer top flange connection. *(Photo A20)* (22 Locations)	S-2 thru S-7
21*	Repair the stringer bearings that have the bearing sliding plate bouncing under live load and/or are frozen due to pack rust at Panel Points 25W, 27W and 1E. *(Photo A21)* (9 Locations)	S-4 and S-7

No.	Description	Dwg. No.
22	Repair the stringer that exhibits thru holes with moderate corrosion in the web over the bearing at web of S5 west of 14W and S7 west of 14E. *(Photo A22)* (2 Locations)	S-2 and S-6
23*	Repair the bent angle on the girder bearing connection of Stringer S5 to Capbeam 7 at the New York Anchorage. *(Photo A23)* (1 Location)	S-8
24*	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points of the main span: 3W, 4W, 5W, 6W, 7W, 8W, 9W, 15W, 16W, 17W, 18W, 20W, 21W, 22W, 26W, 27W, 29W, 31W, 32W, 36W, 37W, 39W, 40W, 41W, 43, 41E, 40E, 39E, 38E, 34E, 30E, 29E, 28E, 27E, 26E, 25E, 21E, 20E, 19E, 17E, 16E, between 15E-14E, 9E, 8E, 5E and 2E. *(Photo A24)* (65 Locations)	S-2 thru S-7
25*	Replace the severely corroded or sheared off tie down bolts/rivets connecting the stringer bottom flange to the seated angle at the floorbeam. *(Photo A25)* (15 Locations)	S-3, S-4, S-6 and S-8
26*	Repair the cracks and/or holes in the web or flanges of the secondary floorbeam at or near the following Panel Points 6W, 7W, 9W, 11W-14W, 22W, 26W, 29W, 37W-38W, 41W, 41E, 37E, 30E, 22E, 20E, 17E, **28E, 27E, 24E, 23E, 21E, 19E, 18E, 16E and 6E.** *(Photo A26)* (29 Locations)	S-2 thru S-7
27*	Repair the worn thru bottom flange of Stringer S2 at the diagonal bracing connection between Panel Points 9W &10W, 30E & 31E, 25E & 26E and 20E & 21E. *(Photo A27)* (4 Locations)	S-2, S-5 and S-6
28*	Repair Stringer S8 bearing that has the bearing sliding plate bouncing under live load and is frozen due to pack rust at Panel Point 1E. *(Photo A28)* (1 Location)	S-7
* Previously recommended as a "Priority Repair" in the 2011 inspection report.		
New locations found during this inspection are in bold.		

Safety: The following safety repairs are recommended:

No.	Description	Dwg. No.
Top of Deck:		
1	Repair the disconnected conduit or secure the loose electrical box covers with exposed wires on the lighting standard or railing posts. *(Photo A29)* (4 Locations)	T-2, T-5 and T-6
2	Replace the missing, severely deteriorated, and/or secure the disconnected rails from posts along the roadway and sidewalk railings. *(Photo A30)* (13 Locations)	T-2, T-5 and T-6
3	Secure the railing posts that are loose, cracked or disconnected at its base over the New York or New Jersey Anchorage. *(Photo A31)* (6 Locations)	T-1 and T-6
4	Repair the misaligned median barrier at Panel Point 11W. *(Photo A32)* (1 Location)	T-2
5	Cover or remove the exposed electrical wires at the base of the missing light standard. *(Photo A33)* (1 Location)	T-6
Underside of Deck:		
6	Remove the excessive debris accumulated on the steel members at Panel Point 14E and Stringer S8. *(Photo A34)* (1 Location)	U-5
7	Repair the severely deteriorated flooring at the mid-level of New York Anchorage. *(Photo A35)* (3 Locations)	U-6
8	Replace the severely deteriorated maintenance platform grating at its south support below the south sidewalk access hatch between Panel Points 10W & 11W. *(Photo A36)* (1 Location)	U-2
9	Secure the disconnected utility conduits and utility conduit supports which are partially detached. *(Photo A37)* (4 Locations)	U-2, U-3, U-5 and U-6
10	Secure the loose support for the underdeck lighting fixture. *(Photo A38)* (1 Location)	U-5
11	Repair the deteriorated section of catwalk grating inside the New York Anchorage. *(Photo A39)* (1 Location)	U-6

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
Top of Deck:		
1	Repair the vertical and/or horizontal faces of the steel curb & parapet that exhibit thru holes allowing water to penetrate onto the steel below. (41 Locations)	T-2 thru T-5
2	Replace the elastomeric joint filler material that is either missing or deteriorated at the top of the deck joints. (277 Locations)	T-1 thru T-6
3	Repair the spalled concrete of the parapet or curb with exposed rebars. (22 Locations)	T-1 and T-6
4	Repair the bridge railing and/or vertical support post which exhibits moderate localized section loss and/or thru holes, or is damaged due to impact. (198 Locations)	T-1 thru T-6
5	Replace the missing bolts or cracked collar plate connecting the horizontal bridge rails to the support posts. (13 Locations)	T-2, T-3 and T-5
6	Seal the medium to wide cracks in the concrete parapet. (2 Locations)	T-1 and T-6
7	Replace the missing cap at the top of the light poles. (3 Locations)	T-6
8	Replace the missing or broken bridge railing post caps and/or countersunk flat head screws. (66 Locations)	T-1 thru T-6
9	Repair the cracked weld at one of two supports, to the bridge railing, for telephone pole. (2 Locations)	T-3 and T-4
10	Replace the missing or deteriorated curb joint filler or steel plate. (67 Locations)	T-2 thru T-6
11	Replace the missing bolts or detached plates on the outside face of the steel parapet. (149 Locations)	T-2 thru T-5
12	Replace the missing bolt at the connection angle at the base of the post. (1 Location)	T-5
13	Repair the spalled asphalt overlay in the roadway or spalled concrete in joint header. (14 Locations)	T-1, T-2, T-4 and T-5
14	Repair the steel median barrier section which is broken or exhibits extensive section loss. (8 Locations)	T-2, T-3, T-5 and T-6
15	Replace the 3 of 6 missing bolts at the steel expansion plate connection to the median over the New Jersey Anchorage. (1 Location)	T-1
16	Repair the shallow spalls in the sidewalk slab or the spalled fascia overhang with or without exposed rebars. (149 Locations)	T-2 thru T-5
17	Replace the missing blue emergency light. (1 Location)	T-3
18	Secure the granite stones atop the anchorage wall over terrain. (3 Locations)	T-1 and T-6

No.	Description	Dwg. No.
Underside of Deck:		
19	Secure the disconnected union coupling of the protective cover for the high voltage conduit in areas not accessible to pedestrians. (2 Locations)	U-5
20	Replace the joint filler which is dislodged and hanging. (5 Locations)	U-2, U-4 and U-5
21	Replace the missing vent covers and/or cleanouts of the scupper downspouts or replace the missing bolts at these locations. (5 Locations)	U-2, U-3, U-5 and U-6
22	Remove debris from top of seat/pedestal area hindering bearing movement. (10 Locations)	U-1, U-2 and U-5
23	Seal the medium to wide horizontal and vertical cracks in the abutment seat or capbeam. (4 Locations)	U-1
24	Repair severely cracked and spalled encasement around the deteriorated and leaking catch basin at the New Jersey Anchorage. (1 Location)	U-1
25	Repair the spalled, hollow sounding and/or delaminated concrete on the backwall or abutment seat at the west abutment. (6 Locations)	U-1
26	Repair the small holes (1"-2" diameter typ.) in the deck and/or sidewalk allowing water to penetrate onto the steel below. (28 Locations)	U-1, U-2, U-3 and U-6
27	Repair the spalled concrete with or without exposed rebars and hollow sounding areas on the underside of the deck. (12 Locations)	U-1 and U-6
28	Seal the wide cracks and/or repair the spalled and hollow sounding concrete with or without exposed rebars on the anchorage wall. (12 Locations)	U-1, U-5 and U-6
29	Repair the spalled grout of the column or girder pedestals with minor undermining of bearing. (5 Locations)	U-1
30	Replace the missing, deteriorated, disconnected, or broken scupper downspout/drainage trough or trough support. (21 Locations)	U-1, U-2, U-5 and U-6
31	Repair the spalled concrete on the deck haunch above the girders in the New Jersey Anchorage. (5 Locations)	U-1
32	Seal the medium to wide cracks along the deck haunch or on the underside of deck in the New Jersey Anchorage. (18 Locations)	U-1
33	Repair the drainage trough or debris shield supports at the towers which exhibit section loss and thru holes. (8 Locations)	U-2 and U-5
34	Replace the missing fencing or secure the disconnected fencing supports for drainage trough housing at the towers. (7 Locations)	U-2 and U-5
35	Repair the severely deteriorated section of metal deck pan below the sidewalk. (74 Locations)	U-2 thru U-5
36	Replace the missing bolts connecting the deck plates along the longitudinal joints. (37 Locations)	U-6

No.	Description	Dwg. No.
Superstructure Steel:		
37	Clean and paint the top and bottom plates of the top chord of the stiffening truss and gusset plates at connections. Also replace missing caulk at the joint between the top and bottom plates and the web plates of the same members. In addition, install methods to prevent ponding on top of the top chord. (15 Locations)	S-2 thru S-7
38	Repair the vertical gusset plate of the deck truss top chord at connection to the main floorbeam which exhibits localized 1/8" – 3/16" section loss. (3 Locations)	S-3 and S-6
39	Repair the support for the median longitudinal beam which exhibits a crack or is severely deteriorated. (10 Locations)	S-2, S-4, S-5 and S-6
40	Repair the longitudinal beams supporting the median barrier between stringers S4 and S5 with section loss and/or missing bolts. (32 Locations)	S-2, S-3, S-4, S-6 and S-7
41	Repair the gusset plate of the cross frame connection to the stringer flange with extensive section loss and thru holes. (14 Locations)	S-2, S-6 and S-7
42	Replace severely deteriorated bolts connecting the pin washer to the bearing. (3 Locations)	S-2
43	Repair the web or flanges of the secondary floorbeams which exhibit small holes and/or 1/8"-1/4" section loss at critical areas. (132 Locations)	S-2 thru S-7
44	Replace the north sidewalk beam that supports the steel joint plate which exhibits more than 50% section loss to its top flange at PP 14W. (1 Location)	S-3
45	Repair the partial connection angle that is cracked but terminates at an open rivet hole. (1 Location)	S-1
46	Replace the broken sole plate below stringer resulting in slight undermining of bearing. (1 Location)	S-1
47	Replace the missing bolts connecting the top flange of floorbeam to deck. (9 Locations)	S-1
48	Repair the bearing assembly for the retrofit beam at Capbeam 10 which exhibits cracked welds along the edge of the shim plates. (1 Location)	S-8
49	Repair the vertical, horizontal, and/or diagonal legs of the angles of the cross frame with thru holes and section loss and/or severe pack rust. (35 Locations)	S-2 thru S-7
50	Replace the missing grating or secure loose grating beneath the median barrier between stringer S4 and S5. (3 Locations)	S-2 and S-7
51	Repair the anchor bolt nuts on both sides of the sidewalk fascia stringer bearing. (4 Locations)	S-2 and S-7
52	Tighten the anchor bolt nut of the bearing assembly. (3 Locations)	S-1
53	Replace the missing bolts and/or angle on the support brackets for the finger joint deflective shield. (5 Locations)	S-2 and S-6

No.	Description	Dwg. No.
54	Repair the small holes and/or minor to moderate section loss in the stringer at critical areas. (33 Locations)	S-1 thru S-7
55	Replace the sheared off rivet at the base of the stiffening angles of the stringer seated connection to the floorbeam. (1 Location)	S-8
56	Repair the bearing stiffener at sidewalk stringers with extensive section loss, pack rust, holes, and/or cracks. (43 Locations)	S-2 thru S-7
57	Repair the intermediate stiffeners with thru holes and/or extensive section loss. (21 Locations)	S-2 thru S-7
58	Repair the severely deteriorated intermediate diaphragm that exhibits thru holes. (5 Locations)	S-1, S-2 and S-6
59	Repair the stringer bearing assembly which exhibits extensive section loss and pack rust on the web plate, bearing stiffeners and the countersunk bolt nuts. (24 Locations)	S-3, S-5, S-6 and S-7
60	Repair the spalled and cracked concrete encasement of stringers. (2 Locations)	S-8
61	Replace the missing bolts on the gusset plate connection of the utility platform to the bottom flange of the sidewalk stringer. (4 Locations)	S-5 and S-7
62	Repair the sidewalk stringer web plate(s) which exhibits extensive section loss and/or thru holes. (6 Locations)	S-2 thru S-6
63	Repair the sliding plate of the bearing of S1 at PP 14W which exhibits a 3" long broken edge. (2 Locations)	S-3 and S-6
64	Repair the missing section of keeper rod on the underside of finger joint. (4 Locations)	S-2 and S-6
65	Replace the missing, deteriorated, and/or loose bolts/rivets of the cross frame to secondary floorbeam connection. (5 Locations)	S-7
66	Replace the rivets with over 50% head loss. (94 Locations)	S-1 thru S-8
67	Replace the anchor bolt to the stringer bearing with over 50% section loss. (9 Locations)	S-2, S-6 and S-7
68	Repair the cracked weld at sidewalk stringer connection to the floorbeam. (1 Location)	S-2
69	Replace the deteriorated bearing plate below the sidewalk stringer which exhibits severe section loss. (1 Location)	S-2
70	Repair the vertical stiffeners on the stringer bearing stool that exhibit extensive section loss, pack rust, holes and/or cracks. (19 Locations)	S-4 thru S-6
71	Repair the bottom flange of the main floorbeam/capbeam which exhibits up to 3/16" localized section loss at non-critical areas. (1 Location)	S-8
72	Replace the missing rivet at the stringer bearing stiffener angle. (2 Locations)	S-6

No.	Description	Dwg. No.
73	Repair the wind brace to stringer connection that exhibits pack rust and/or missing filler plate causing the bracing angles to bounce under live loads resulting in wear and section loss to the stringer bottom flange. (206 Locations)	S-2 thru S-7
74	Repair the horizontal gusset plate that connects the wind brace to the main floorbeam and/or truss chord which exhibits localized severe section loss and/or thru holes and/or cracks. (40 Locations)	S-2 and S-4 thru S-7
75	Replace the rivets on the horizontal gusset plate that connects the wind brace to the main floorbeam and/or truss chord with over 50% head loss. (4 Locations)	S-5 and S-7
76	Repair the top and bottom lattice plates of the top chord of the truss at PP 2W that exhibit significant section loss and/or thru holes. (2 Locations)	S-2
77	Repair the bracket with thru holes on S8 east of PP 14W. (1 Location)	S-3
78	Repair the diaphragm plate below the pin connection between the stringer and the main floorbeam which exhibits extensive section loss and/or thru holes. (2 Locations)	S-3 and S-7
79	Repair the north platform support angle between PP 11W & 14W that exhibits severe corrosion. (1 Location)	S-2
80	Replace the missing rivet at the top of the stiffener at stringer. (48 Locations)	S-2 thru S-7
81	Replace the missing bolts at the sidewalk fascia stringer to deck connection. (63 Locations)	S-2 thru S-7
82	Repair the transverse support beams for the finger joint which exhibit areas of 1/8" – 1/4" localized section loss on the web and numerous interior vertical stiffeners with up to 100% section loss near the bottom flange. (4 Locations)	S-2 and S-6
83	Repair the connection angle between main floorbeam and deck truss top chord which exhibits extensive section loss with or without a crack that has been arrested by a drill hole. (164 Locations)	S-2 thru S-7
84	Replace the missing bolt or tighten loose bolt in web of stringer, secondary floorbeam, or sidewalk beam. (16 Locations)	S-2 thru S-7
85	Repair the web of the main floorbeam which exhibits 1/8" localized section loss near connection. (123 Locations)	S-2 thru S-8
86	Repair the lateral or diagonal bracing member in panel 14E/11E which exhibits extensive section loss and thru holes. (3 Locations)	S-6
87	Repair the gusset plate at the pin connection between stringer and main floorbeam which exhibits extensive section loss. (4 Locations)	S-2 and S-5 thru S-7
88	Clean the exposed portions of the pins and lubricate the stringer web bearing areas. (12 Locations)	S-2, S-3, S-6 and S-7

KEY CONDITION NOTES (FOR LEGEND, SEE DWG. NO. L-2)

PRIORITY REPAIRS

TOP OF DECK

NONE

UNDERSIDE OF DECK

- △1 REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).
- △2 REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN "⊠". (SEE NOTE 1 ON DRAWING NOS. U-2 THRU U-5). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- △3 REPAIR THE SEVERELY SPALLED PEDESTAL OF FLOORBEAM AT PANEL POINT 1E AND PEDESTAL OF STRINGER S1 AT CAP BEAM 10 OF THE NEW YORK ANCHORAGE.
- △4 REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN "X". (SEE NOTE 1 ON DRAWING NOS. U-2 AND U-5). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- △5 X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- △6 REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN "X". (SEE NOTE 1 ON DRAWING NOS. U-2 THRU U-5). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- △7 X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- △14 REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

SUPERSTRUCTURE STEEL

- △8 X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- △9 X REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- △10 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A "◦".
- △11 REPAIR THE SEVERE RUST AND HOLE IN THE BEARING STIFFENER AND THE BOTTOM FLANGE OF THE BEARING.
- △12 REPLACE THE CRACKED SHIM PLATE AND SHEARED OFF TIE DOWN BOLT CONNECTING STRINGER S9 BOTTOM FLANGE TO THE SEATED ANGLE AT CAPBEAM 4.
- △13 REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- △15 X REPAIR THE MAIN FLOORBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB. 'X' DENOTES THE SIZE OF HOLE.
- △16 X REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- △17 REPLACE THE SHEARED ANCHOR BOLTS AND ANCHOR BOLT NUTS WHICH EXHIBIT SEVERE CORROSION.
- △18 REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- △19 REPAIR THE STRINGER THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- △20 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A "◦".
- △21 REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.
- △22 X REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- △23 REPAIR THE BENT ANGLE ON THE GIRDER BEARING CONNECTION OF STRINGER TO CAPBEAM.
- △24 X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- △25 REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- △26 X(Y) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- △27 REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W-10W, 30E-31E, 25E-26E AND 20E-21E.
- △28 REPAIR THE STRINGER BEARING THAT HAS THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND IS FROZEN DUE TO PACK RUST.

SAFETY REPAIRS

TOP OF DECK

1 REPAIR THE DISCONNECTED CONDUIT OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD OR RAILING POSTS.

2 REPLACE THE MISSING, SEVERELY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.

3 SECURE THE RAILING POSTS THAT ARE LOOSE, CRACKED OR DISCONNECTED AT ITS BASE OVER THE NEW YORK OR NEW JERSEY ANCHORAGE.

4 REPAIR THE MISALIGNED MEDIAN BARRIER AT PANEL POINT 11W.

5 COVER OR REMOVE THE EXPOSED ELECTRICAL WIRES AT THE BASE OF THE MISSING LIGHT STANDARD.

UNDERSIDE OF DECK

6 REMOVE THE EXCESSIVE DEBRIS ACCUMULATED ON THE STEEL MEMBERS AT PANEL POINT 14E AND STRINGER S8.

7 REPAIR THE SEVERELY DETERIORATED FLOORING AT THE MID-LEVEL OF NEW YORK ANCHORAGE (BASE LEVEL OF CABLE STRAND SHOE DIAGONAL BRACE).

8 REPLACE THE SEVERELY DETERIORATED MAINTENANCE PLATFORM GRATING AT ITS SOUTH SUPPORT BELOW THE SOUTH SIDEWALK ACCESS HATCH BETWEEN PANEL POINTS 10W & 11W.

9 SECURE THE DISCONNECTED UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE PARTIALLY DETACHED.

10 SECURE THE LOOSE SUPPORT FOR THE UNDERDECK LIGHTING FIXTURE.

11 REPAIR THE DETERIORATED SECTION OF CATWALK GRATING INSIDE THE NEW YORK ANCHORAGE.

ROUTINE REPAIRS

TOP OF DECK

- (1) X REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.
- (2) REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS.
- (3) X REPAIR THE SPALLED CONCRETE OF THE PARAPET OR CURB WITH EXPOSED REBARS. 'X' INDICATES SIZE OF SPALL.
- (4) X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, (UNLESS OTHERWISE NOTED).
- (5) X,Y REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL, 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.
- (6) SEAL THE MEDIUM TO WIDE CRACKS IN THE CONCRETE PARAPET.
- (7) REPLACE THE MISSING CAP AT THE TOP OF THE LIGHT POLES.
- (8) X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.
- (9) REPAIR THE CRACKED WELD AT ONE OF TWO SUPPORTS, TO THE BRIDGE RAILING, FOR TELEPHONE POLE.
- (10) REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.
- (11) X,Y REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.
- (12) REPLACE THE MISSING BOLT AT THE CONNECTION ANGLE AT THE BASE OF THE POST.
- (13) X REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.
- (14) REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR EXHIBITS EXTENSIVE SECTION LOSS.
- (15) REPLACE THE 3 OF 6 MISSING BOLTS AT THE STEEL EXPANSION PLATE CONNECTION TO THE MEDIAN OVER THE NEW JERSEY ANCHORAGE.
- (16) X REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE, (UNLESS OTHERWISE NOTED).
- (17) REPLACE THE MISSING BLUE EMERGENCY LIGHT.
- (18) X SECURE THE GRANITE STONES ATOP THE ANCHORAGE WALL OVER TERRAIN. 'X' INDICATES LENGTH OF MISSING GROUT, IF APPLICABLE.

UNDERSIDE OF DECK

- (19) SECURE THE DISCONNECTED UNION COUPLING OF THE PROTECTIVE COVER FOR THE HIGH VOLTAGE CONDUIT IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
- (20) REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.
- (21) X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.
- (22) REMOVE DEBRIS FROM TOP OF SEAT/PEDESTAL AREA HINDERING BEARING MOVEMENT.
- (23) SEAL THE MEDIUM TO WIDE HORIZONTAL AND VERTICAL CRACKS IN THE ABUTMENT SEAT OR CAPBEAM.
- (24) REPAIR SEVERELY CRACKED AND SPALLED ENCASEMENT AROUND THE DETERIORATED AND LEAKING CATCH BASIN AT THE NEW JERSEY ANCHORAGE.
- (25) REPAIR THE SPALLED, HOLLOW SOUNDING, AND/OR DELAMINATED CONCRETE ON THE BACKWALL OR ABUTMENT SEAT AT THE WEST ABUTMENT. SIZE AS SHOWN.
- (26) REPAIR THE SMALL HOLES (1"-2"⌀ TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.
- (27) REPAIR THE SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS AND HOLLOW SOUNDING AREAS ON THE UNDERSIDE OF THE DECK. SIZE AS SHOWN.
- (28) SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.
- (29) REPAIR THE SPALLED GROUT OF THE COLUMN OR GIRDER PEDESTALS WITH MINOR UNDERMINING OF BEARING.
- (30) REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.
- (31) REPAIR THE SPALLED CONCRETE ON THE DECK HAUNCH ABOVE THE GIRDERS IN THE NEW JERSEY ANCHORAGE. SIZE AS SHOWN.
- (32) SEAL THE MEDIUM TO WIDE CRACKS ALONG THE DECK HAUNCH OR ON THE UNDERSIDE OF DECK IN THE NEW JERSEY ANCHORAGE.
- (33) REPAIR THE DRAINAGE TROUGH OR DEBRIS SHIELD SUPPORTS AT THE TOWERS WHICH EXHIBIT SECTION LOSS AND THRU HOLES.
- (34) REPLACE THE MISSING FENCING OR SECURE THE DISCONNECTED FENCING SUPPORTS FOR DRAINAGE TROUGH HOUSING AT THE TOWERS.
- (35) REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.
- (36) X REPLACE THE MISSING BOLTS CONNECTING THE DECK PLATES ALONG THE LONGITUDINAL JOINTS. 'X' DENOTES THE NUMBER OF BOLTS.

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL

KEY CONDITION NOTES & LEGEND - 1

[illegible fine print notice]

Designed by	Drawn by	Checked by
DS	RQ	GA

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number L-1

KEY CONDITION NOTES

ROUTINE REPAIRS (CONTINUED)

SUPERSTRUCTURE STEEL

37 CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

38 REPAIR THE VERTICAL GUSSET PLATE OF DECK TRUSS TOP CHORD AT CONNECTION TO THE MAIN FLOORBEAM WHICH EXHIBITS LOCALIZED 1/8"-3/16" SECTION LOSS.

39 REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.

40 REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.

41 REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.

42 X REPLACE SEVERELY DETERIORATED BOLTS CONNECTING THE PIN WASHER TO THE BEARING. 'X' DENOTES NUMBER OF BOLTS.

43 REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"-1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.

44 REPLACE THE NORTH SIDEWALK BEAM THAT SUPPORTS THE STEEL JOINT PLATE WHICH EXHIBITS MORE THAN 50% SECTION LOSS TO ITS TOP FLANGE AT PP 14W.

45 REPAIR THE PARTIAL CONNECTION ANGLE THAT IS CRACKED BUT TERMINATES AT AN OPEN RIVET HOLE.

46 REPLACE THE BROKEN SOLE PLATE BELOW STRINGER RESULTING IN SLIGHT UNDERMINING OF BEARING.

47 REPLACE THE MISSING BOLTS CONNECTING THE TOP FLANGE OF FLOORBEAM TO DECK.

48 REPAIR THE BEARING ASSEMBLY FOR THE RETROFIT BEAM AT CAPBEAM 10 WHICH EXHIBITS CRACKED WELDS ALONG THE EDGE OF THE SHIM PLATES.

49 REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.

50 REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.

51 REPAIR THE ANCHOR BOLT NUTS ON BOTH SIDES OF THE SIDEWALK FASCIA STRINGER BEARING.

52 TIGHTEN THE ANCHOR NUT OF THE BEARING ASSEMBLY.

53 X REPLACE THE MISSING AND/OR ANGLE ON THE SUPPORT BRACKETS FOR THE FINGER JOINT DEFLECTIVE SHIELD. 'X' DENOTES NUMBER OF BOLTS.

54 REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.

55 REPLACE THE SHEARED OFF RIVET AT THE BASE OF THE STIFFENING ANGLES OF THE STRINGER SEATED CONNECTION TO THE FLOORBEAM.

56 REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.

57 REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.

58 REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.

59 REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS AND PACK RUST ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.

60 REPAIR THE SPALLED AND CRACKED CONCRETE ENCASEMENT OF STRINGERS.

61 REPLACE THE MISSING BOLTS ON THE GUSSET PLATE CONNECTION OF THE UTILITY PLATFORM TO THE BOTTOM FLANGE OF THE SIDEWALK STRINGER.

62 REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

63 REPAIR THE SLIDING PLATE OF THE BEARING OF S1 AT PP 14W WHICH EXHIBITS A 3" LONG BROKEN EDGE.

ROUTINE REPAIRS (CONTINUED)

SUPERSTRUCTURE STEEL

64 REPAIR THE MISSING SECTION OF KEEPER ROD ON THE UNDERSIDE OF FINGER JOINT.

65 REPLACE THE MISSING, DETERIORATED, AND/OR LOOSE BOLTS/RIVETS OF THE CROSS FRAME TO SECONDARY FLOORBEAM CONNECTION.

66 X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

67 REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.

68 REPAIR THE CRACKED WELD AT SIDEWALK STRINGER CONNECTION TO THE FLOORBEAM.

69 REPLACE THE DETERIORATED BEARING PLATE BELOW THE SIDEWALK STRINGER WHICH EXHIBITS SEVERE SECTION LOSS.

70 REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.

71 REPAIR THE BOTTOM FLANGE OF THE MAIN FLOORBEAM/CAPBEAM WHICH EXHIBITS UP TO 3/16" LOCALIZED SECTION LOSS AT NON-CRITICAL AREAS.

72 REPLACE THE MISSING RIVET AT THE STRINGER BEARING STIFFENER ANGLE.

73 REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.

74 REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.

75 X REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

76 REPAIR THE TOP AND BOTTOM LATTICE PLATES OF THE TOP CHORD OF THE TRUSS AT PP 2W THAT EXHIBIT SIGNIFICANT SECTION LOSS AND/OR THRU HOLES.

77 REPAIR THE BRACKET WITH THRU HOLES ON S8 EAST OF PP 14W.

78 REPAIR THE DIAPHRAGM PLATE BELOW THE PIN CONNECTION BETWEEN THE STRINGER AND THE MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

79 REPAIR THE NORTH PLATFORM SUPPORT ANGLE BETWEEN PP 11W & 14W THAT EXHIBITS SEVERE CORROSION.

80 REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.

81 X REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.

82 REPAIR THE TRANSVERSE SUPPORT BEAMS FOR THE FINGER JOINT WHICH EXHIBIT AREAS OF 1/8" - 1/4" LOCALIZED SECTION LOSS ON THE WEB AND NUMEROUS INTERIOR VERTICAL STIFFENERS WITH UP TO 100% SECTION LOSS NEAR THE BOTTOM FLANGE.

83 REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.

84 REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.

85 REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

86 REPAIR THE LATERAL OR DIAGONAL BRACING MEMBER IN PANEL 14E/11E WHICH EXHIBITS EXTENSIVE SECTION LOSS AND THRU HOLES. SHOWN AS WEB LATTICE PLATES UNLESS OTHERWISE NOTED.

87 REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.

88 CLEAN THE EXPOSED PORTIONS OF THE PINS AND LUBRICATE THE STRINGER WEB BEARING AREAS.

FINDINGS WITH NO RECOMMENDATION

TOP OF DECK

NONE

UNDERSIDE OF DECK

1 THE UNDERSIDE OF DECK EXHIBITS A MODERATE AMOUNT OF MAPCRACKING. SCALING WITH A MINOR AMOUNT OF EFFLORESCENCE AT THE NEW JERSEY ANCHORAGE.

SUPERSTRUCTURE STEEL

2 THE STRINGER WEB EXHIBITS A SMALL PARTIAL PENETRATION CRACK IN THE TOP FLANGE COPING.

3 THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.

4 THE STRINGER WEB EXHIBITS A SMALL CRACK THAT HAS BEEN ARRESTED BY A DRILLED HOLE NEAR THE TOP OR BOTTOM FLANGE COPING.

5 CAPBEAM WEB STIFFENER/STRINGER CONNECTION ANGLE IS SLIGHTLY BENT 1/2" BELOW STRINGER BOTTOM FLANGE.

6 THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.

7 X THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

8E CAPBEAM NUMBER/PANEL POINT (AS PER PANY&NJ SYSTEM)

INDICATES PRIORITY REPAIRS

INDICATES SAFETY REPAIRS

INDICATES ROUTINE REPAIRS

INDICATES FINDING WITH NO RECOMMENDATION

PHOTO TAKEN ABOVE DECK

PHOTO TAKEN BELOW DECK

NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 2)

PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4 & 6)

MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)

MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

HOLE IN DECK (SEE ROUTINE REPAIR 26)

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

XX HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE) (ROUTINE REPAIR)

CRACK IN UNDERSIDE OF DECK. (SEE ROUTINE REPAIR 32)

SCUPPER

LIGHT STANDARD

- C – CRACK
- DH – DRILL HOLE
- R# – DECK RIB # (FROM SOUTH TO NORTH)
- G – TRUSS CHORD VERTICAL GUSSET PLATE
- BOT. – BOTTOM
- TF – TOP FLANGE
- BF – BOTTOM FLANGE
- WB – WEB
- TC – TRUSS CHORD/TOP OF CHORD
- NS – NORTH SIDE
- SS – SOUTH SIDE
- DP – DEEP
- W – WIDE
- FB – FLOORBEAM
- FD – FULL DEPTH
- FW – FULL WIDTH
- FL – FULL LENGTH
- FH – FULL HEIGHT
- FWC – FULL WIDTH CRACK
- WB(B) – WEB NEAR BOTTOM FLANGE
- WB(T) – WEB NEAR TOP FLANGE
- U.O.N – UNLESS OTHERWISE NOTED
- TYP. – TYPICAL

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GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL

KEY CONDITION NOTES & LEGEND - 2

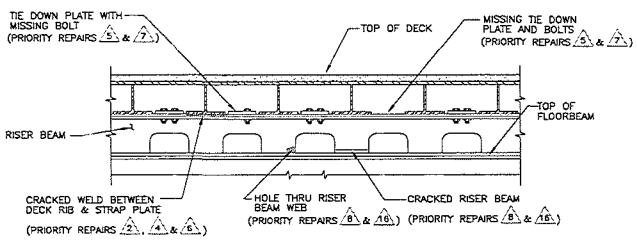
[illegible]

DS	RQ	GA
Designed by	Drawn by	Checked by

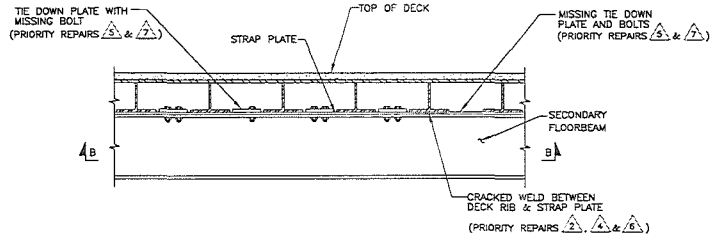
Date DECEMBER, 2013

Contract Number 405-13-005

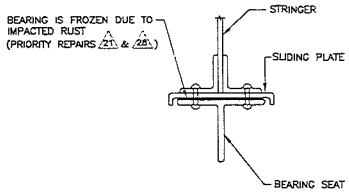
Drawing Number L-2



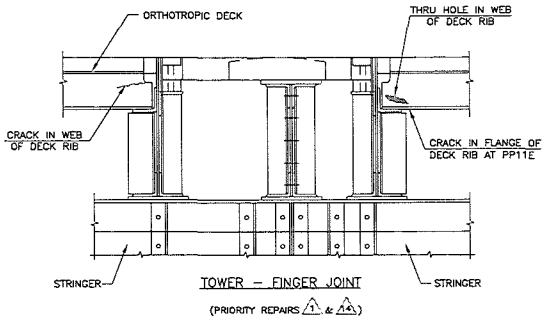
TYPICAL SECTION THROUGH DECK AT MAIN FLOORBEAM



TYPICAL SECTION THROUGH DECK AT SECONDARY FLOORBEAM

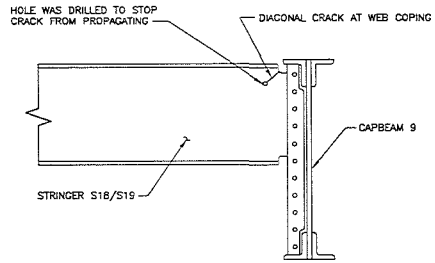


STRINGER CONNECTION AT WEST FACE OF PANEL POINT 1E

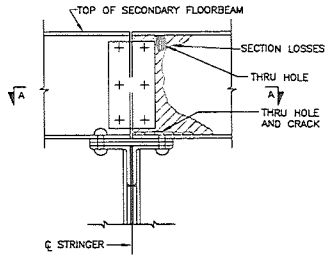


TOWER – FINGER JOINT

(PRIORITY REPAIRS 1 & 14)



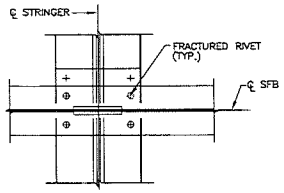
TYPICAL CRACK AT COPING
NEW YORK ANCHORAGE WEST OF CAPBEAM 9
(LOOKING NORTH)



ELEVATION

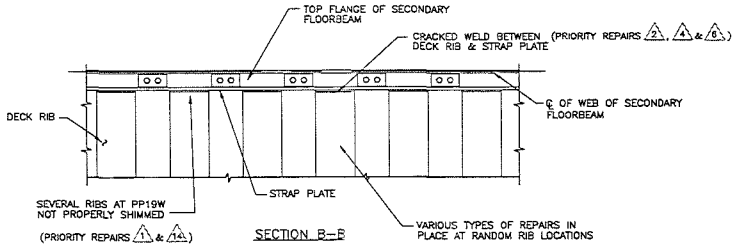
(PRIORITY REPAIRS 24 & 26)

TYPICAL SECONDARY FLOORBEAM TO STRINGER CONNECTION



SECTION A–A

(PRIORITY REPAIRS 10 & 20)



(PRIORITY REPAIRS 1 & 14)

SECTION B–B

TYPICAL SECTIONS AND DETAILS

N.T.S.

Sheet 3 of 23

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
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BIN 5522508

UPPER LEVEL

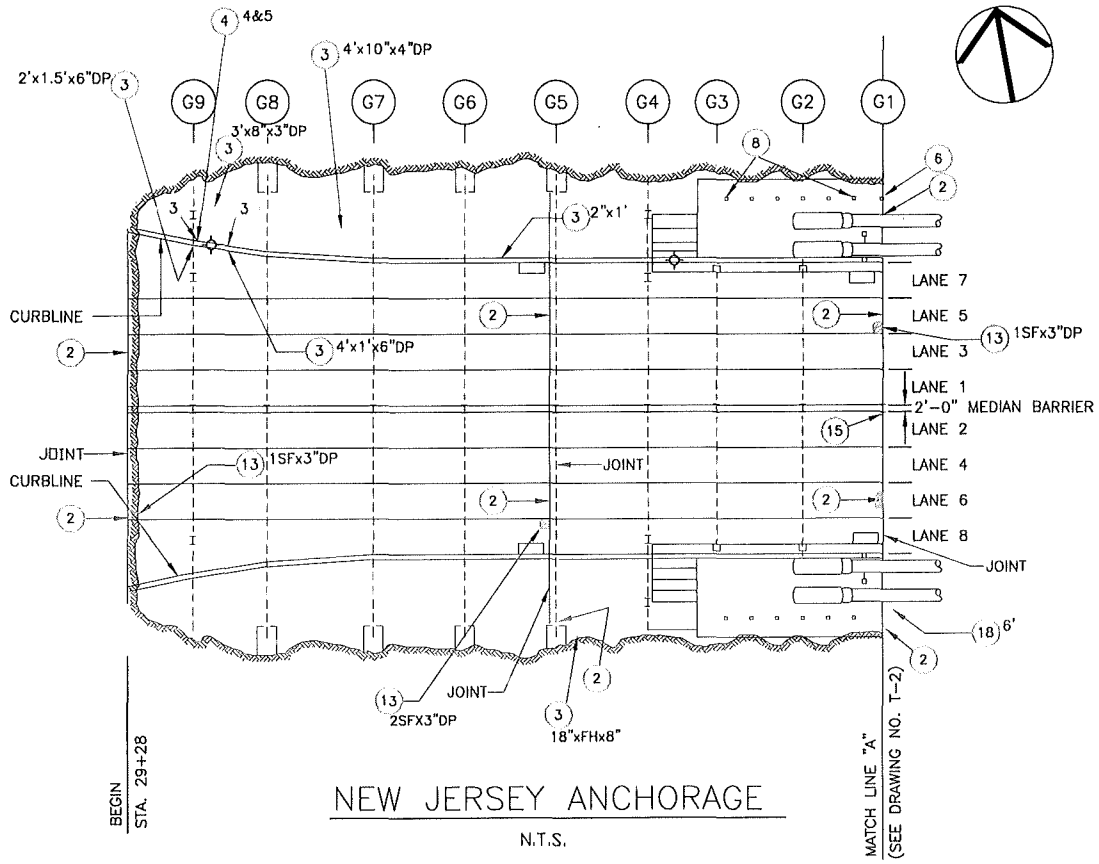
TYPICAL DEFICIENCIES

DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number D-1



NEW JERSEY ANCHORAGE

N.T.S.

KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

3 SECURE THE RAILING POSTS THAT ARE LOOSE, CRACKED OR DISCONNECTED AT ITS BASE OVER THE NEW YORK OR NEW JERSEY ANCHORAGE.

ROUTINE REPAIRS

(2) REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS. THE JOINTS ARE FILLED WITH DEBRIS.

(3)X REPAIR THE SPALLED CONCRETE OF THE PARAPET OR CURB WITH EXPOSED REBARS. 'X' INDICATES SIZE OF SPALL.

(4)X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, (UNLESS OTHERWISE NOTED).

(6) SEAL THE MEDIUM TO WIDE CRACKS IN THE CONCRETE PARAPET.

(8)X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.

(13)X REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.

(15) REPLACE THE 3 OF 6 MISSING BOLTS AT THE STEEL EXPANSION PLATE CONNECTION TO THE MEDIAN OVER THE NEW JERSEY ANCHORAGE.

(18)X SECURE THE GRANITE STONES ATOP THE ANCHORAGE WALL OVER TERRAIN. 'X' INDICATES LENGTH OF MISSING GROUT, IF APPLICABLE.

LEGEND

(G2) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

INDICATES SAFETY REPAIRS

INDICATES ROUTINE REPAIRS

SCUPPER

LIGHT STANDARD

DP – DEEP

FH – FULL HEIGHT

Sheet 4 of 23

THE PORT AUTHORITY
OF NY & NJ

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
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BIN 5522508

UPPER LEVEL TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN NEW JERSEY ANCHORAGE

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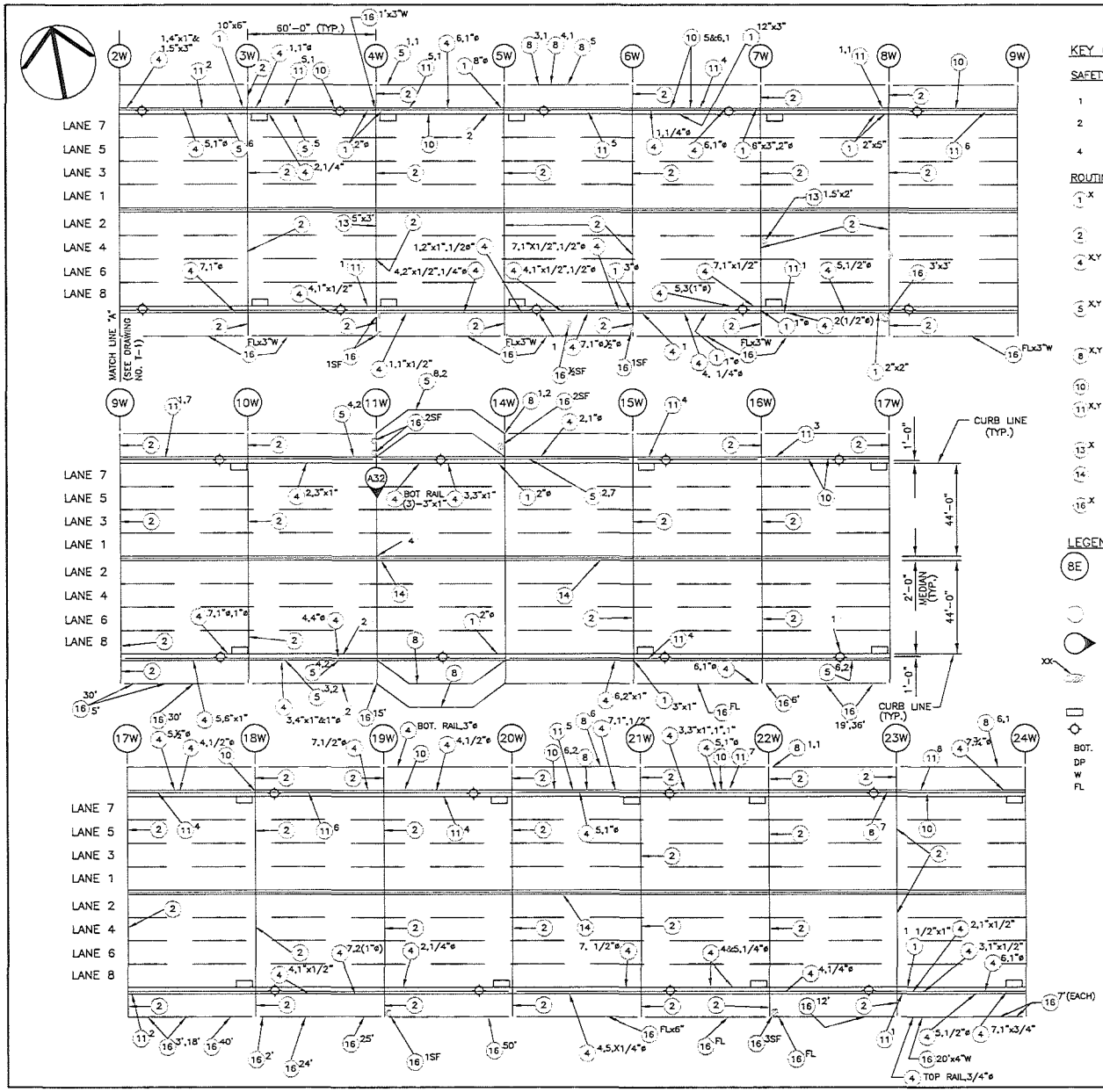
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-1



KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1 REPAIR THE DISCONNECTED CONDUIT OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD OR RAILING POSTS.

2 REPLACE THE MISSING, SEVERELY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.

4 REPAIR THE MISALIGNED MEDIAN BARRIER AT PANEL POINT 11W.

ROUTINE REPAIRS

1 X REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. "X" INDICATES SIZE OF HOLE.

2 REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS.

4 X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. "X" INDICATES POST NUMBER FROM BEGINNING OF PANEL. "Y" INDICATES SIZE OF HOLE IN POST. (UNLESS OTHERWISE NOTED).

5 X,Y REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. "X" INDICATES POST NUMBER FROM BEGINNING OF PANEL. "Y" INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.

8 X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. "X" INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. "Y" INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.

10 REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.

11 X,Y REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. "X" INDICATES NUMBER OF MISSING CONNECTORS. "Y" INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.

13 X REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. "X" INDICATES SIZE OF SPALL.

14 REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR EXHIBITS EXTENSIVE SECTION LOSS.

16 X REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. "X" INDICATES LENGTH OF SPALL X 1' WIDE. (UNLESS OTHERWISE NOTED).

LEGEND

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

INDICATES SAFETY REPAIRS

INDICATES ROUTINE REPAIRS

PHOTO TAKEN ABOVE DECK

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

SCUPPER

LIGHT STANDARD

BOT. – BOTTOM
DP – DEEP
W – WIDE
FL – FULL LENGTH

Sheet 5 of 23

THE PORT AUTHORITY OF NY& NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

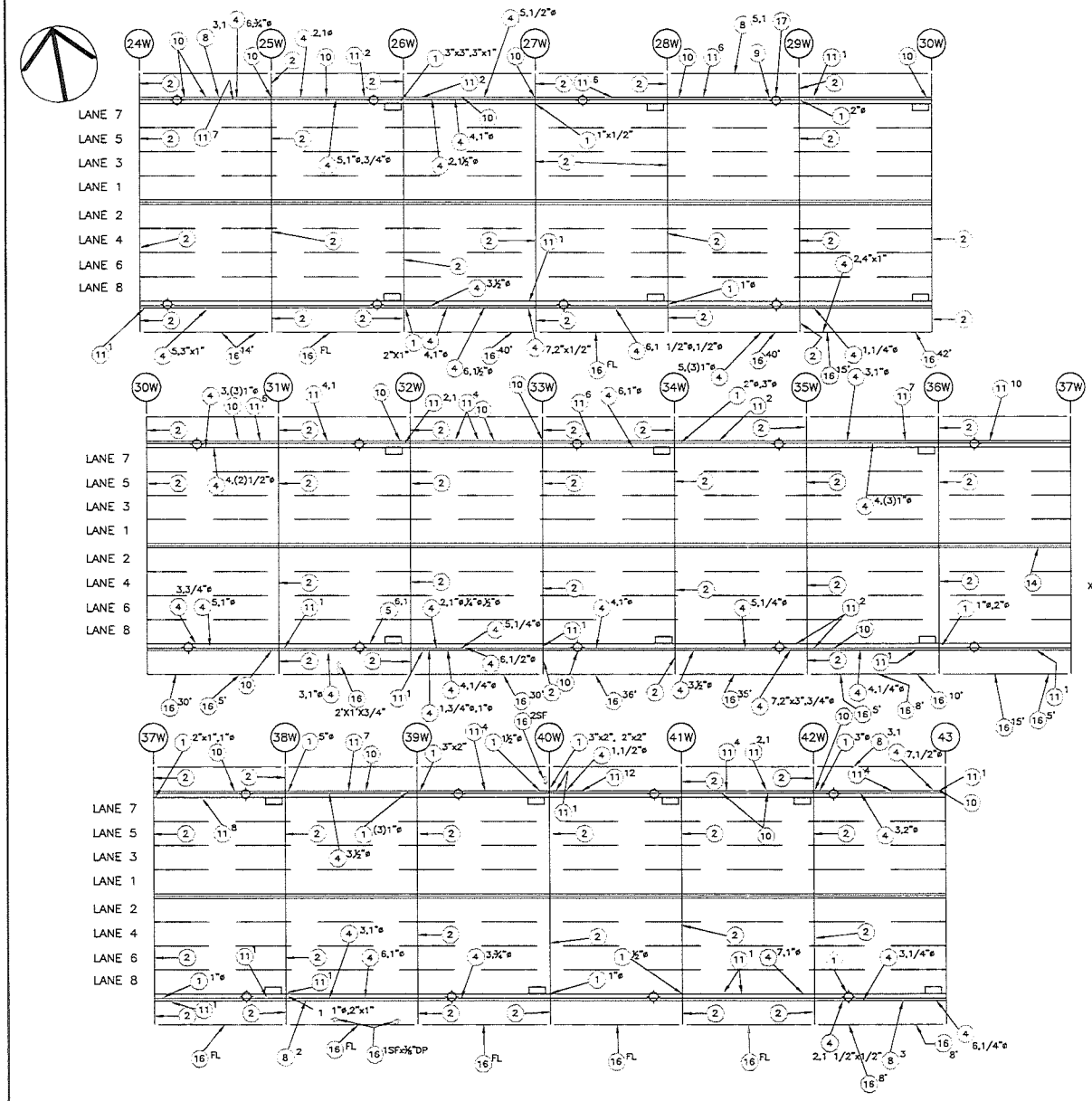
UPPER LEVEL
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 2W TO PP 24W

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-2



KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1 REPAIR THE DISCONNECTED CONDUIT OR SECURE THE LOOSE ELECTRICAL BOX COVERS WI EXPOSED WIRES ON THE LIGHTING STANDARD OR RAILING POSTS.

ROUTINE REPAIRS

1 X REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.

2 REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS.

4 X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, (UNLESS OTHERWISE NOTED).

5 X,Y REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.

8 X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.

9 REPAIR THE CRACKED WELD AT ONE OF TWO SUPPORTS, TO THE BRIDGE RAILING, FOR TELEPHONE POLE.

10 REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.

11 X,Y REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.

14 REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR EXHIBITS EXTENSIVE SECTION LOSS.

16 X REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE, (UNLESS OTHERWISE NOTED).

17 REPLACE THE MISSING BLUE EMERGENCY LIGHT.

LEGEND

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

INDICATES SAFETY REPAIRS

INDICATES ROUTINE REPAIRS

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

SCUPPER

LIGHT STANDARD

DP – DEEP

FL – FULL LENGTH

Sheet 6 of 23

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 24W TO PP 43

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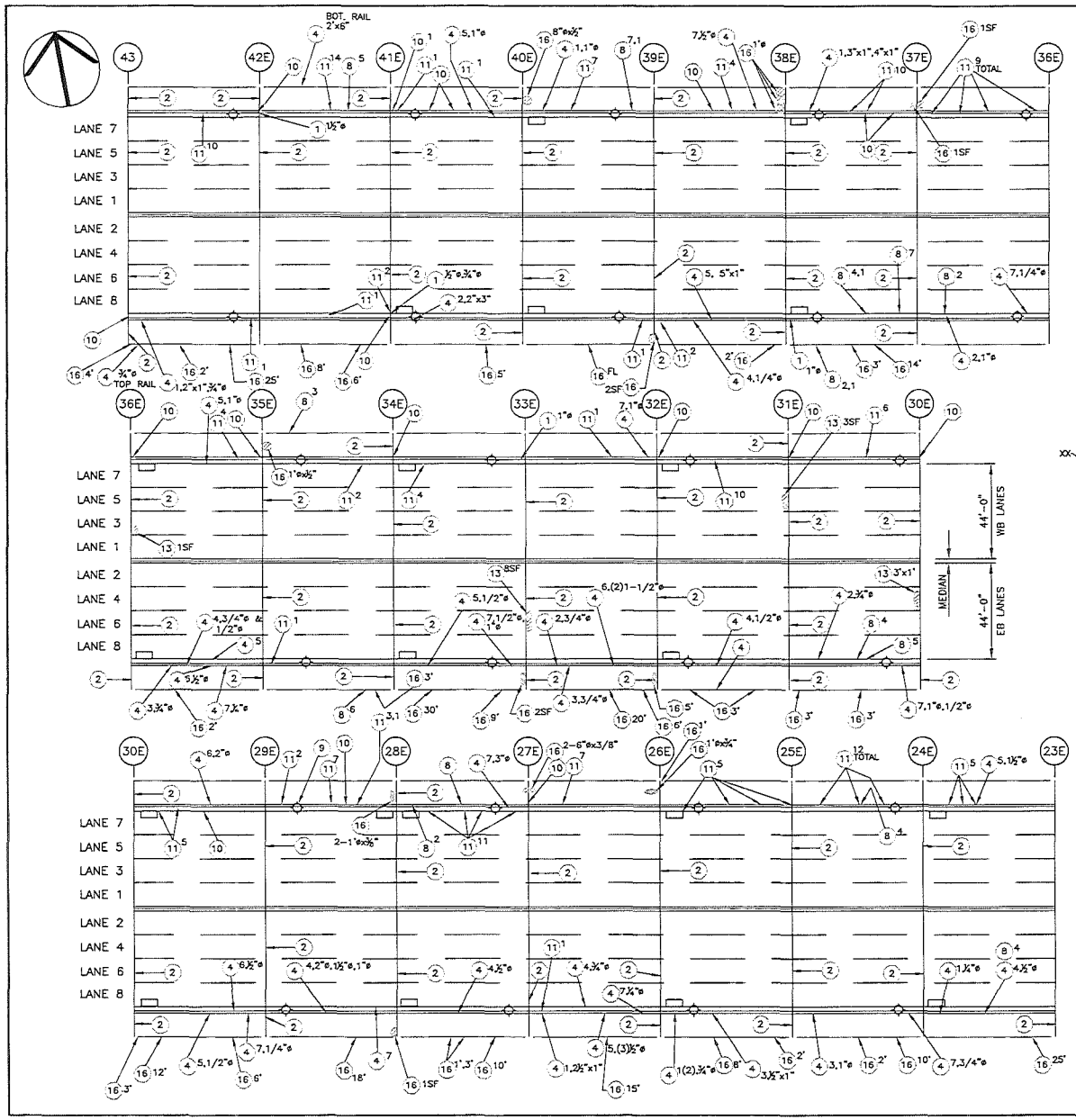
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-3



KEY CONDITION NOTES – TOP OF DECK

ROUTINE REPAIRS

1. X — REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. "X" INDICATES SIZE OF HOLE.
2. REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS.
4. X,Y — REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. "X" INDICATES POST NUMBER FROM BEGINNING OF PANEL. "Y" INDICATES SIZE OF HOLE IN POST. (UNLESS OTHERWISE NOTED).
8. X,Y — REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. "X" INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. "Y" INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.
9. REPAIR THE CRACKED WELD AT ONE OF TWO SUPPORTS, TO THE BRIDGE RAILING, FOR TELEPHONE POLE.
10. REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.
11. X,Y — REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. "X" INDICATES NUMBER OF MISSING CONNECTORS. "Y" INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.
13. X — REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. "X" INDICATES SIZE OF SPALL.
16. X — REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. "X" INDICATES LENGTH OF SPALL X 1' WIDE. (UNLESS OTHERWISE NOTED).

LEGEND

- 8E — PANEL POINT (AS PER PANY&NJ SYSTEM)
- INDICATES ROUTINE REPAIRS
- XX — DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)
- SCUPPER
- LIGHT STANDARD
- BOT. – BOTTOM
- FL – FULL LENGTH

Sheet 7 of 23

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

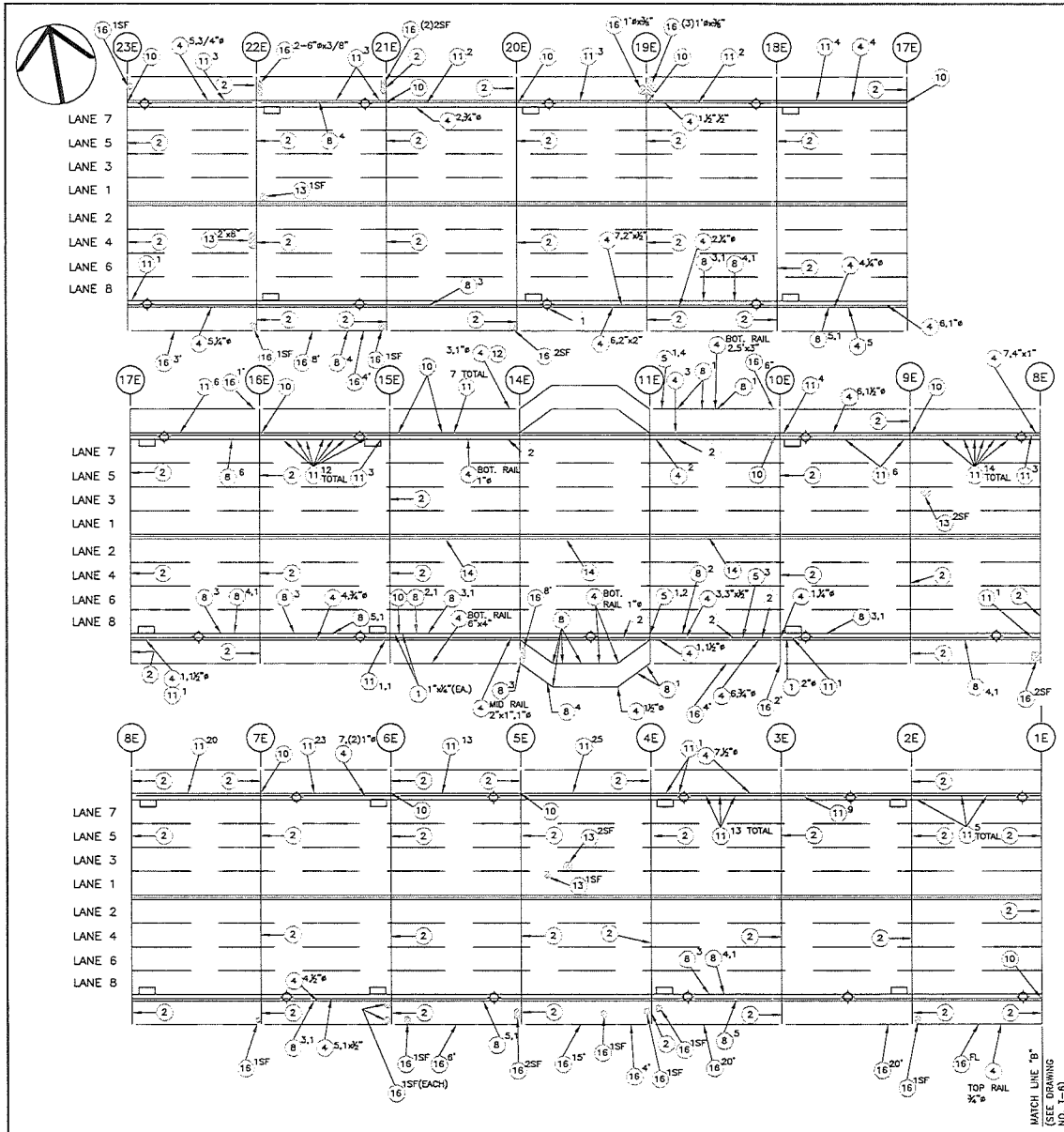
UPPER LEVEL
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 43 TO PP 23E

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-4



KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1. REPAIR THE DISCONNECTED CONDUIT OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD OR RAILING POSTS.
2. REPLACE THE MISSING, SEVERELY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.

ROUTINE REPAIRS

1. X — REPAIR THE VERTICAL AND/OR HORIZONTAL FACES OF THE STEEL CURB & PARAPET THAT EXHIBIT THRU HOLES ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW. 'X' INDICATES SIZE OF HOLE.
2. REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS.
4. X,Y — REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, (UNLESS OTHERWISE NOTED).
5. X,Y — REPLACE THE MISSING BOLTS OR CRACKED COLLAR PLATE CONNECTING THE HORIZONTAL BRIDGE RAILS TO THE SUPPORT POSTS. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING BOLTS, WHERE APPLICABLE.
8. X,Y — REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.
10. REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.
11. X,Y — REPLACE THE MISSING BOLTS OR DETACHED PLATES ON THE OUTSIDE FACE OF THE STEEL PARAPET. 'X' INDICATES NUMBER OF MISSING CONNECTORS. 'Y' INDICATES NUMBER OF DETACHED PLATES, IF APPLICABLE.
12. REPLACE THE MISSING BOLT AT THE CONNECTION ANGLE AT THE BASE OF THE POST.
13. X — REPAIR THE SPALLED ASPHALT OVERLAY IN THE ROADWAY OR SPALLED CONCRETE IN JOINT HEADER. 'X' INDICATES SIZE OF SPALL.
14. REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR EXHIBITS EXTENSIVE SECTION LOSS.
16. X — REPAIR THE SHALLOW SPALLS IN THE SIDEWALK SLAB OR THE SPALLED FASCIA OVERHANG WITH OR WITHOUT EXPOSED REBARS. 'X' INDICATES LENGTH OF SPALL X 1' WIDE. (UNLESS OTHERWISE NOTED).

LEGEND

- 8E — CAPBEAM NUMBER/PANEL POINT (AS PER PANY&NJ SYSTEM)
- INDICATES SAFETY REPAIRS
- INDICATES ROUTINE REPAIRS
- XX — DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)
- SCUPPER
- LIGHT STANDARD
- BOT. – BOTTOM
- FL – FULL LENGTH

Sheet 8 of 23

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL
TOP OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 23E TO PP 1E

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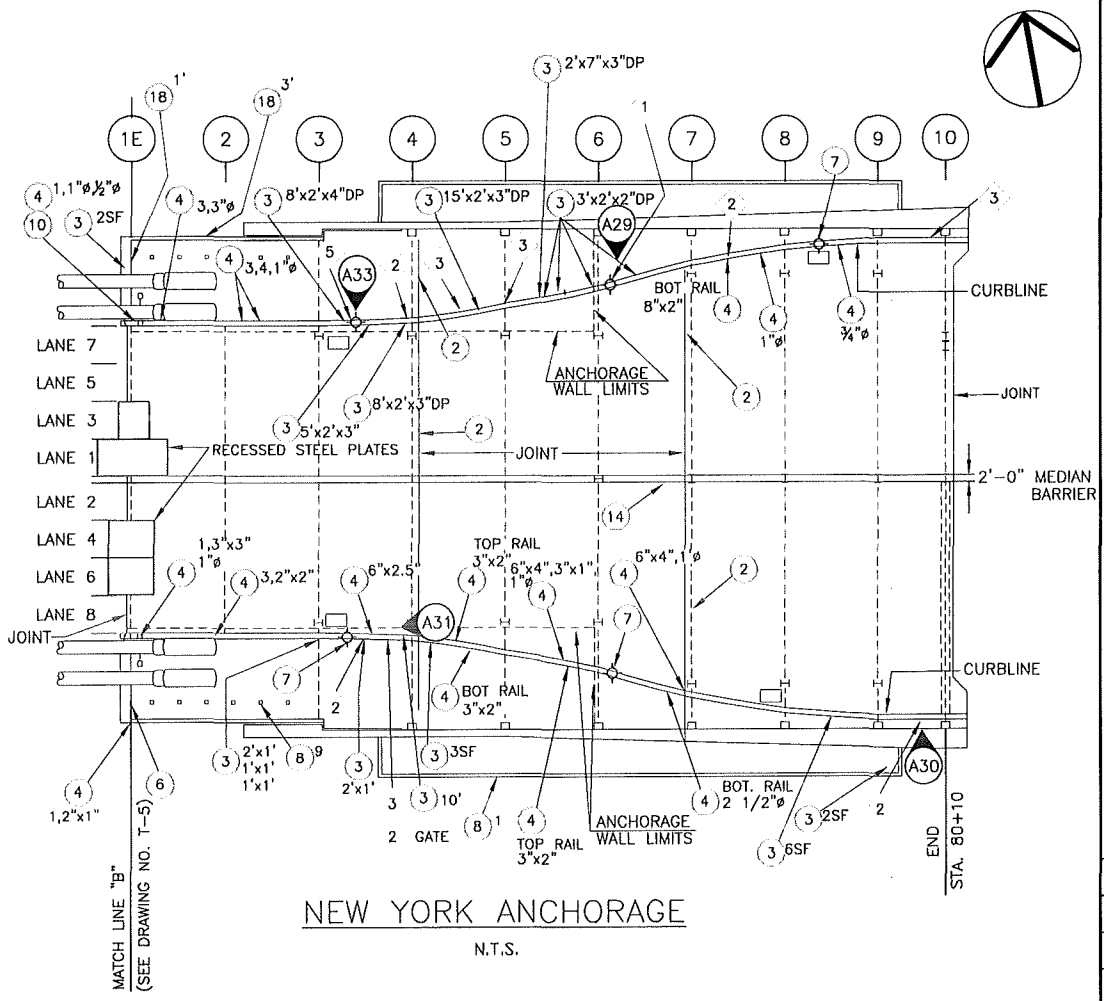
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-5



NEW YORK ANCHORAGE

N.T.S.

KEY CONDITION NOTES – TOP OF DECK

SAFETY REPAIRS

1 REPAIR THE DISCONNECTED CONDUIT OR SECURE THE LOOSE ELECTRICAL BOX COVERS WITH EXPOSED WIRES ON THE LIGHTING STANDARD OR RAILING POSTS.

2 REPLACE THE MISSING, SEVERELY DETERIORATED, AND/OR SECURE THE DISCONNECTED RAILS FROM POSTS OF THE ROADWAY AND SIDEWALK RAILINGS.

3 SECURE THE RAILING POSTS THAT ARE LOOSE, CRACKED OR DISCONNECTED AT ITS BASE OVER THE NEW YORK OR NEW JERSEY ANCHORAGE.

5 COVER OR REMOVE THE EXPOSED ELECTRICAL WIRES AT THE BASE OF THE MISSING LIGHT STANDARD.

ROUTINE REPAIRS

(2) REPLACE THE ELASTOMERIC JOINT FILLER MATERIAL THAT IS EITHER MISSING OR DETERIORATED AT THE TOP OF THE DECK JOINTS.

(3)X REPAIR THE SPALLED CONCRETE OF THE PARAPET OR CURB WITH EXPOSED REBARS. 'X' INDICATES SIZE OF SPALL.

(4)X,Y REPAIR THE BRIDGE RAILING AND/OR VERTICAL SUPPORT POST WHICH EXHIBITS MODERATE LOCALIZED SECTION LOSS AND/OR THRU HOLES, OR IS DAMAGED DUE TO IMPACT. 'X' INDICATES POST NUMBER FROM BEGINNING OF PANEL. 'Y' INDICATES SIZE OF HOLE IN POST, (UNLESS OTHERWISE NOTED).

(6) SEAL THE MEDIUM TO WIDE CRACKS IN THE CONCRETE PARAPET.

(7) REPLACE THE MISSING CAP AT THE TOP OF THE LIGHT POLES.

(8)X,Y REPLACE THE MISSING OR BROKEN BRIDGE RAILING POST CAPS AND/OR COUNTERSUNK FLAT HEAD SCREWS. 'X' INDICATES NUMBER OF RAIL POSTS FROM BEGINNING OF PANEL. 'Y' INDICATES NUMBER OF MISSING SCREWS, WHERE APPLICABLE.

(10) REPLACE THE MISSING OR DETERIORATED CURB JOINT FILLER OR STEEL PLATE.

(14) REPAIR THE STEEL MEDIAN BARRIER SECTION WHICH IS BROKEN OR EXHIBITS EXTENSIVE SECTION LOSS.

(18)X SECURE THE GRANITE STONES ATOP THE ANCHORAGE WALL OVER TERRAIN. 'X' INDICATES LENGTH OF MISSING GROUT, IF APPLICABLE.

LEGEND

(8) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

INDICATES SAFETY REPAIRS

INDICATES ROUTINE REPAIRS

PHOTO TAKEN ABOVE DECK

SCUPPER

LIGHT STANDARD

DP – DEEP

BOT. – BOTTOM

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL TOP OF DECK DEFICIENCY & PHOTO LOCATION PLAN NEW YORK ANCHORAGE

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Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number T-6

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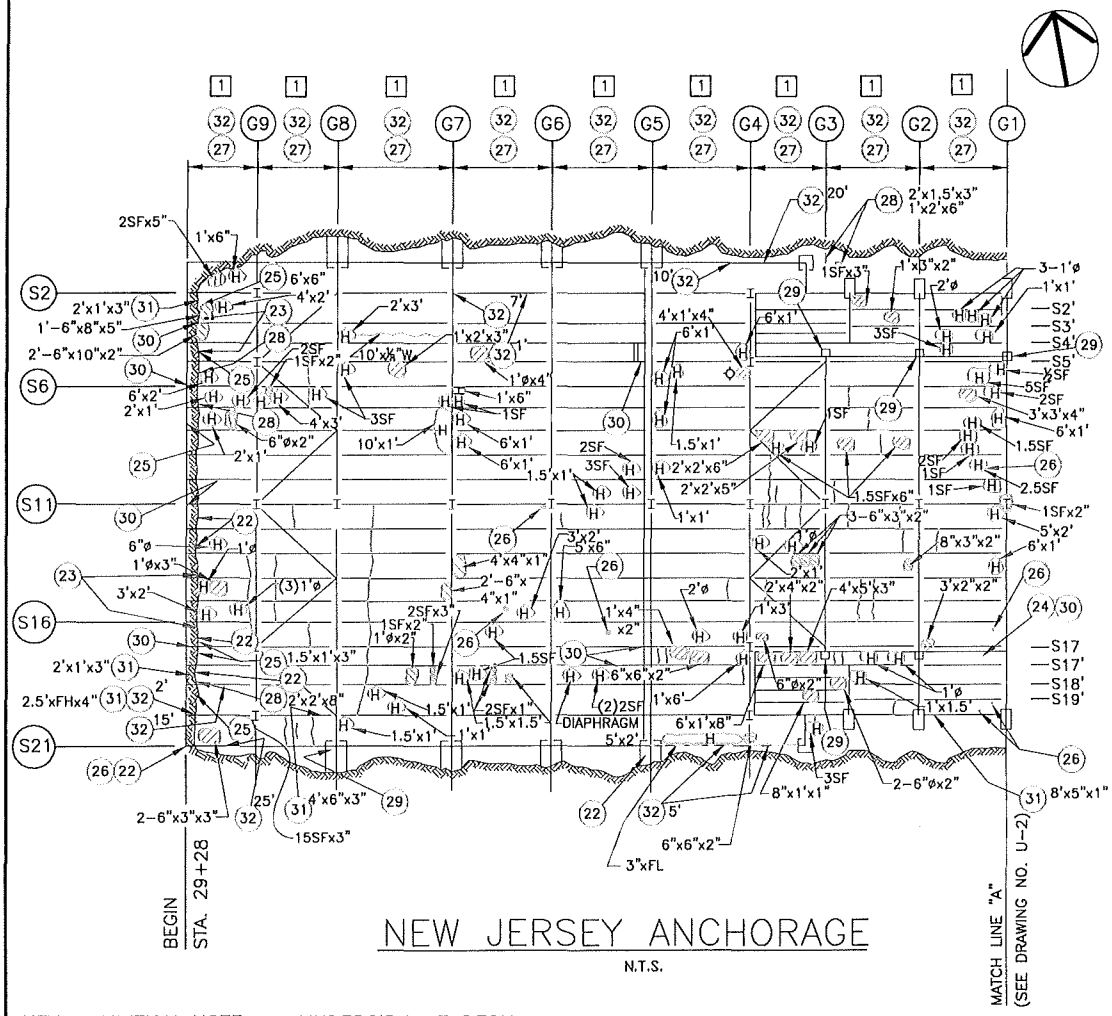

NEW JERSEY ANCHORAGE

N.T.S.

KEY CONDITION NOTES – UNDERSIDE OF DECK

ROUTINE REPAIRS

(22) REMOVE DEBRIS FROM TOP OF SEAT/PEDESTAL AREA HINDERING BEARING MOVEMENT.

(23) SEAL THE MEDIUM TO WIDE HORIZONTAL AND VERTICAL CRACKS IN THE ABUTMENT SEAT OR CAPBEAM.

(24) REPAIR SEVERELY CRACKED AND SPALLED ENCASEMENT AROUND THE DETERIORATED AND LEAKING CATCH BASIN AT THE NEW JERSEY ANCHORAGE.

(25) REPAIR THE SPALLED, HOLLOW SOUNDING, AND/OR DELAMINATED CONCRETE ON THE BACKWALL OR ABUTMENT SEAT AT THE WEST ABUTMENT. SIZE AS SHOWN.

(26) REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.

(27) REPAIR THE SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS AND HOLLOW SOUNDING AREAS ON THE UNDERSIDE OF THE DECK. SIZE AS SHOWN.

(28) SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.

(29) REPAIR THE SPALLED GROUT OF THE COLUMN OR GIRDER PEDESTALS WITH MINOR UNDERMINING OF BEARING.

(30) REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.

(31) REPAIR THE SPALLED CONCRETE ON THE DECK HAUNCH ABOVE THE GIRDERS IN THE NEW JERSEY ANCHORAGE. SIZE AS SHOWN.

(32) SEAL THE MEDIUM TO WIDE CRACKS ALONG THE DECK HAUNCH OR ON THE UNDERSIDE OF DECK IN THE NEW JERSEY ANCHORAGE.

FINDINGS WITH NO RECOMMENDATION

[1] THE UNDERSIDE OF DECK EXHIBITS A MODERATE AMOUNT OF MAPCRACKING, SCALING WITH A MINOR AMOUNT OF EFFLORESCENCE AT THE NEW JERSEY ANCHORAGE.

LEGEND

(G2) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

◯ INDICATES ROUTINE REPAIRS

□ INDICATES FINDING WITH NO RECOMMENDATION

HOLE IN DECK (SEE ROUTINE REPAIR (26))

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

XX (H) HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE) (ROUTINE REPAIR)

— CRACK IN UNDERSIDE OF DECK. (SEE ROUTINE REPAIR (32))

FL – FULL LENGTH

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL UNDERSIDE OF DECK DEFICIENCY & PHOTO LOCATION PLAN NEW JERSEY ANCHORAGE

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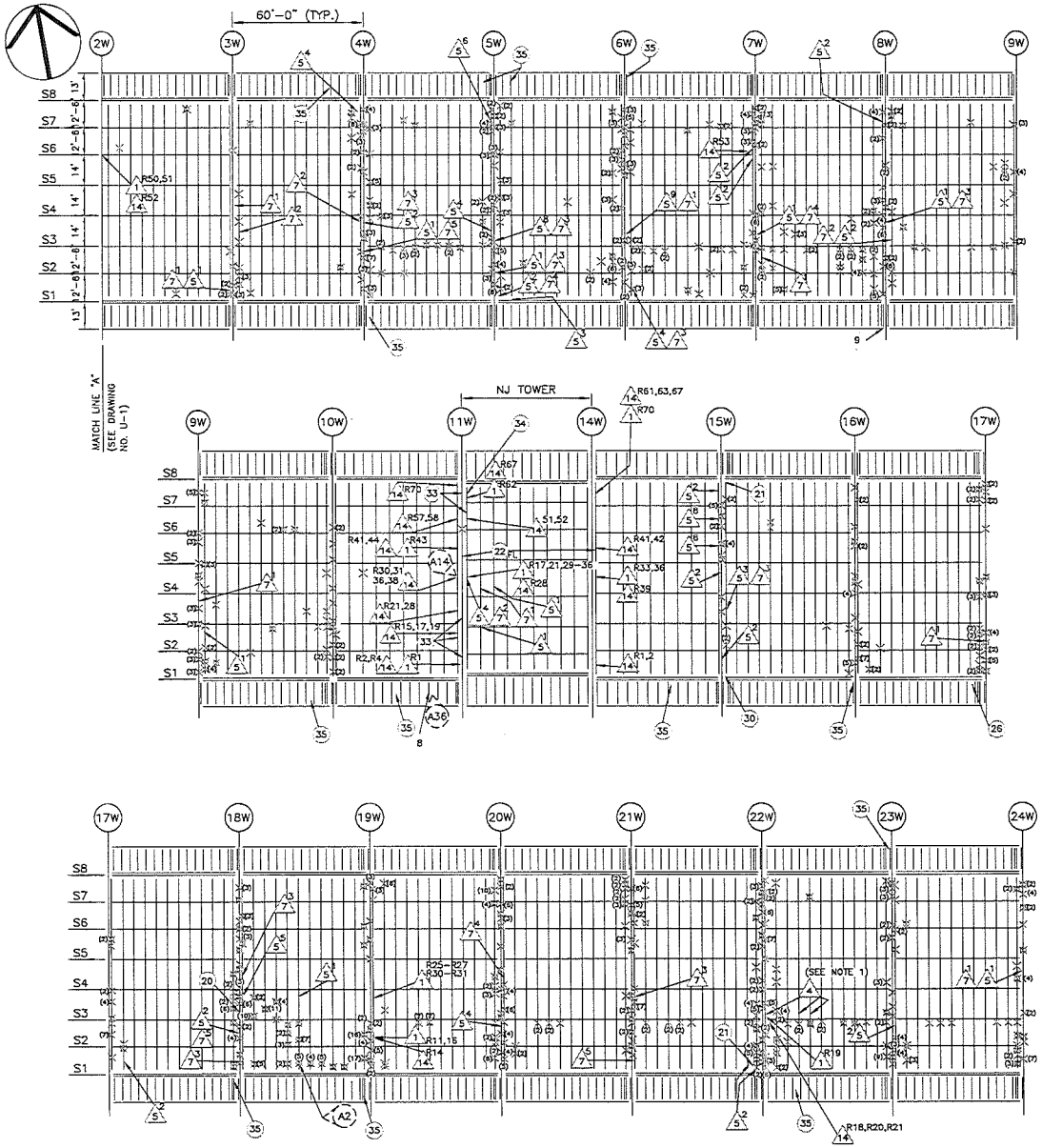
Contract Number 405-13-005

Drawing Number U-1



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

1. REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).
2. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '☒'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
4. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '×'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
5. X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
6. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '×'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
7. X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
14. REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

SAFETY REPAIRS

8. REPLACE THE SEVERELY DETERIORATED MAINTENANCE PLATFORM GRATING AT ITS SOUTH SUPPORT BELOW THE SOUTH SIDEWALK ACCESS HATCH BETWEEN PANEL POINTS 10W & 11W.
9. SECURE THE DISCONNECTED UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE PARTIALLY DETACHED.

ROUTINE REPAIRS

20. REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.
21. X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.
22. REMOVE DEBRIS FROM TOP OF SEAT/PEDESTAL AREA HINDERING BEARING MOVEMENT.
26. REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.
30. REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.
33. REPAIR THE DRAINAGE TROUGH OR DEBRIS SHIELD SUPPORTS AT THE TOWERS WHICH EXHIBIT SECTION LOSS AND THRU HOLES.
34. REPLACE THE MISSING FENCING OR SECURE THE DISCONNECTED FENCING SUPPORTS FOR DRAINAGE TROUGH HOUSING AT THE TOWERS.
35. REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.

LEGEND

- (8E) PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ INDICATES PRIORITY REPAIRS
- INDICATES SAFETY REPAIRS
- ◯ INDICATES ROUTINE REPAIRS
- PHOTO TAKEN BELOW DECK
- ☒ NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 2)
- × PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4 & 6)
- ⊛ HOLE IN DECK (SEE ROUTINE REPAIR 26)
- R# – DECK RIB # (FROM SOUTH TO NORTH)

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

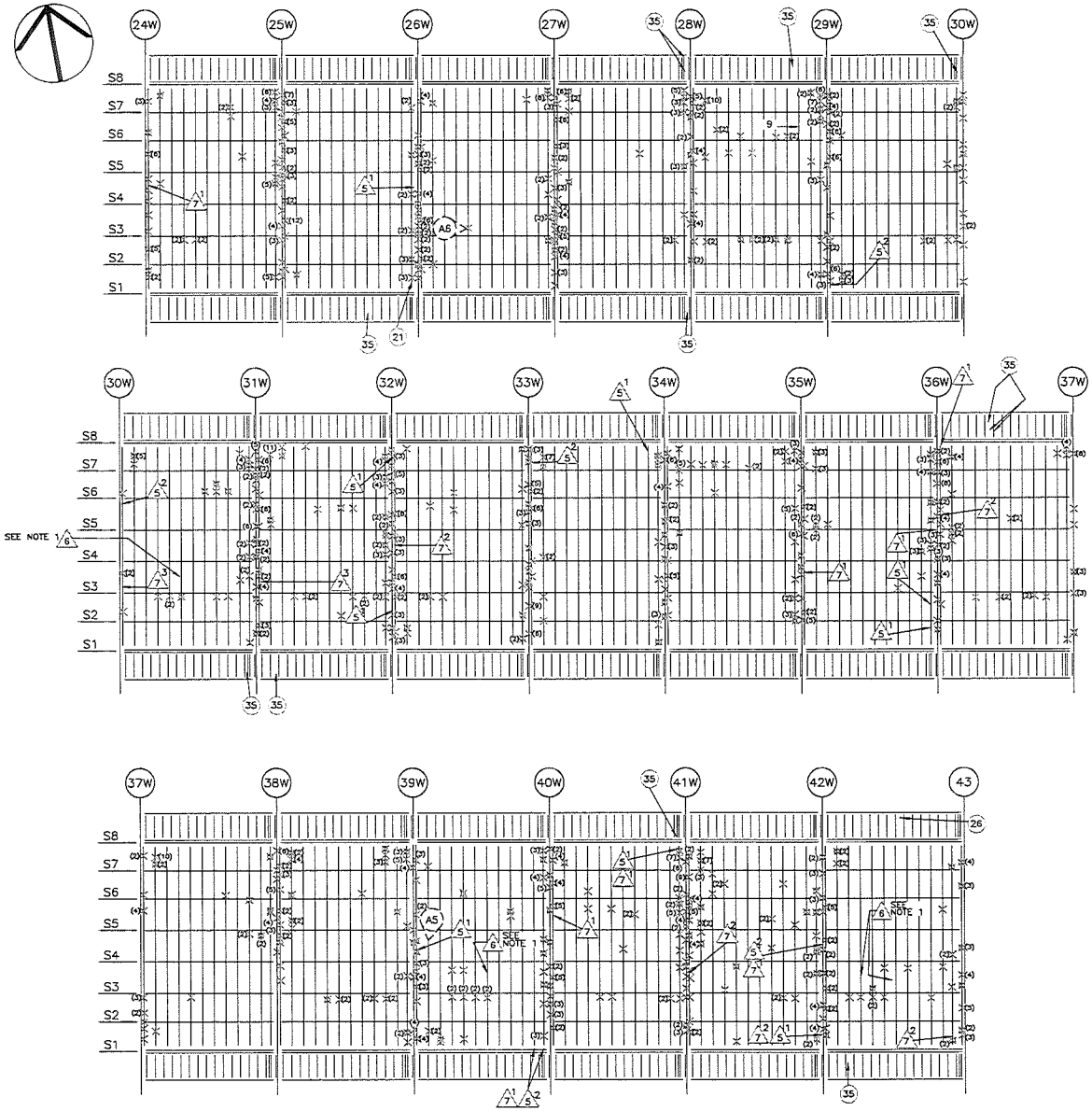
UPPER LEVEL UNDERSIDE OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 2W TO PP 24W

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number U-2



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

△2 REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.

△4 REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.

△5 X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.

△6 REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.

△7 X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.

SAFETY REPAIRS

9 SECURE THE DISCONNECTED UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE PARTIALLY DETACHED.

ROUTINE REPAIRS

21 X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.

26 REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.

35 REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.

LEGEND

8E PANEL POINT (AS PER PANY&NJ SYSTEM)

△ INDICATES PRIORITY REPAIRS

○ INDICATES SAFETY REPAIRS

◯ INDICATES ROUTINE REPAIRS

PHOTO TAKEN BELOW DECK

NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR △2)

× PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR △4 & △6)

HOLE IN DECK (SEE ROUTINE REPAIR 26)

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

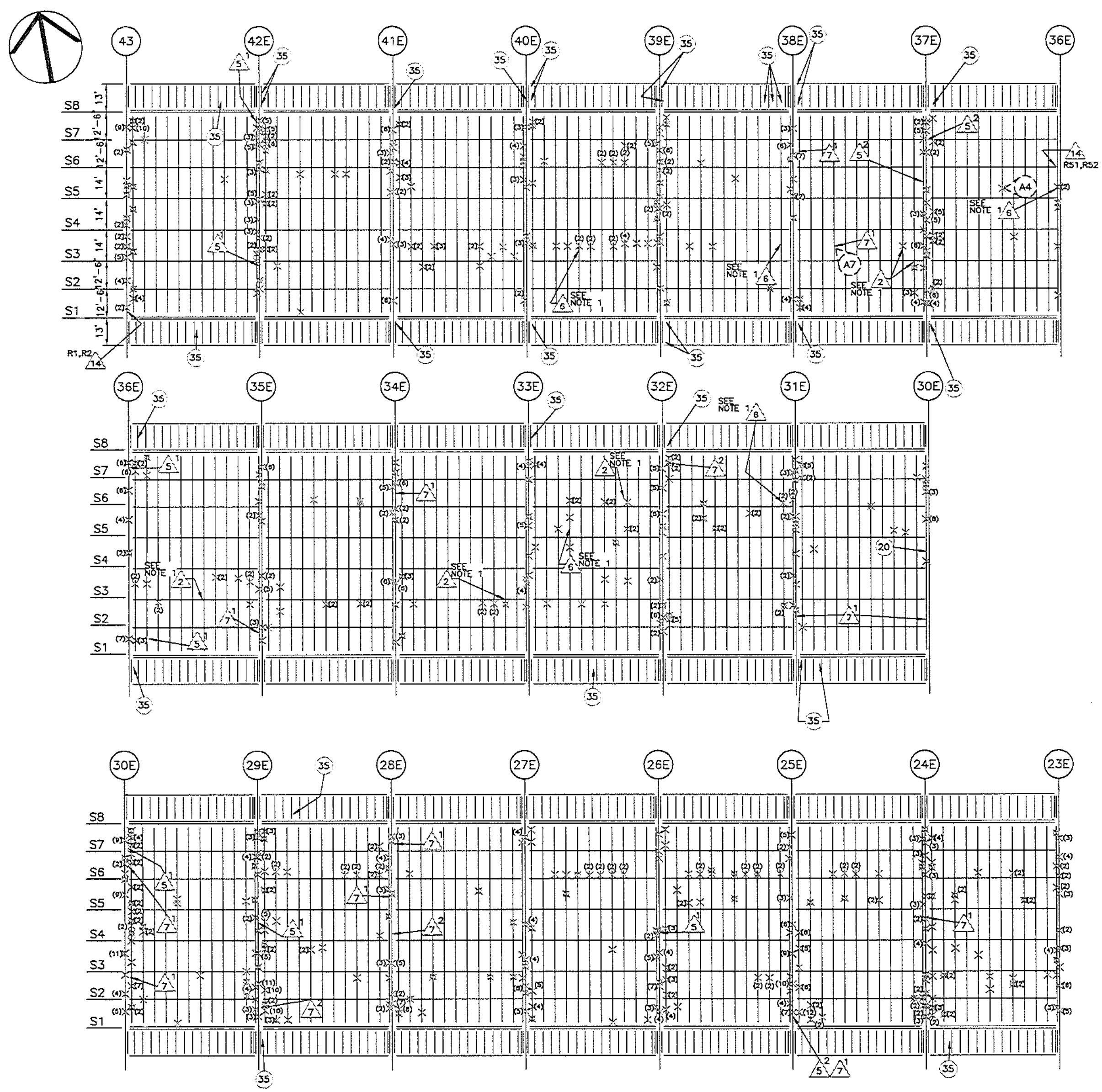
UPPER LEVEL UNDERSIDE OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 24W TO PP 43

DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number U-3



KEY CONDITION NOTES — UNDERSIDE OF DECK

PRIORITY REPAIRS

- 2 — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN "X". (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- 4 — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN "X". (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- 5 (X) — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- 6 — REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN "X". (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
- 7 (X) — REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
- 14 — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

ROUTINE REPAIRS

- 20 — REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.
- 35 — REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.

LEGEND

- (8E) — PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ — INDICATES PRIORITY REPAIRS
- ○ — INDICATES ROUTINE REPAIRS
- ( )> — PHOTO TAKEN BELOW DECK
- X — NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 2)
- X — PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4 & 6)
- R# — DECK RIB # (FROM SOUTH TO NORTH)

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

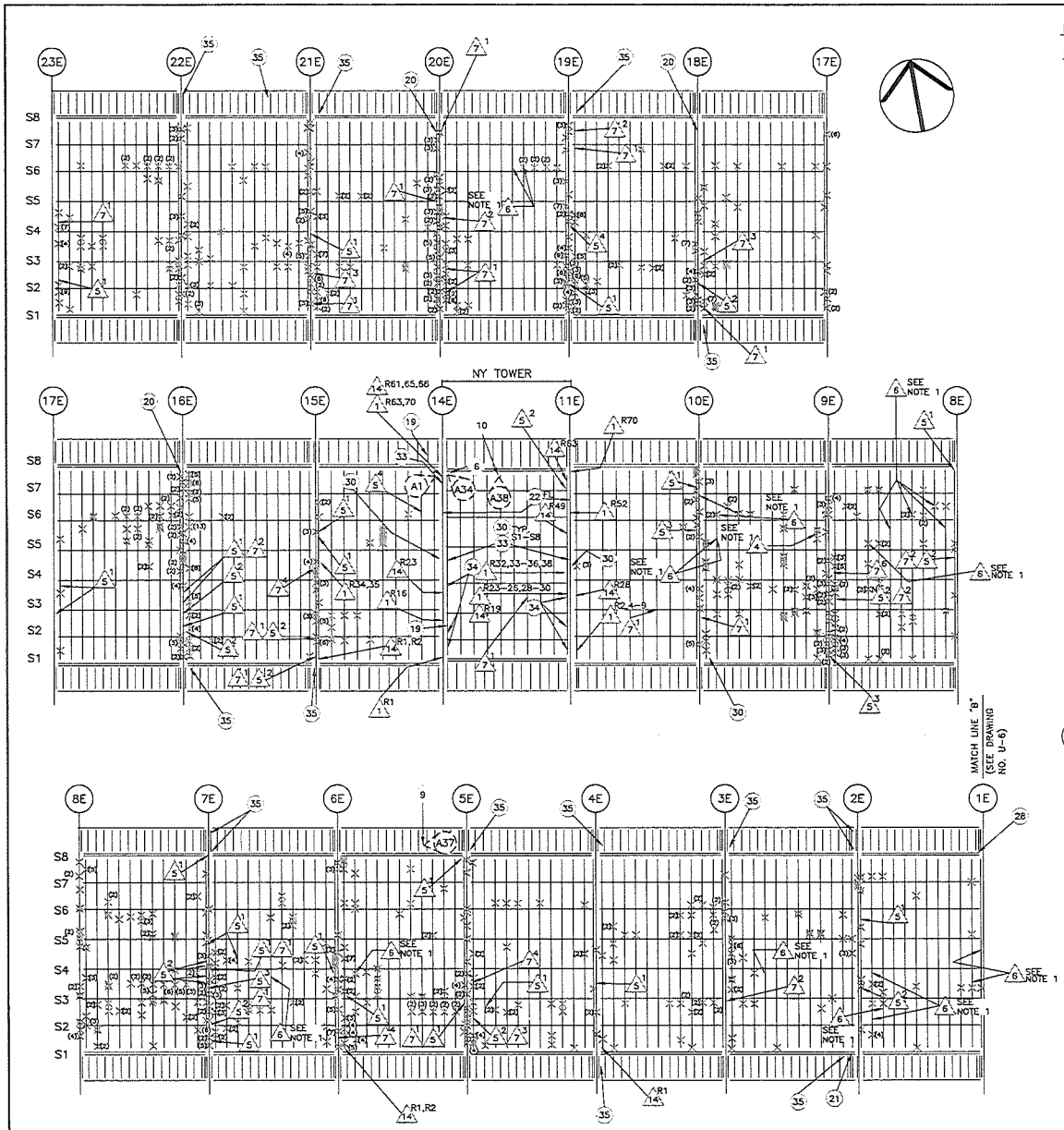
UPPER LEVEL UNDERSIDE OF DECK DEFICIENCY & PHOTO LOCATION PLAN PP 43 TO PP 23E

Designed by	Drawn by	Checked by
DS	RQ	GA

Date: DECEMBER, 2013

Contract Number: 405-13-005

Drawing Number: U-4



KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

1. REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).
2. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN '⌘'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
4. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
5. X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
6. REPAIR THE CRACKED WELDS BETWEEN THE DECK RIBS (TEES) AND THE DECK STRAP PLATE AT THE TOP OF THE SECONDARY FLOORBEAM. SHOWN WITH AN 'X'. (SEE NOTE 1 BELOW). FOR SPECIFIC LOCATIONS, SEE TABLE IN APPENDIX A.
7. X REPLACE THE MISSING TIE DOWN BOLT AND PLATE THAT CONNECT THE DECK STRAP PLATE TO THE SECONDARY FLOORBEAM. 'X' DENOTES NUMBER OF BOLTS PER LOCATION.
14. REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGE OF THE ORTHOTROPIC DECK RIB (TEE).

SAFETY REPAIRS

6. REMOVE THE EXCESSIVE DEBRIS ACCUMULATED ON THE STEEL MEMBERS AT PANEL POINT 14E AND STRINGER S8.
9. SECURE THE DISCONNECTED UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE PARTIALLY DETACHED.
10. SECURE THE LOOSE SUPPORT FOR THE UNDERDECK LIGHTING FIXTURE.

ROUTINE REPAIRS

19. SECURE THE DISCONNECTED UNION COUPLING OF THE PROTECTIVE COVER FOR THE HIGH VOLTAGE CONDUIT IN AREAS NOT ACCESSIBLE TO PEDESTRIANS.
20. REPLACE THE JOINT FILLER WHICH IS DISLODGED AND HANGING.
21. X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.
22. REMOVE DEBRIS FROM TOP OF SEAT/PEDESTAL AREA HINDERING BEARING MOVEMENT.
28. SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.
30. REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.
33. REPAIR THE DRAINAGE TROUGH OR DEBRIS SHIELD SUPPORTS AT THE TOWERS WHICH EXHIBIT SECTION LOSS AND THRU HOLES.
34. REPLACE THE MISSING FENCING OR SECURE THE DISCONNECTED FENCING SUPPORTS FOR DRAINAGE TROUGH HOUSING AT THE TOWERS.
35. REPAIR THE SEVERELY DETERIORATED SECTION OF METAL DECK PAN BELOW THE SIDEWALK.

LEGEND

- 8E — PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ — INDICATES PRIORITY REPAIRS
- ○ — INDICATES SAFETY REPAIRS
- ○ — INDICATES ROUTINE REPAIRS
- PHOTO TAKEN BELOW DECK
- ⌘ — NEW CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 2)
- X — PREVIOUS CRACKED WELD. NUMBER IN PARENTHESES INDICATES NUMBER OF CRACKED WELDS. (SEE PRIORITY REPAIR 4 & 6)
- R# — DECK RIB # (FROM SOUTH TO NORTH)
- FL — FULL LENGTH
- TYP. — TYPICAL

NOTE:

1. AT THESE SPECIFIC LOCATIONS, ALSO REPAIR THE CRACKS IN THE DECK STRAP PLATE. (PRIORITY REPAIR)

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THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508
UPPER LEVEL
UNDERSIDE OF DECK
DEFICIENCY & PHOTO
LOCATION PLAN
PP 23E TO PP 1E

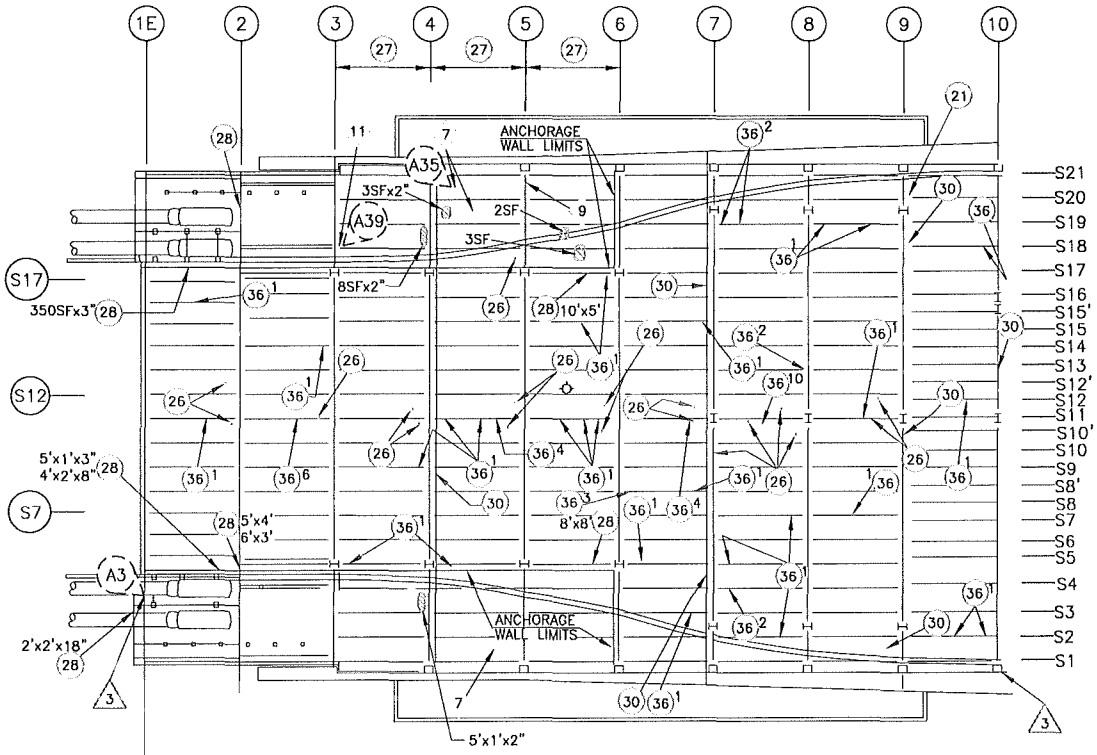
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number U-5

THE PORT AUTHORITY
OF NY & NJ



MATCH LINE "B"
(SEE DRAWING NO. U-5)

NEW YORK ANCHORAGE

N.T.S.

KEY CONDITION NOTES – UNDERSIDE OF DECK

PRIORITY REPAIRS

△3 REPAIR THE SEVERELY SPALLED PEDESTAL OF FLOORBEAM AT PANEL POINT 1E AND PEDESTAL OF STRINGER S1 AT CAP BEAM 10 OF THE NEW YORK ANCHORAGE.

SAFETY REPAIRS

7 REPAIR THE SEVERELY DETERIORATED FLOORING AT THE MID-LEVEL OF NEW YORK ANCHORAGE (BASE LEVEL OF CABLE STRAND SHOE DIAGONAL BRACE).

9 SECURE THE DISCONNECTED UTILITY CONDUITS AND UTILITY CONDUIT SUPPORTS WHICH ARE PARTIALLY DETACHED.

11 REPAIR THE DETERIORATED SECTION OF CATWALK GRATING INSIDE THE NEW YORK ANCHORAGE.

ROUTINE REPAIRS

(21)X REPLACE THE MISSING VENT COVERS AND/OR CLEANOUTS OF THE SCUPPER DOWNSPOUTS OR REPLACE THE MISSING BOLTS AT THESE LOCATIONS. 'X' DENOTES THE NUMBER OF BOLTS, IF APPLICABLE.

(26) REPAIR THE SMALL HOLES (1"–2"ø TYP.) IN THE DECK AND/OR SIDEWALK ALLOWING WATER TO PENETRATE ONTO THE STEEL BELOW.

(27) REPAIR THE SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS AND HOLLOW SOUNDING AREAS ON THE UNDERSIDE OF THE DECK. SIZE AS SHOWN.

(28) SEAL THE WIDE CRACKS AND/OR REPAIR THE SPALLED AND HOLLOW SOUNDING CONCRETE WITH OR WITHOUT EXPOSED REBARS ON THE ANCHORAGE WALL. SIZE AS SHOWN.

(30) REPLACE THE MISSING, DETERIORATED, DISCONNECTED OR BROKEN SCUPPER DOWNSPOUT/DRAINAGE TROUGH OR TROUGH SUPPORT.

(36)X REPLACE THE MISSING BOLTS CONNECTING THE DECK PLATES ALONG THE LONGITUDINAL JOINTS. 'X' DENOTES THE NUMBER OF BOLTS.

LEGEND

(8) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

△ INDICATES PRIORITY REPAIRS

INDICATES SAFETY REPAIRS

INDICATES ROUTINE REPAIRS

PHOTO TAKEN BELOW DECK

HOLE IN DECK (SEE ROUTINE REPAIR (26))

XX DELAMINATED/SPALLED CONCRETE AND/OR ASPHALT OVERLAY WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL) (ROUTINE REPAIR)

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL UNDERSIDE OF DECK DEFICIENCY & PHOTO LOCATION PLAN NEW YORK ANCHORAGE

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DS	RQ	GA
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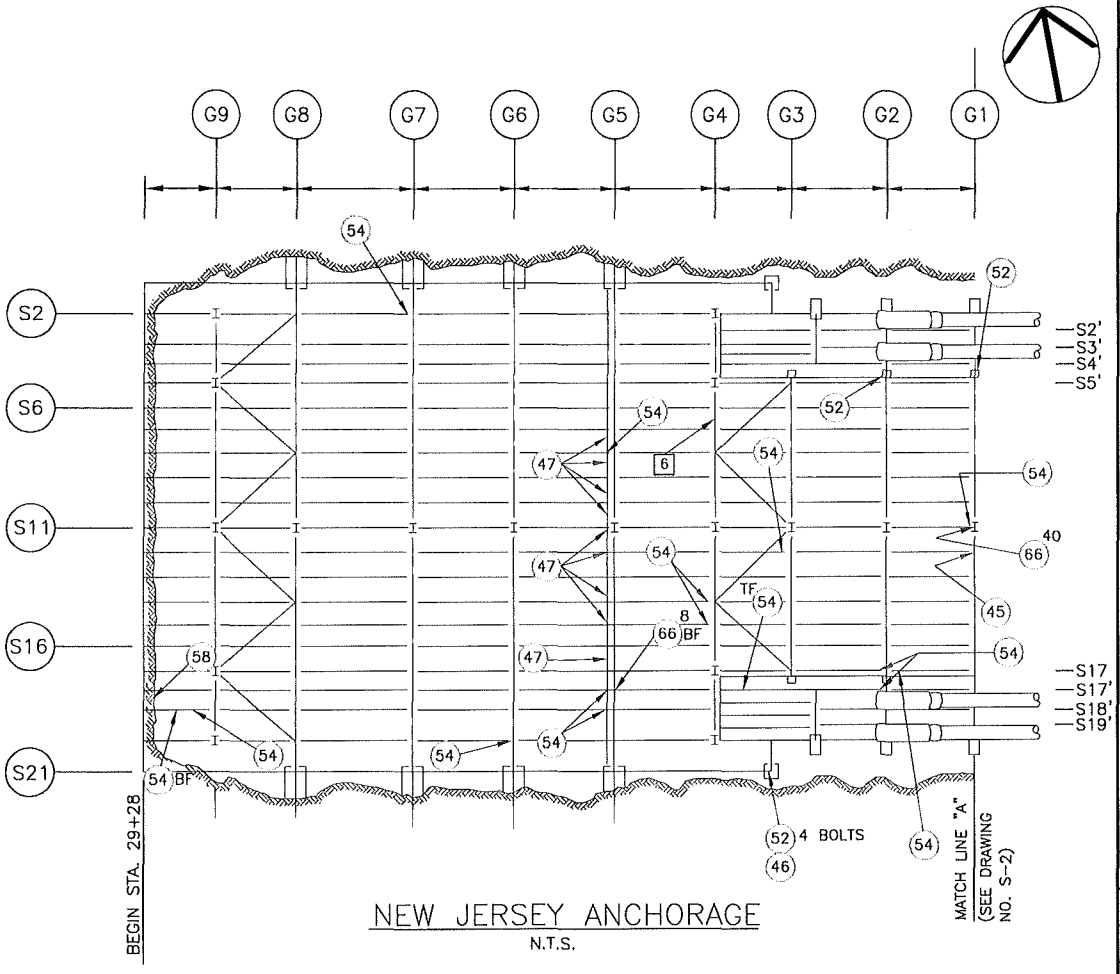
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number U-6



NEW JERSEY ANCHORAGE

N.T.S.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

ROUTINE REPAIRS

(45) REPAIR THE PARTIAL CONNECTION ANGLE THAT IS CRACKED BUT TERMINATES AT AN OPEN RIVET HOLE.

(46) REPLACE THE BROKEN SOLE PLATE BELOW STRINGER RESULTING IN SLIGHT UNDERMINING OF BEARING.

(47) REPLACE THE MISSING BOLTS CONNECTING THE TOP FLANGE OF FLOORBEAM TO DECK.

(52) TIGHTEN THE ANCHOR NUT OF THE BEARING ASSEMBLY.

(54) REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.

(58) REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.

(66)X REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

FINDINGS WITH NO RECOMMENDATIONS

[6] THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.

LEGEND

(G2) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)

( ) INDICATES ROUTINE REPAIRS

[ ] INDICATES FINDING WITH NO RECOMMENDATION

TF – TOP FLANGE
BF – BOTTOM FLANGE

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN NEW JERSEY ANCHORAGE

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.
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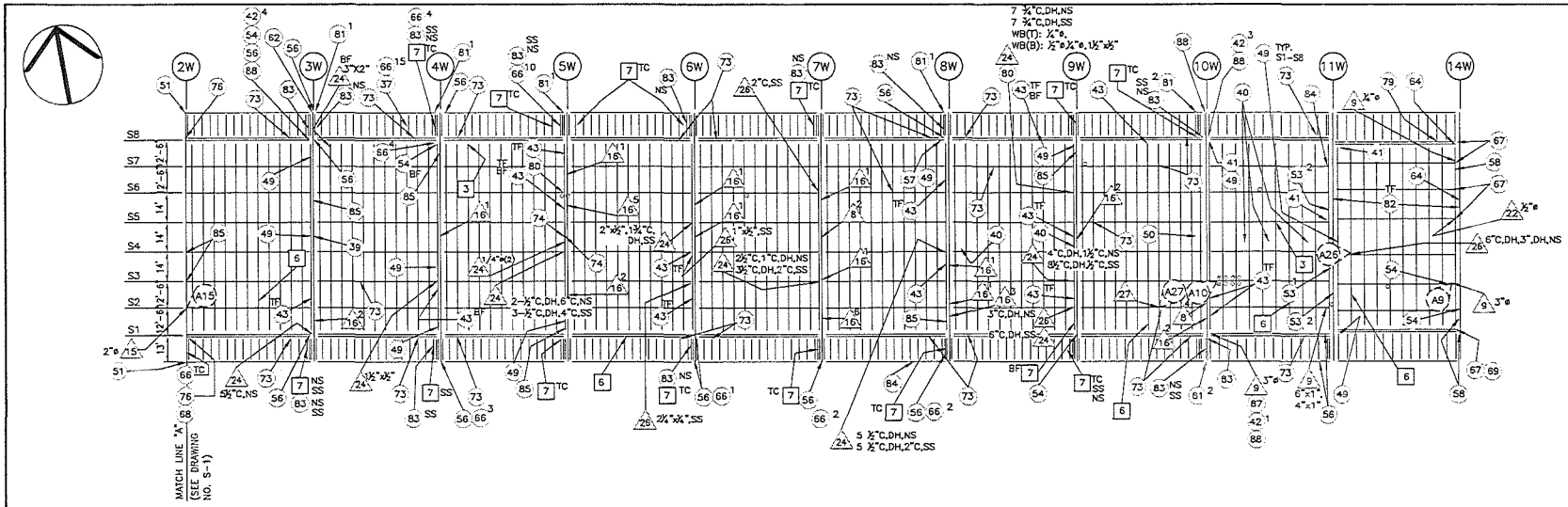
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-1



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- (8) X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- (9) X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- (10) — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.
- (15) X — REPAIR THE MAIN FLOORBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB. 'X' DENOTES THE SIZE OF HOLE.
- (16) X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- (20) — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.
- (22) X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- (24) X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- (26) X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- (27) — REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W–10W, 30E–31E, 25E–26E AND 20E–21E.

ROUTINE REPAIRS

- (37) CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.
- (39) REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.
- (40) REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- (41) REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.
- (42) X — REPLACE SEVERELY DETERIORATED BOLTS CONNECTING THE PIN WASHER TO THE BEARING. 'X' DENOTES NUMBER OF BOLTS.
- (43) REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- (49) REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- (50) REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.
- (51) REPAIR THE ANCHOR BOLT NUTS ON BOTH SIDES OF THE SIDEWALK FASCIA STRINGER BEARING.
- (53) X — REPLACE THE MISSING AND/OR ANGLE ON THE SUPPORT BRACKETS FOR THE FINGER JOINT DEFLECTIVE SHIELD. 'X' DENOTES NUMBER OF BOLTS.

ROUTINE REPAIRS (CONTINUED)

- (54) REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- (56) REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- (57) REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- (58) REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.
- (62) REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- (64) REPAIR THE MISSING SECTION OF KEEPER ROD ON THE UNDERSIDE OF FINGER JOINT.
- (66) X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- (67) REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.
- (68) REPAIR THE CRACKED WELD AT SIDEWALK STRINGER CONNECTION TO THE FLOORBEAM.
- (69) REPLACE THE DETERIORATED BEARING PLATE BELOW THE SIDEWALK STRINGER WHICH EXHIBITS SEVERE SECTION LOSS.
- (73) REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- (74) REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- (76) REPAIR THE TOP AND BOTTOM LATTICE PLATES OF THE TOP CHORD OF THE TRUSS AT PP 2W THAT EXHIBIT SIGNIFICANT SECTION LOSS AND/OR THRU HOLES.
- (79) REPAIR THE NORTH PLATFORM SUPPORT ANGLE BETWEEN PP 11W & 14W THAT EXHIBITS SEVERE CORROSION.
- (80) REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- (81) X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- (82) REPAIR THE TRANSVERSE SUPPORT BEAMS FOR THE FINGER JOINT WHICH EXHIBIT AREAS OF 1/8" – 1/4" LOCALIZED SECTION LOSS ON THE WEB AND NUMEROUS INTERIOR VERTICAL STIFFENERS WITH UP TO 100% SECTION LOSS NEAR THE BOTTOM FLANGE.
- (83) REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- (84) REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- (85) REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- (87) REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.
- (88) CLEAN THE EXPOSED PORTIONS OF THE PINS AND LUBRICATE THE STRINGER WEB BEARING AREAS.

FINDINGS WITH NO RECOMMENDATIONS

- [3] THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- [6] THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- [7] X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- (8E) CAPBEAM NUMBER/PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ INDICATES PRIORITY REPAIRS
- ○ INDICATES ROUTINE REPAIRS
- □ INDICATES FINDING WITH NO RECOMMENDATION
- PHOTO TAKEN BELOW DECK
- o MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- e MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)
- C – CRACK
- DH – DRILL HOLE
- TF – TOP FLANGE
- BF – BOTTOM FLANGE
- WB – WEB
- TC – TRUSS CHORD/TOP OF CHORD
- NS – NORTH SIDE
- SS – SOUTH SIDE
- WB(B) – WEB NEAR BOTTOM FLANGE
- WB(T) – WEB NEAR TOP FLANGE
- TYP. – TYPICAL

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN
PP 2W TO PP 14W

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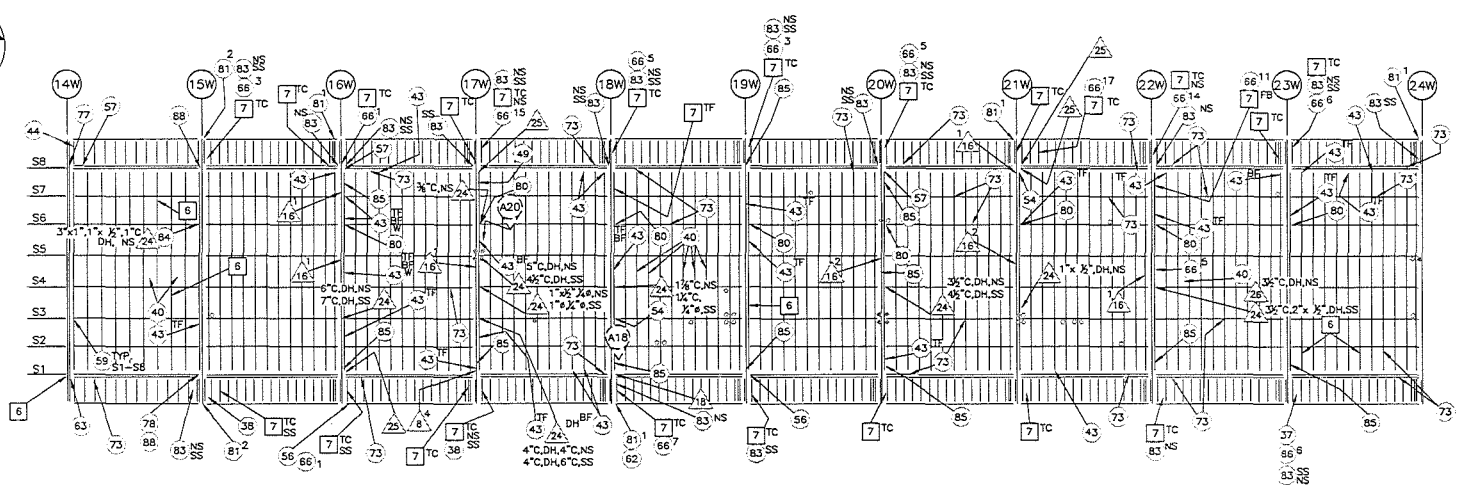
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-2



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

8X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.

10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.

16X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.

18 — REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.

20 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.

24X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

25 — REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.

26X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.

ROUTINE REPAIRS

37 — CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.

38 — REPAIR THE VERTICAL GUSSET PLATE OF DECK TRUSS TOP CHORD AT CONNECTION TO THE MAIN FLOORBEAM WHICH EXHIBITS LOCALIZED 1/8"–3/16" SECTION LOSS.

40 — REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.

43 — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.

44 — REPLACE THE NORTH SIDEWALK BEAM THAT SUPPORTS THE STEEL JOINT PLATE WHICH EXHIBITS MORE THAN 50% SECTION LOSS TO ITS TOP FLANGE AT PP 14W.

49 — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.

54 — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.

ROUTINE REPAIRS (CONTINUED)

56 — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.

57 — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.

59 — REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS AND PACK RUST ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.

62 — REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

63 — REPAIR THE SLIDING PLATE OF THE BEARING OF S1 AT PP 14W WHICH EXHIBITS A 3" LONG BROKEN EDGE.

66X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.

73 — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.

77 — REPAIR THE BRACKET WITH THRU HOLES ON S8 EAST OF PP 14W.

78 — REPAIR THE DIAPHRAGM PLATE BELOW THE PIN CONNECTION BETWEEN THE STRINGER AND THE MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.

80 — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.

81X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.

83 — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.

84 — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.

85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

88 — CLEAN THE EXPOSED PORTIONS OF THE PINS AND LUBRICATE THE STRINGER WEB BEARING AREAS.

FINDINGS WITH NO RECOMMENDATIONS

6 — THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.

7X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

8E — PANEL POINT (AS PER PANY&NJ SYSTEM)

△ — INDICATES PRIORITY REPAIRS

⌒ — INDICATES ROUTINE REPAIRS

□ — INDICATES FINDING WITH NO RECOMMENDATION

◌> — PHOTO TAKEN BELOW DECK

○ — MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)

⊗ — MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

C – CRACK
DH – DRILL HOLE
TF – TOP FLANGE
BF – BOTTOM FLANGE
WB – WEB
TC – TRUSS CHORD/TOP OF CHORD
NS – NORTH SIDE
SS – SOUTH SIDE
FB – FLOORBEAM
TYP. – TYPICAL

THE PORT AUTHORITY OF NY&NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN PP 14W TO PP 24W

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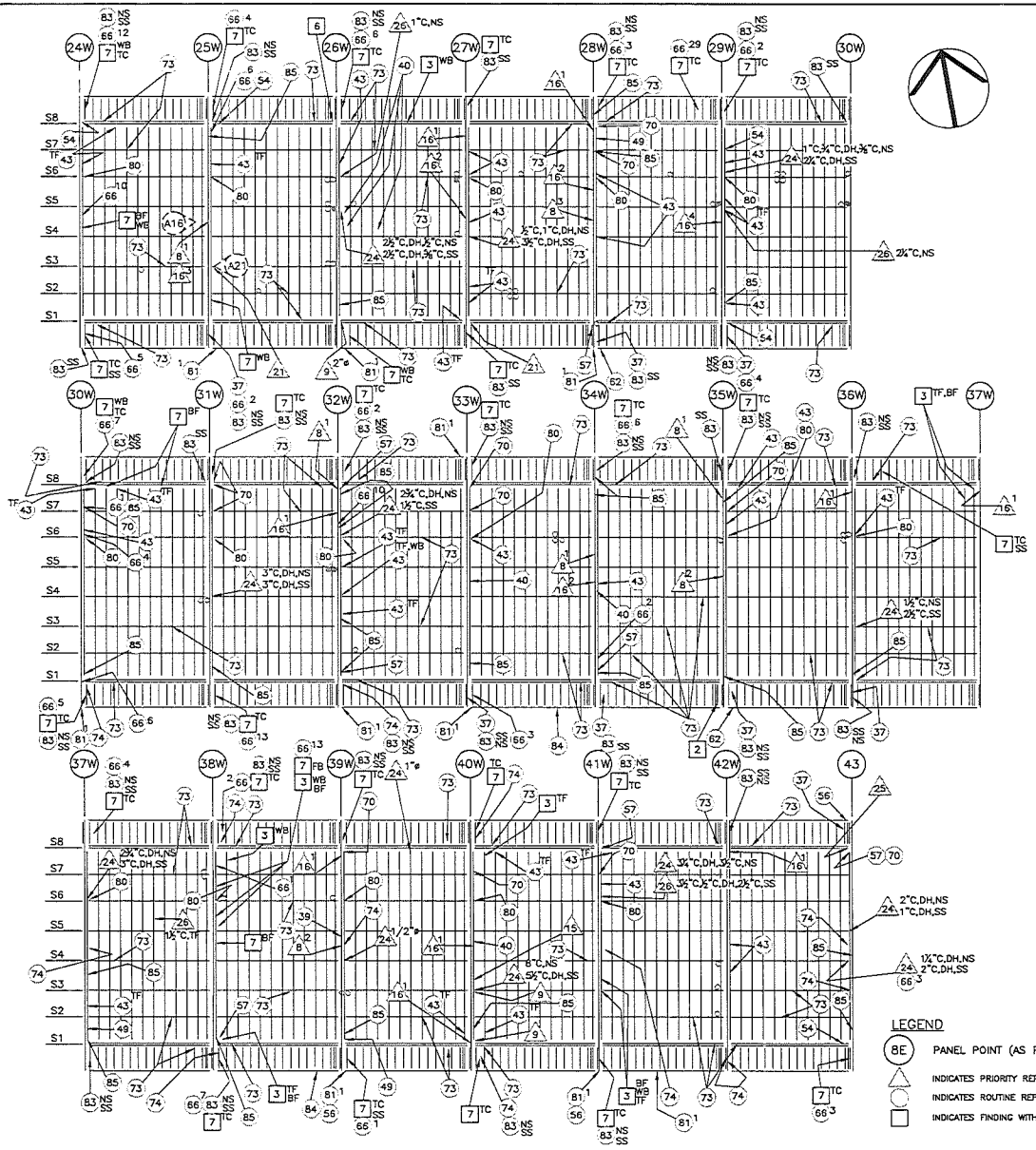
DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-3



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- (8) X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. "X" DENOTES NUMBER OF CRACKED WEBS PER BAY.
- (9) X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. "X" DENOTES SIZE OF HOLE.
- (10) — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A "c".
- (15) X — REPAIR THE MAIN FLOORBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB. "X" DENOTES THE SIZE OF HOLE.
- (16) X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. "X" DENOTES NUMBER OF CRACKED WEBS PER BAY.
- (20) — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A "e".
- (21) — REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.
- (24) X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. "X" DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. "Y" INDICATES NUMBER OF HOLES OF SIZE "X".
- (25) — REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- (26) X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. "X" DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. "Y" INDICATES NUMBER OF HOLES OF SIZE "X".

ROUTINE REPAIRS

- (37) — CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.
- (39) — REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.
- (40) — REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- (43) — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1 1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- (49) — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- (54) — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- (56) — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- (57) — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- (62) — REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- (66) X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. "X" DENOTES NUMBER OF AFFECTED RIVETS.
- (70) — REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.
- (73) — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- (74) — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- (80) — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- (81) X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. "X" DENOTES NUMBER OF BOLTS.
- (83) — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- (84) — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- (85) — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

FINDINGS WITH NO RECOMMENDATIONS

- [2] THE STRINGER WEB EXHIBITS A SMALL PARTIAL PENETRATION CRACK IN THE TOP FLANGE COPING.
- [3] THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- [6] THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- [7] X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. "X" DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- (8E) PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ INDICATES PRIORITY REPAIRS
- ○ INDICATES ROUTINE REPAIRS
- □ INDICATES FINDING WITH NO RECOMMENDATION
- PHOTO TAKEN BELOW DECK
- O MISSING RIVET/BOLT (SEE PRIORITY REPAIR (10))
- G MISSING RIVET/BOLT (SEE PRIORITY REPAIR (20))

C	– CRACK	TC	– TRUSS CHORD/TOP OF CHORD
DH	– DRILL HOLE	NS	– NORTH SIDE
TF	– TOP FLANGE	SS	– SOUTH SIDE
BF	– BOTTOM FLANGE	FB	– FLOORBEAM
WB	– WEB		

Sheet 19 of 23

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN PP 24W TO PP 43

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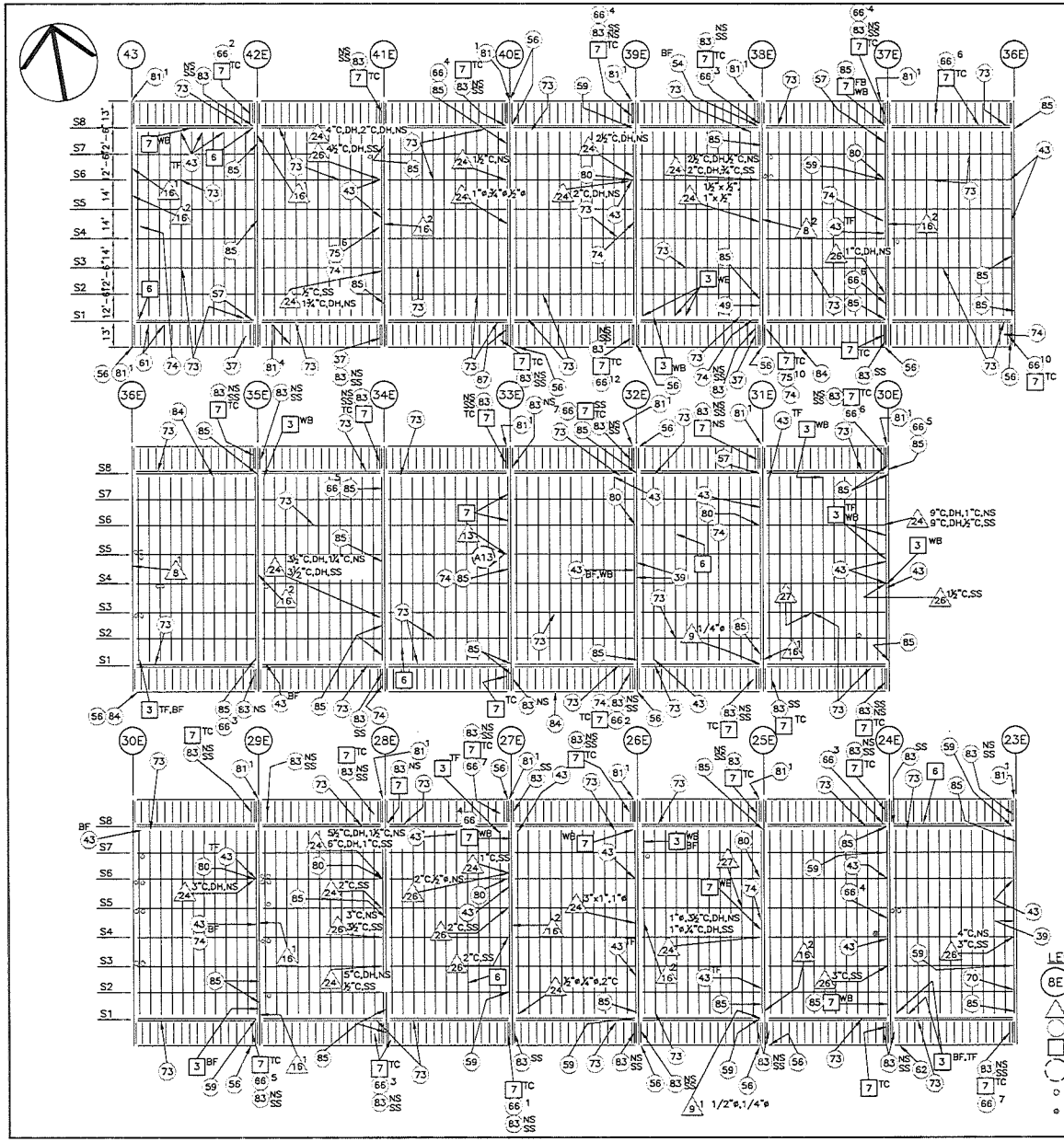
DS	RO	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-4



KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 8 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 9 X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.
- 13 — REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 16 X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 20 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'e'.
- 24 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 26 X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 27 — REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W–10W, 30E–31E, 25E–26E AND 20E–21E.

ROUTINE REPAIRS

- 37 — CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.
- 39 — REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.
- 43 — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- 49 — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- 54 — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- 56 — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- 57 — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- 59 — REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS AND PACK RUST ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.
- 61 — REPLACE THE MISSING BOLTS ON THE GUSSET PLATE CONNECTION OF THE UTILITY PLATFORM TO THE BOTTOM FLANGE OF THE SIDEWALK STRINGER.
- 62 — REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- 66 X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 70 — REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.
- 73 — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- 74 — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 75 X — REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 80 — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- 81 X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- 83 — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- 84 — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- 85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 87 — REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.

FINDINGS WITH NO RECOMMENDATIONS

- 3 — THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- 6 — THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- 7 X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- 8E — PANEL POINT (AS PER PANY&NJ SYSTEM)
- INDICATES PRIORITY REPAIRS
- INDICATES ROUTINE REPAIRS
- INDICATES FINDING WITH NO RECOMMENDATION
- PHOTO TAKEN BELOW DECK
- MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

C	– CRACK
DH	– DRILL HOLE
TF	– TOP FLANGE
BF	– BOTTOM FLANGE
WB	– WEB
TC	– TRUSS CHORD/TOP OF CHORD
NS	– NORTH SIDE
SS	– SOUTH SIDE
FB	– FLOORBEAM

Sheet 20 of 23

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN PP 43 TO PP 23E

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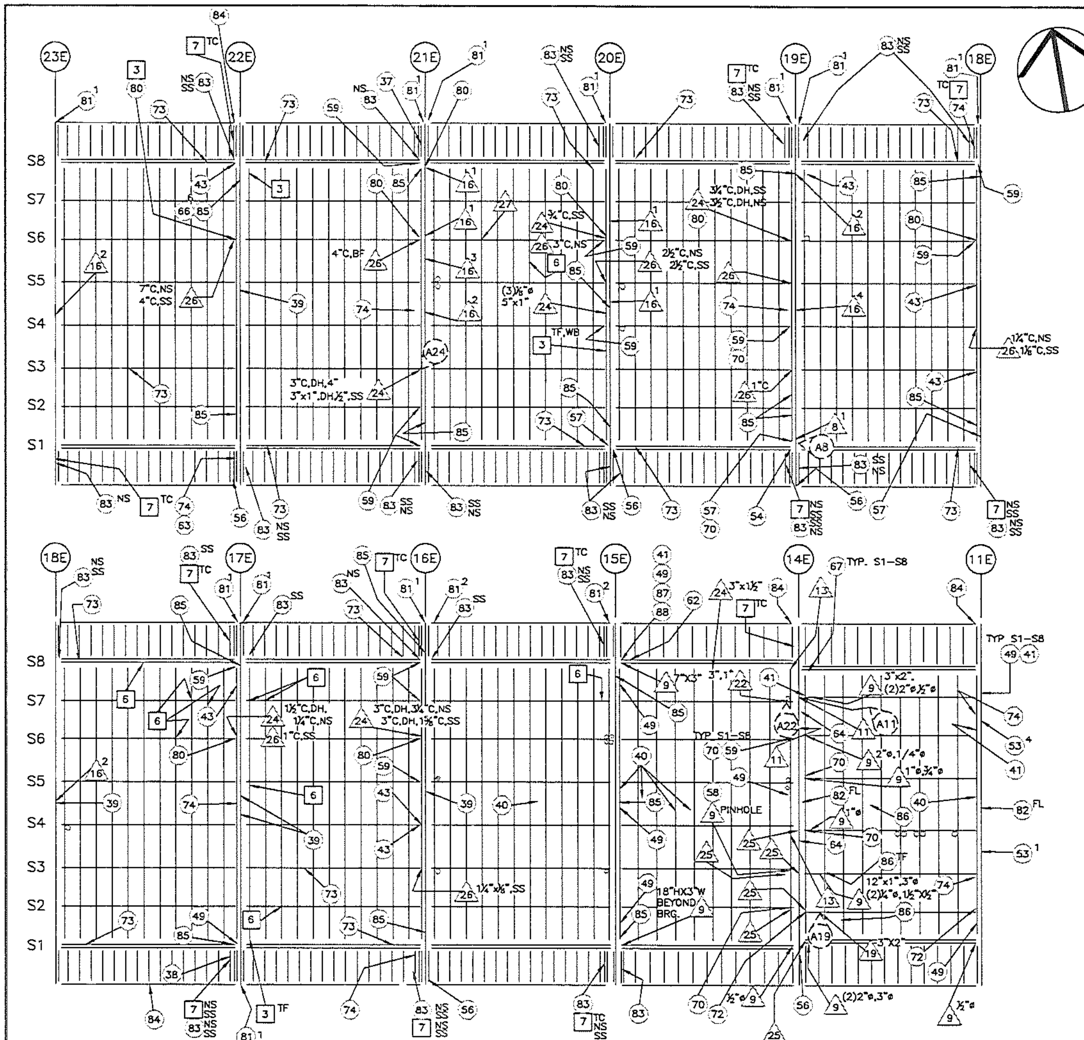
DS	RO	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-5



LEGEND

- (8E) PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ INDICATES PRIORITY REPAIRS
- ◯ INDICATES ROUTINE REPAIRS
- □ INDICATES FINDING WITH NO RECOMMENDATION
- PHOTO TAKEN BELOW DECK
- ○ MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- ⊘ MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

C	CRACK
DH	DRILL HOLE
TF	TOP FLANGE
BF	BOTTOM FLANGE
WB	WEB
TC	TRUSS CHORD/TOP OF CHORD
NS	NORTH SIDE
SS	SOUTH SIDE
FB	FLOORBEAM
FL	FULL LENGTH

FINDINGS WITH NO RECOMMENDATIONS

- [3] THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- [6] THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- [7]X THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 8 (X) REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 9 (X) REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A '○'.
- 11 REPAIR THE SEVERE RUST AND HOLE IN THE BEARING STIFFENER AND THE BOTTOM FLANGE OF THE BEARING.
- 13 REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 16 (X) REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 19 REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 20 REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A '⊘'.
- 22 (X) REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 24 (X(Y)) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 25 REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.
- 26 (X(Y)) REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 27 REPAIR THE WORN THRU STRINGER BOTTOM FLANGE AT DIAGONAL BRACING CONNECTION BETWEEN PP 9W–10W, 30E–31E, 25E–26E AND 20E–21E.

ROUTINE REPAIRS

- 37 CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.
- 38 REPAIR THE VERTICAL GUSSET PLATE OF DECK TRUSS TOP CHORD AT CONNECTION TO THE MAIN FLOORBEAM WHICH EXHIBITS LOCALIZED 1/8"–3/16" SECTION LOSS.
- 39 REPAIR THE SUPPORT FOR THE MEDIAN LONGITUDINAL BEAM WHICH EXHIBITS A CRACK OR IS SEVERELY DETERIORATED.
- 40 REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- 41 REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.
- 43 REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- 49 REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- 53 (X) REPLACE THE MISSING AND/OR ANGLE ON THE SUPPORT BRACKETS FOR THE FINGER JOINT DEFLECTIVE SHIELD. 'X' DENOTES NUMBER OF BOLTS.
- 54 REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- 56 REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- 57 REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- 58 REPAIR THE SEVERELY DETERIORATED INTERMEDIATE DIAPHRAGM THAT EXHIBITS THRU HOLES.
- 59 REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS AND PACK RUST ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.
- 62 REPAIR THE SIDEWALK STRINGER WEB PLATE(S) WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- 63 REPAIR THE SLIDING PLATE OF THE BEARING OF S1 AT PP 14W WHICH EXHIBITS A 3" LONG BROKEN EDGE.
- 64 REPAIR THE MISSING SECTION OF KEEPER ROD ON THE UNDERSIDE OF FINGER JOINT.
- 66 (X) REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 67 REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.
- 70 REPAIR THE VERTICAL STIFFENERS ON THE STRINGER BEARING STOOL THAT EXHIBIT EXTENSIVE SECTION LOSS, PACK RUST, HOLES AND/OR CRACKS.
- 72 REPLACE THE MISSING RIVET AT THE STRINGER BEARING STIFFENER ANGLE.
- 73 REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- 74 REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 80 REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- 81 (X) REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- 82 REPAIR THE TRANSVERSE SUPPORT BEAMS FOR THE FINGER JOINT WHICH EXHIBIT AREAS OF 1/8" – 1/4" LOCALIZED SECTION LOSS ON THE WEB AND NUMEROUS INTERIOR VERTICAL STIFFENERS WITH UP TO 100% SECTION LOSS NEAR THE BOTTOM FLANGE.
- 83 REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- 84 REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- 85 REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 86 REPAIR THE LATERAL OR DIAGONAL BRACING MEMBER IN PANEL 14E/11E WHICH EXHIBITS EXTENSIVE SECTION LOSS AND THRU HOLES. SHOWN AS WEB LATTICE PLATES UNLESS OTHERWISE NOTED.
- 87 REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.
- 88 CLEAN THE EXPOSED PORTIONS OF THE PINS AND LUBRICATE THE STRINGER WEB BEARING AREAS.

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

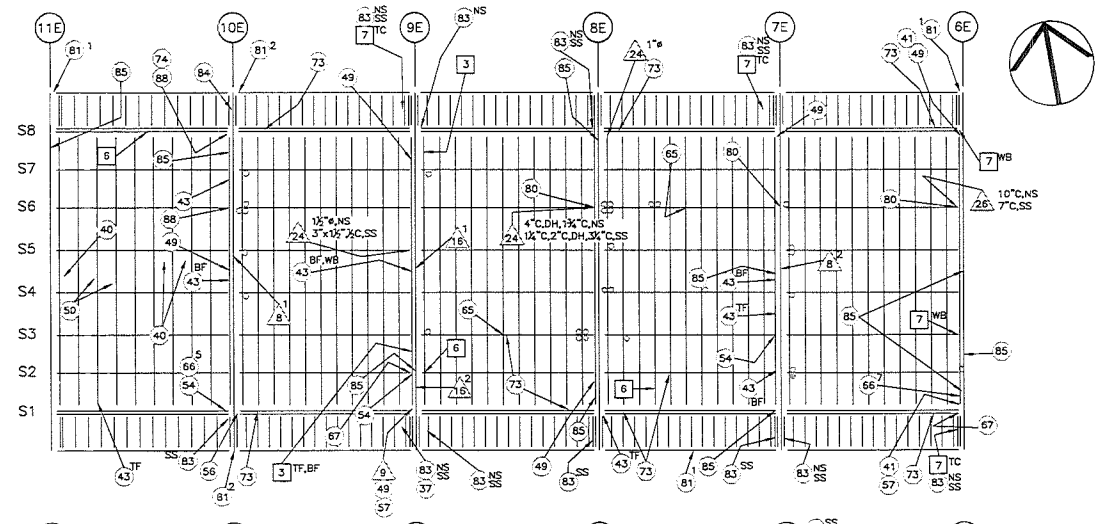
UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN PP 23E TO PP 11E

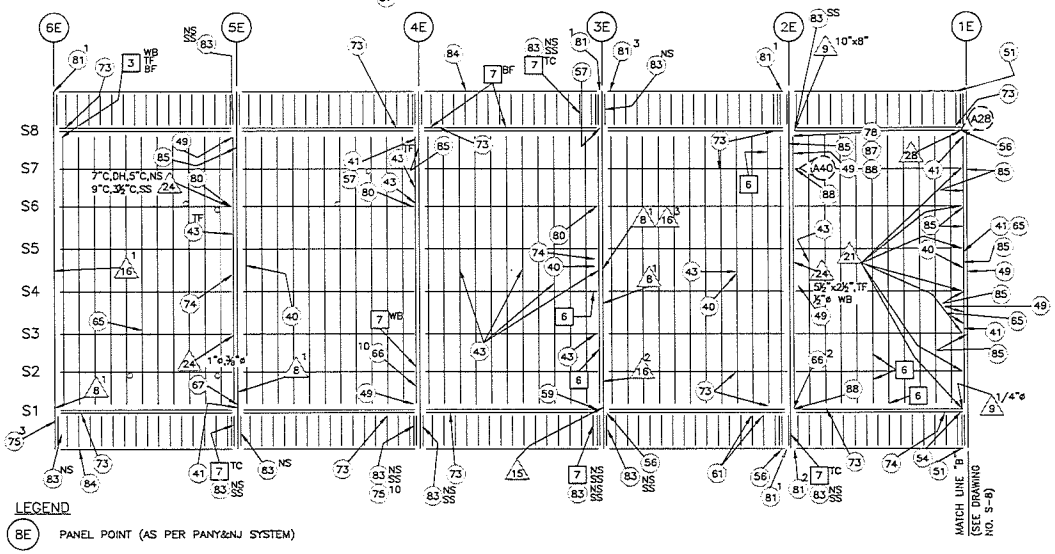
Designed by	Drawn by	Checked by
DS	RO	GA

Date: DECEMBER, 2013

Contract Number: 405-13-005

Drawing Number: S-6





LEGEND

- 8E — PANEL POINT (AS PER PANY&NJ SYSTEM)
- △ — INDICATES PRIORITY REPAIRS
- ○ — INDICATES ROUTINE REPAIRS
- □ — INDICATES FINDING WITH NO RECOMMENDATION
- PHOTO TAKEN BELOW DECK
- ○ — MISSING RIVET/BOLT (SEE PRIORITY REPAIR 10)
- ⊗ — MISSING RIVET/BOLT (SEE PRIORITY REPAIR 20)

C	– CRACK
DH	– DRILL HOLE
TF	– TOP FLANGE
BF	– BOTTOM FLANGE
WB	– WEB
TC	– TRUSS CHORD/TOP OF CHORD
NS	– NORTH SIDE
SS	– SOUTH SIDE

FINDINGS WITH NO RECOMMENDATIONS

- 3 — THE SECONDARY FLOORBEAMS EXHIBIT MINOR SECTION LOSS.
- 6 — THE STRUCTURAL STEEL MEMBER EXHIBITS MINOR IMPACT DAMAGE.
- 7X — THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- 8X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 9X — REPAIR THE STRINGERS THAT EXHIBIT THROUGH HOLES WITH MODERATE CORROSION IN THE WEB OVER THE BEARINGS. 'X' DENOTES SIZE OF HOLE.
- 10 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.
- 15X — REPAIR THE MAIN FLOORBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB. 'X' DENOTES THE SIZE OF HOLE.
- 16X — REPAIR THE CRACKED OR HOLED THROUGH WEB OF RISER BEAM SUPPORTING THE DECK ABOVE THE FLOORBEAM. 'X' DENOTES NUMBER OF CRACKED WEBS PER BAY.
- 20 — REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A '⊗'.
- 21 — REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.
- 24X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 26X(Y) — REPAIR THE CRACKS AND/OR HOLES IN THE WEB OR FLANGES OF THE SECONDARY FLOORBEAM. 'X' DENOTES SIZE OF HOLE IN WEB UNLESS OTHERWISE NOTED. 'Y' INDICATES NUMBER OF HOLES OF SIZE 'X'.
- 28 — REPAIR THE STRINGER BEARINGS THAT HAVE THE BEARING SLIDING PLATE BOUNCING UNDER LIVE LOAD AND/OR ARE FROZEN DUE TO PACK RUST.

ROUTINE REPAIRS

- 37 — CLEAN AND PAINT THE TOP AND BOTTOM PLATES OF THE TOP CHORD OF THE STIFFENING TRUSS AND GUSSET PLATES AT CONNECTIONS. ALSO REPLACE MISSING CAULK AT THE JOINT BETWEEN THE TOP AND BOTTOM PLATES AND THE WEB PLATES OF THE SAME MEMBERS. IN ADDITION, INSTALL METHODS TO PREVENT PONDING ON TOP OF THE TOP CHORD.
- 40 — REPAIR THE LONGITUDINAL BEAMS SUPPORTING THE MEDIAN BARRIER BETWEEN STRINGERS S4 AND S5 WITH SECTION LOSS AND/OR MISSING BOLTS.
- 41 — REPAIR THE GUSSET PLATE OF THE CROSS FRAME CONNECTION TO THE STRINGER FLANGE WITH EXTENSIVE SECTION LOSS AND THRU HOLES.
- 43 — REPAIR THE WEB OR FLANGES OF THE SECONDARY FLOORBEAMS WHICH EXHIBIT SMALL HOLES AND/OR 1/8"–1/4" SECTION LOSS AT CRITICAL AREAS. SHOWN AS WEB UNLESS OTHERWISE NOTED.
- 49 — REPAIR THE VERTICAL, HORIZONTAL, AND/OR DIAGONAL LEGS OF THE ANGLES OF THE CROSS FRAME WITH THRU HOLES AND SECTION LOSS AND/OR SEVERE PACK RUST.
- 50 — REPLACE THE MISSING GRATING OR SECURE LOOSE GRATING BENEATH THE MEDIAN BARRIER BETWEEN STRINGER S4 & S5.
- 51 — REPAIR THE ANCHOR BOLT NUTS ON BOTH SIDES OF THE SIDEWALK FASCIA STRINGER BEARING.
- 54 — REPAIR THE SMALL HOLES AND/OR MINOR TO MODERATE SECTION LOSS IN THE STRINGER AT CRITICAL AREAS. SHOWN FOR WEB UNLESS OTHERWISE NOTED.
- 56 — REPAIR THE BEARING STIFFENER AT SIDEWALK STRINGERS WITH EXTENSIVE SECTION LOSS, PACK RUST, HOLES, AND/OR CRACKS.
- 57 — REPAIR THE INTERMEDIATE STIFFENERS WITH THRU HOLES AND/OR EXTENSIVE SECTION LOSS.
- 59 — REPAIR THE STRINGER BEARING ASSEMBLY WHICH EXHIBITS EXTENSIVE SECTION LOSS AND PACK RUST ON THE WEB PLATE, BEARING STIFFENERS AND THE COUNTERSUNK BOLT NUTS.
- 61 — REPLACE THE MISSING BOLTS ON THE GUSSET PLATE CONNECTION OF THE UTILITY PLATFORM TO THE BOTTOM FLANGE OF THE SIDEWALK STRINGER.
- 65 — REPLACE THE MISSING, DETERIORATED, AND/OR LOOSE BOLTS/RIVETS OF THE CROSS FRAME TO SECONDARY FLOORBEAM CONNECTION.
- 66X — REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 67 — REPLACE THE ANCHOR BOLT TO THE STRINGER BEARING WITH OVER 50% SECTION LOSS.
- 73 — REPAIR THE WIND BRACE TO STRINGER CONNECTION THAT EXHIBITS PACK RUST AND/OR MISSING FILLER PLATE CAUSING THE BRACING ANGLES TO BOUNCE UNDER LIVE LOADS RESULTING IN WEAR AND SECTION LOSS TO THE STRINGER BOTTOM FLANGE.
- 74 — REPAIR THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WHICH EXHIBITS LOCALIZED SEVERE SECTION LOSS AND/OR THRU HOLES AND/OR CRACKS.
- 75X — REPLACE THE RIVETS ON THE HORIZONTAL GUSSET PLATE THAT CONNECTS THE WIND BRACE TO THE MAIN FLOORBEAM AND/OR TRUSS CHORD WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- 78 — REPAIR THE DIAPHRAGM PLATE BELOW THE PIN CONNECTION BETWEEN THE STRINGER AND THE MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS AND/OR THRU HOLES.
- 80 — REPLACE THE MISSING RIVET AT THE TOP OF THE STIFFENER AT STRINGER.
- 81X — REPLACE THE MISSING BOLTS AT THE SIDEWALK FASCIA STRINGER TO DECK CONNECTION. 'X' DENOTES NUMBER OF BOLTS.
- 83 — REPAIR THE CONNECTION ANGLE BETWEEN MAIN FLOORBEAM AND DECK TRUSS TOP CHORD WHICH EXHIBITS EXTENSIVE SECTION LOSS WITH OR WITHOUT A CRACK THAT HAS BEEN ARRESTED BY A DRILL HOLE.
- 84 — REPLACE THE MISSING BOLT OR TIGHTEN LOOSE BOLT IN WEB OF STRINGER, SECONDARY FLOORBEAM, OR SIDEWALK BEAM.
- 85 — REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.
- 87 — REPAIR THE GUSSET PLATE AT PIN CONNECTION BETWEEN STRINGER AND MAIN FLOORBEAM WHICH EXHIBITS EXTENSIVE SECTION LOSS.
- 88 — CLEAN THE EXPOSED PORTIONS OF THE PINS AND LUBRICATE THE STRINGER WEB BEARING AREAS.

Sheet 22 of 23

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

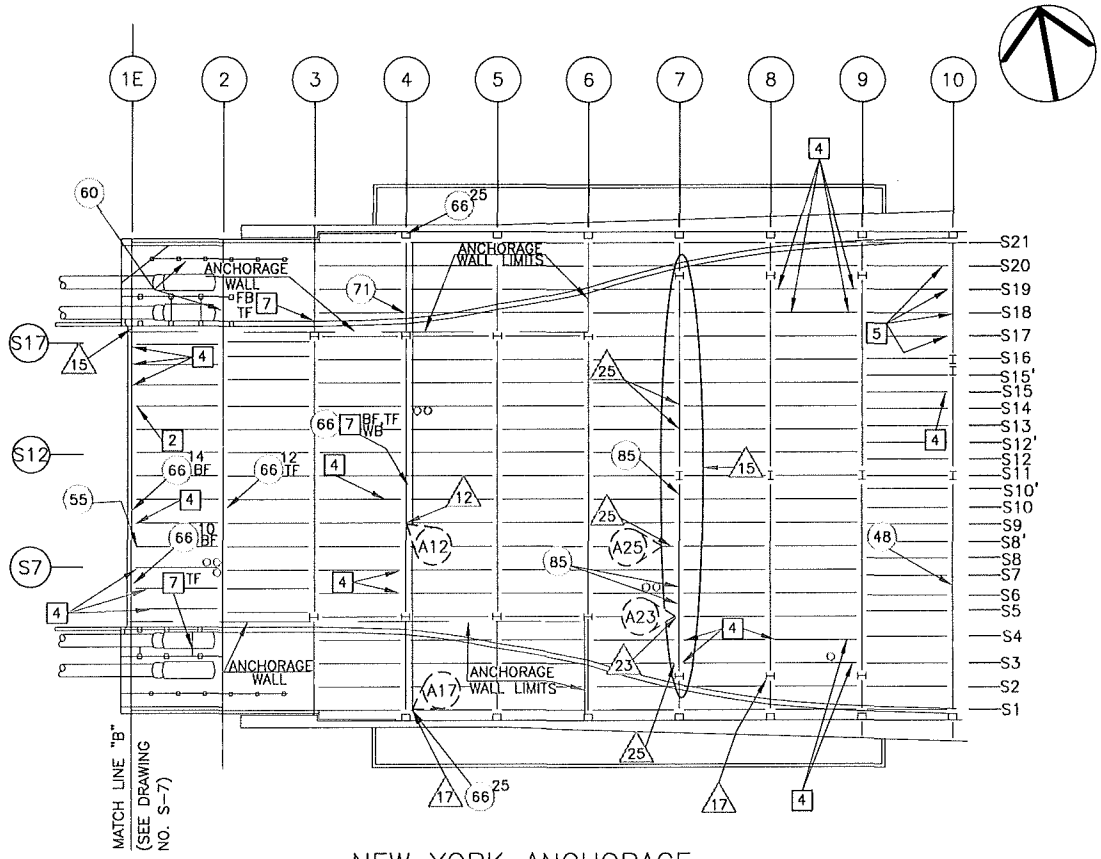
UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN PP 11E TO PP 1E

DS	RO	QA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-7



NEW YORK ANCHORAGE

N.T.S.

KEY CONDITION NOTES – SUPERSTRUCTURE STEEL

PRIORITY REPAIRS

- (10) REPLACE THE MISSING OR SHEARED OFF RIVETS OR BOLTS AT THE SECONDARY FLOORBEAM TO STRINGER TOP FLANGE CONNECTION SHOWN WITH A 'o'.
- (12) REPLACE THE CRACKED SHIM PLATE AND SHEARED OFF TIE DOWN BOLT CONNECTING STRINGER S9 BOTTOM FLANGE TO THE SEATED ANGLE AT CAPBEAM 4.
- (15X) REPAIR THE MAIN FLOORBEAM WITH EXTENSIVE SECTION LOSS AND/OR HOLES IN WEB. 'X' DENOTES THE SIZE OF HOLE.
- (17) REPLACE THE SHEARED ANCHOR BOLTS AND ANCHOR BOLT NUTS WHICH EXHIBIT SEVERE CORROSION.
- (23) REPAIR THE BENT ANGLE ON THE GIRDER BEARING CONNECTION OF STRINGER TO CAPBEAM.
- (25) REPLACE THE SEVERELY CORRODED OR SHEARED OFF TIE DOWN BOLTS/RIVETS CONNECTING THE STRINGER BOTTOM FLANGE TO THE SEATED ANGLE AT THE FLOORBEAM.

ROUTINE REPAIRS

- (48) REPAIR THE BEARING ASSEMBLY FOR THE RETROFIT BEAM AT CAPBEAM 10 WHICH EXHIBITS CRACKED WELDS ALONG THE EDGE OF THE SHIM PLATES.
- (55) REPLACE THE SHEARED OFF RIVET AT THE BASE OF THE STIFFENING ANGLES OF THE STRINGER SEATED CONNECTION TO THE FLOORBEAM.
- (60) REPAIR THE SPALLED AND CRACKED CONCRETE ENCASEMENT OF STRINGERS.
- (66X) REPLACE THE RIVETS WITH OVER 50% HEAD LOSS. 'X' DENOTES NUMBER OF AFFECTED RIVETS.
- (71) REPAIR THE BOTTOM FLANGE OF THE MAIN FLOORBEAM/CAPBEAM WHICH EXHIBITS UP TO 3/16" LOCALIZED SECTION LOSS AT NON-CRITICAL AREAS.
- (85) REPAIR THE WEB OF THE MAIN FLOORBEAM WHICH EXHIBITS 1/8" LOCALIZED SECTION LOSS NEAR CONNECTION.

FINDINGS WITH NO RECOMMENDATIONS

- [2] THE STRINGER WEB EXHIBITS A SMALL PARTIAL PENETRATION CRACK IN THE TOP FLANGE COPING.
- [4] THE STRINGER WEB EXHIBITS A SMALL CRACK THAT HAS BEEN ARRESTED BY A DRILLED HOLE NEAR THE TOP OR BOTTOM FLANGE COPING.
- [5] CAPBEAM WEB STIFFENER/STRINGER CONNECTION ANGLE IS SLIGHTLY BENT 1/2" BELOW STRINGER BOTTOM FLANGE.
- [7X] THE PRIMARY STEEL MEMBERS EXHIBIT MINOR SECTION LOSS. 'X' DENOTES THE AFFECTED MEMBER. SHOWN FOR FLOORBEAM UNLESS OTHERWISE NOTED.

LEGEND

- (8) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- △ INDICATES PRIORITY REPAIRS
- ◯ INDICATES ROUTINE REPAIRS
- □ INDICATES FINDING WITH NO RECOMMENDATION
- PHOTO TAKEN BELOW DECK
- o MISSING RIVET/BOLT (SEE PRIORITY REPAIR (10))

TF – TOP FLANGE
BF – BOTTOM FLANGE
WB – WEB
FB – FLOORBEAM

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL SUPERSTRUCTURE DEFICIENCY & PHOTO LOCATION PLAN NEW YORK ANCHORAGE

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DS	RQ	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number S-8

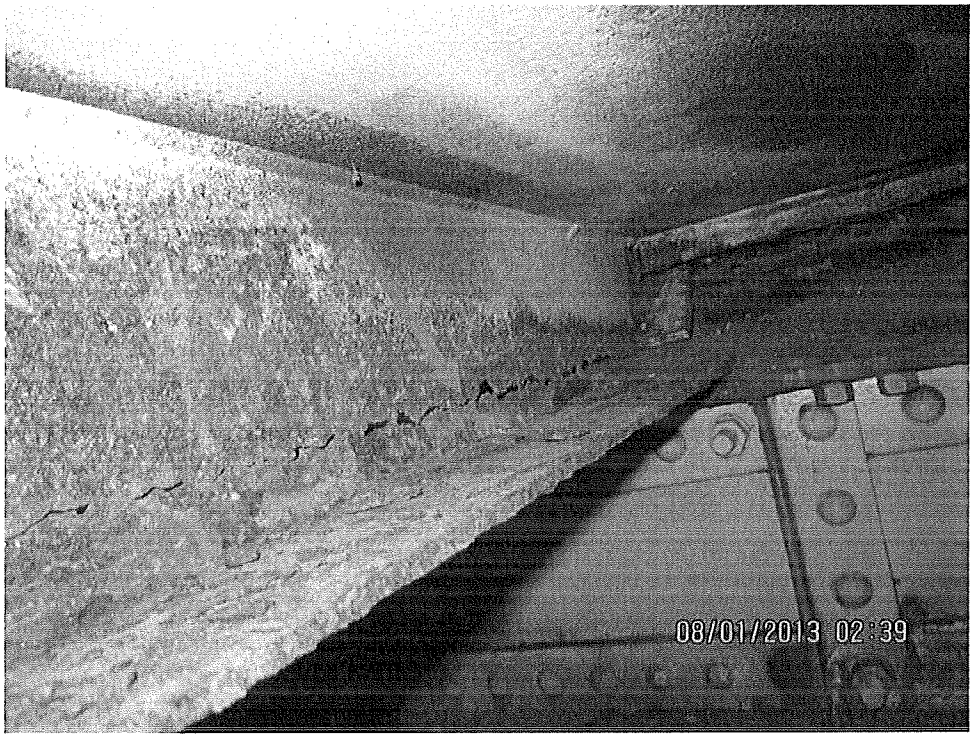
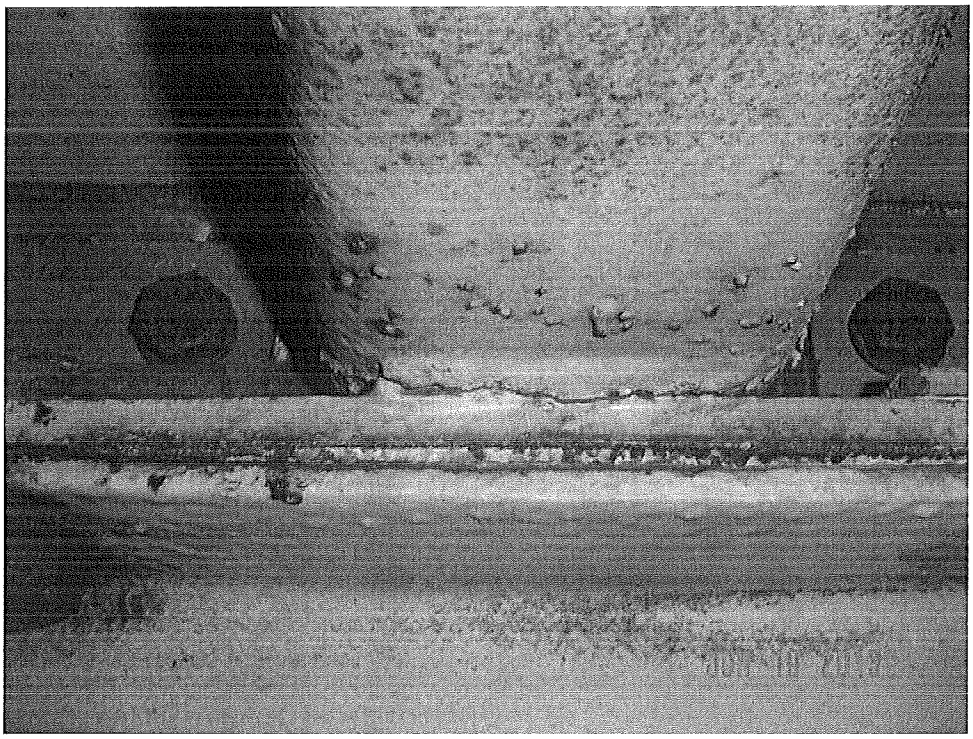
Photo No.: A1 **Location:** Panel Point 15E-14E, orthotropic deck rib R70 between main floorbeam and secondary floorbeam SFB10, looking northeast. **Description:** Cracked web of orthotropic deck rib (tee). **(Priority Repair No. 1)**	
Photo No.: A2 **Location:** Panel Point 18W-19W, between Stringers S1-S2, deck ribs over secondary floorbeam SFB6, looking west. **Description:** Typical cracked weld between the deck rib (tees) and the deck strap plate. **(Priority Repair No. 2)**	

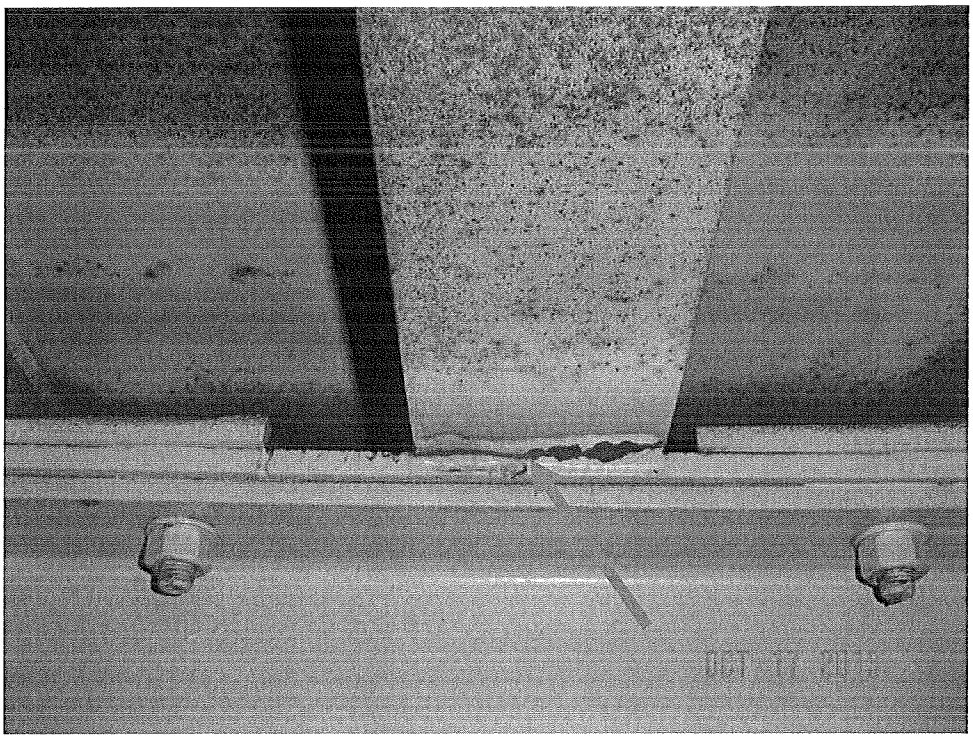
Photo No.: A3 **Location:** New York Anchorage, south sidewalk pedestal of floorbeam at Panel Point 1E, looking southeast. **Description:** Severely spalled bearing pedestal resulting in undermining below the masonry plate. **(Priority Repair No. 3)**	
Photo No.: A4 **Location:** Panel Point 36E-37E, between Stringers S5-S6, deck rib over secondary floorbeam SFB7, looking west. **Description:** Typical cracked weld between the deck rib (tees) and the deck strap plate. **(Priority Repair No. 4)**	

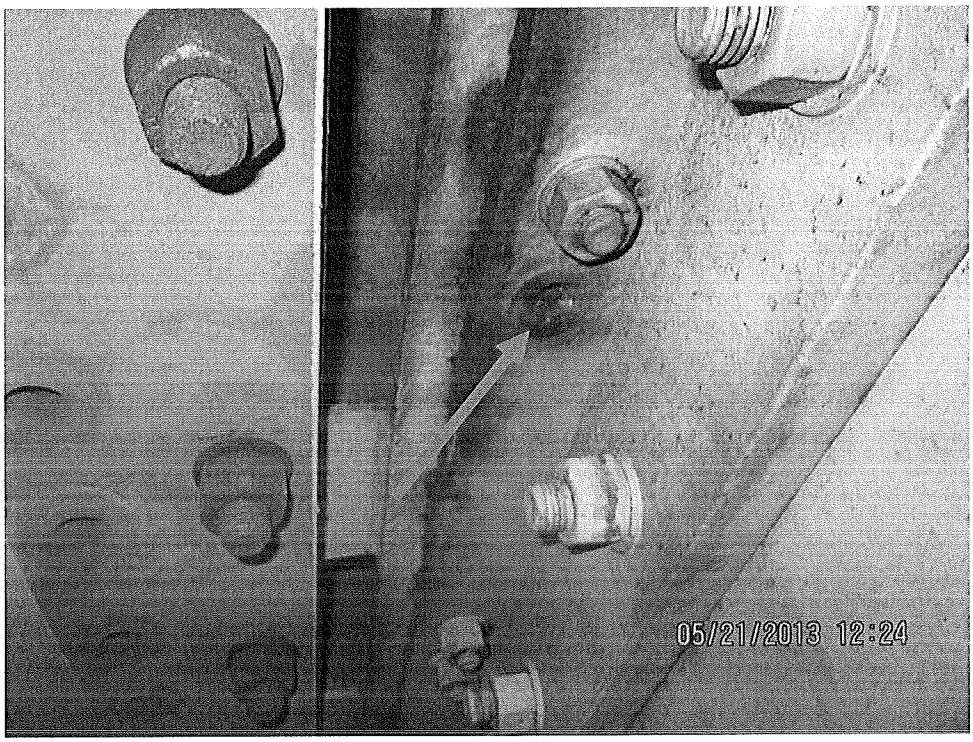
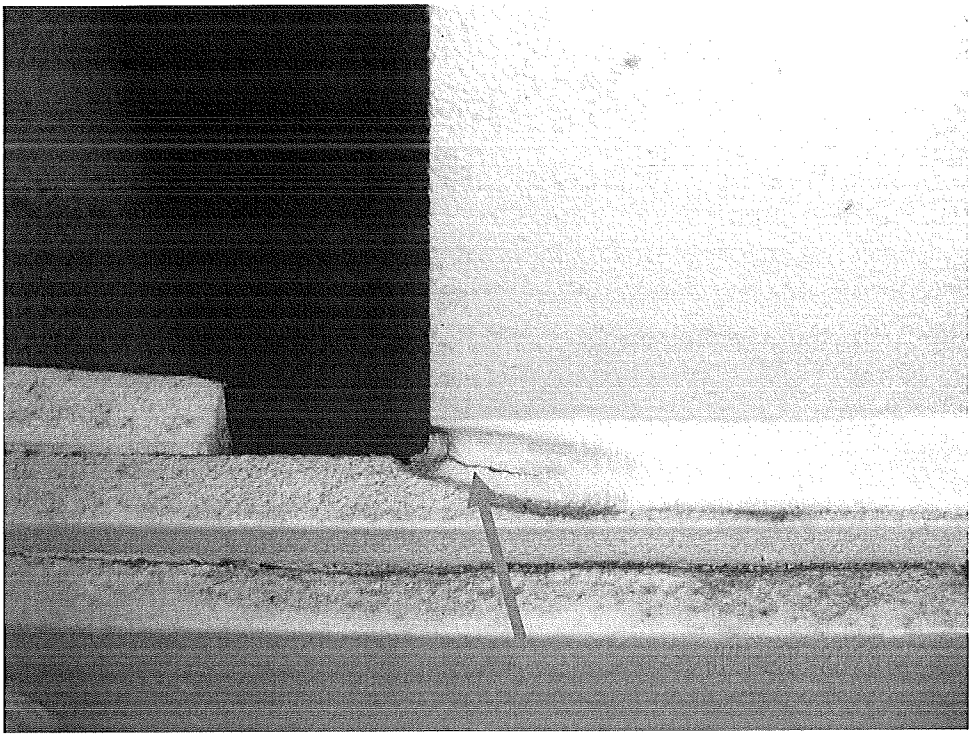
Photo No.: A5 **Location:** Panel Point 39W-40W, Stringers S4-S5 over secondary floorbeam SFB1, looking south. **Description:** Missing tie down bolt connecting the deck strap plate to the top flange of the secondary floorbeam. **(Priority Repair No. 5)**	
Photo No.: A6 **Location:** Panel Point 26W-27W, between Stringers S3-S4, deck ribs over secondary floorbeam SFB5, looking east. **Description:** Typical cracked weld between the deck rib (tee) and the deck strap plate. **(Priority Repair No. 6)**	

Photo No.: A7

Location:
Panel Point 38E-37E, between Stringers S3-S4, deck rib over secondary floorbeam SFB4, looking northwest.

Description:
Missing tie down bolt connecting the deck strap plate to the top flange of the secondary floorbeam.

(Priority Repair No. 7)

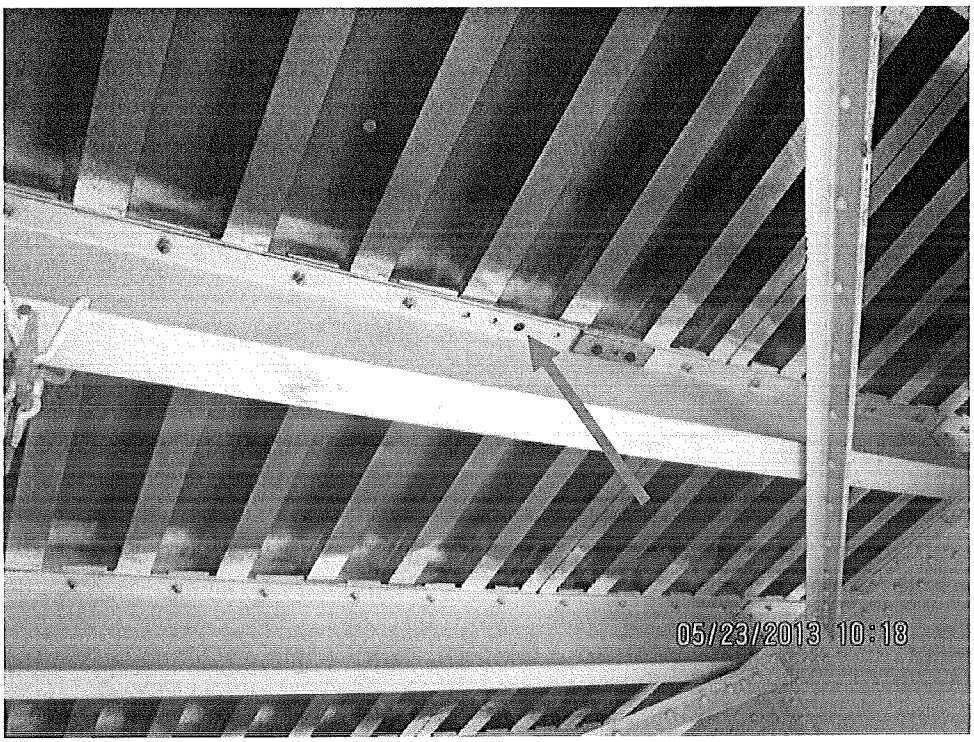


Photo No.: A8

Location:
Panel Point 19E, riser beam over main floorbeam between Stringers S1-S2, looking west.

Description:
Fully cracked web of riser beam.

(Priority Repair No. 8)

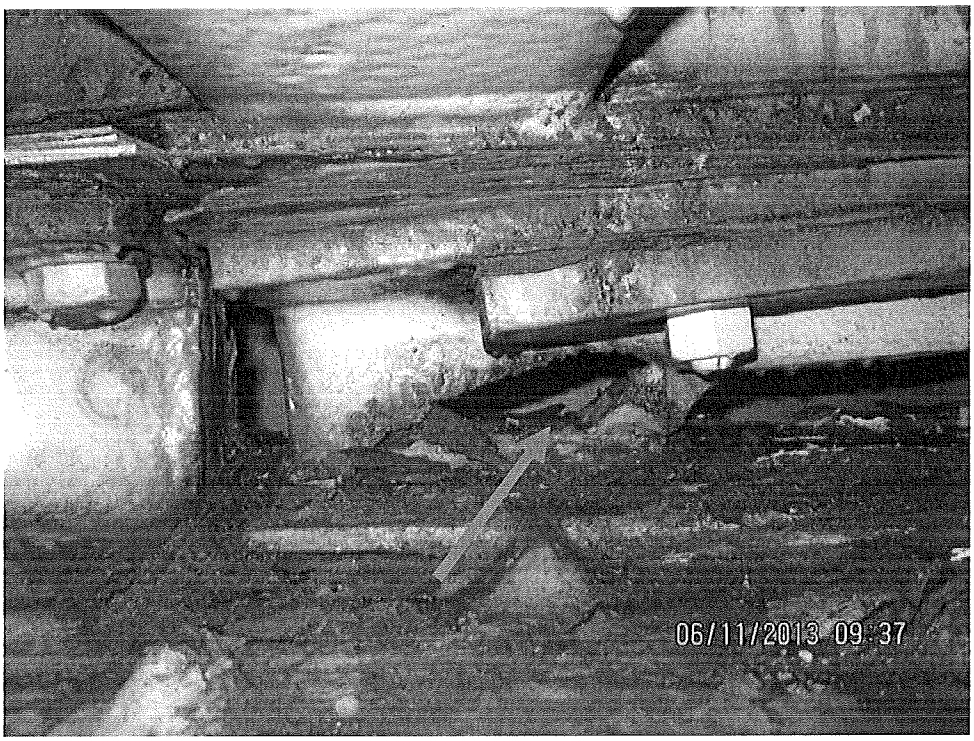


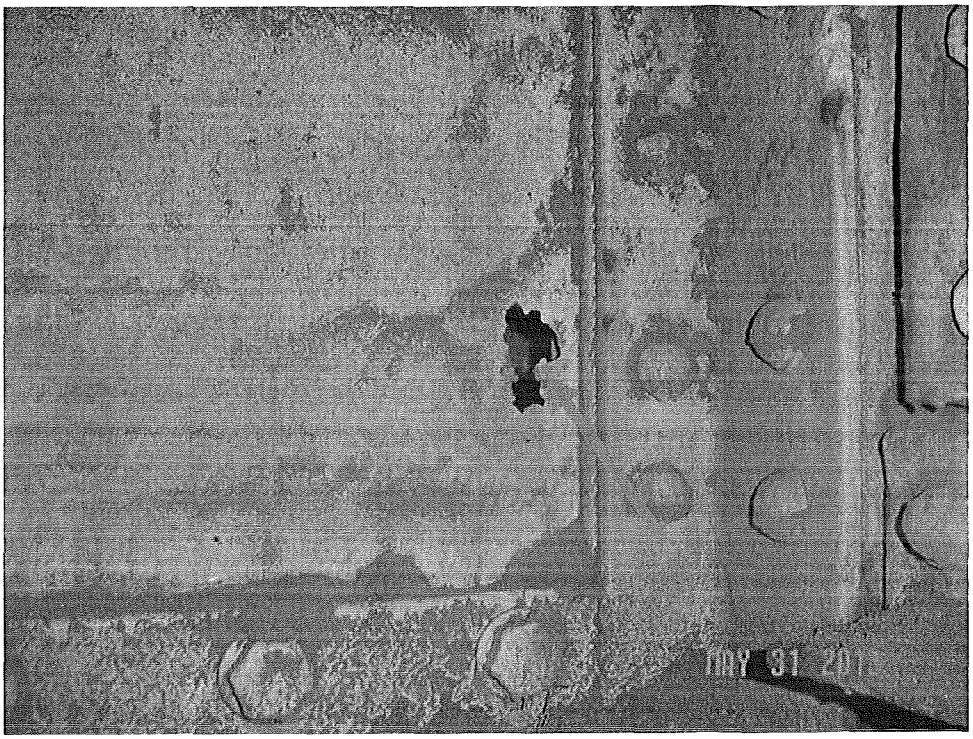
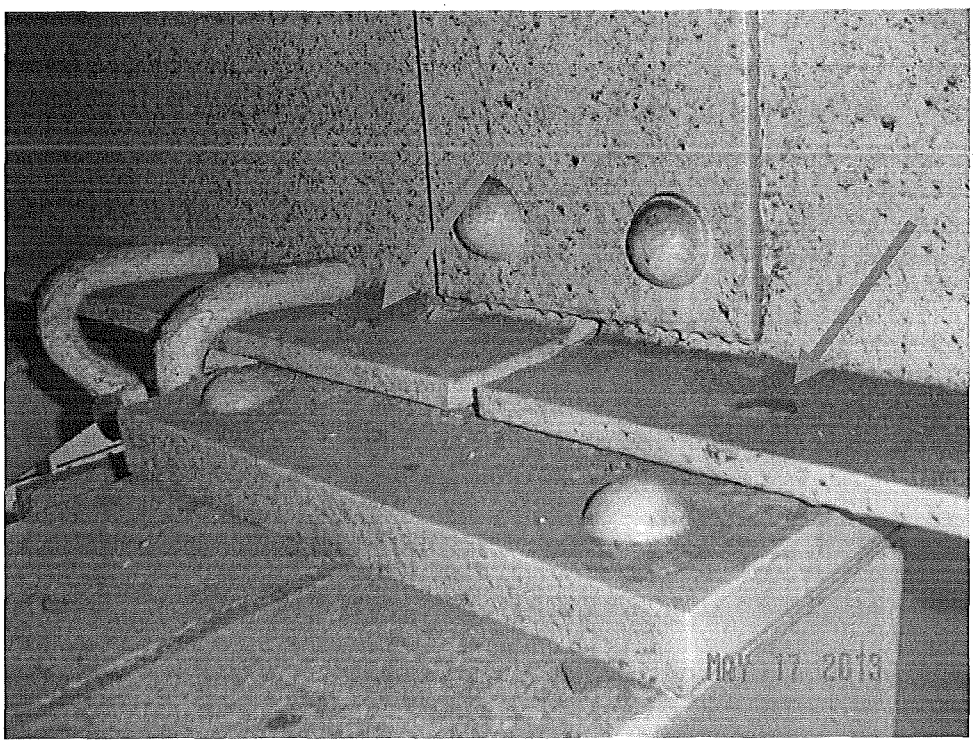
Photo No.: A9 **Location:** Stringer S3, west side of Panel Point 14W, looking northeast. **Description:** Web of stringer exhibits a 3" diameter corrosion hole with moderate section loss above the bearing area. **(Priority Repair No. 9)**	
Photo No.: A10 **Location:** Secondary floorbeam SFB2 over Stringer S3 between Panel Points 10W-11W, looking northeast. **Description:** (4 of 4) sheared rivets/bolts at the secondary floorbeam to stringer top flange connection. **(Priority Repair No. 10 & 20)**	

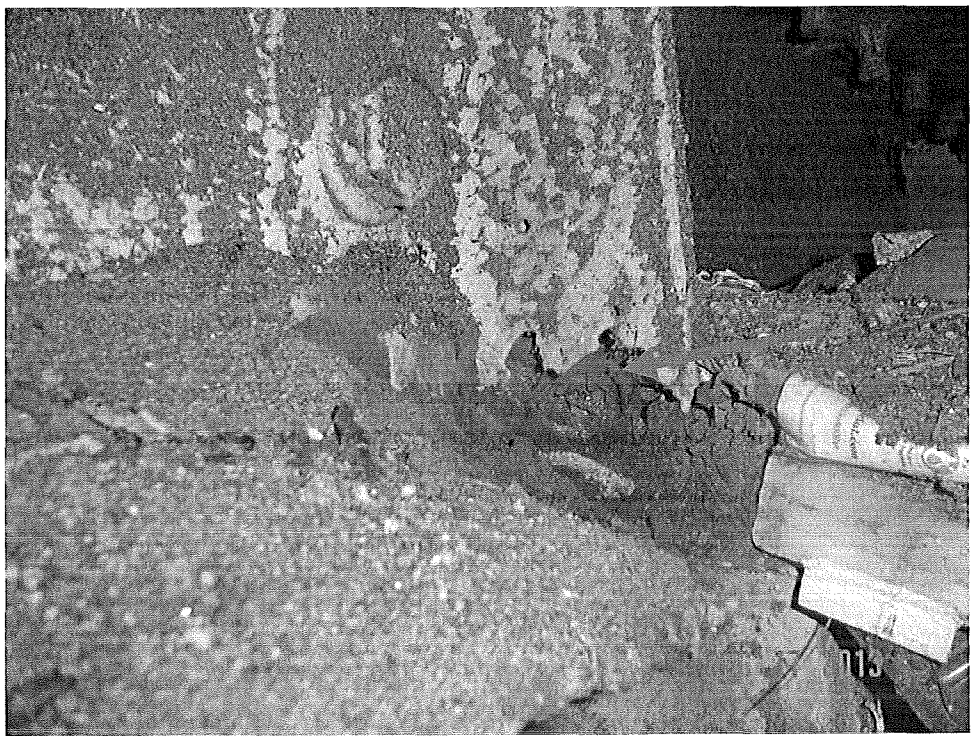
Photo No.: A11 **Location:** Pedestal/bearing stool of Stringer S7 east of Panel Point 14E, looking northwest. **Description:** Corrosion holes and section loss to bearing stiffener and bottom flange of stringer at the bearing areas. **(Priority Repair No. 11)**	
Photo No.: A12 **Location:** New York Anchorage, Stringer S9 east of Capbeam 4, looking northwest. **Description:** Cracked shim plate and sheared off tie down bolt connecting stringer bottom flange to the seated angle. **(Priority Repair No. 12)**	

Photo No.: A13 **Location:** Stringer S5, west of Panel Point 33E floorbeam, looking east. **Description:** Severely corroded tie down bolts at the stringer seated angle. **(Priority Repair No. 13)**	
Photo No.: A14 **Location:** Panel Point 10W-11W, orthotropic deck rib R36 between main floorbeam and secondary floorbeam SFB10, looking southeast. **Description:** Cracked web of orthotropic deck rib (tee). **(Priority Repair No. 14)**	

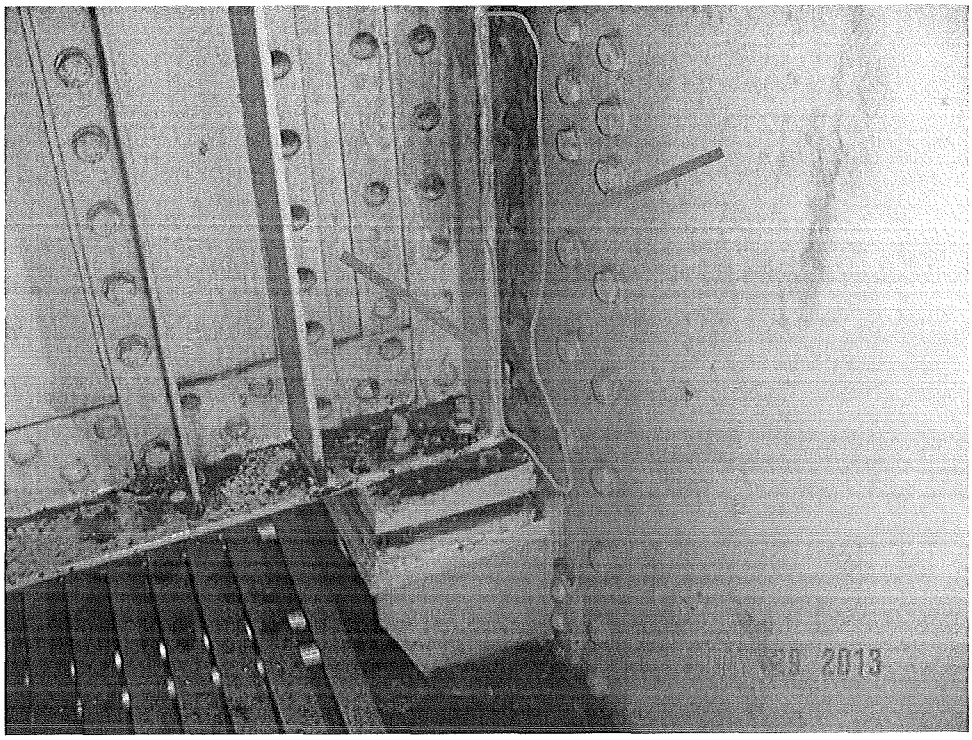
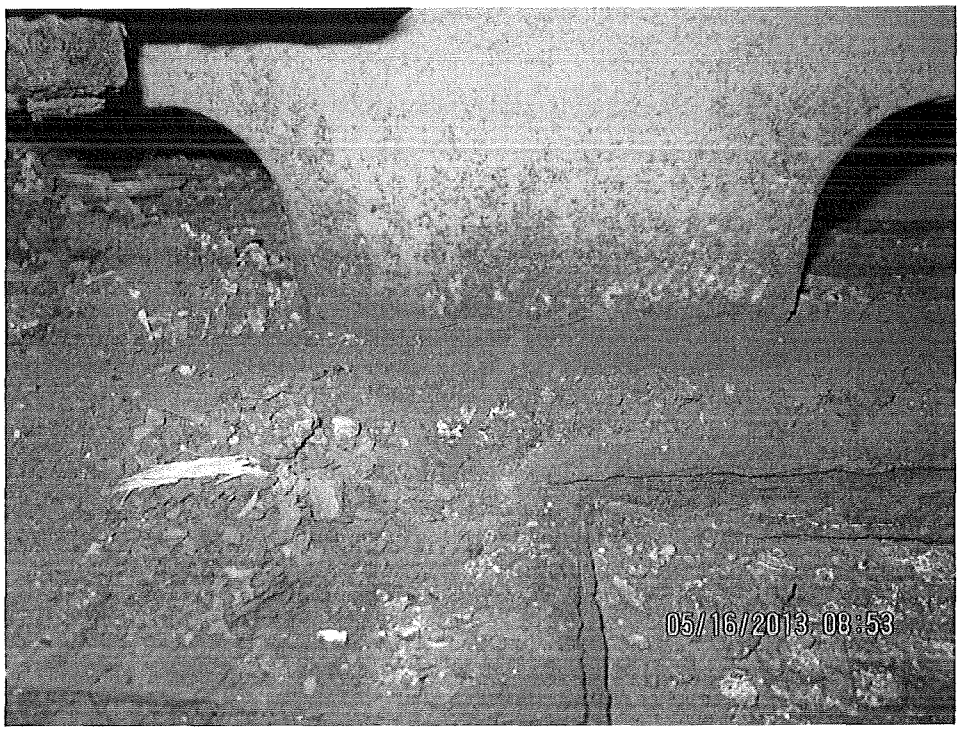
Photo No.: A15 **Location:** Panel Point 2W, Main Floorbeam at Stringer S2, looking southwest. **Description:** Extensive section loss and 2" diameter hole in the bottom of the web. **(Priority Repair No. 15)**	
Photo No.: A16 **Location:** Panel Point 25W, riser beam over main floorbeam between Stringers S4-S5, looking east. **Description:** Fully cracked web of riser beam. **(Priority Repair No. 16)**	

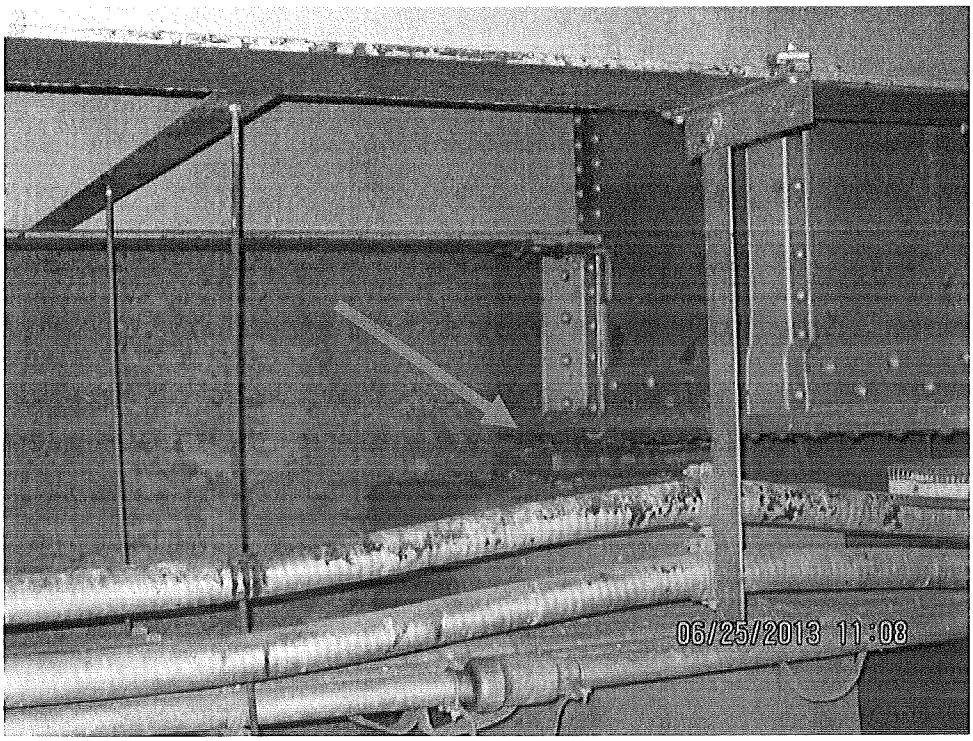
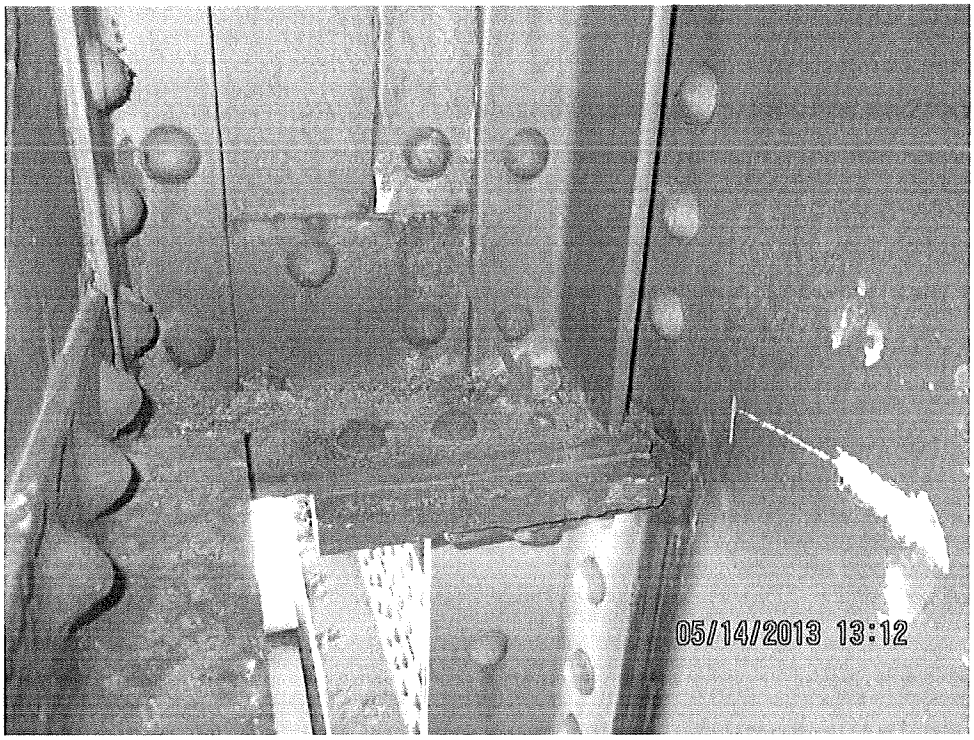
Photo No.: A17 **Location:** New York Anchorage, south bearing below Capbeam 4, looking southwest. **Description:** Severe corrosion with approximately 50% section losses to the anchor bolt nuts at the capbeam bearing. **(Priority Repair No. 17)**	
Photo No.: A18 **Location:** Stringer 1 east of Panel Point 18W, looking south. **Description:** Severely corroded tie down rivets connecting the stringer bottom flange to the seated angle at the floorbeam. **(Priority Repair No. 18)**	

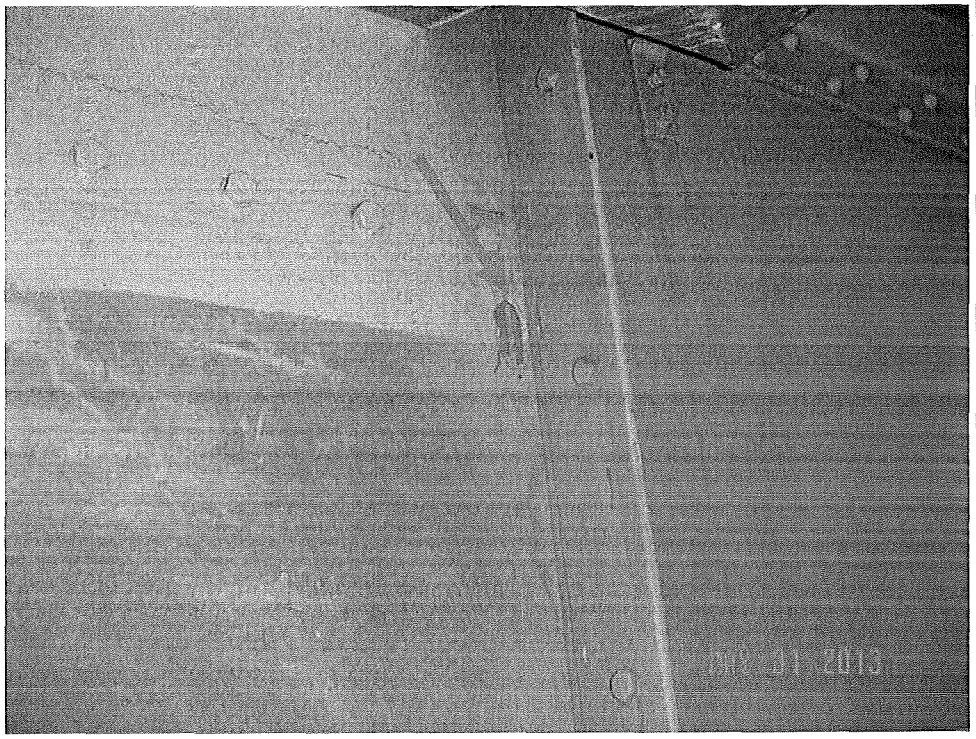
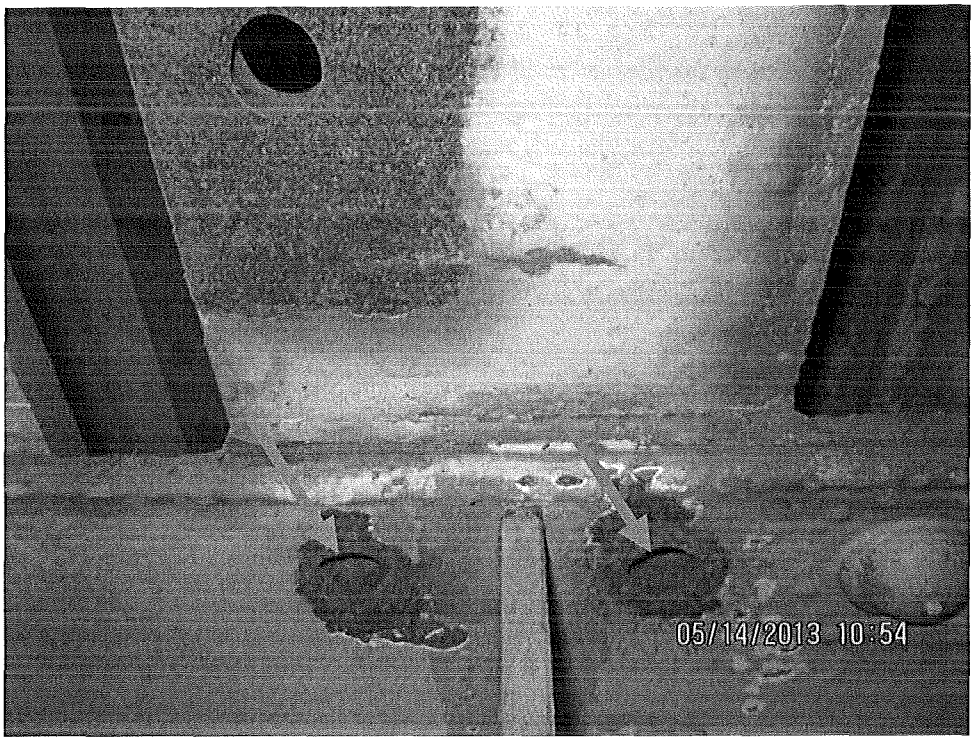
Photo No.: A19 **Location:** Stringer S2 east of Panel Point 14E, looking north. **Description:** Web of stringer exhibits a 3" x 2" corrosion hole with moderate section loss near the bearing area. **(Priority Repair No. 19)**	
Photo No.: A20 **Location:** Secondary floorbeam SFB1 over Stringer S5 between Panel Points 17W-18W, looking south. **Description:** (4 of 4) sheared rivets/bolts at the secondary floorbeam to stringer top flange connection. **(Priority Repair No. 20)**	

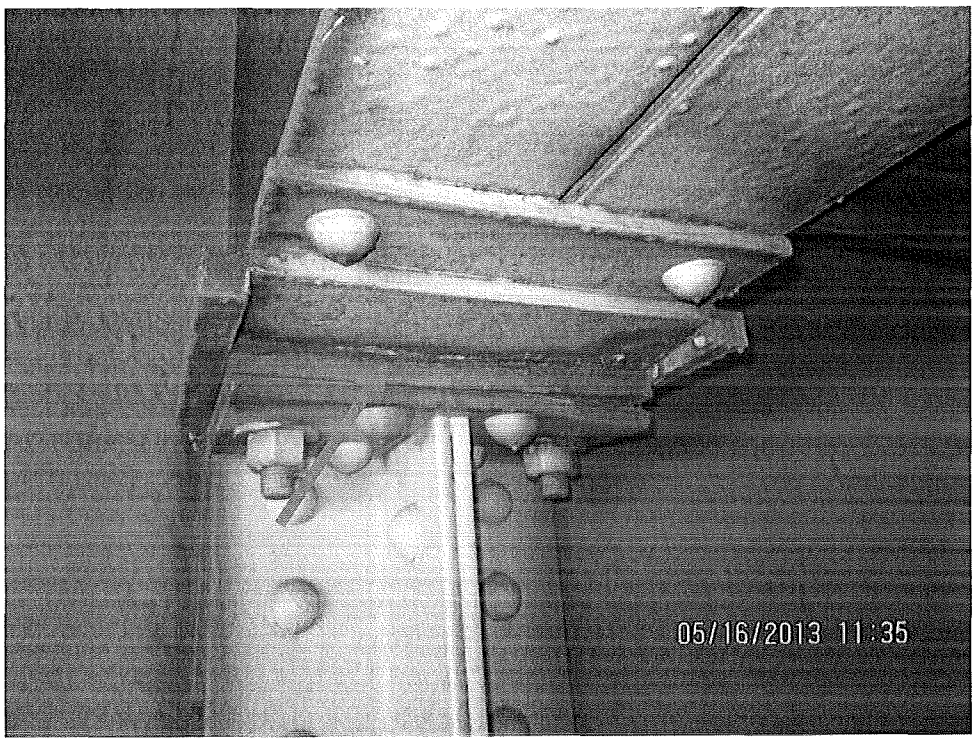
Photo No.: A21 **Location:** Stringer S3, east of Panel Point 25W, looking west. **Description:** Frozen sliding plate bearing due to pack rust. **(Priority Repair No. 21)**	
Photo No.: A22 **Location:** Stringer S7, west side of Panel Point 14E, looking north. **Description:** Web of stringer exhibits two (3" and 1" diameter) corrosion holes with moderate section loss above the bearing area. **(Priority Repair No. 22)**	

Photo No.: A23 **Location:** New York Anchorage, Stringer S5 west of Capbeam 7, looking east. **Description:** Bent angle at stringer bearing connection due to pack rust. **(Priority Repair No. 23)**	
Photo No.: A24 **Location:** Secondary floorbeam SFB12 over Stringer S3 between Panel Points 22E-21E, looking southwest. **Description:** Fine cracks and corrosion holes with previously drilled arrestor holes in the lower web of the secondary floorbeam above the stringer connection. **(Priority Repair No. 24)**	

Photo No.: A25

Location:
New York Anchorage, Stringer S8 west of Capbeam 7, looking east.

Description:
(1 of 2) sheared off tie down bolts at the stringer seated angle.

(Priority Repair No. 25)

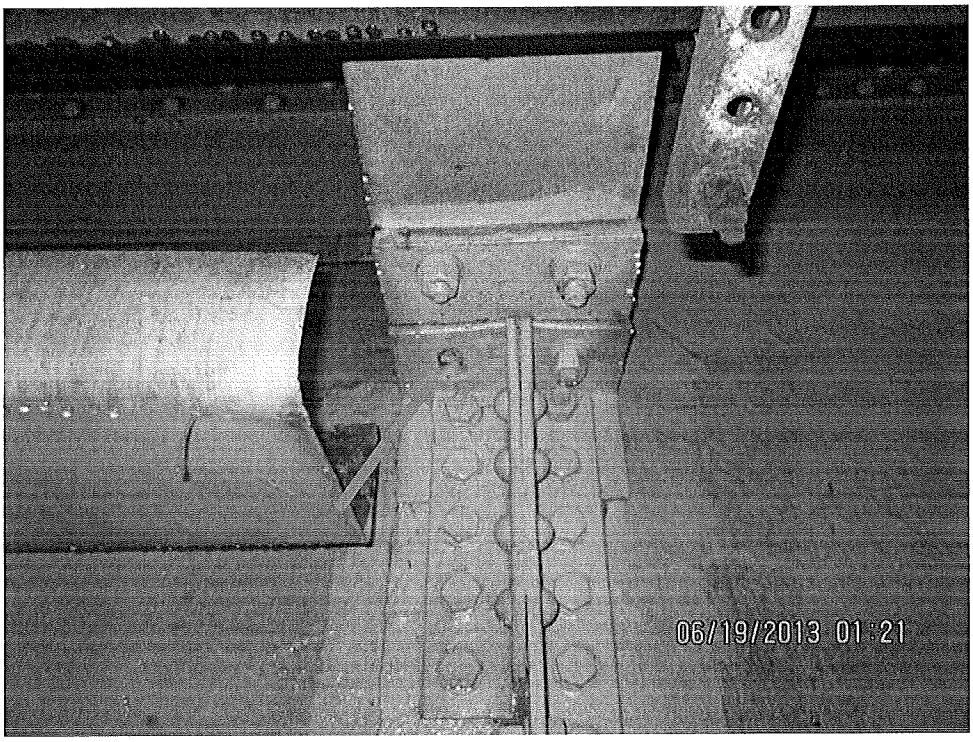


Photo No.: A26

Location:
Secondary floorbeam SFB2 over Stringer S4 between Panel Points 11W-14W, looking east.

Description:
Crack with arrestor holes in the lower web of the secondary floorbeam above the stringer connection.

(Priority Repair No. 26)

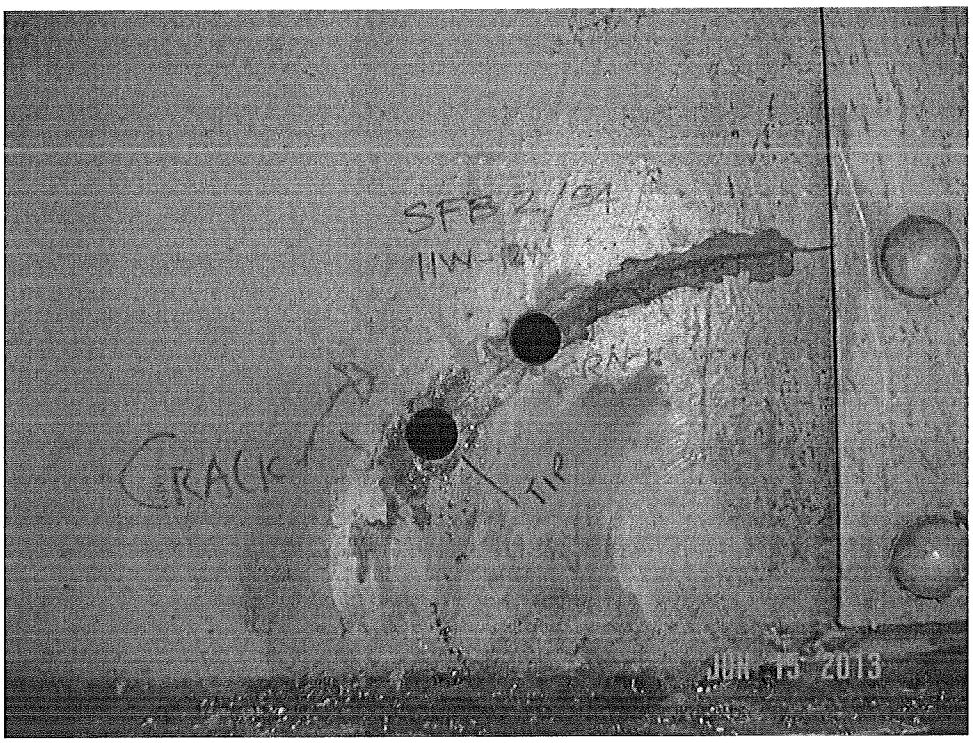


Photo No.: A27

Location:
Panel Point 9W-10W, Stringer S2, looking southwest.

Description:
The lateral bracing connection to the stringer has worn into the stringer bottom flange up to 1/8" deep.

(Priority Repair No. 27)

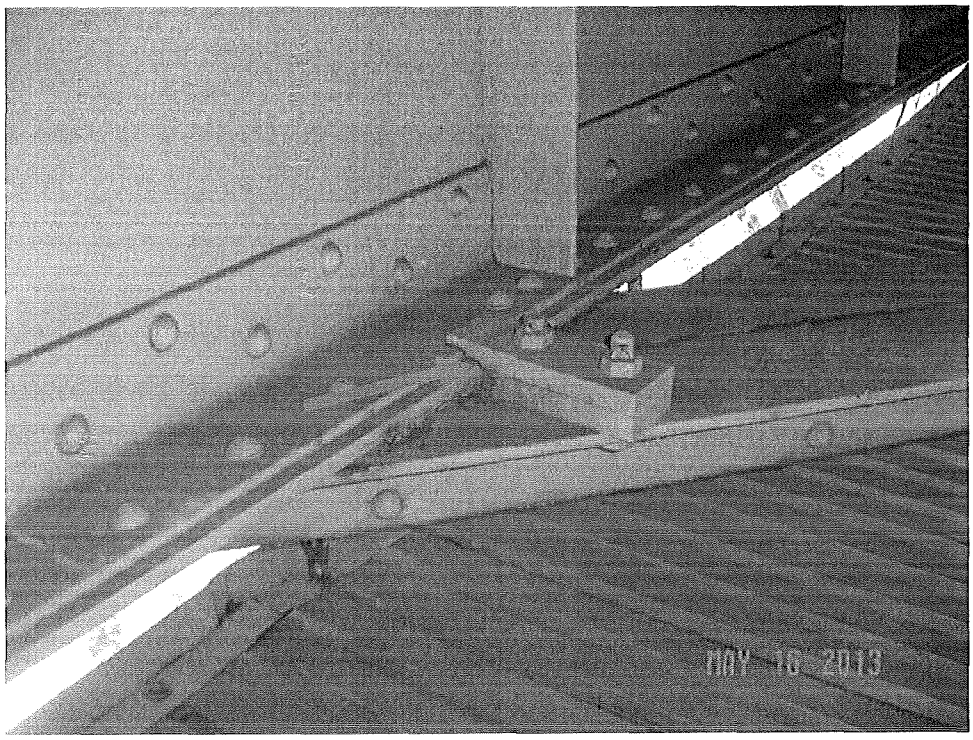


Photo No.: A28

Location:
Panel Point 1E, Stringer S8 bearing, looking southwest.

Description:
Frozen sliding plate bearing due to pack rust.

(Priority Repair No. 28)

Photo No.: A29

Location:
New York Anchorage, between Capbeams 6 and 7, north sidewalk, looking south.

Description:
Unsecured electrical box cover at the base of the light standard with exposed wires.

(Safety Repair No. 1)

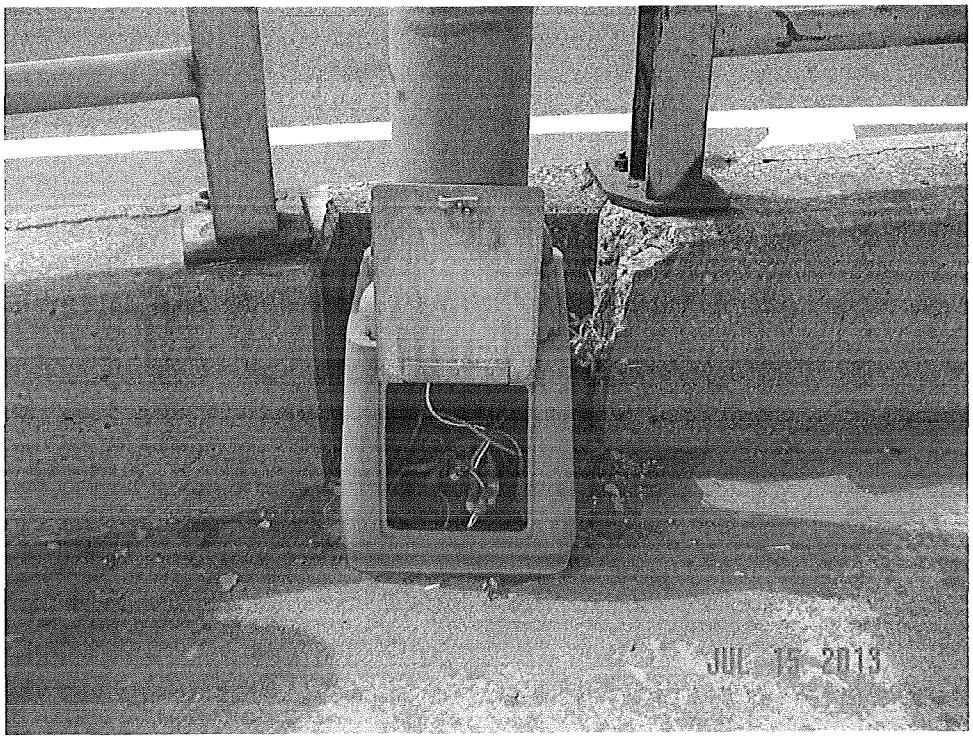


Photo No.: A30

Location:
New York Anchorage between Capbeams 9 and 10, south railing, looking north.

Description:
Horizontal rail is disconnected from the railing post.

(Safety Repair No. 2)

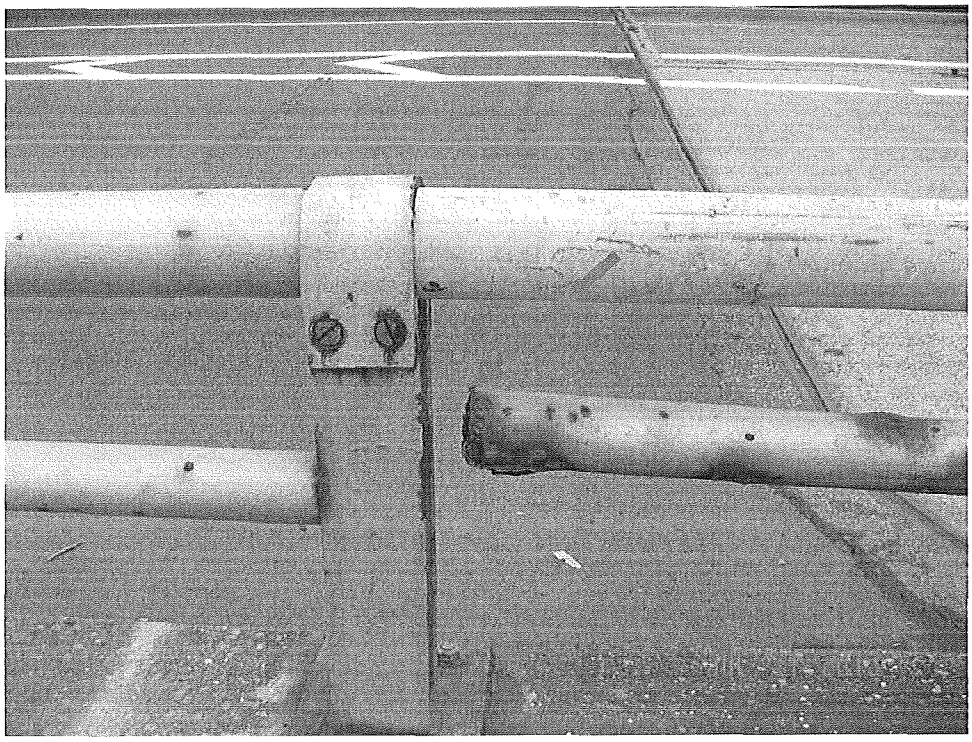


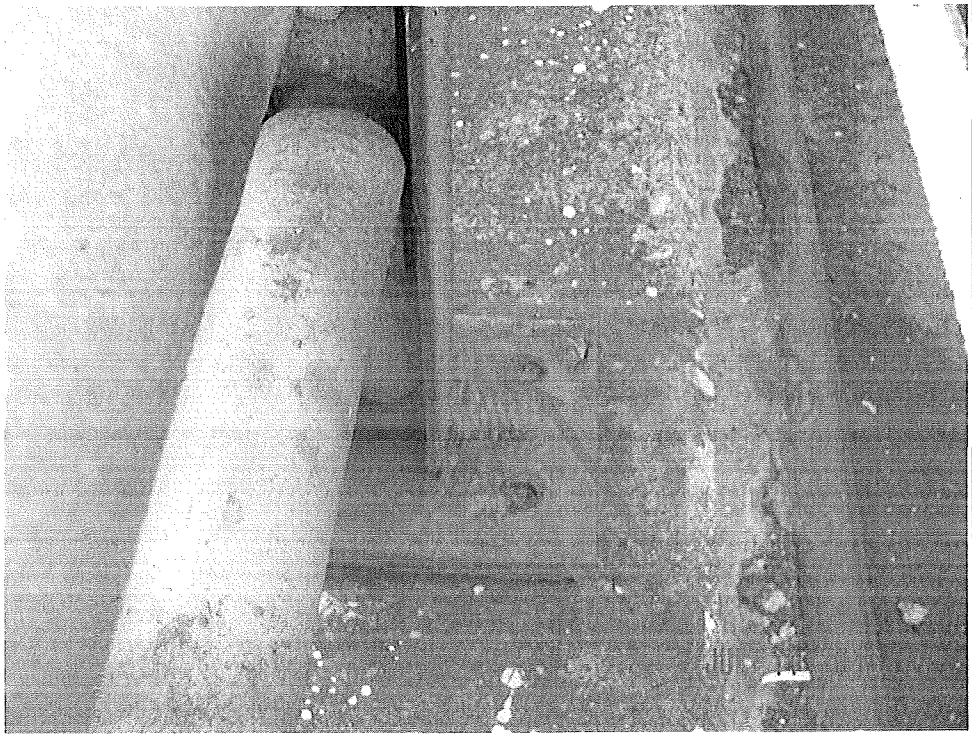
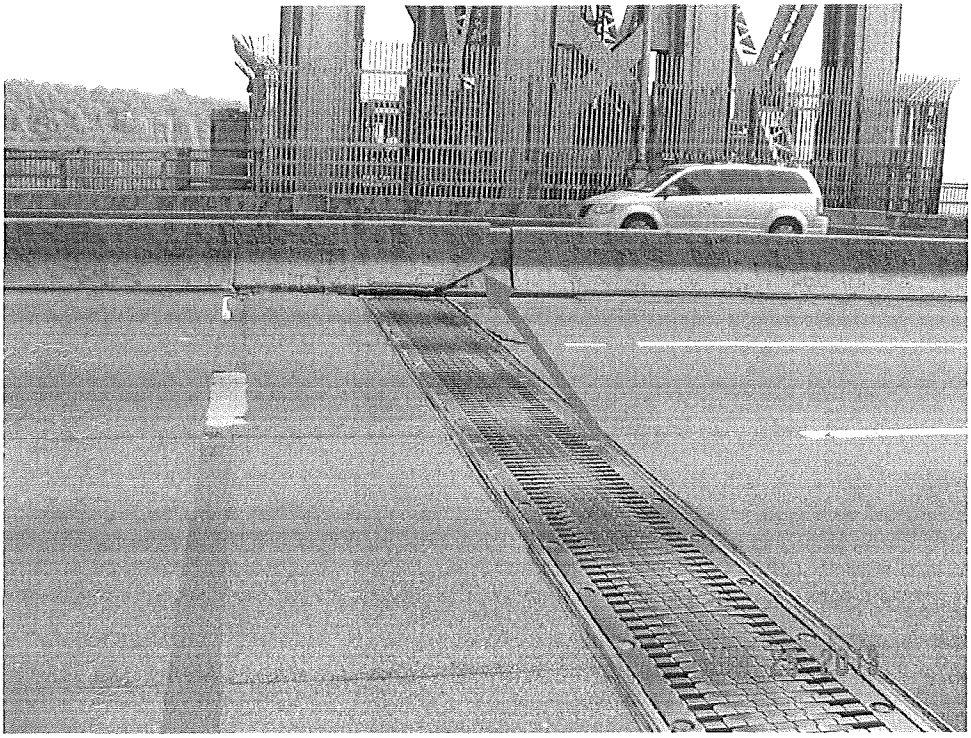
Photo No.: A31 **Location:** New York Anchorage between Capbeams 3 and 4, south railing, looking west. **Description:** Railing post is disconnected at the base due to (2 of 2) sheared anchor bolts. **(Safety Repair No. 3)**	
Photo No.: A32 **Location:** Median barrier at Panel Point 11W, looking south. **Description:** Misaligned median barrier. **(Safety Repair No. 4)**	

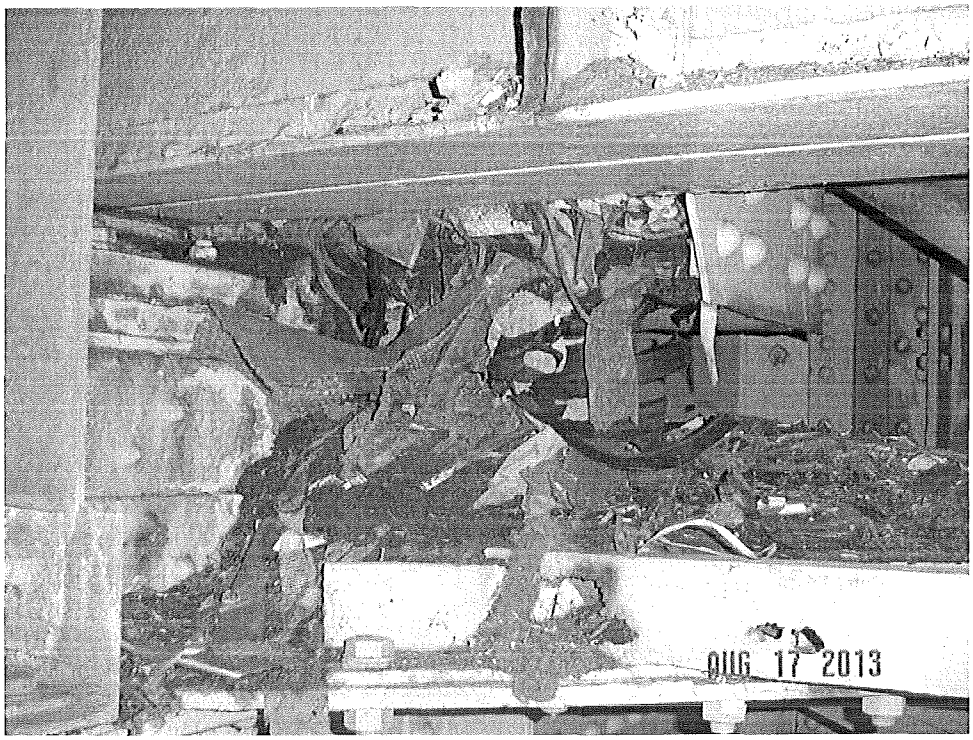
Photo No.: A33 **Location:** New York Anchorage between Capbeams 3 and 4, north sidewalk, looking south. **Description:** Missing light standard with exposed wiring along with vegetation growth. **(Safety Repair No. 5)**	
Photo No.: A34 **Location:** New York Tower at Panel Point 14E and Stringer S8, looking northwest. **Description:** Heavy overflowing debris accumulation on horizontal connection plate and tower strut. **(Safety Repair No. 6)**	

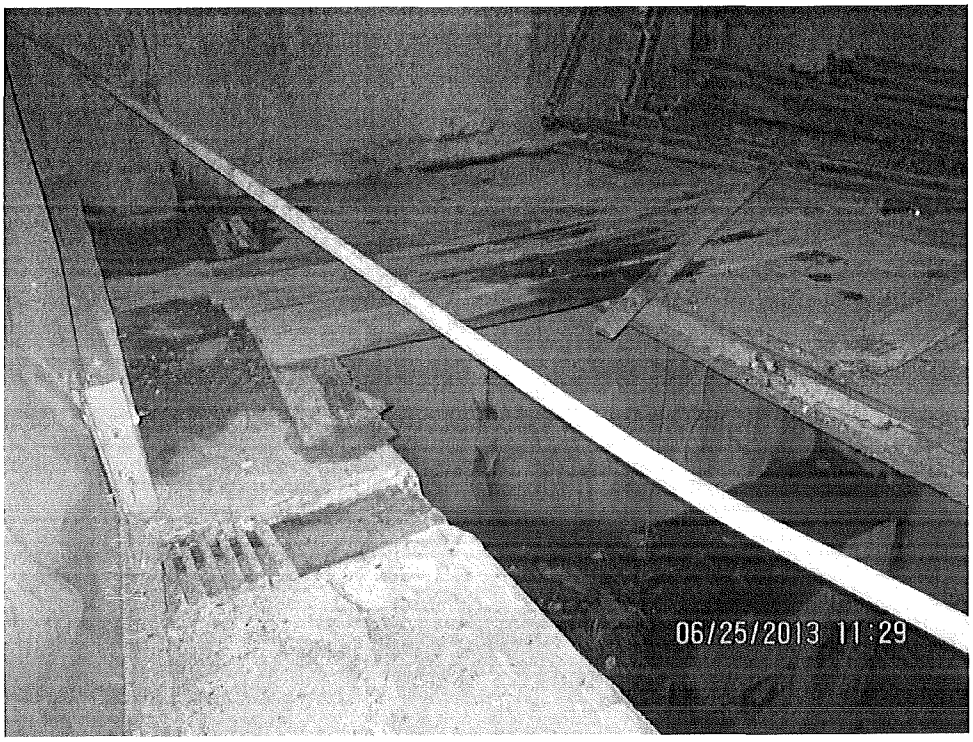
Photo No.: A35 **Location:** New York Anchorage, at mid-level between Capbeams 4-5, looking southeast. **Description:** Deteriorated temporary timber flooring inside the New York Anchorage. **(Safety Repair No. 7)**	
Photo No.: A36 **Location:** Panel Point 10W-11W, below south sidewalk, looking north. **Description:** Deteriorated maintenance platform grating. **(Safety Repair No. 8)**	

Photo No.: A37

Location:
Panel Point 5E-6E, below north sidewalk, looking west.

Description:
Partially disconnected utility support angle.

(Safety Repair No. 9)

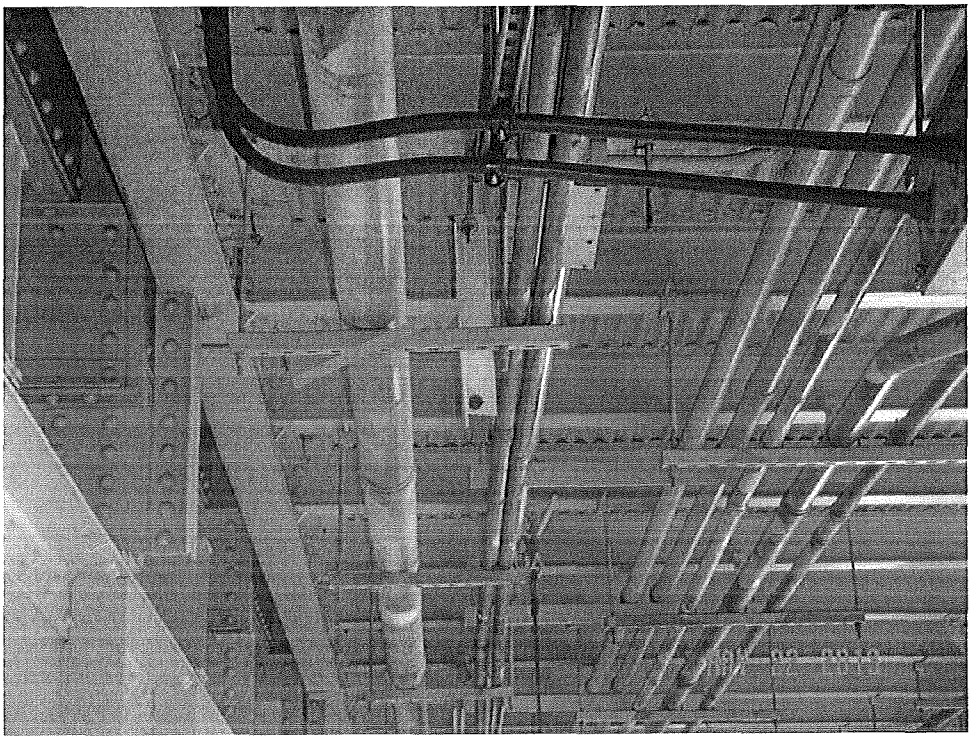
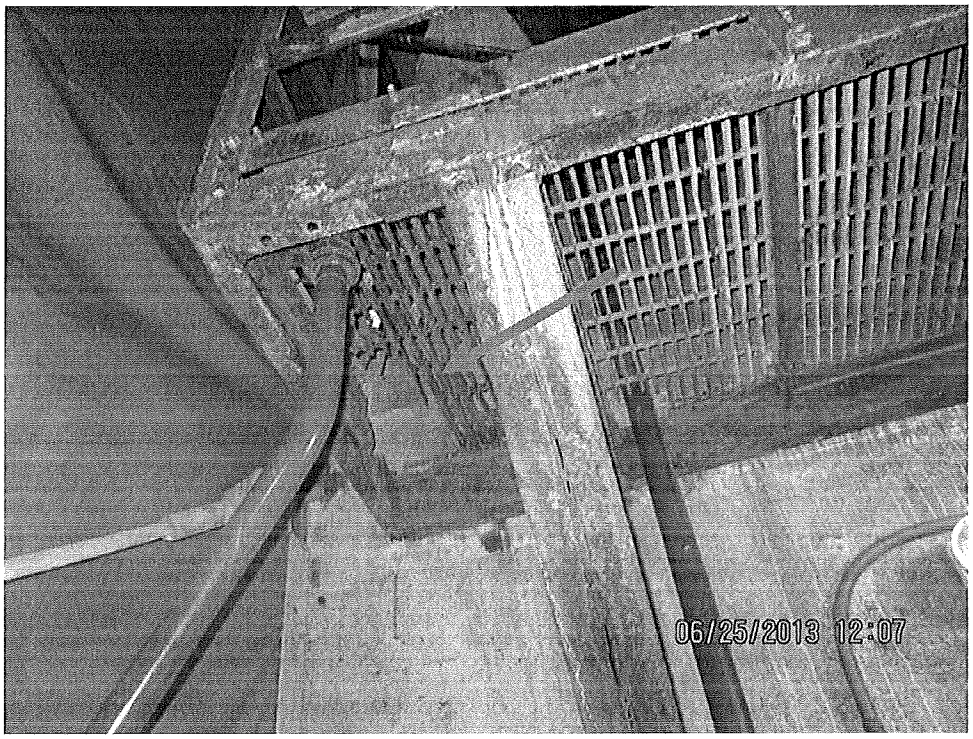
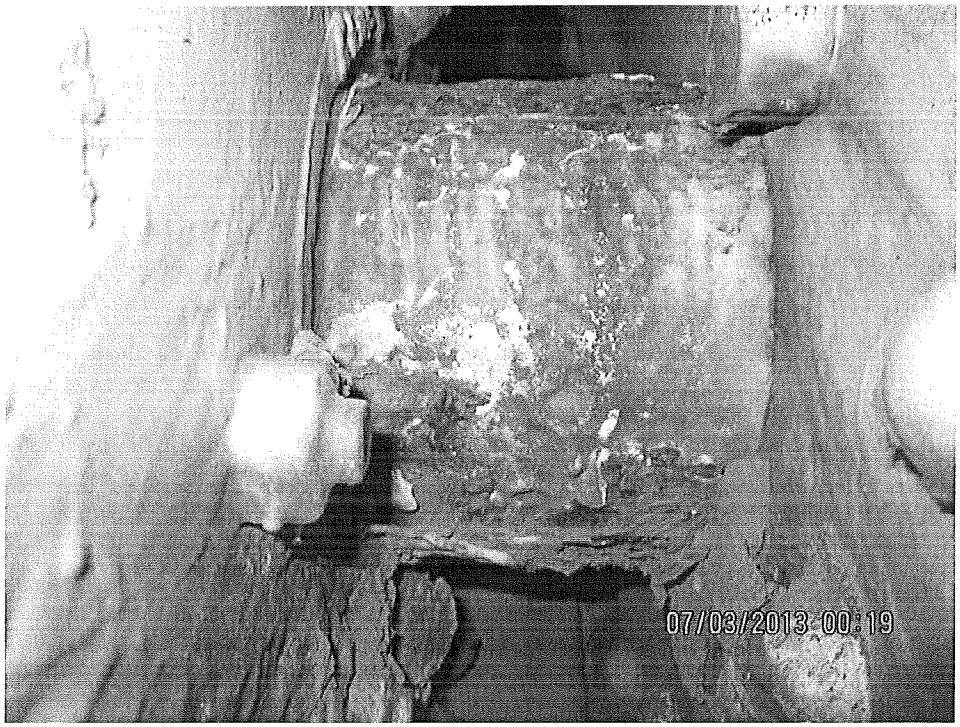


Photo No.: A38

Location:
NY Tower, Panel Points 11E-14E, between Stringers S7-S8, looking north.

Description:
Loose support for underdeck light fixture due to (1 of 2) missing nuts at the U-bolt connection.

(Safety Repair No. 10)

Photo No.: A39 **Location:** New York Anchorage, mid-level between Capbeams 3-4, looking southwest. **Description:** Severely corroded section of catwalk grating. **(Safety Repair No. 11)**	
Photo No.: A40 **Location:** Panel Point 2E, Stringer S7, looking west. **Description:** Corrosion on the pin that connects the stringer to the main floorbeam. **(Routine Repair No. 88)**	

B. Towers

Inspection Findings, Conclusions and Recommendations

B. TOWERS

Major Inspection Findings

Inspection access to the New York and New Jersey towers was obtained utilizing tower elevators, sidewalks, catwalks, struts, tethered climbing and extension ladders at the base of the tower legs. A structural, electrical and mechanical inspection of the mechanized flag hoisting and storage system were performed during this inspection at the New Jersey Tower. (For detailed inspection findings regarding the mechanized flag hoisting and storage system, refer to the separate mechanized flag system condition survey report submitted for this project).

There was 1 priority repair recommendation at 2 locations identified in the previous inspection report that was partially repaired at 1 location. During this inspection, 1 new priority repair at 1 location was identified for a total of 2 priority repairs at 2 locations. There are also 4 new safety repairs at 5 locations and a total of 14 routine repairs at 171 locations recommended during this inspection.

New York Tower

A full visual and partial hands-on inspection was performed on the New York Tower. The tower is in overall good condition. The paint system above the lower level roadway is good with only isolated areas of minor surface corrosion noted at the steel members. The paint at and below Level 3M is in fair condition especially at tower base which exhibit peeling paint with moderate to localized heavy corrosion and minor rivet head losses.

The support beams for the maintenance catwalks at Level 3M of the south tower leg exhibit severe corrosion and holes near the connections (see Photo B2).

The ladder between Levels 10 and 11 at the north leg, exhibits a loose bolt at the connection (see Photo B3).

The horizontal cross members, connection plates, and rivet heads, along the lower strut at Levels 3 and 3M, typically exhibit areas of pack rust, section losses up to ¼" deep, and small to medium corrosion holes in the top and bottom flanges, webs, and lacing bars (see Drawing TW-3 and Photo B9). This deterioration is primarily due to leakage through the finger joints in the roadway above. Similar deterioration to a lesser extent was noted between Levels 2M and 3. The flanges and lacing bars on the bracing members, exhibit localized areas of up to ⅛" deep pitting and small holes at isolated locations. The horizontal connection plates at Levels 3 and 4 exhibit heavy debris accumulations (see Photo B18). The bases of the tower legs exhibit a failed paint system with pitting and section losses evident on the vertical members and rivet heads (see Photo B8). The strut between the west interior columns of the south leg exhibits a fine crack in the outstanding angle leg and a small corrosion hole near the top flange at Level 0 (see Photo B10). There is a 1" diameter hole in the lower angle of the diagonal bracing between the southwest exterior and southwest interior column at the north leg of the New York Tower at Level 0, and two 2" diameter holes in the lower flange of the horizontal bracing between the southwest and northwest exterior columns of the south tower leg (see Photo B19). These conditions do not significantly affect the structural integrity of the tower.

The concrete encasement protecting steel pedestals at the base of the towers exhibit few medium to wide cracks particularly at the pedestal corners. The encasement also exhibits four spalls allowing water penetration onto the encased steel (see Photo B11).

Several access hatch covers for the box columns at the south and north tower legs exhibit missing or sheared off bolts. An interior inspection was performed within the base of the northeast and southwest exterior columns at the north tower leg and within the northwest and southeast interior column legs at the south tower leg. The weep holes at the base of several box columns of the tower legs are partially or fully clogged due to debris found within the base of the box columns. No water was found inside the columns and few areas of light to moderate corrosion were noted near the base of the columns.

Several tower light fixtures were found to be broken (see Photo B17). Repairs were in progress at the time of inspection. The remaining light fixtures are in good condition.

New Jersey Tower

A full visual and partial hands-on inspection was performed on the New Jersey Tower. The tower is in overall good condition. The paint system is in good condition with only isolated areas of light surface corrosion noted at the exterior tower bases.

The support beams for the maintenance catwalks at Level 3M of the south tower leg exhibit severe corrosion and holes near the connections (see Photo B1). Also, the support beams of the north tower leg exhibit severely deteriorated or missing bolts at the connections (see Photos B6 & B7).

The railing of the catwalk at Level 3M at the south leg exhibits corrosion and holes (see Photo B4). There is also a crack in the stair, 11th from the bottom, between Levels 3M and 4 at the south leg (see Photo B5).

The horizontal cross members, connection plates, and rivet heads, along the lower strut at Levels 3 and 3M, typically exhibit areas of pack rust and minor pitted section losses, and small to medium corrosion holes in the bottom flange, and connection plates (see Drawing TW-4). The horizontal connection plates at Levels 3 and 4 exhibit debris accumulations.

The concrete encasement protecting steel pedestals at the base of the towers exhibit few medium to wide cracks particularly at the pedestal corners. The encasement also exhibits four spalls allowing water penetration onto the encased steel.

The drainage downspout at the base of northwest exterior column at the south leg is deteriorated and is missing a section of the pipe (see Photo B12).

Several access hatch covers for the box columns at the south and north tower legs exhibit missing or sheared off bolts (see Photo B14). An interior inspection was performed within the base of the northeast and southeast exterior columns at the north tower leg and within the southeast interior and northeast exterior column legs

at the south tower leg. The weep holes at the base of several box columns of the tower leg are partially or fully clogged due to debris accumulation within the base of the box columns (see Photo B13). No water was found inside the columns and few areas of light to moderate corrosion were noted near the base of the columns.

The stone masonry base pedestals are partially covered with soft marine growth. The joints between the granite blocks typically exhibit missing mortar (see Photo B16).

The foot bridge which connects the north and south tower pedestals remains slightly shifted to the south. Keeper angles previously attached to the underside of the foot bridge support girders remain in place.

Several tower light fixtures were found to be broken. Repairs were in progress at the time of inspection. The remaining light fixtures are in good condition.

RECOMMENDATIONS

Immediate: None.

Priority: The following priority repairs are recommended:

No.	Description	Dwg. No.
1	Repair the severe corrosion and holes on the catwalk support members at Level 3M on the south leg of the New Jersey Tower. *(Photo B1)* (1 Location)	TW-2
2	Repair the severe corrosion and holes on the catwalk support members at Level 3M on the south leg of the New York Tower. *(Photo B2)* (1 Location)	TW-1

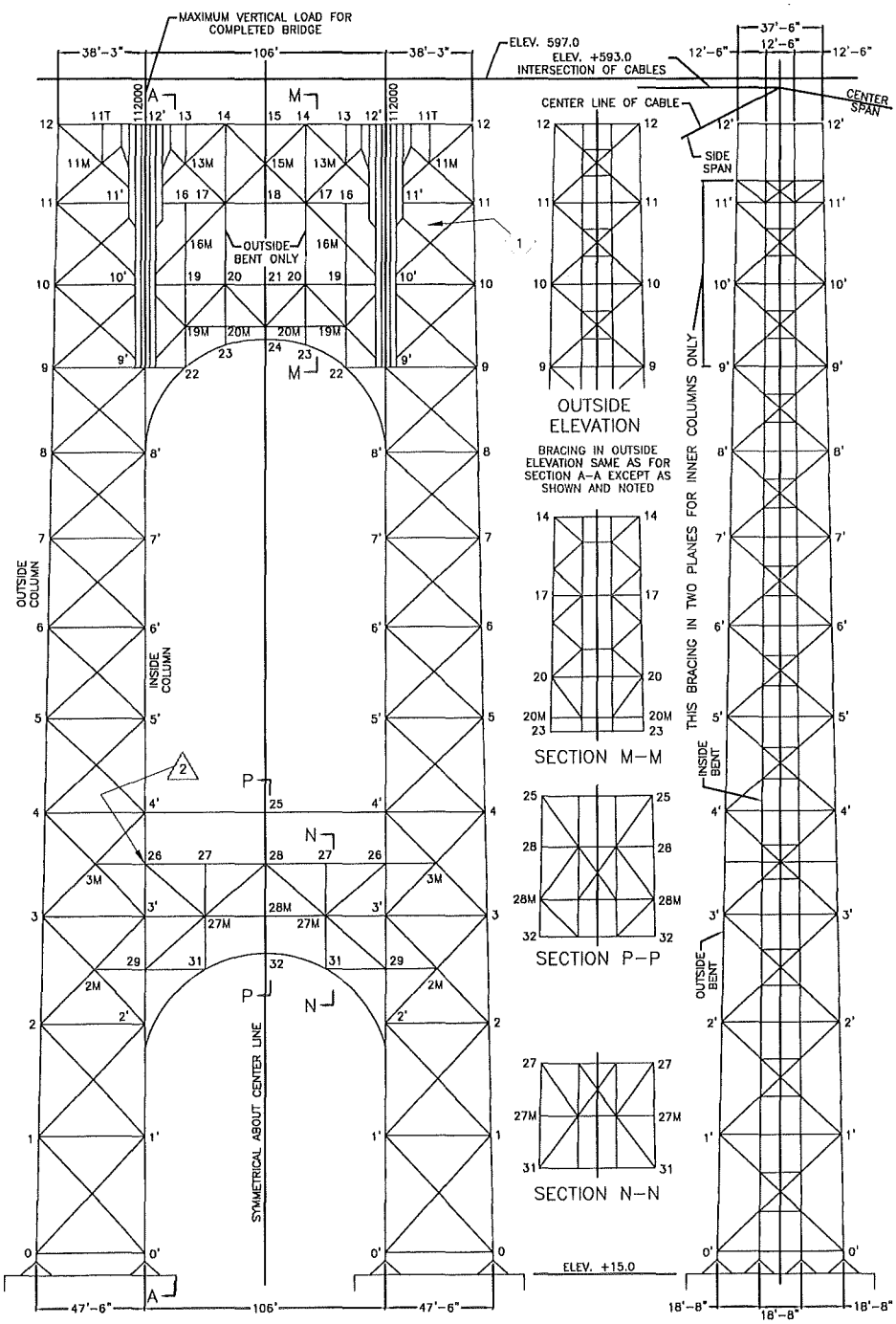
Safety: The following safety repairs are recommended:

No.	Description	Dwg. No.
1	Repair the loose bolt at the connection to the ladder between Levels 10 and 11 at the north leg of the New York Tower. *(Photo B3)* (1 Location)	TW-1
2	Repair the corrosion and holes in the railing of the catwalk at Level 3M at the south leg of the New Jersey Tower. *(Photo B4)* (1 Location)	TW-2
3	Repair the crack in the stair between Levels 3M and 4 at the south leg of the New Jersey Tower. *(Photo B5)* (1 Location)	TW-2
4	Replace the severely deteriorated or missing bolts in the catwalk support members at Level 3M on the New Jersey Tower. *(Photos B6 & B7)* (2 Locations)	TW-2

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
1	Clean and spot paint the New York and New Jersey Tower column bases. *(Photo B8)* (32 Locations).	---
2	Repair, clean and paint the deteriorated horizontal bracing members at Levels 3 and 3M of the New York and New Jersey Towers. *(Photo B9)* (28 Locations)	TW-3 and TW-4
3	Repair the cracked and holed thru outstanding angle leg at the east upper flange of the horizontal strut between west interior columns of the south leg at Level 0 of the New York Tower. *(Photo B10)* (1 Location)	---

No.	Description	Dwg. No.
4	Repair the spalled concrete encasement around the steel column bases of the New York Tower at the north leg, northeast corner of the northwest interior column and northwest corner of the northeast interior column; and at the south leg, southwest corner of the southeast interior column and southeast corner of the southwest interior column. *(Photo B11)* (4 Locations)	---
5	Repair the spalled concrete encasement around the steel column bases of the New Jersey Tower at the north leg, south face of the southeast exterior column; at the south leg, northwest corner of the northeast interior column, southwest corner of the southwest exterior column, and the west face of the southwest interior column. (4 Locations)	---
6	Remove the deteriorated and missing section of drainage downspout at the base of the northwest exterior column at the south leg of the New Jersey Tower. *(Photo B12)* (1 Location)	---
7	Remove the debris causing partially or fully clogged weep holes at the base of the box columns at the New Jersey and New York Towers. *(Photo B13)* (4 Locations)	---
8	Replace the missing or sheared off bolts on the box column access hatch covers located on the interior faces of the columns at the New Jersey and New York Towers. *(Photo B14)* (28 Locations)	---
9	Clean and paint the areas of pack rust between the vertical connection plate and tower members at Levels 0 to 3 at the New Jersey and New York Towers. *(Photo B15)* (9 Locations)	---
10	Replace the missing mortar at the base pedestals of the New Jersey and New York Towers. *(Photo B16)* (4 Locations)	---
11	Repair the broken light fixtures at the New Jersey and New York Towers. *(Photo B17)* (43 Locations)	---
12	Remove the debris on the horizontal connection plate at Levels 3 and 4 of the New Jersey and New York Towers. *(Photo B18)* (10 Locations)	---
13	Repair the 1" diameter hole in the lower angle of the diagonal bracing between the New York Tower, north leg, southwest exterior column and the southwest interior column at Level 0, and the two 2" diameter holes in the lower flange, south leg of the horizontal bracing between the southwest exterior column and northwest exterior column. *(Photo B19)* (2 Locations)	---
14	Replace the missing handhole cover for the electrical conduit at the New York Tower, north leg, southwest interior column at Level 0. *(Photo B20)* (1 Location)	---



TRANSVERSE ELEVATION
(LOOKING WEST)

SECTION A-A

TRANSVERSE & END ELEVATIONS
NEW YORK TOWER

KEY CONDITION NOTES:

PRIORITY REPAIRS

2 REPAIR THE SEVERE CORROSION AND HOLES ON THE CATWALK SUPPORT MEMBERS AT LEVEL 3M ON THE SOUTH LEG OF THE NEW YORK TOWER.

SAFETY REPAIRS

1 REPAIR THE LOOSE BOLT AT THE CONNECTION TO THE LADDER BETWEEN LEVELS 10 AND 11 AT THE NORTH LEG OF THE NEW YORK TOWER.

LEGEND

△ INDICATES PRIORITY REPAIRS

INDICATES SAFETY REPAIRS

Sheet 1 of 4

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OF NY & NJ

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL
NEW YORK TOWER

ELEVATIONS

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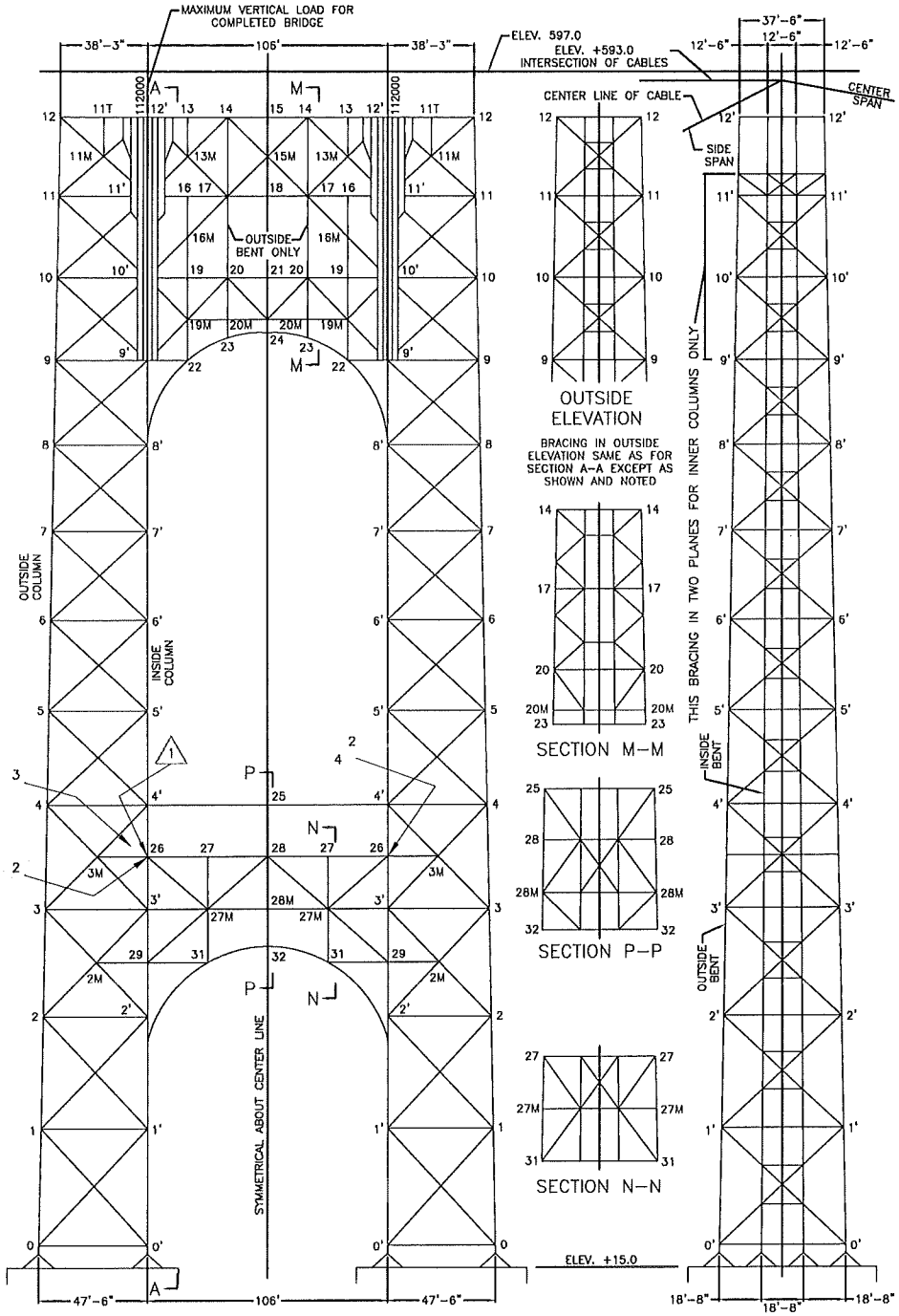
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number TW-1



TRANSVERSE & END ELEVATIONS
NEW JERSEY TOWER

KEY CONDITION NOTES:

PRIORITY REPAIRS

1 REPAIR THE SEVERE CORROSION AND HOLES ON THE CATWALK SUPPORT MEMBERS AT LEVEL 3M ON THE SOUTH LEG OF THE NEW JERSEY TOWER.

SAFETY REPAIRS

2 REPAIR THE CORROSION AND HOLES IN THE RAILING OF THE CATWALK AT LEVEL 3M AT THE SOUTH LEG OF THE NEW JERSEY TOWER.

3 REPAIR THE CRACK IN THE STAIR BETWEEN LEVELS 3M AND 4 AT THE SOUTH LEG OF THE NEW JERSEY TOWER.

X 4 REPLACE THE SEVERELY DETERIORATED BOLTS IN THE CATWALK SUPPORT MEMBERS AT LEVEL 3M ON THE NEW JERSEY TOWER. 'X' DENOTES NUMBER OF LOCATIONS.

LEGEND

△ INDICATES PRIORITY REPAIRS

INDICATES SAFETY REPAIRS

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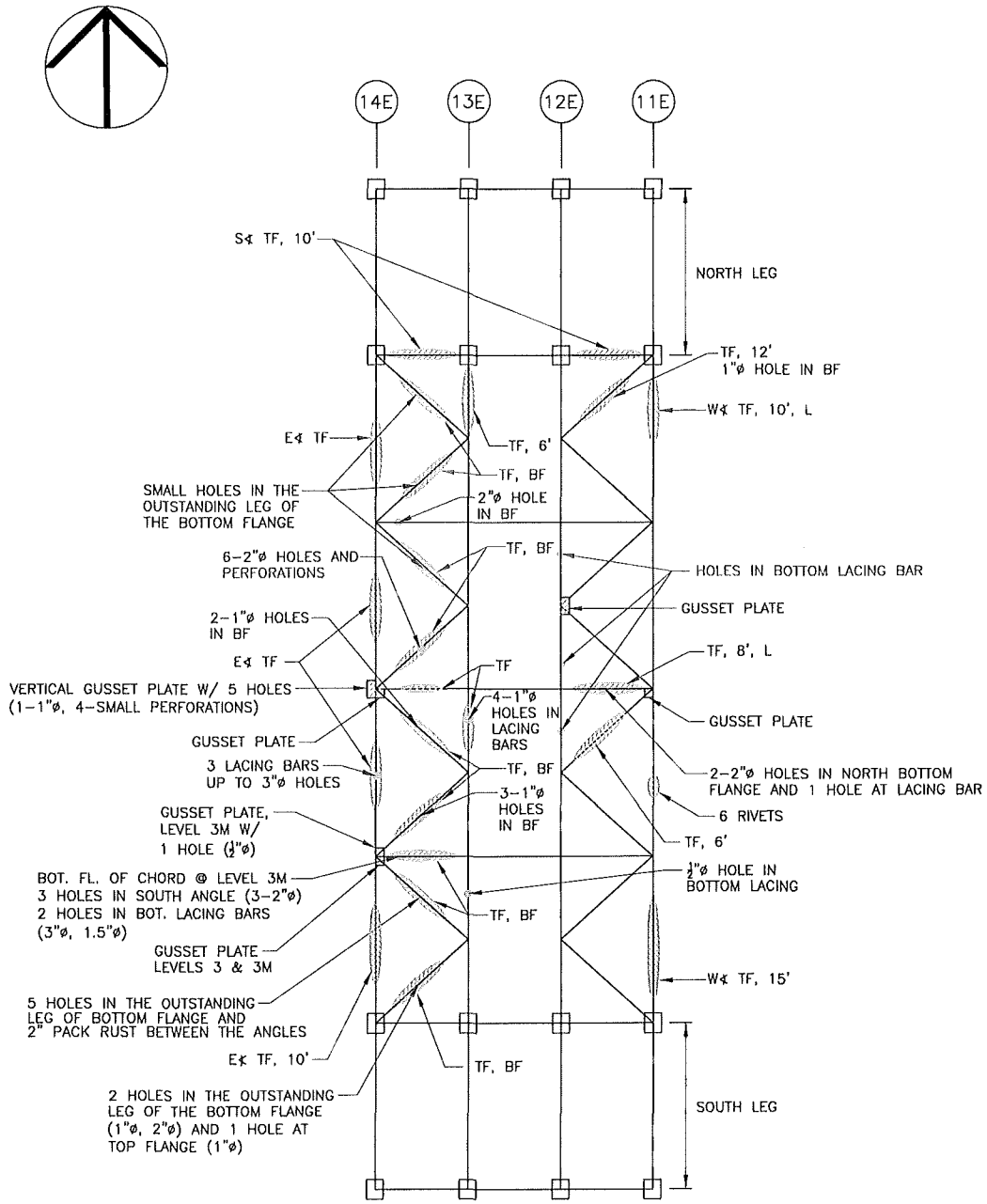
Contract Number 405-13-005

Drawing Number TW-2



LEVEL 3, U.O.N.
PLAN VIEW
NEW YORK TOWER

LEGEND

(11W) PANEL POINT (AS PER PANY&NJ SYSTEM)

W℄TF,10',L — 1/8" – 1/4" SECTION LOSS, WEST ANGLE OF TOP FLANGE, 10' LONG & LOCALIZED.

B – BOTTOM
T – TOP
F – FLANGE
L – LOCALIZED
N – NORTH
S – SOUTH
E – EAST
W – WEST
℄ – ANGLE

NOTE:
ALL HOLES 2"ø OR SMALLER UNLESS OTHERWISE NOTED.

Sheet 3 of 4

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UPPER LEVEL NEW YORK TOWER

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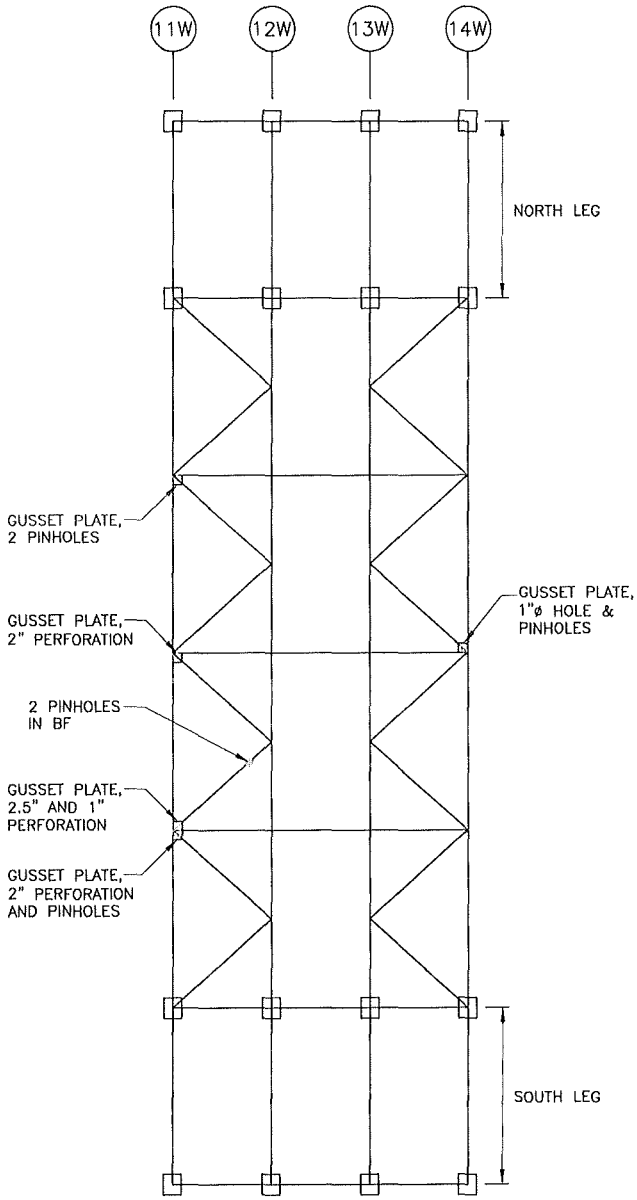
Contract Number 405-13-005

Drawing Number TW-3



LEVEL 3, U.O.N.
PLAN VIEW
NEW JERSEY TOWER

LEGEND

(11W) PANEL POINT (AS PER PANY&NJ SYSTEM)

1/8" – 1/4" SECTION LOSS, WEST ANGLE OF TOP FLANGE, 10' LONG & LOCALIZED.
W4TF,10',L
B – BOTTOM
F – FLANGE

NOTE:
ALL HOLES 2"ø OR SMALLER UNLESS OTHERWISE NOTED.

Sheet 4 of 4

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NEW JERSEY TOWER

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Contract Number 405-13-005

Drawing Number **TW-4**

Photo No.: B1

Location: New Jersey Tower, Level 3M, catwalk support near the south leg of the tower, looking south.

Description: Severe corrosion and holes in the catwalk support member near the connection.

(Priority Repair 1)

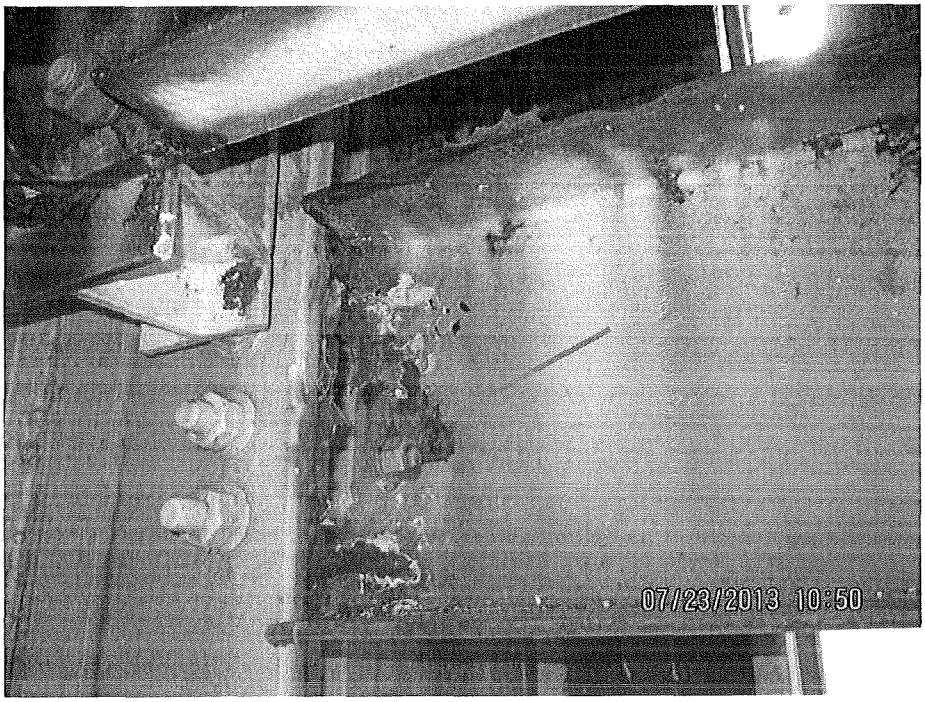


Photo No.: B2

Location: New York Tower, Level 3M, catwalk support near the south leg of the tower, looking south.

Description: Severe corrosion and holes in the catwalk support member near the connection.

(Priority Repair 2)

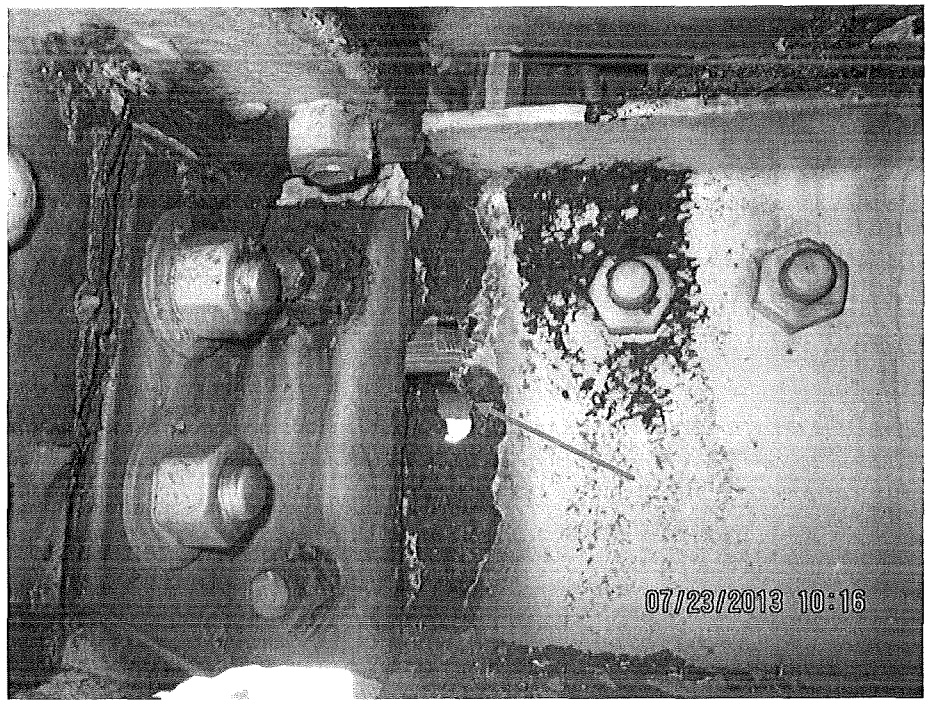


Photo No.: B3

Location: New York Tower, between Levels 10 and 11, ladder at north leg of the tower, looking southeast.

Description: Loose bolt at the connection to the ladder.

(Safety Repair 1)

Photo No.: B4

Location: New Jersey Tower, Level 3M, catwalk railing at the south leg of the tower, looking northeast.

Description: Corrosion and holes in the railing of the catwalk.

(Safety Repair 2)

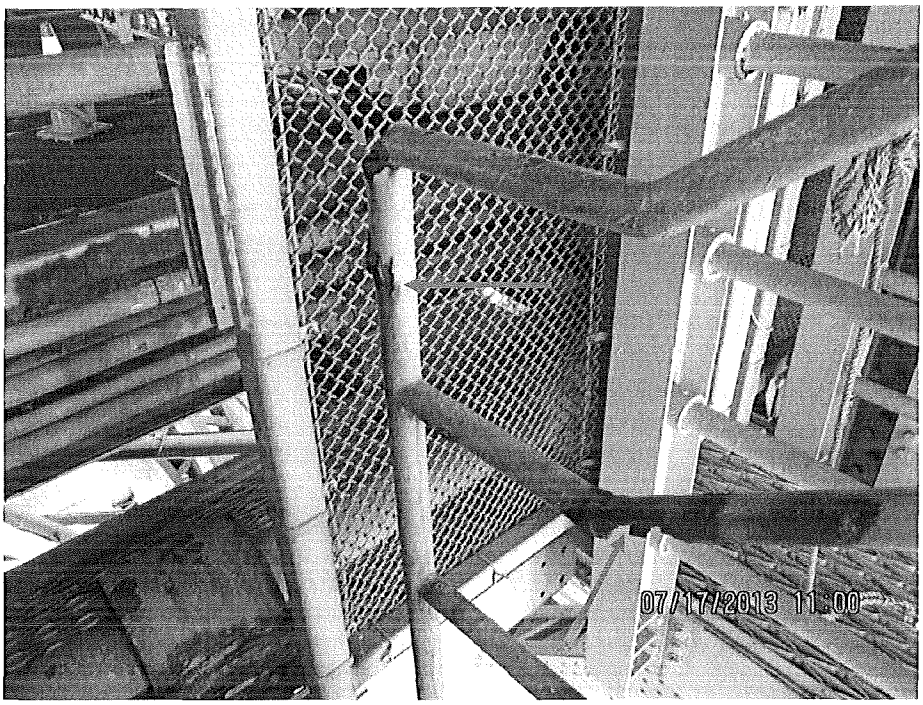


Photo No.: **B5**

Location: New Jersey Tower, between Levels 3M and 4, catwalk stairs at the south leg of the tower, looking south.

Description: Crack in the stair.

(Safety Repair 3)

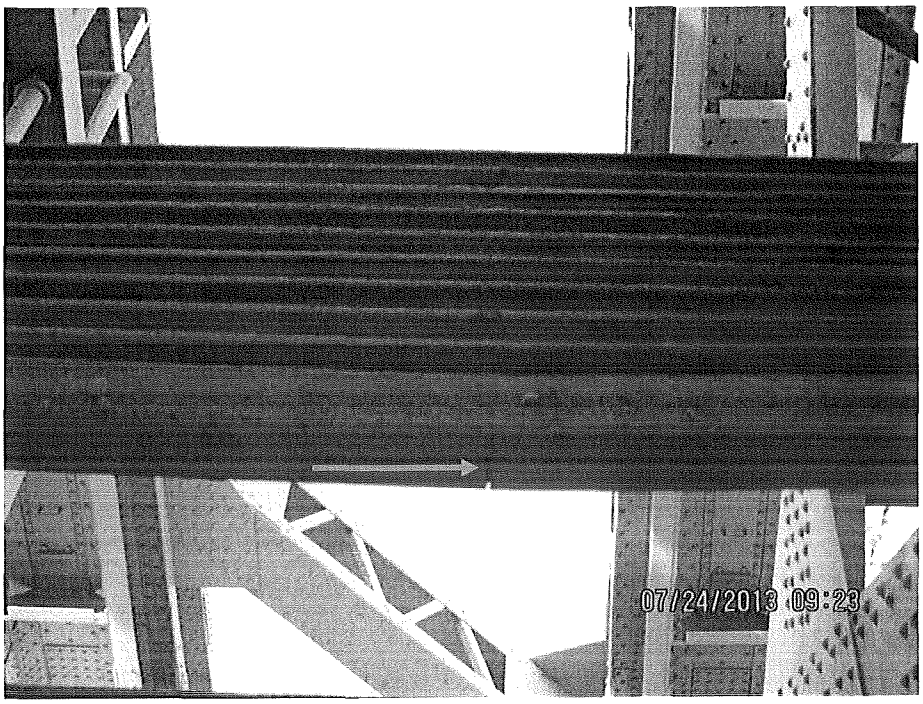


Photo No.: **B6**

Location: New Jersey Tower, Level 3M, catwalk support near the north leg of the tower, looking southwest.

Description: Severely deteriorated bolts in the catwalk support member at the connection.

(Safety Repair 4)

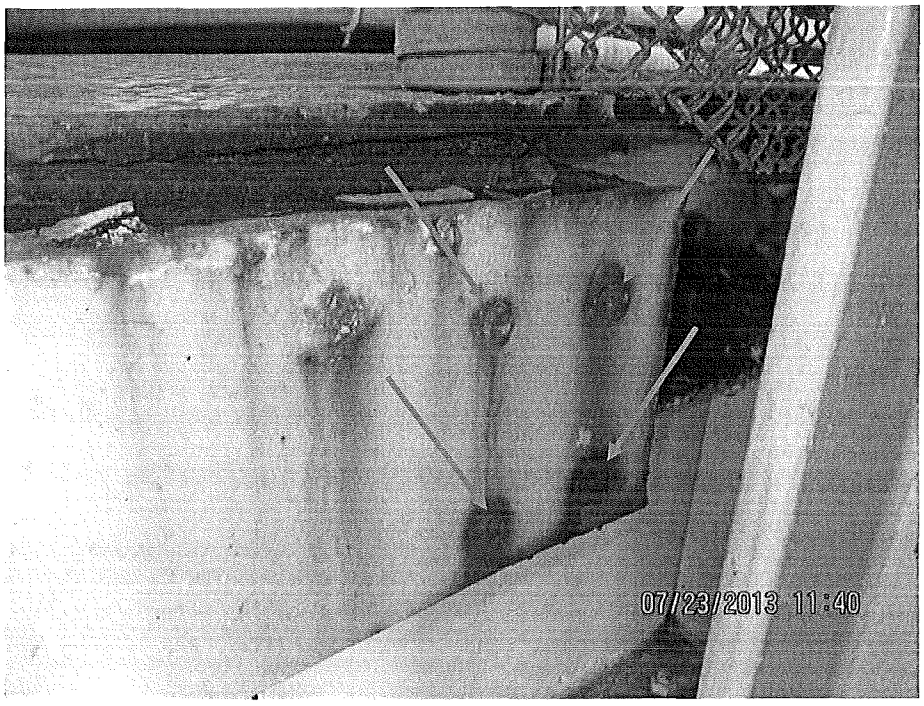


Photo No.: B7

Location: New Jersey Tower, Level 3M, catwalk support near the north leg of the tower, looking southeast.

Description: Missing bolts in the catwalk support member at the connection.

(Safety Repair 4)

Photo No.: B8

Location: New York Tower, south leg, northwest corner of the northeast exterior column base, looking southwest.

Description: Moderate corrosion of exposed steel surfaces due to extensive paint peeling.

(Routine Repair 1)

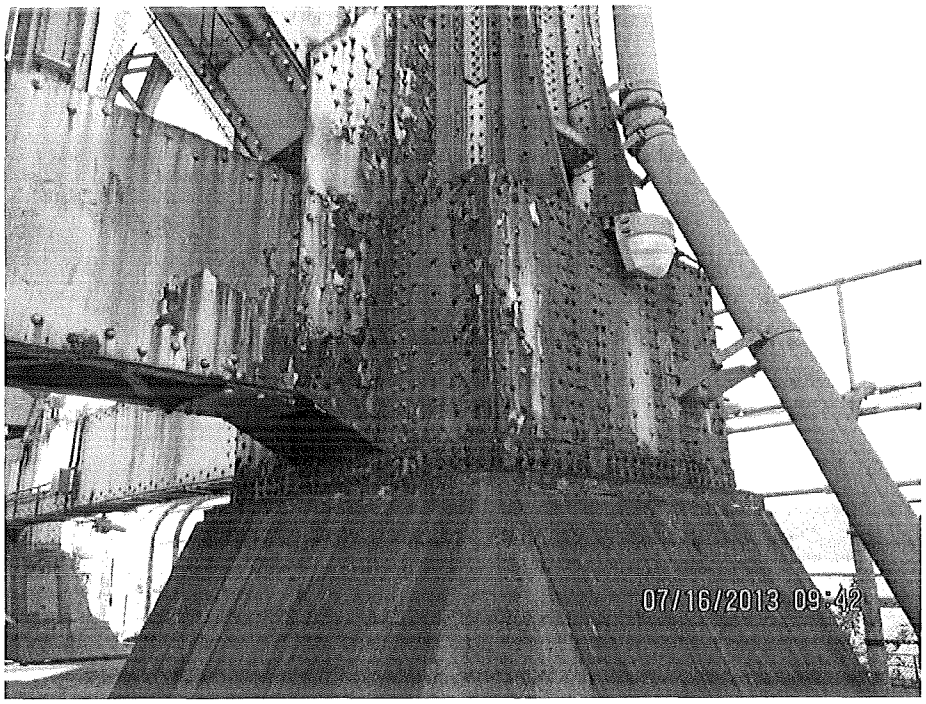


Photo No.: B9

Location: New York Tower, Level 3, diagonal bracing between Panel Points 13E and 14E, looking southeast.

Description: Small holes and moderate section loss along the flanges of the horizontal bracing members.

(Routine Repair 2)

Photo No.: B10

Location: New York Tower, south leg at Level 0, horizontal strut between west interior columns, looking up and east.

Description: Small corrosion hole and fine crack in the outstanding leg of the east upper flange angle of the horizontal strut.

(Routine Repair 3)

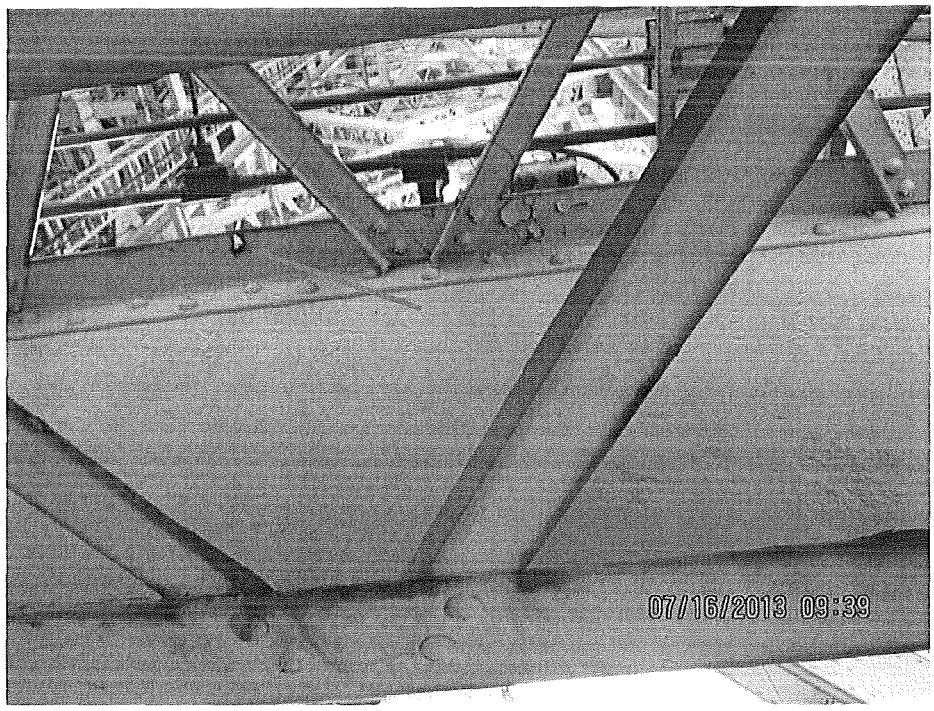


Photo No.: B11

Location: New York Tower, north leg, northwest corner of northeast interior column base and northeast corner of northwest interior column base, looking southwest.

Description: Localized spall in the concrete encasement at steel bearing pedestal.

(Routine Repair 4)

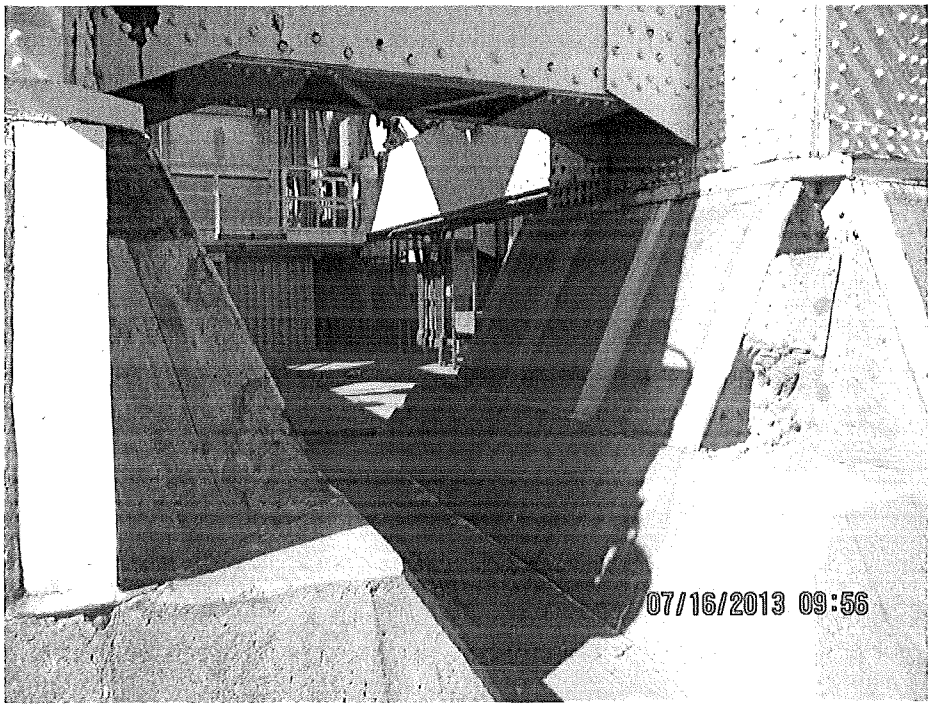


Photo No.: B12

Location: New Jersey Tower, south leg, northwest exterior column, looking north.

Description: Deteriorated drainage pipe with missing section near base of tower.

(Routine Repair 6)

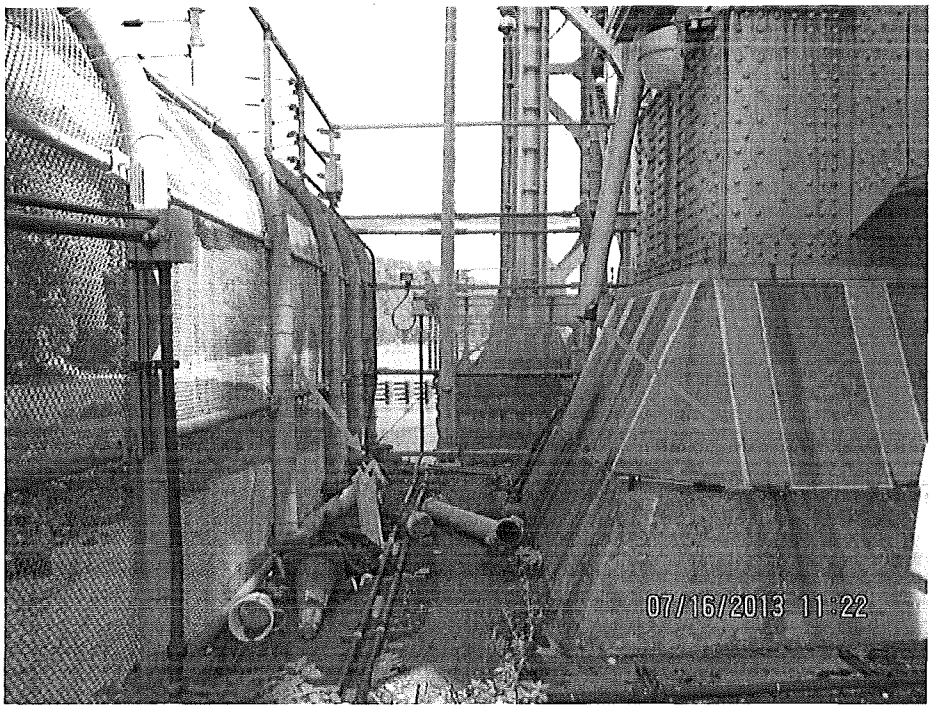


Photo No.: B13

Location: New Jersey Tower, south leg, northeast exterior column, looking south.

Description: Debris within base of column causing clogging of drainage weephole.

(Routine Repair 7)

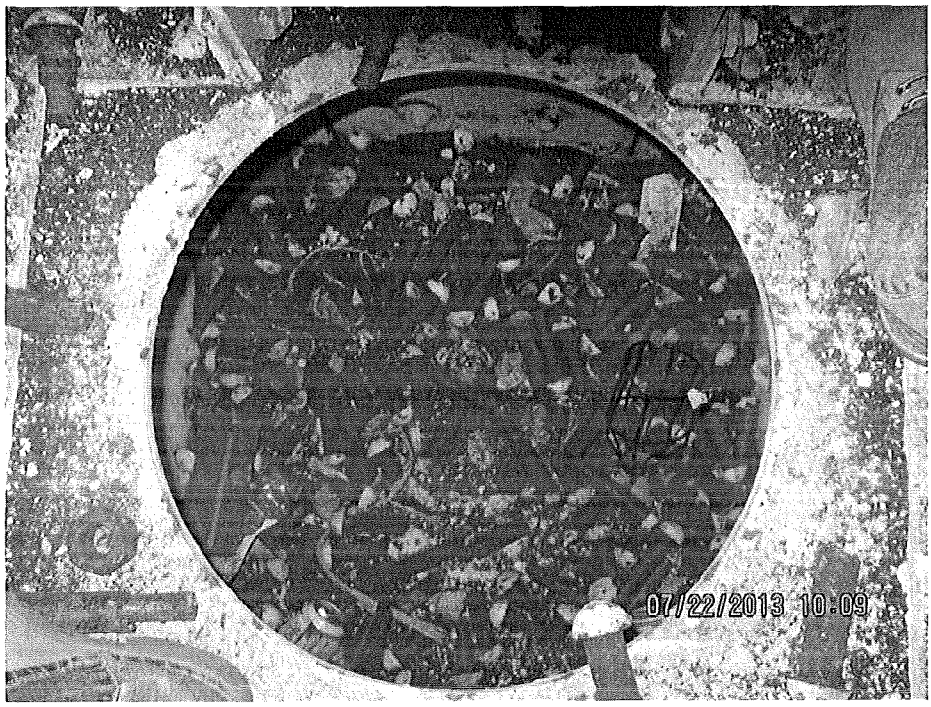


Photo No.: B14

Location: New Jersey Tower, south leg at Level 6, southwest interior column, looking south.

Description: Missing (2 of 4) bolts for the box column access hatch cover located on the interior face of the column.

(Routine Repair 8)

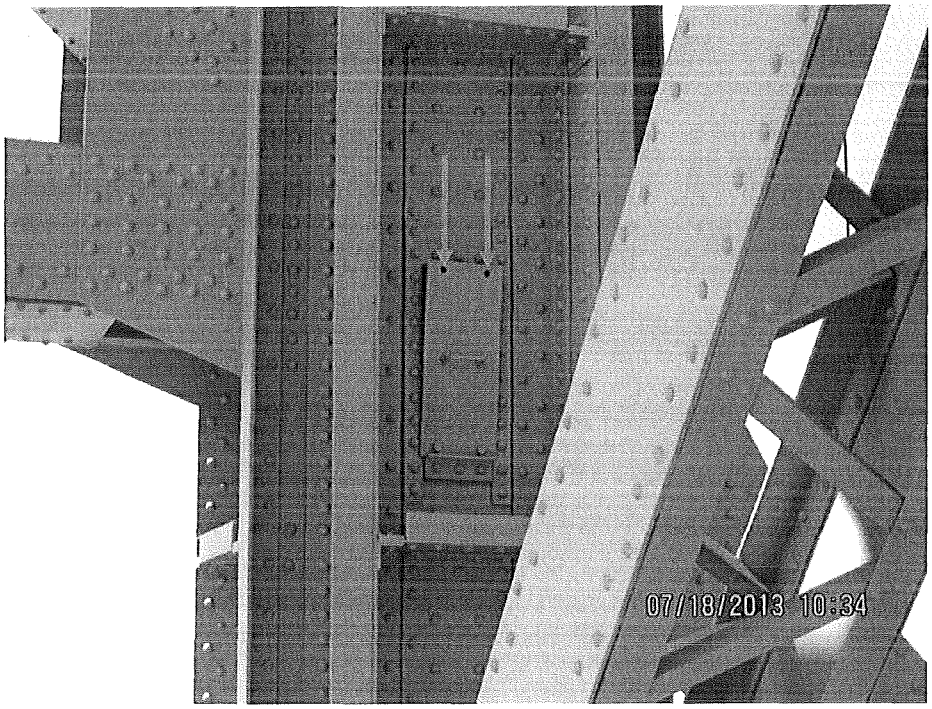


Photo No.: **B15**

Location: New Jersey Tower, south leg between levels 0 and 1, between northeast and southeast exterior column, looking southwest.

Description: Pack rust between the vertical connection plate and diagonal tower member.

(Routine Repair 9)

Photo No.: **B16**

Location: New Jersey Tower, south leg, looking northeast.

Description: Missing mortar between stones at the base.

(Routine Repair 10)

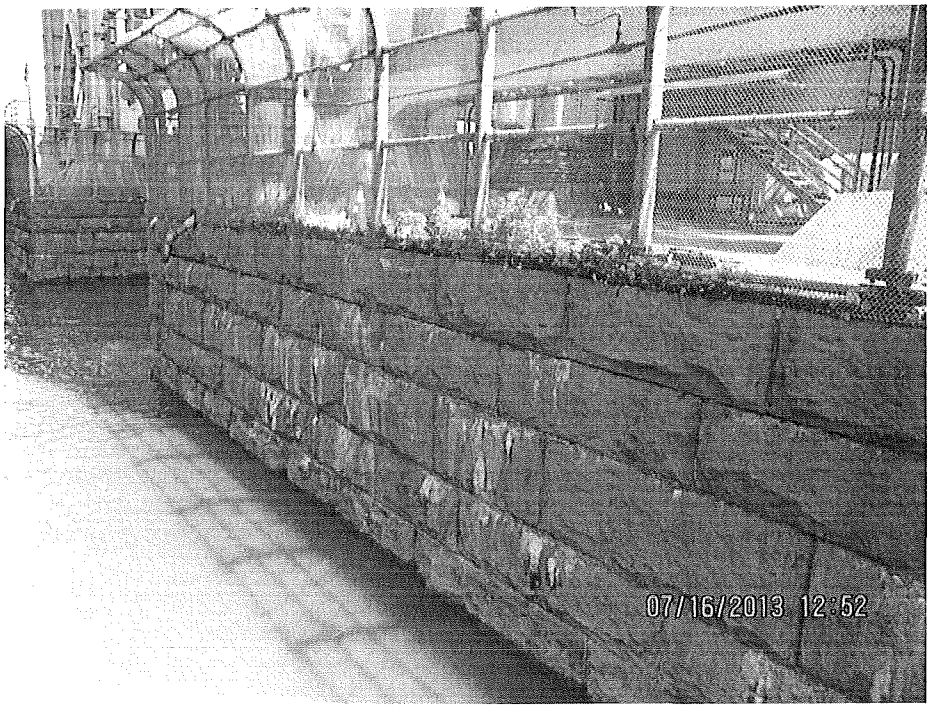


Photo No.: B17

Location: New York Tower, south leg at level 0, between northeast and southeast interior column, looking west.

Description: Broken light fixtures.

(Routine Repair 11)

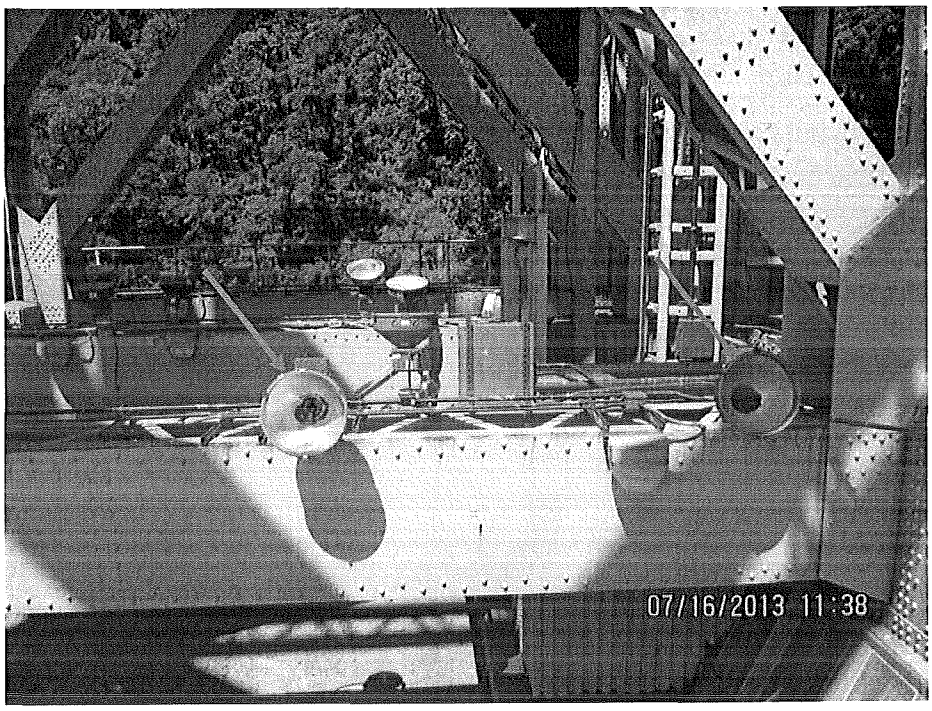


Photo No.: B18

Location: New York Tower, Level 3, Panel Point 11E, looking southeast.

Description: Heavy debris accumulation on horizontal connection plate.

(Routine Repair 12)

Photo No.: **B19**

Location: New York Tower, south leg at Level 0, southwest exterior column to northwest exterior column, looking up and east.

Description: Two 2" diameter holes in the lower flange of the horizontal bracing member between the exterior columns.

(Routine Repair 13)

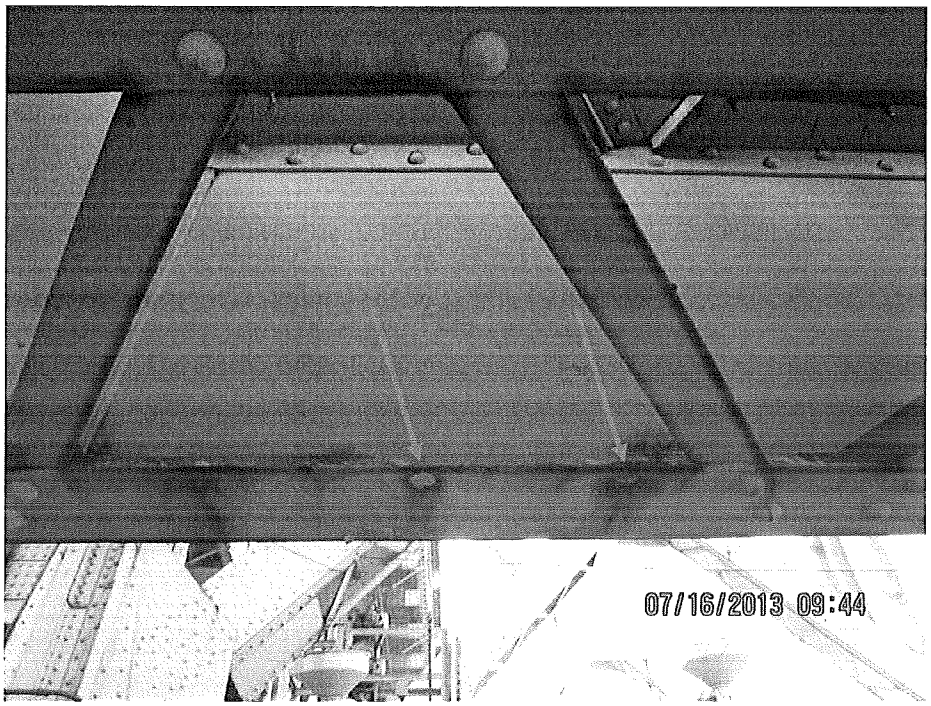
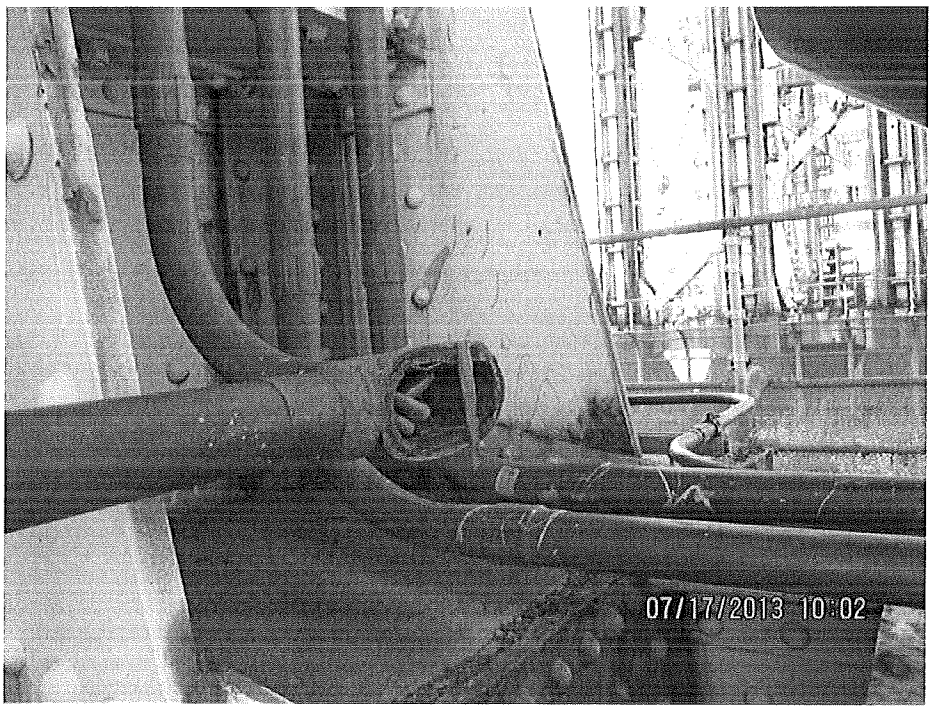


Photo No.: **B20**

Location: New York Tower, north leg at Level 0, southwest interior column, looking southwest.

Description: Missing handhole cover for the electrical conduit.

(Routine Repair 14)



C. Cables and Suspender Ropes

Cables – Suspended Main Span and Side Spans

The four main cables were found to be in overall good condition.

The main cables inside the towers are in good condition with the exception of one loose (possibly broken) wire at the bottom of Cable C in the New York Tower at the east side of the saddle. The saddle rooms of both towers are in good condition. The rubber cable sleeves at the face of tower walls within all tower saddle rooms are typically torn, cracked or deteriorated at the cable entry points (see Photo C12). There are several guide block bolts and nuts on the saddles of Cables C and D that are missing within the saddle room of the New York Tower (see Photo C13).

The cable wrapping and cable bands are in good condition. The painting of the New York side span has been completed since the last inspection. The caulking of the joints adjacent to the cable bands is in generally good condition with only isolated locations of debonding and light rust staining. The light standards that are flared at the top to accommodate the installation of blast protection on the main cables are in good condition.

All cable bridge light fixtures are in good condition.

The messenger utility cable alongside the cable bridge light fixtures provides service to the light fixtures. It is attached by bulldog clamps to steel brackets, which are then bolted to the cable band. On Cable A, Panel Points 37E, 36E, 35E, 23E, 21E and 18E, there are missing, loose or worn bolts/nuts that connect the messenger utility cable bracket to the main cable band (see Photo C6).

All sixteen security fan fences along the main cables were also inspected. The security fan fences are generally in fair condition. All 4 loose bolts between circular clamping angles at the security fan fence between Panel Points 1E-2E on Cable D has been secured since the previous inspection. On Cable D, one connection bolt between the circular angle and the fence was found to be missing between Panel Points 1W-2W. Other isolated loose connection bolts were found between the circular clamping angles and between the circular angle and fence. They are located in the following table:

LOOSE BOLTS ON SECURITY FAN FENCES			
PANEL POINT	CABLE	# BOLTS LOOSE BETWEEN CIRCULAR CLAMPING ANGLES	# BOLTS LOOSE BETWEEN CIRCULAR ANGLE AND FENCE
1E-2E	A	0	0
1E-2E	B	0	0
1E-2E	C	0	0
1E-2E	D	0	0
40E	A	0	0
40E	B	0	0
40E	C	(1 OF 4)	0
40E	D	0	(1 OF 8)
40W	A	0	0
40W	B	0	0
40W	C	(1 OF 4)	0
40W	D	0	0
1W-2W	A	0	0
1W-2W	B	0	0
1W-2W	C	0	0
1W-2W	D	0	(1 OF 8) MISSING

Cables – Safety Ropes

The safety ropes are in overall good condition.

The paint on the safety ropes throughout the main span is in good condition. Inside the New York Anchorage, minor corrosion was noted on the safety ropes below the deck where the cables pass through the sidewalks.

All safety ropes are missing their protective rubber sleeve at the opening in the towers. The north safety rope of Cable C is rubbing against the steel walls as it enters the saddle room at both sides of the New York Tower (see Photo C14). Additionally, the north safety rope of Cable B was found to be rubbing against the steel walls as it enters west wall of the saddle room at the New Jersey Tower.

At Cable D, Panel Point 15E, one broken wire remains at the hand rope adjacent to the stanchion bracket, however, no corrosion is evident (see Photo C15).

Both bolts connecting the stanchion bracket to the safety ropes are not fully engaged at Panel Point 1E of Cable D.

The bolts connecting the stanchions to the cable bands are not fully engaged at various locations (see Photo C5). The following table denotes these locations:

List of Not Fully Engaged Bolts Connecting the Stanchions to the Cable Bands							
CABLE A		CABLE B		CABLE C		CABLE D	
PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE
1E	BOTH	7E	SOUTH	1E	BOTH	1E	BOTH
17E	BOTH	9E	SOUTH	2E	NORTH	15E	NORTH
27E	NORTH	16E	SOUTH	5E	NORTH	38W	SOUTH
29E	SOUTH	15E	SOUTH	6E	NORTH	33W	NORTH
30E	SOUTH			10E	NORTH	29W	SOUTH
32E	NORTH					27W	SOUTH
34E	NORTH					25W	SOUTH
36E	SOUTH					24W	SOUTH
38E	NORTH					23W	SOUTH
38W	NORTH						
24W	NORTH						
22W	SOUTH						
16W	SOUTH						
10W	NORTH						

Previously noted broken and disconnected safety rope stanchion at Panel Point 8E of Cable D on the north side has been repaired.

At numerous locations, the stanchion bars remain slightly bent (see Photo C18). The following table denotes the locations of the slightly bent stanchion bars:

Locations of Slightly Bent Stanchion Bars							
CABLE A		CABLE B		CABLE C		CABLE D	
PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE	PANEL POINT	SAFETY ROPE
31E	SOUTH	1E	BOTH	1E	BOTH	2E	SOUTH
32E	SOUTH	21E	SOUTH	2E	NORTH	17E	SOUTH
33E	SOUTH	30E	SOUTH	37E	NORTH	22E	NORTH
37E	SOUTH	31E	SOUTH	38E	BOTH	25E	NORTH
39E	SOUTH	34E	SOUTH	40E	SOUTH	28E	BOTH
38W	SOUTH	37E	SOUTH	40W	SOUTH	29E	BOTH
37W	BOTH	38E	SOUTH	32W	SOUTH	30E	NORTH
36W	SOUTH	40E	BOTH	30W	SOUTH	32E	NORTH
32W	SOUTH	33W	SOUTH	22W	BOTH	39E	SOUTH
28W	NORTH	20W	SOUTH	21W	NORTH	36W	NORTH
27W	NORTH	19W	SOUTH	20W	NORTH	34W	SOUTH
20W	NORTH			18W	NORTH	31W	NORTH
16W	NORTH			17W	NORTH	29W	BOTH
						28W	BOTH
						26W	NORTH
						21W	NORTH

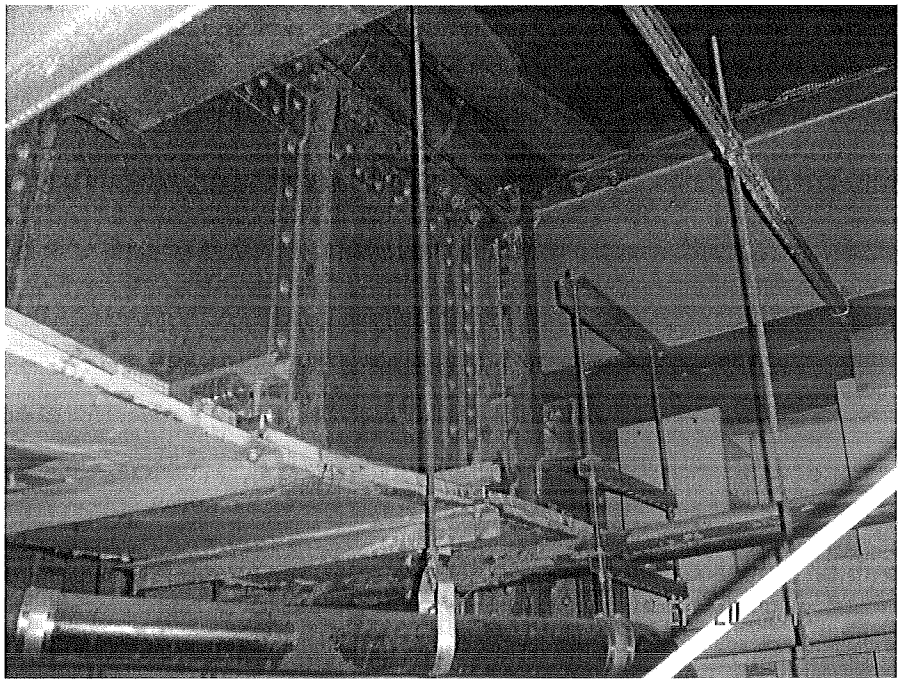
Photo No.: C1 **Location:** New York Anchorage, west face of Capbeam 4 over Cable B, looking southeast. **Description:** Water leakage through upper level sidewalk joint over Cable B. **(PRIORITY REPAIR 1)**	
Photo No.: C2 **Location:** Panel Point 41E, Cable B, Suspender Rope 5, looking west. **Description:** Missing galvanized steel liner under the suspender collar. **(PRIORITY REPAIR 3)**	

Photo No.: C3

Location: Panel Point 20E, Cable D, northeast Suspender Rope 14, looking northwest.

Description:
Missing collar at the top flange of the floorbeam.

(PRIORITY REPAIR 5)

Photo No.: C4

Location: New Jersey Anchorage, base of Cable D, looking west.

Description: Severely deteriorated diagonal bracing member supporting the eyebar for Strand 4 exhibits up to 95% section loss on the web and 75% section loss on the flanges.

(PRIORITY REPAIR 6)

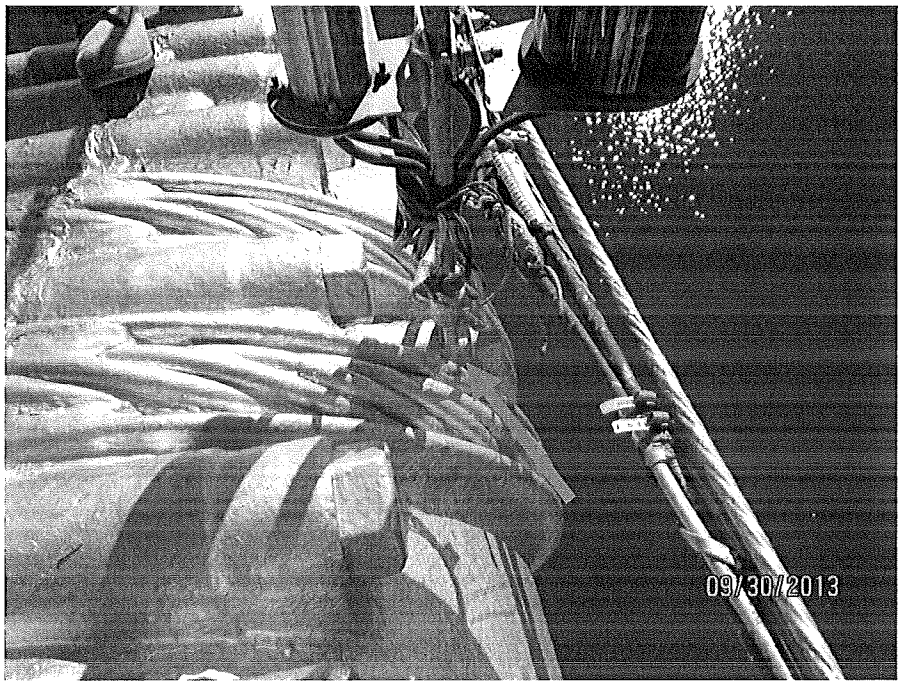
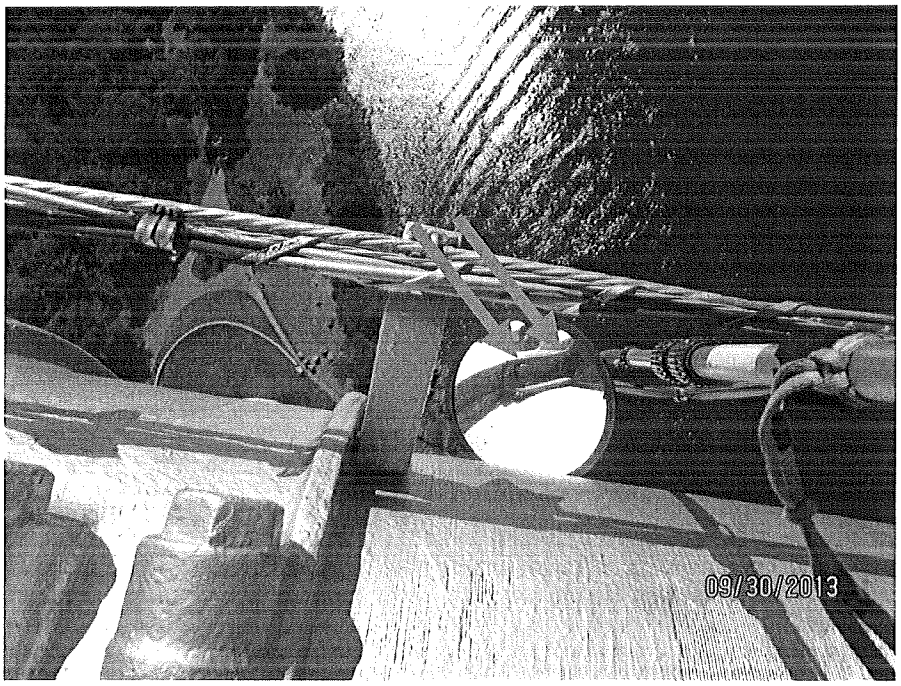
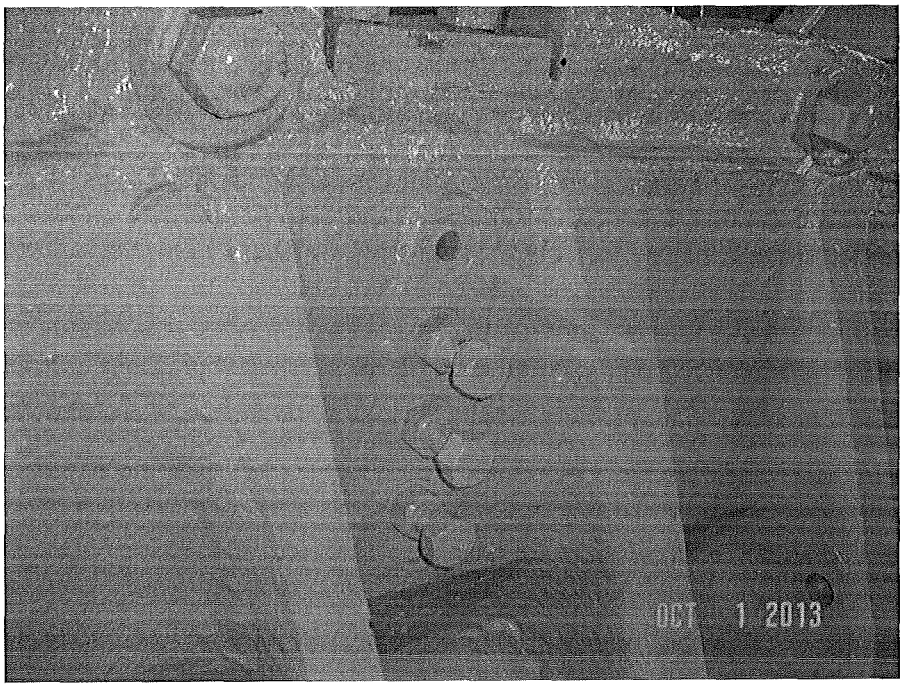
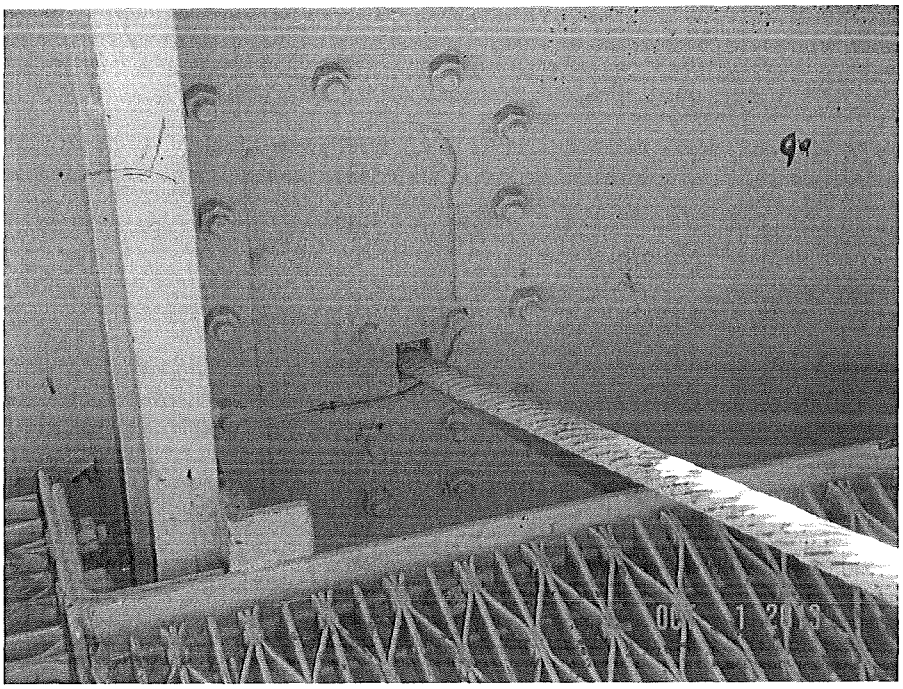
Photo No.: **C5** **Location:** Panel Point 16W, Cable A, looking southeast. **Description:** Bolt connecting the south handrail stanchion is not fully engaged. **(SAFETY REPAIR 1)**	
Photo No.: **C6** **Location:** Panel Point 18E, Cable A, looking southeast. **Description:** (2 of 2) loose bolts connecting the steel bracket of messenger cable to the cable band. **(SAFETY REPAIR 2)**	

Photo No.: C13 **Location:** New York Tower, Cable C saddle, looking southwest. **Description:** (1 of 4) missing guide block bolts. **(ROUTINE REPAIR 12)**	
Photo No.: C14 **Location:** New York Tower, east of Cable C saddle, looking southeast. **Description:** North safety rope is rubbing against the tower wall. **(ROUTINE REPAIR 15)**	

D. Bridge Mounted Sign Structures

Inspection Findings, Conclusions and Recommendations

D. BRIDGE MOUNTED SIGN STRUCTURES

Major Inspection Findings

The sign structures on the Upper and Lower Levels are in overall good condition.

All bridge mounted sign structures were inspected as part of the bridge condition survey. Only those sign panels which measure approximately 10SF and over, including those of combined panels with directional value, were inspected 100% hands-on, and are included in the tables of surveyed sign structures for the Upper and Lower Levels (See tables on pages D-3 through D-14). The sign number listed in the tables is either the sign identification number which was found during the inspection or an arbitrary number designated for those signs which did not display identification labels. An S prefix is typically used for general sign panels or structures and an L prefix is for electronic signals.

The inspection of the Upper Level roadway signs included all sign panels attached to the lighting standards along the north and south sidewalks and one cantilevered sign structure framed into the New York Tower between Panel Points 11E-14E spanning over the eastbound roadway. The inspection of the Lower Level roadway signs included all sign panels and sign structures either attached to the upper level framing (main floorbeams/capbeams), vertical members of the stiffening truss and drainage downspouts, or lower level deck/median-grating framing.

Several temporary sign panels were noted along both roadways due to on-going construction work. The temporary sign panels are in good condition, however, they were not included in the list of surveyed sign structures.

There are a total of 59 signs included in this survey. Forty six signs were found in good condition and 10 were found in fair condition due to the following deficiencies: minor impact damaged signs; missing or broken bolts connecting the sign panel to the sign structure/light standard or sign structure to the bridge, and inadequately illuminated signs due to non-functioning light fixtures. Three signs were covered temporarily due to ongoing construction.

Since the previous inspection, 17 signs were removed, 5 new signs were added and 1 sign was reinstalled.

During this inspection, there were no conditions found requiring immediate action. There were no priority or safety repairs recommended in the previous report and no new priority and safety repairs are recommended in this report. There are a total of 5 routine repairs at 13 locations recommended in this inspection report.

RECOMMENDATIONS

Immediate: None.

Priority: None.

Safety: None.

Routine: The following routine repairs are recommended:

No.	Description	Dwg. No.
1	Repair the impact damaged signs attached to the light standards or sign structures. *(Photos D1 and D4)* (5 Locations)	SS-1, SS-2
2	Replace (1 of 4) missing bolts which connects the sign structure to the Capbeam. *(Photo D2)* (1 Location)	SS-2
3	Replace non-functioning light fixtures at the sign structures. *(Photo D3)* (5 Locations)	SS-1, SS-2
4	Replace (1 of 3) missing U-bolts which attach the sign panel to the light standard. *(Photo D4)* (1 Location)	SS-1
5	Replace (1 of 6) broken U-bolts which attach the sign panel to the sign structure. *(Photo D1)* (1 Location)	SS-2

Surveyed Sign Structures
Upper Level

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Sidewalk	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
S15	NORTH	9W-10W	1	RIGHT LANE MUST EXIT	GOOD	NONE	NONE
40H	NORTH	18W-19W	1	SPEED LIMIT 45	GOOD	NONE	NONE
S4	SOUTH	19W-20W	1	NO STOPPING ON BRIDGE	GOOD	NONE	NONE
40D	NORTH	21W-22W	1	RIGHT LANE MUST EXIT	GOOD	NONE	NONE
S5	SOUTH	22W-23W	N/A	N/A	N/A	REMOVED	N/A
S5A	SOUTH	24W-25W	1	MANHATTAN EAST SIDE USE HARLEM RIVER DR CARS ONLY	FAIR	R1: Repair the impact damaged sign attached to the lighting standard (see Photo D4). R4: Replace (1 of 3) missing U-bolts which attach the sign panel to the lighting standard (see Photo D4).	ROUTINE
S6	SOUTH	34W-35W	1	TRUCK ROUTE MANHATTAN WEST SIDE USE 178 ST TO BROADWAY	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Sidewalk	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
S16	NORTH	34W-35W	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
40C	NORTH	36W-37W	1	TRUCKS PROHIBITED ON PALISADES PARKWAY	GOOD	NONE	NONE
18R	SOUTH	37W-38W	1	MANHATTAN WEST SIDE USE "ROUTE 9A" CARS ONLY	FAIR	R1: Repair the impact damaged sign attached to the lighting standard.	ROUTINE
S17	NORTH	37W-38W	1	FOR "ROUTE 17" USE "ROUTE 4"	GOOD	NONE	NONE
72E	NORTH	37W-38W	N/A	N/A	N/A	REMOVED	N/A
72C	NORTH	39W-40W	1	WELCOME TO NEW JERSEY THE GARDEN STATE	GOOD	NONE (RE-INSTALLED)	NONE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Sidewalk	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
18S	SOUTH	38E-37E	1	WELCOME TO NEW YORK THE EMPIRE STATE	GOOD	NONE	NONE
19A	SOUTH	32E-31E	N/A	(SIGN IS COVERED TEMPORARILY)	N/A	N/A	N/A
41H	SOUTH	28E-27E	1	TRUCK ROUTE MANHATTAN WEST SIDE USE 178 ST TO BROADWAY	GOOD	NONE	NONE
41L	SOUTH	23E-22E	1	RIGHT LANE FOR EXIT ONLY	GOOD	NONE	NONE
S10	SOUTH	22E-21E	N/A	N/A	N/A	REMOVED	N/A
18P	NORTH	20E-19E	1	NO STOPPING ON BRIDGE	GOOD	NONE	NONE
S11	SOUTH	19E-18E	2	HOSPITAL "RIGHT ARROW" NEW YORK PRESBYTERIAN	FAIR	R1: Repair the impact damaged sign attached to the lighting standard.	ROUTINE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Sidewalk	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
18I	SOUTH	17E-16E	1	MANHATTAN WEST SIDE USE "ROUTE 9A" CARS ONLY	FAIR	R1: Repair the impact damaged sign attached to the lighting standard.	ROUTINE
S12	SOUTH	16E-15E	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
41	SOUTH	14E-11E	2	EXIT 1 NORTH I-95 TO I-87 CLEARANCE 13'-6"; "STRAIGHT ARROW & RIGHT ARROW"; W 178TH ST "ROUTE 9A" H HUDSON PKWY RIGHT LANE MUST EXIT	FAIR	R3: Replace (7 of 7) non-functioning light fixtures.	ROUTINE
S13	SOUTH	9E-8E	1	TRUCKS PROHIBITED ON H HUDSON PARKWAY	GOOD	NONE	NONE
18M	NORTH	7E-6E	1	SPEED LIMIT 45	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - UPPER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Sidewalk**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
41D	SOUTH	6E-5E	1	RIGHT LANE FOR EXIT ONLY	GOOD	NONE	NONE
S14	SOUTH	NEW YORK ANCHORAGE BENTS 3-4	N/A	N/A	N/A	REMOVED	N/A
S18	NORTH	NEW YORK ANCHORAGE BENTS 6-7	1	EMERGENCY AID (201) 346-4000	GOOD	NONE	NONE

Surveyed Sign Structures
Lower Level

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	**Roadway**	**Panel Point**	**Number of Panels**	**Sign Text**	**Overall Condition**	**Repair Recommendation**	**Repair Category**
L1	WESTBOUND	3W	3	"ELECTRONIC LANE STATUS INDICATOR SIGNALS"	GOOD	NONE	NONE
S35	MEDIAN (WB)	5W-6W	1	TRAFFIC MAY BE STOPPED AHEAD "SUDDEN STOP SYMBOL" SLOW DOWN	FAIR	R1: Repair the impact damaged sign attached to the sign structure (see Photo D1). R5: Replace (1 of 6) broken U-bolts which attach the sign panel to the sign structure (see Photo D1).	ROUTINE
S36	WESTBOUND	6W-7W	1	G W BRIDGE HIGHWAY ADVISORY AND EMERGENCY (877) PA-ROADS	GOOD	NONE	NONE
S19	EASTBOUND	8W	1	SPEED LIMIT 45	GOOD	NONE	NONE
140	EASTBOUND	9W	1	"ROUTE 9A" H HUDSON PKWY KEEP LEFT	GOOD	NONE	NONE
S35A	MEDIAN (EB)	9W	1	"ROUTE 9A" H HUDSON PKWY KEEP LEFT	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Roadway	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
S37	WESTBOUND	9W	1	SPEED LIMIT 45	GOOD	NONE	NONE
127	WESTBOUND	17W	1	"ROUTE 1" "ROUTE 9" "ROUTE 46" "ROUTE 4" KEEP LEFT	GOOD	NONE	NONE
128	MEDIAN (WB)	17W	1	"ROUTE 1" "ROUTE 9" "ROUTE 46" "ROUTE 4" KEEP LEFT	GOOD	NONE	NONE
S20	EASTBOUND	18W	N/A	N/A	N/A	REMOVED	N/A
S21	EASTBOUND	20W	N/A	N/A	N/A	REMOVED	N/A
S22	EASTBOUND	22W-23W	N/A	N/A	N/A	REMOVED	N/A
S38	WESTBOUND	25W-26W	N/A	N/A	N/A	REMOVED	N/A
S23	EASTBOUND	27W	1	SPEED LIMIT 45	GOOD	NONE	NONE
S39	WESTBOUND	28W	N/A	N/A	N/A	REMOVED	N/A
S24	EASTBOUND	30W	N/A	N/A	N/A	REMOVED	N/A
141	EASTBOUND	40W	1	I-95 TO I-87 KEEP RIGHT	GOOD	NONE	NONE

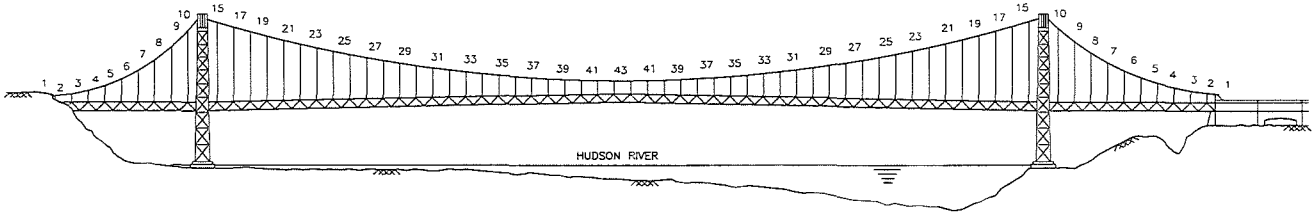
GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Roadway	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
141A	MEDIAN (EB)	40W	1	I-95 TO I-87 KEEP RIGHT	GOOD	NONE	NONE
141B	MEDIAN (WB)	40W	N/A	N/A	N/A	REMOVED	N/A
S40	WESTBOUND	40W	1	"ROUTE 9W" TO "ROUTE 67" "PIP" RIGHT LANE	GOOD	NONE	NONE
72A	MEDIAN (WB)	42W	1	WELCOME "STATE LOGO" NEW JERSEY	GOOD	NONE	NONE
72B	MEDIAN (EB)	42E	1	WELCOME "STATE LOGO" NEW YORK	GOOD	NONE	NONE
S26	EASTBOUND	37E	N/A	(SIGN IS COVERED TEMPORARILY)	N/A	N/A	N/A
S41	WESTBOUND	37E	1	SPEED LIMIT 45	GOOD	NONE	NONE
S27	EASTBOUND	36E	N/A	N/A	N/A	REMOVED	N/A

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Roadway	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
66	MEDIAN (EB)	29E-28E	1	EXIT 1 H HUDSON PKWY W 178 ST THRU TRAFFIC I-95 1/4 MILE "UP ARROWS" 1/4 MILE	GOOD	NONE	NONE
66A	MEDIAN (WB)	29E-28E	N/A	N/A	N/A	REMOVED	N/A
66B	MEDIAN (WB)	28E	2	SUDDEN "SUDDEN STOP SYMBOL" STOPS STAY ALERT	GOOD	NONE	NONE
S26A	EASTBOUND	27E	1	ALT TO WESTCHESTER AND CONNECTICUT USE HUDSON PKWY NORTH	GOOD	NONE	NONE

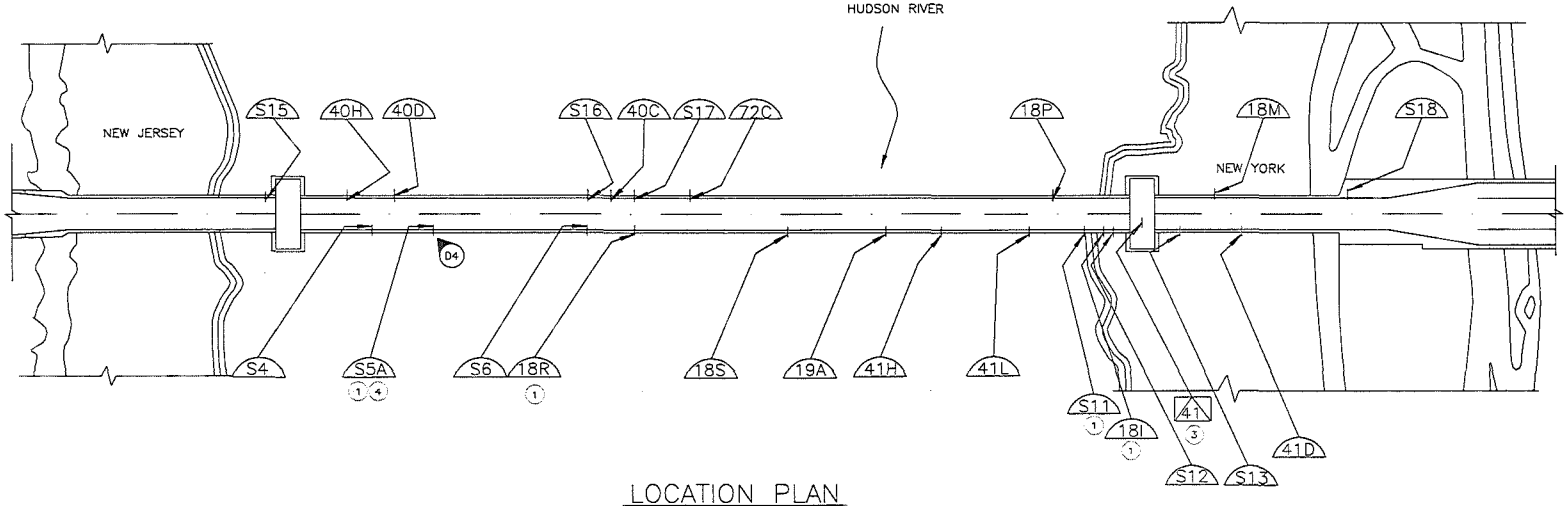
GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Roadway	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
S28	EASTBOUND	24E	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
S30	EASTBOUND	24E-23E	1	"ROUTE 1" USE I-95	GOOD	NONE	NONE
S29	EASTBOUND	22E	3	HOSPITAL NEW YORK PRESBYTERIAN NEXT LEFT	GOOD	NONE	NONE
66G	WESTBOUND	22E	1	I-95 I-80 NJ TURNPIKE KEEP RIGHT	GOOD	NONE	NONE
66H	MEDIAN (WB)	22E	N/A	N/A	N/A	REMOVED	N/A
S42	WESTBOUND	20E	N/A	N/A	N/A	REMOVED	N/A
S29A	MEDIAN (EB)	19E	3	HOSPITAL NEW YORK PRESBYTERIAN NEXT LEFT	GOOD	NONE	NONE
S41A	WESTBOUND	16E	2	SUDDEN "SUDDEN STOP SYMBOL" STOPS STAY ALERT	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Roadway	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
S31	EASTBOUND	9E	N/A	(SIGN IS COVERED TEMPORARILY)	N/A	N/A	N/A
S43	WESTBOUND	9E	1	SPEED LIMIT 45	GOOD	NONE	NONE
67A	MEDIAN (WB)	8E	N/A	N/A	N/A	REMOVED	N/A
S32	EASTBOUND	6E	N/A	N/A	N/A	REMOVED (DUE TO CONSTRUCTION)	N/A
S44	WESTBOUND	5E	1	OCCUPANTS MUST REMAIN WITH DISABLED VEHICLES	GOOD	NONE	NONE
67B	EASTBOUND	1E	3	SLOW "BENT ARROWS" 30 M.P.H.	GOOD	NONE	NONE
67C	MEDIAN (EB)	1E	1	H HUDSON PKWY W 178 ST "UP ARROWS"	FAIR	R3: Replace non-functioning light fixture (2 of 2) total.	ROUTINE
67D	MEDIAN (EB)	1E	1	I-95 THRU TRAFFIC "UP/RIGHT ARROWS"	FAIR	R3: Replace non-functioning light fixture (1 of 2) total.	ROUTINE
S45	WESTBOUND	NEW YORK ANCHORAGE BENT 7	1	"NO MERGE SYMBOL"	GOOD	NONE	NONE

GEORGE WASHINGTON BRIDGE - LOWER LEVEL SIGNS SURVEYED SIGN STRUCTURES							
Sign No.	Roadway	Panel Point	Number of Panels	Sign Text	Overall Condition	Repair Recommendation	Repair Category
S33	EASTBOUND	NEW YORK ANCHORAGE CAPBEAM 9	2	EXIT 1 "ROUTE 9A" H HUDSON PKWY W 178 ST "DOWN ARROWS"	FAIR	R2: Replace (1 of 4) missing bolts which connects the sign panel to the capbeam (see Photo D2). R3: Replace non-functioning light fixture (3 of 3) total (see Photo D3).	ROUTINE
S34	EASTBOUND	NEW YORK ANCHORAGE CAPBEAM 9	1	I-95 THRU TRAFFIC "RIGHT ARROWS"	FAIR	R3: Replace non-functioning light fixture (3 of 3) total (see Photo D3).	ROUTINE



SOUTH ELEVATION
NOT TO SCALE



LOCATION PLAN
NOT TO SCALE

KEY CONDITION NOTES

ROUTINE REPAIRS

1. REPAIR THE IMPACT DAMAGED SIGNS ATTACHED TO THE LIGHT STANDARDS OR SIGN STRUCTURES.
3. REPLACE NON-FUNCTIONING LIGHT FIXTURES.
4. REPLACE (1 OF 3) MISSING U-BOLTS WHICH ATTACH THE SIGN PANEL TO THE LIGHTING STANDARD.

LEGEND

- INDICATES ROUTINE REPAIRS
- PHOTO TAKEN ABOVE DECK
- CANTILEVER SIGN STRUCTURE (CS)
- SIGN ATTACHED TO UTILITY POLE (AUP)

Sheet 1 of 2

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508
UPPER LEVEL

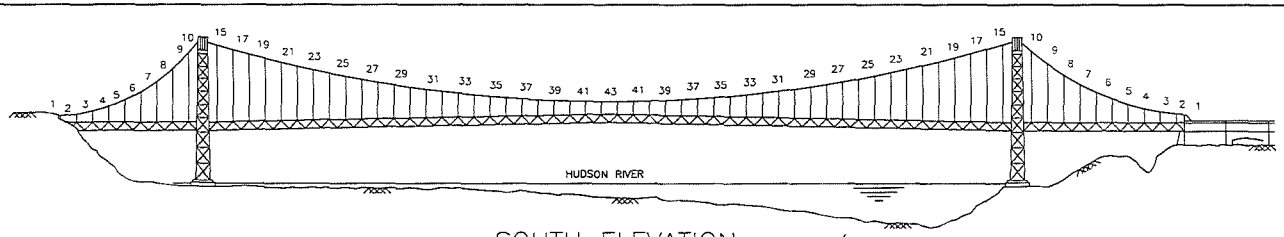
DEFICIENCY & PHOTO LOCATION PLAN
SIGN STRUCTURES ON UPPER LEVEL

DS	RO	GA
Designed by	Drawn by	Checked by

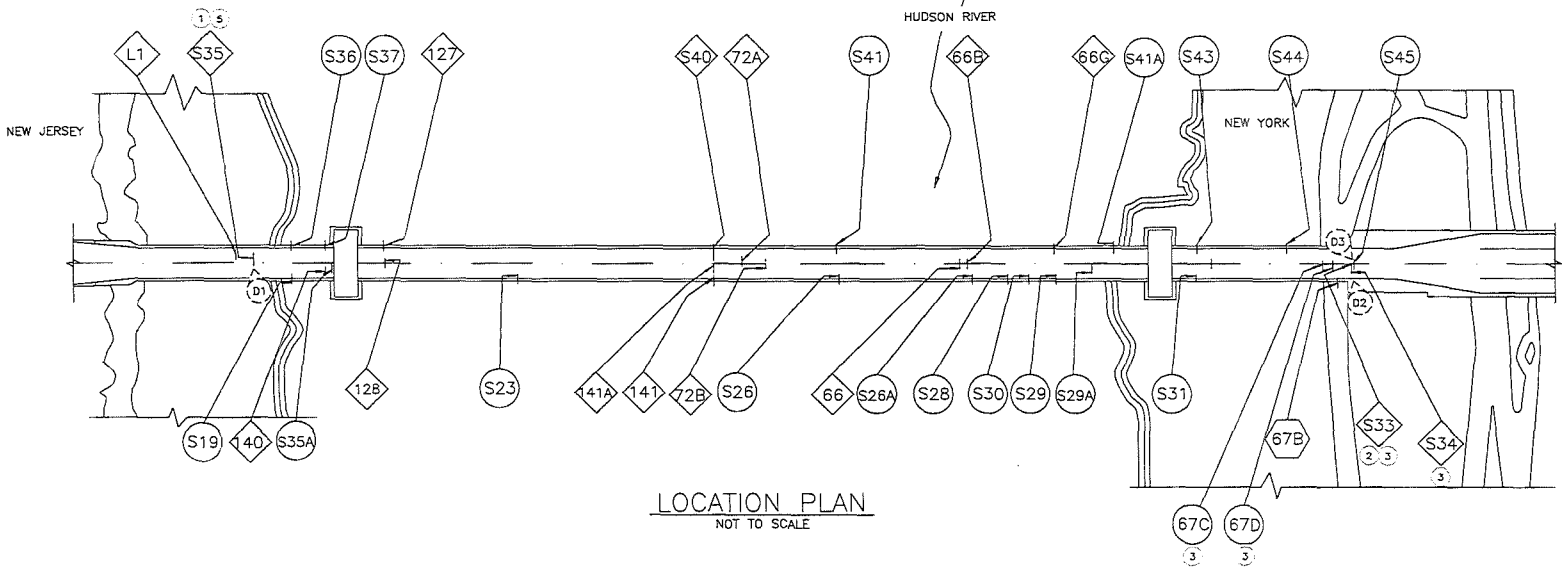
Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SS-1



SOUTH ELEVATION
NOT TO SCALE



LOCATION PLAN
NOT TO SCALE

KEY CONDITION NOTES

ROUTINE REPAIRS

1. REPAIR THE IMPACT DAMAGED SIGN ATTACHED TO THE LIGHT STANDARDS OR SIGN STRUCTURES.
2. REPLACE (1 OF 4) MISSING BOLTS WHICH CONNECTS THE SIGN STRUCTURE TO THE CAPBEAM.
3. REPLACE NON-FUNCTIONING LIGHT FIXTURES.
5. REPLACE (1 OF 6) BROKEN U-BOLTS WHICH ATTACH THE SIGN PANEL TO THE SIGN STRUCTURE.

LEGEND

- INDICATES ROUTINE REPAIRS
- PHOTO TAKEN BELOW DECK
- SIGN STRUCTURE ATTACHED TO BRIDGE (SABR)
- SIGN ATTACHED TO BUILDING (ABLDG)
- SIGN ATTACHED TO BRIDGE (ABR)

Sheet 2 of 2

THE PORT AUTHORITY OF NY&NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508
UPPER LEVEL

DEFICIENCY & PHOTO LOCATION PLAN
SIGN STRUCTURES ATTACHED TO UPPER LEVEL FRAMING OVER LOWER LEVEL

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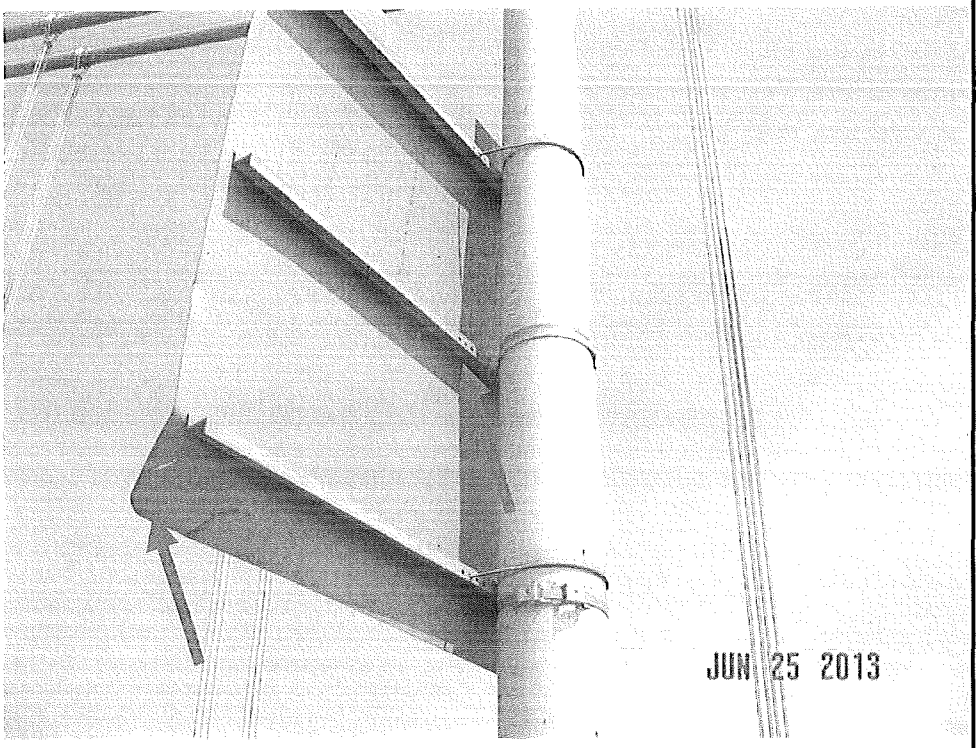
DS	RG	GA
Designed by	Drawn by	Checked by

Date DECEMBER, 2013

Contract Number 405-13-005

Drawing Number SS-2

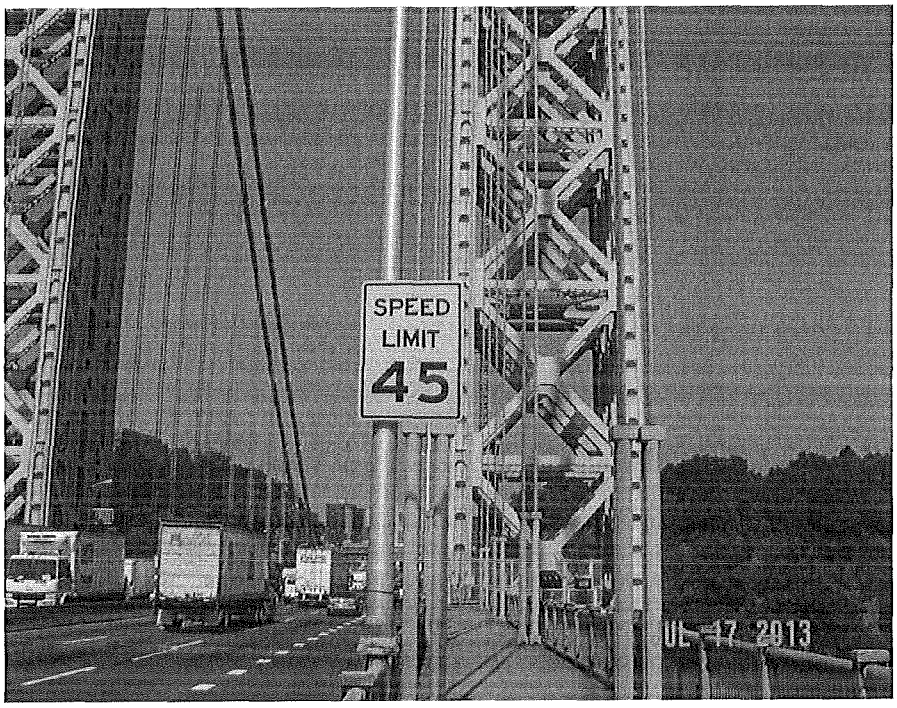
Photo No.: D1 **Location:** Sign panel (#S35) for westbound roadway at Lower Level median area between Panel Points 5W-6W, looking northwest. **Description:** Minor impact damage to sign panel and (1 of 4) broken U-bolt at the connection to the sign structure. **(Routine Repair No. 1 and Routine Repair No. 5)**	
Photo No.: D2 **Location:** Sign structure (#S33) over the eastbound Lower Level roadway attached to Capbeam 9 at the New York Anchorage, looking northwest. **Description:** Missing (1 of 4) bolts at the connection to the bottom flange of the capbeam. **(Routine Repair No. 2)**	

Photo No.: D3 **Location:** Sign structures (#S33 & S34) over the eastbound Lower Level attached to Capbeam 9 at the New York Anchorage, looking southeast. **Description:** Non-functioning light fixtures (6 of 6) total at the sign structures. **(Routine Repair No. 3)**	
Photo No.: D4 **Location:** Sign panel (#S5A) for eastbound roadway at Upper Level between Panel Points 24W-25W, looking northwest. **Description:** Minor impact damage to sign panel and (1 of 3) missing U-bolts at the connection to the light standard. **(Routine Repair No. 1 and Routine Repair No. 4)**	

Inventory Photos
Upper Level

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

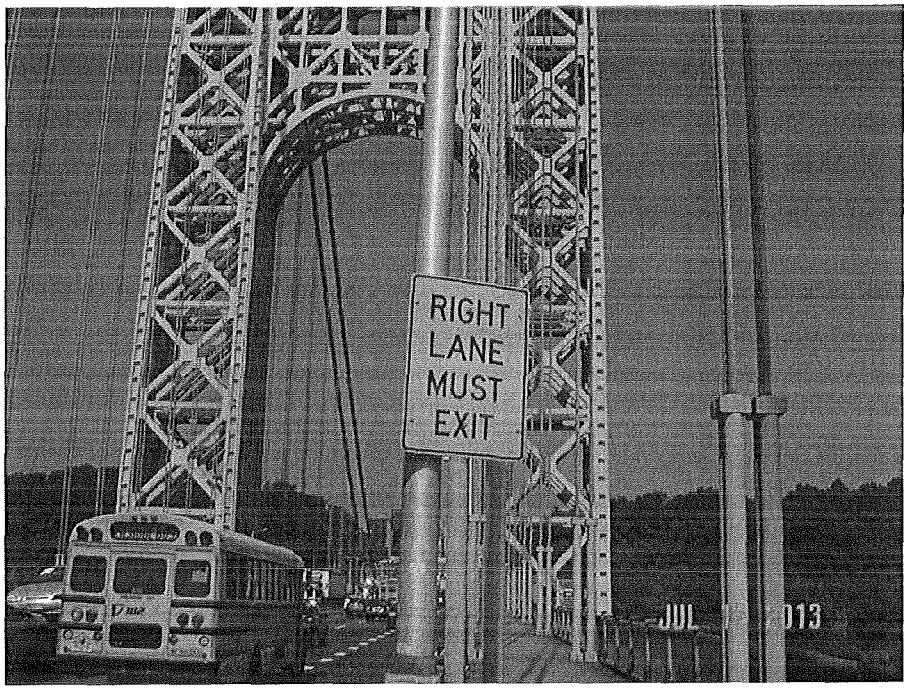
S15



40H

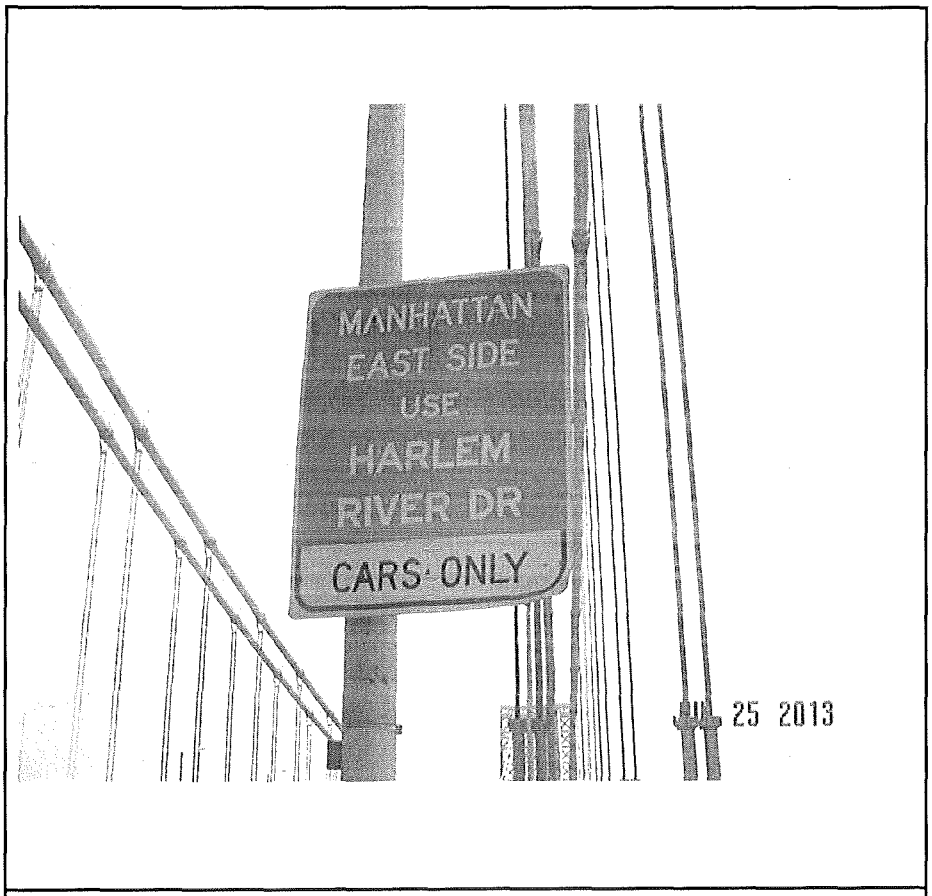
GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

S4



40D

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

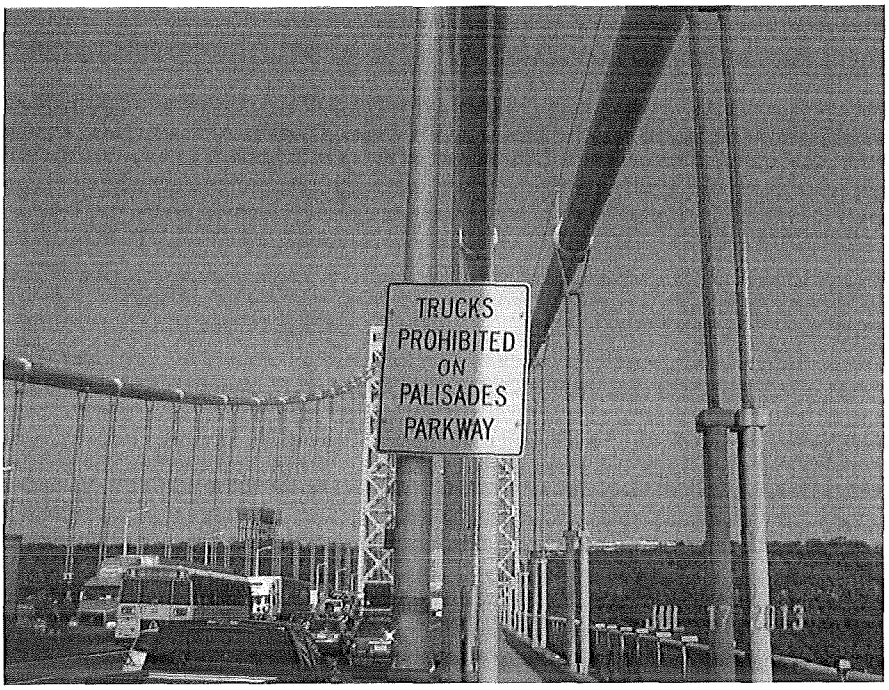


S5A

S6

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

S16



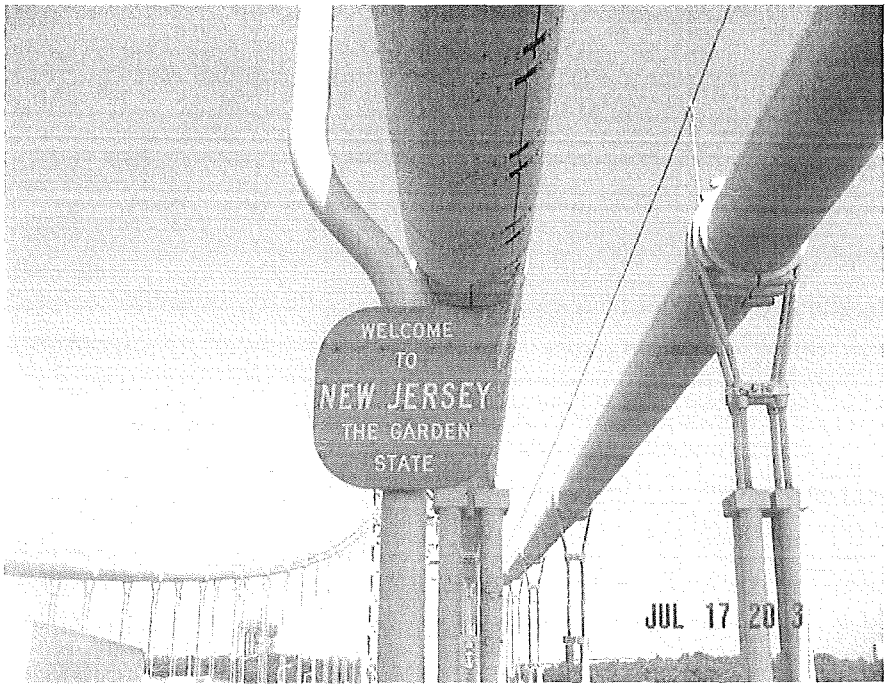
40C

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

18R

S17

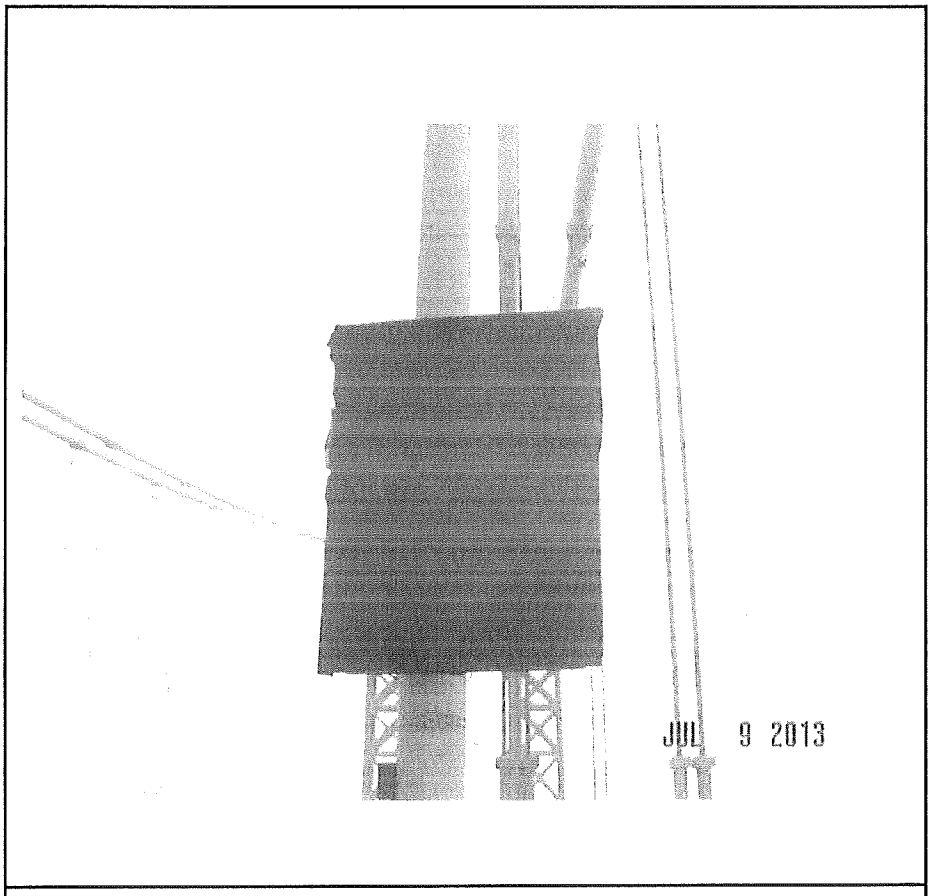
GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES



72C

18S

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES



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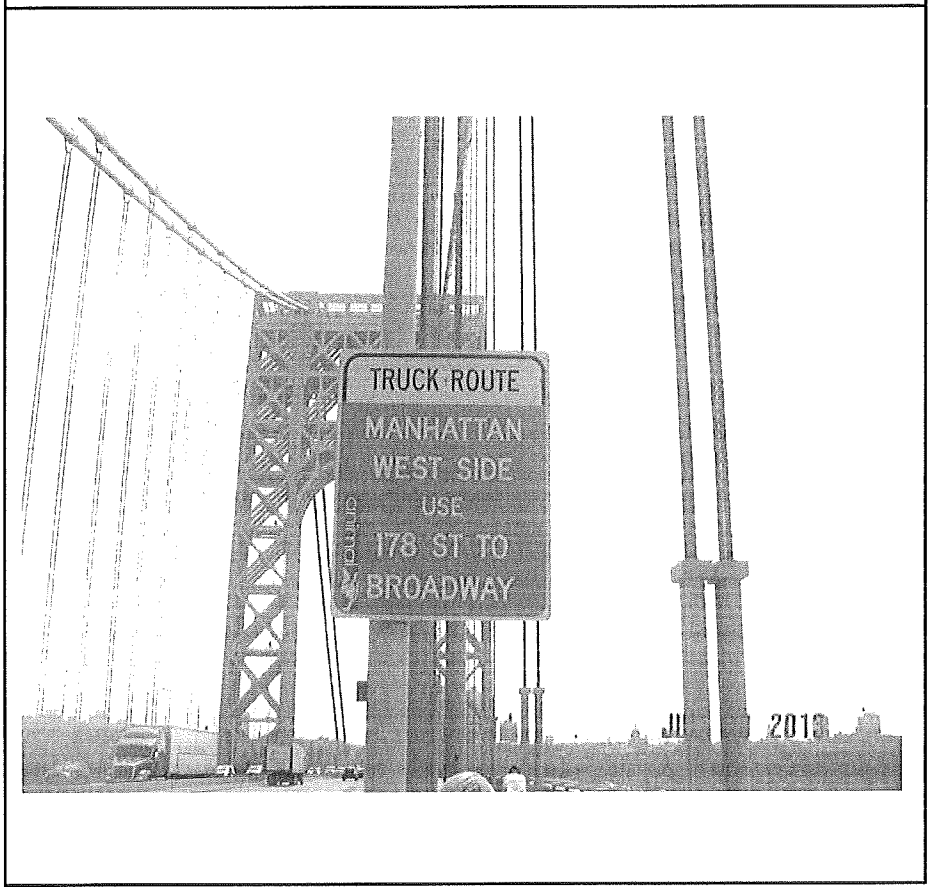
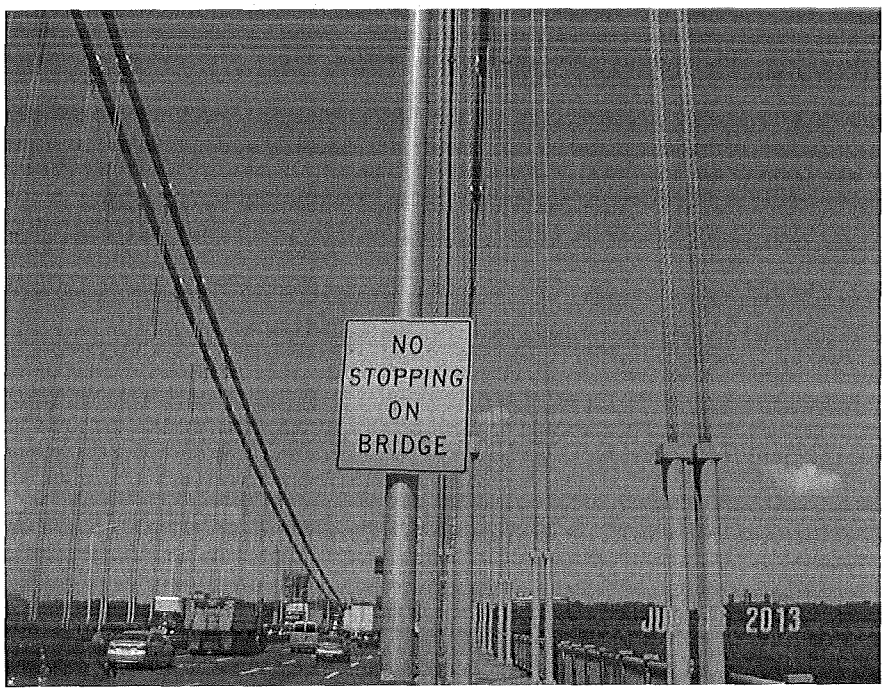


41H

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

41L



18P

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

S11

18I

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

S12

41

GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

S13

18M

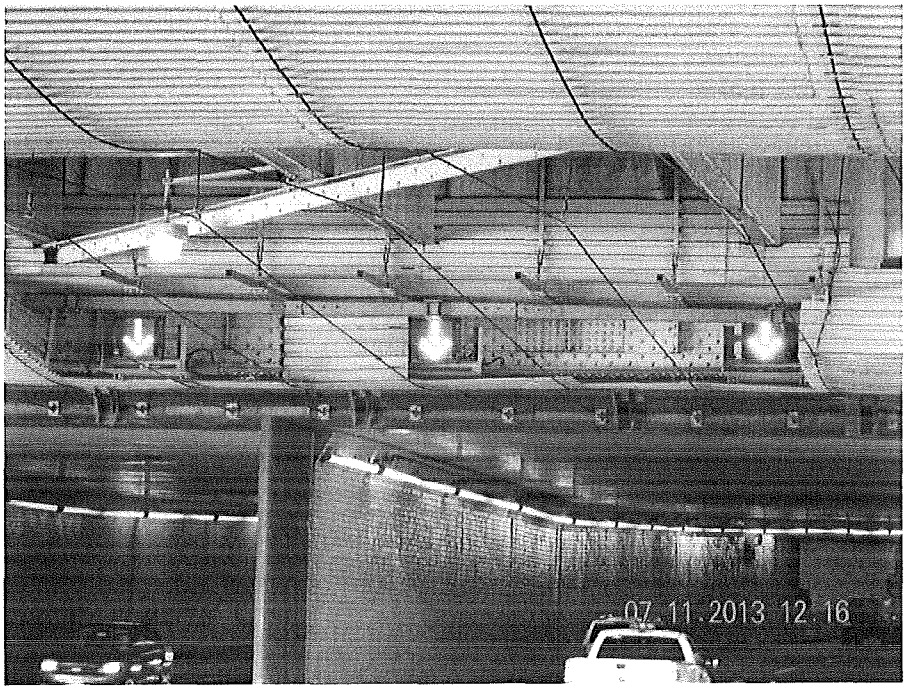
GEORGE WASHINGTON BRIDGE UPPER LEVEL – SIGN STRUCTURES

41D

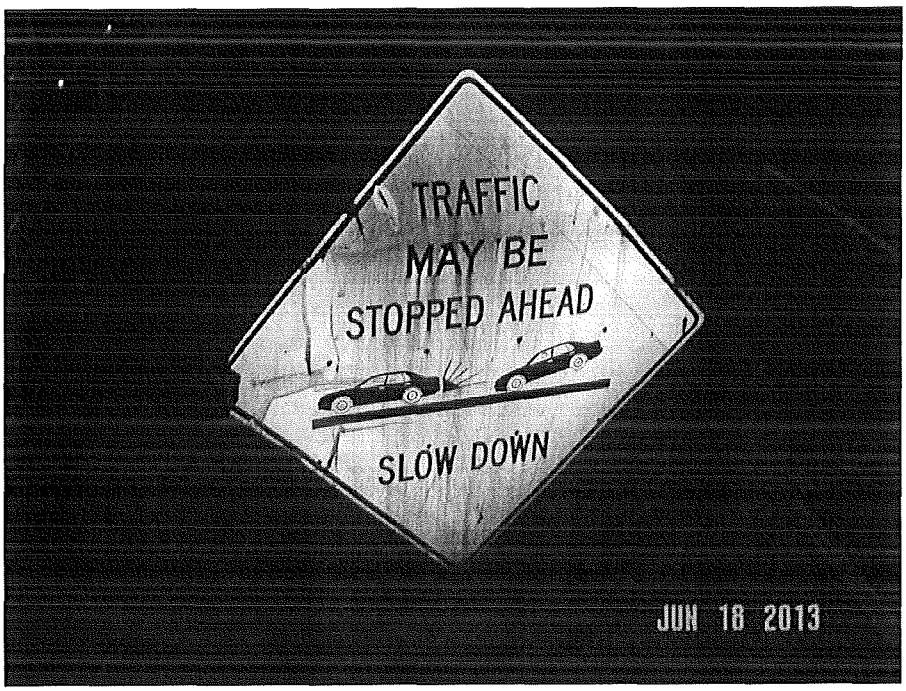
S18

Inventory Photos
Lower Level

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



L1



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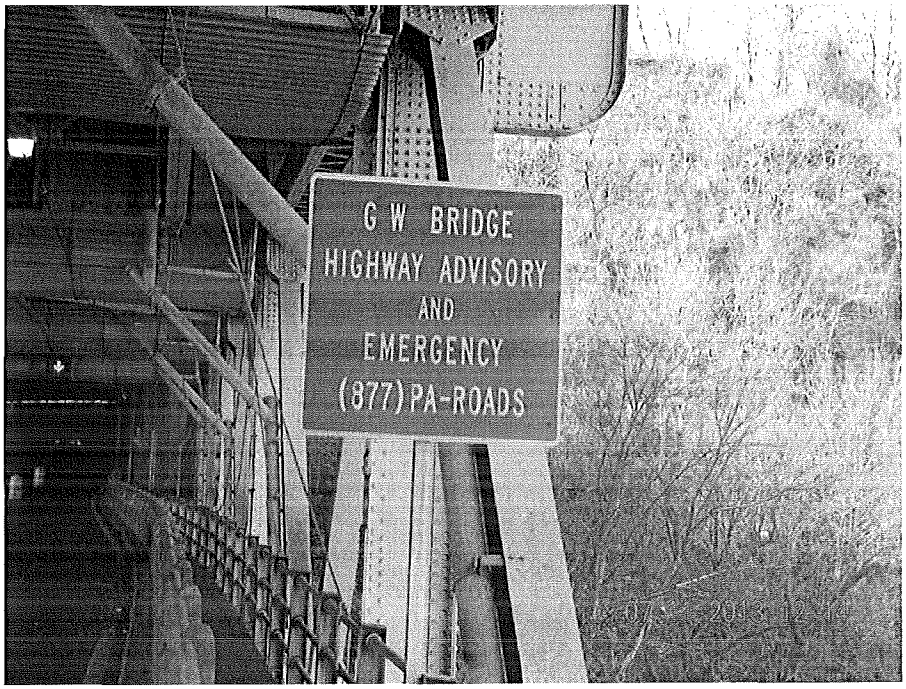
GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



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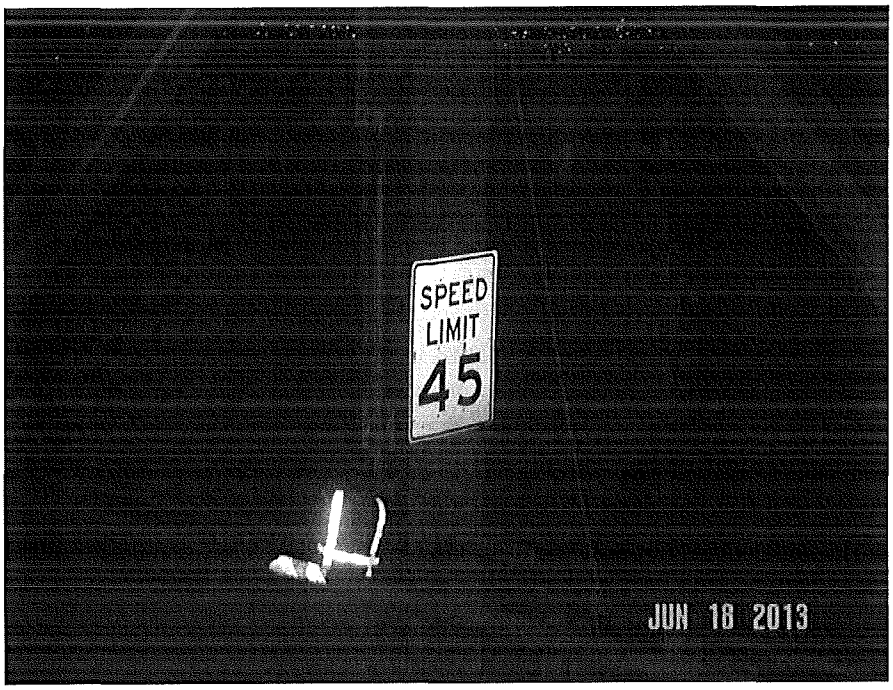

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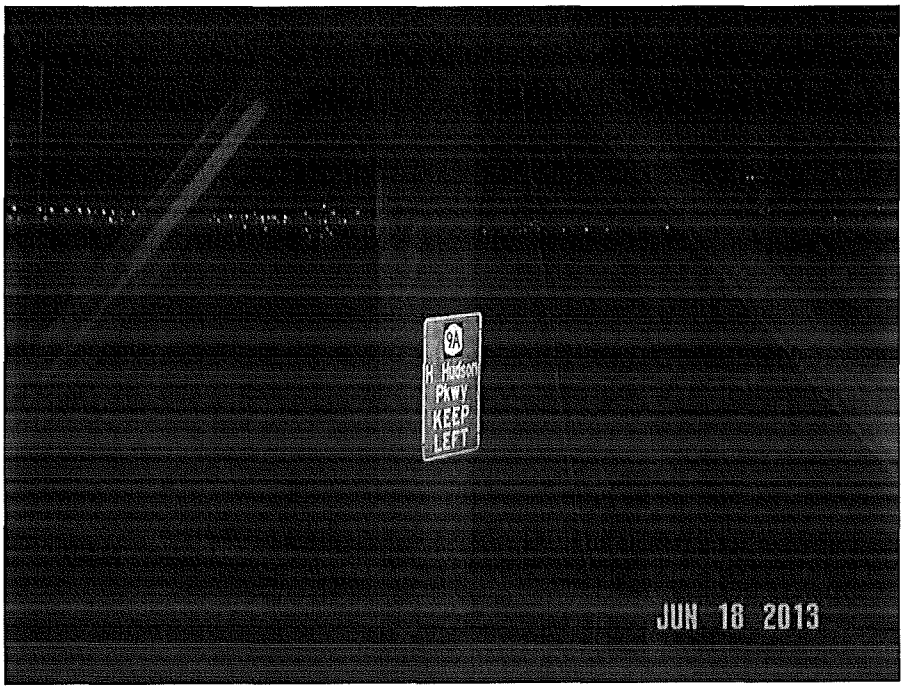

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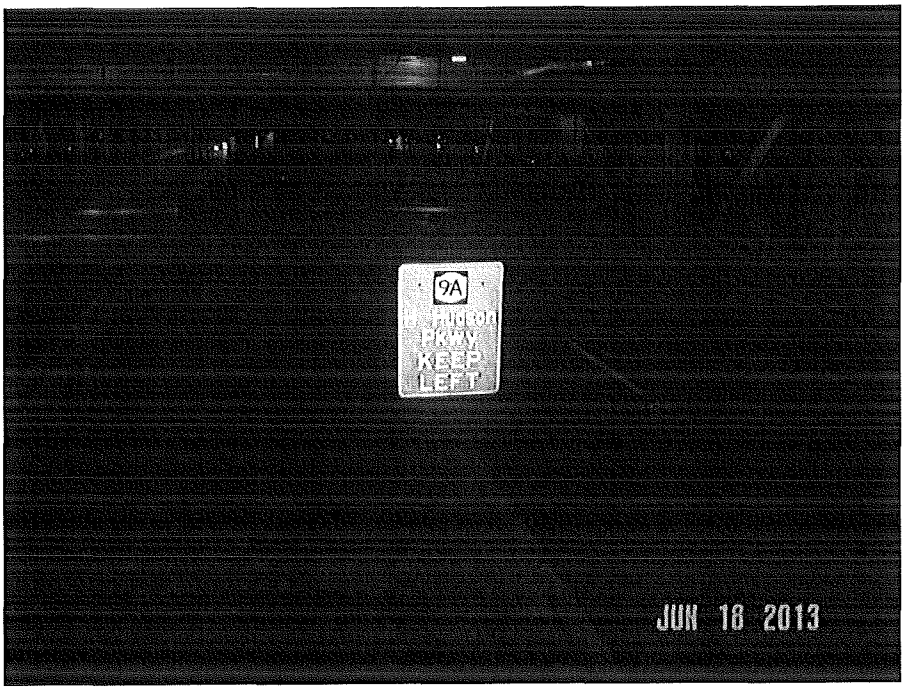
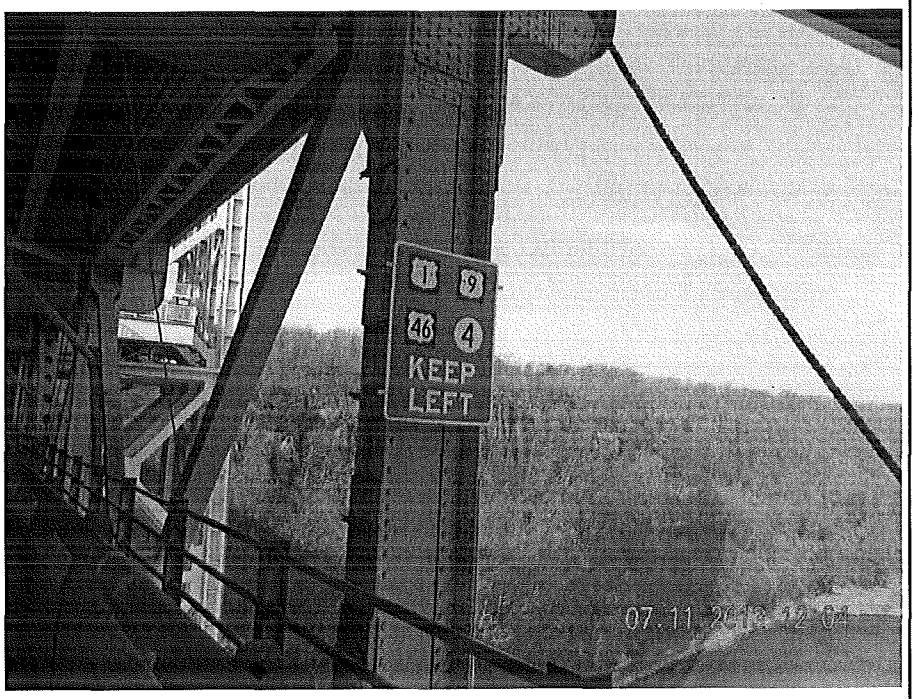


S35A

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES

S37



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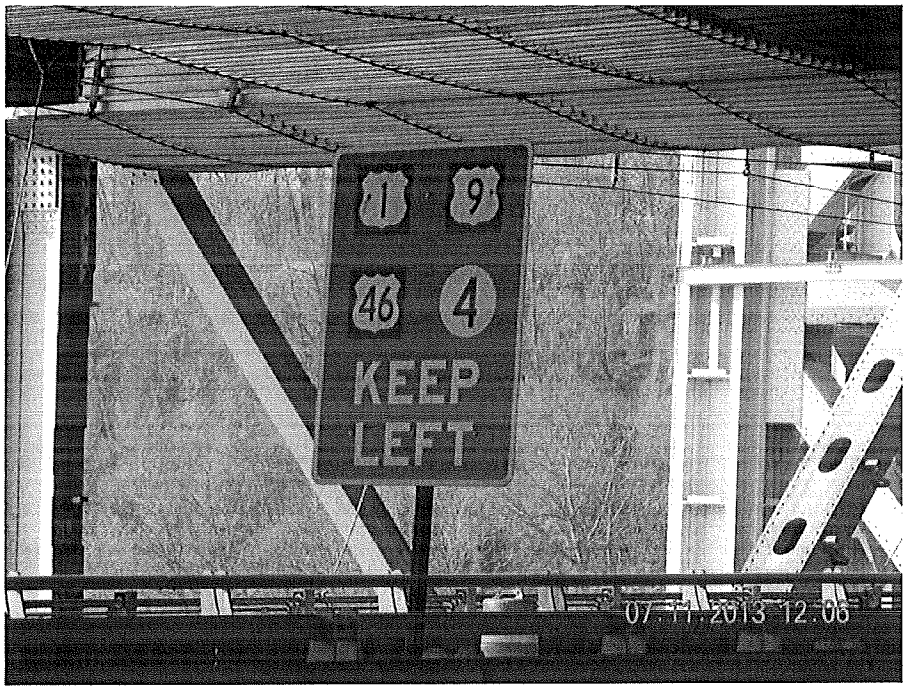
GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



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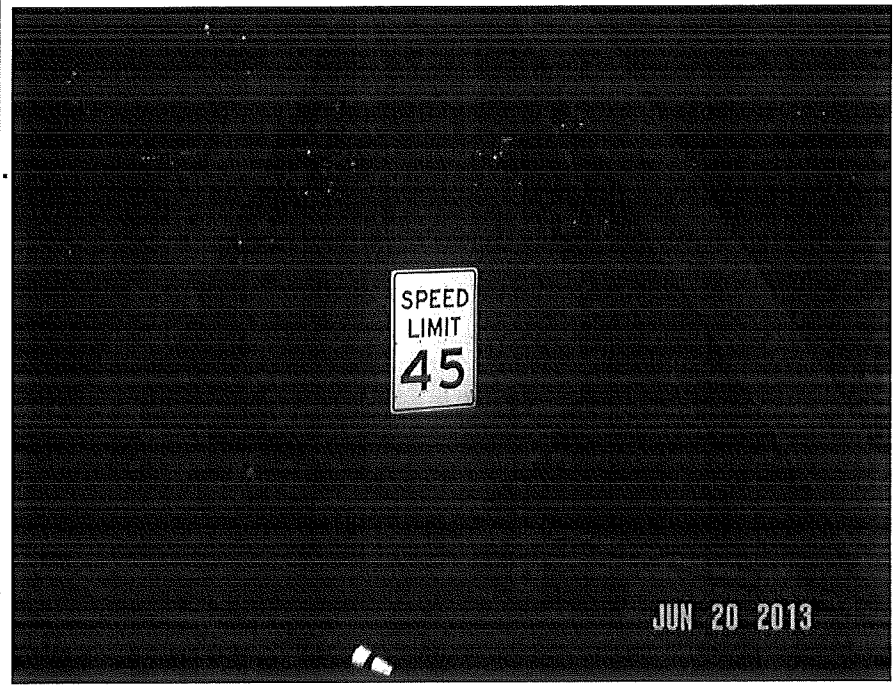

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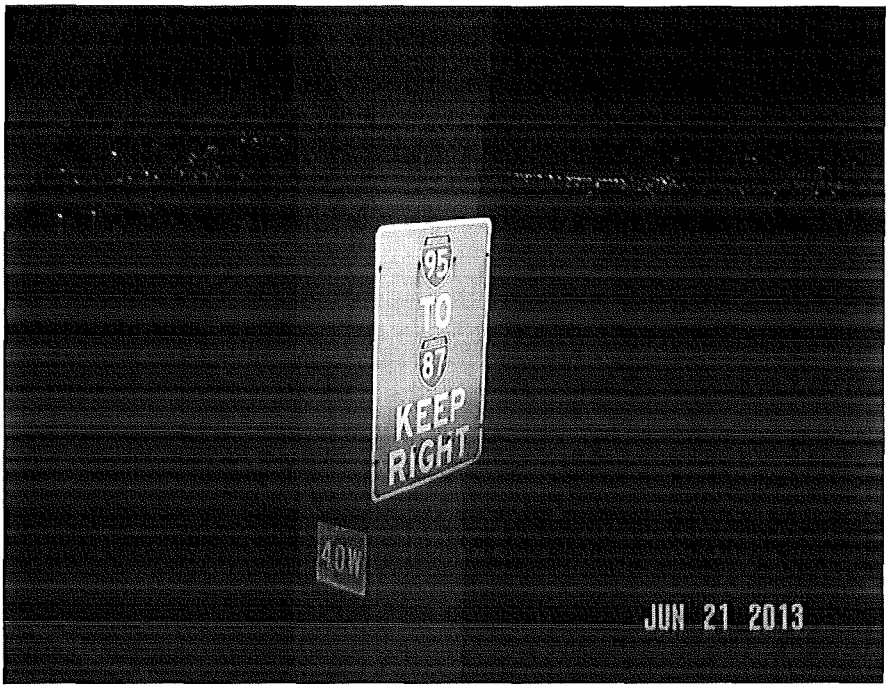
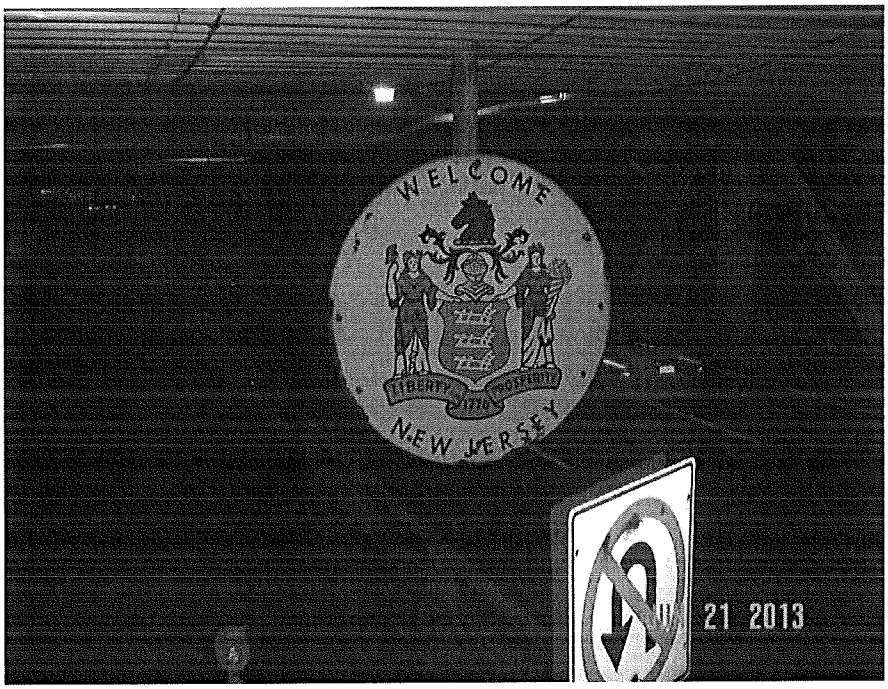


141

141A

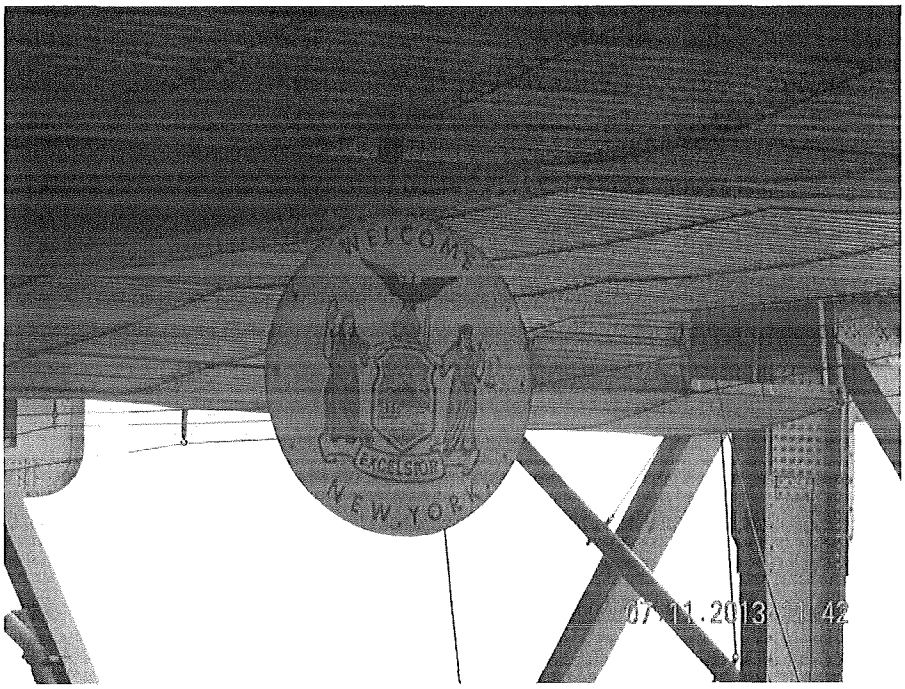
GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES

S40



72A

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES

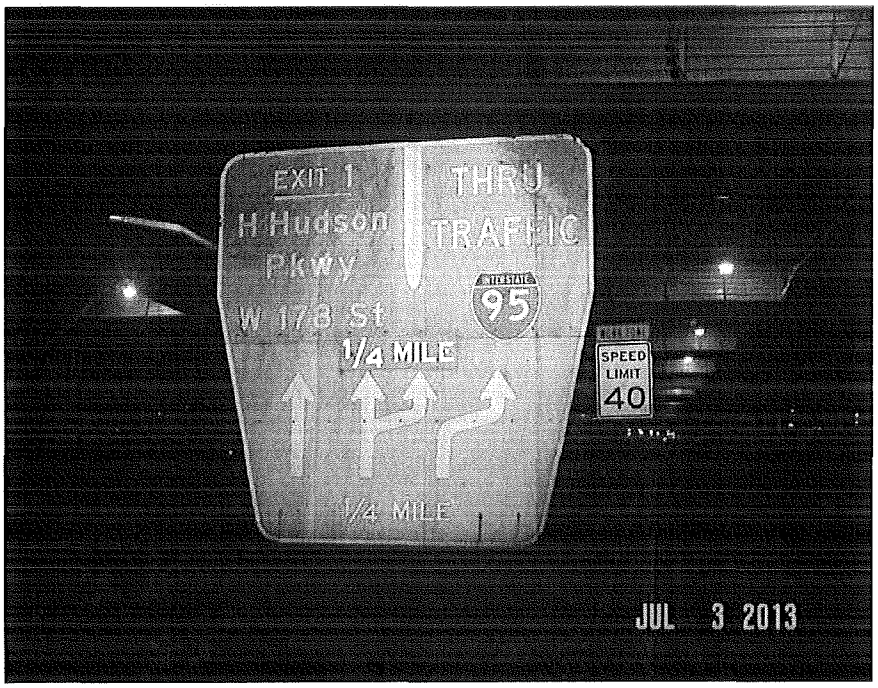


72B

S26

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES

S41



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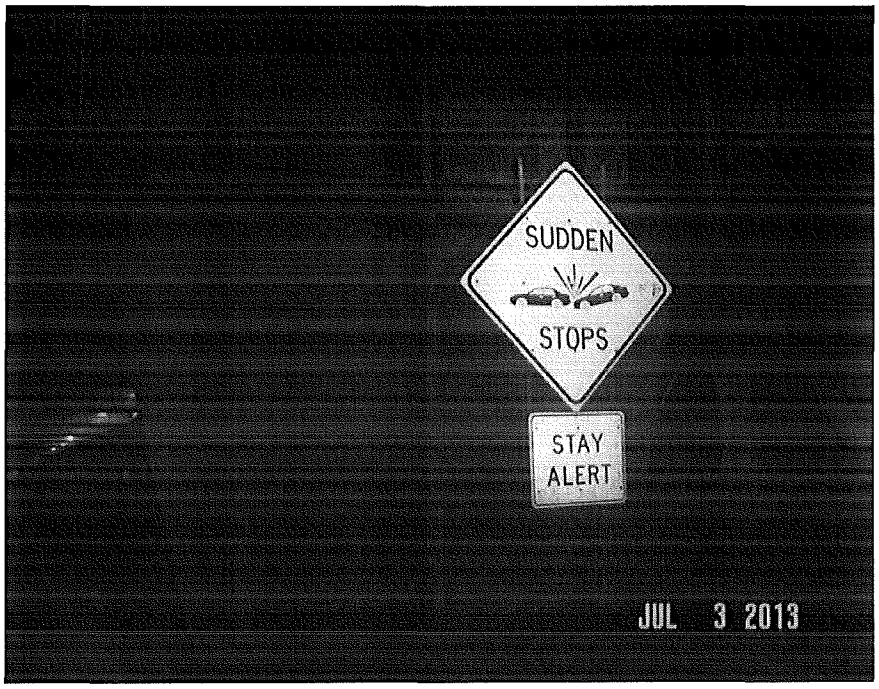
GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



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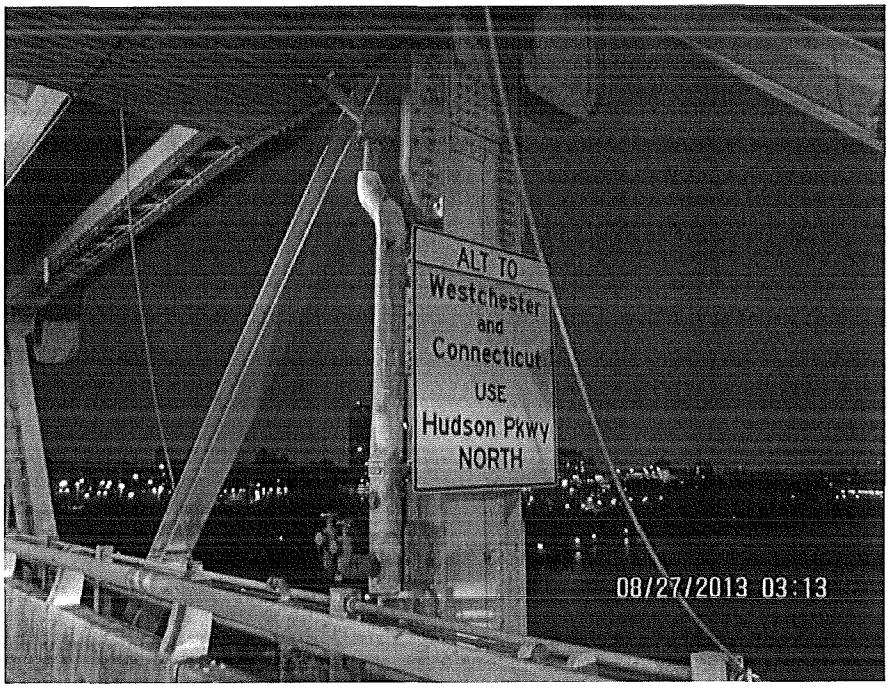


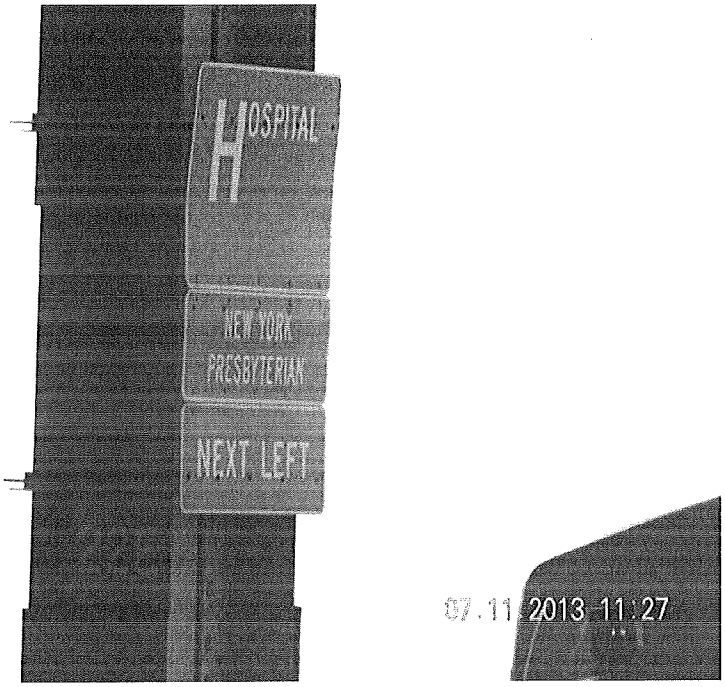
S26A

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES

S28

S30

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



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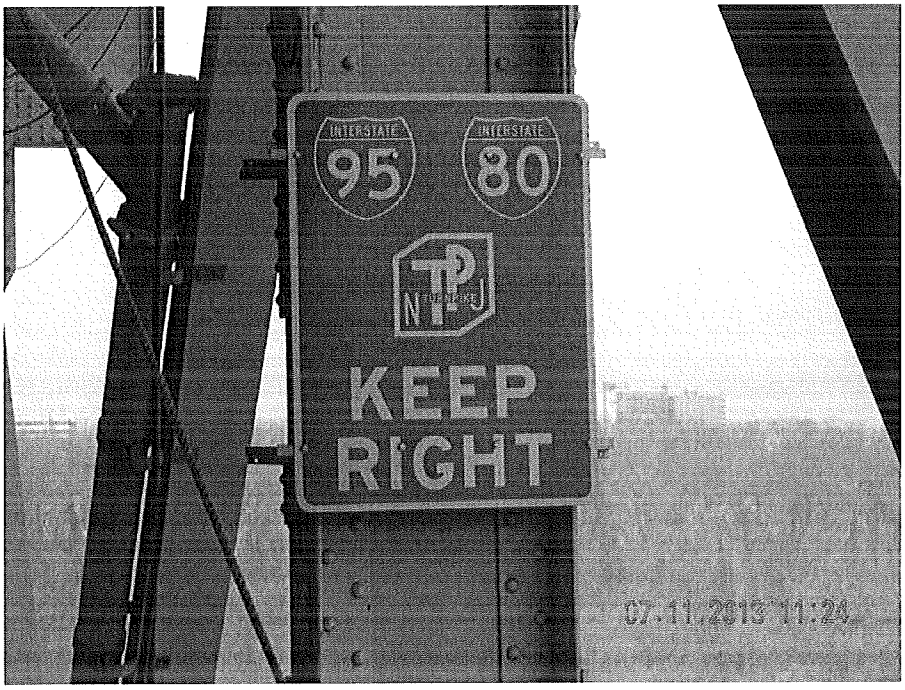

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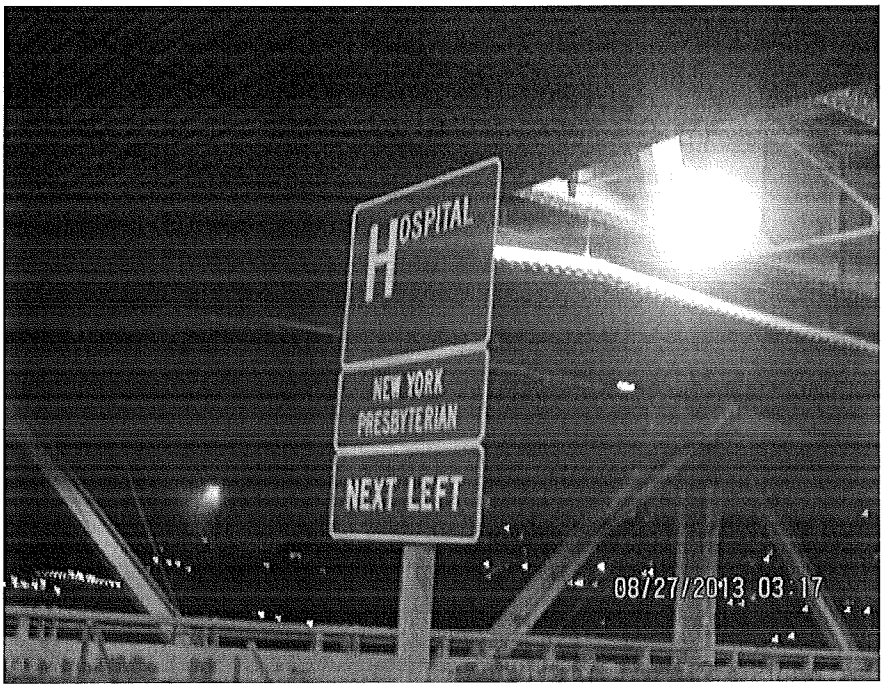

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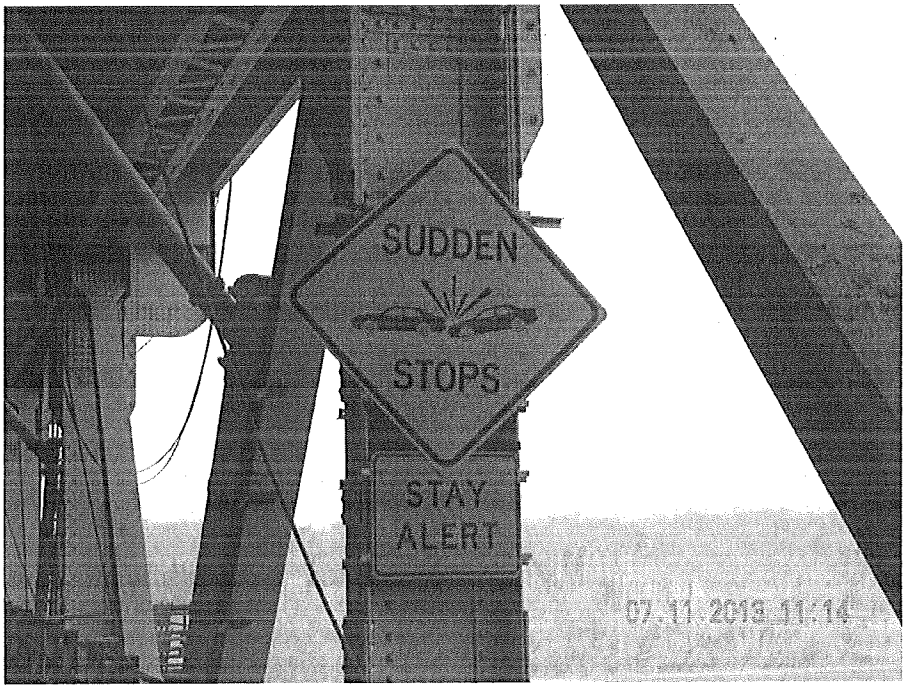

S41A

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES

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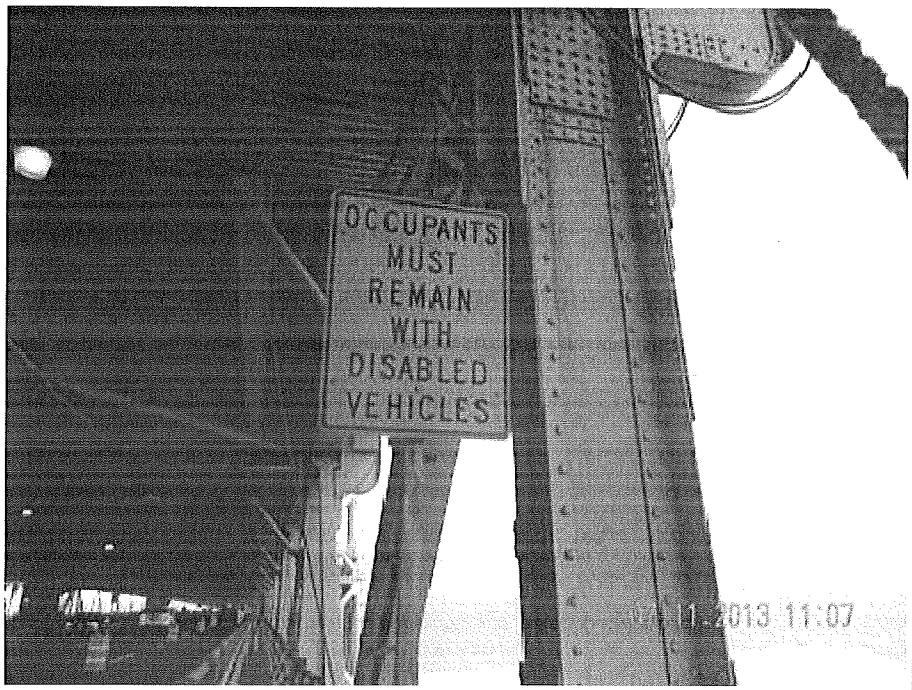
S43

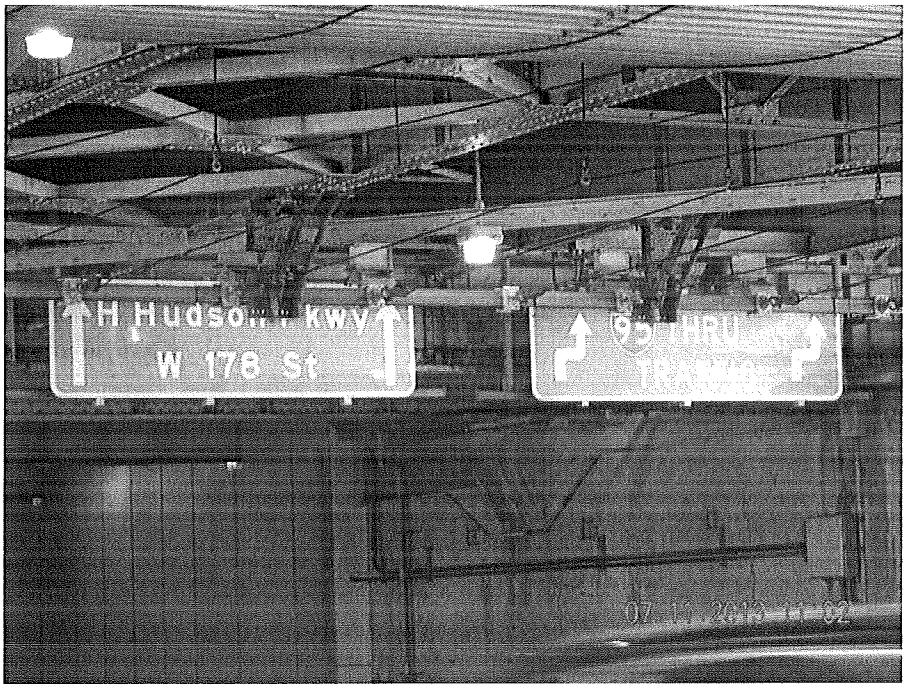
GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



S44

67B

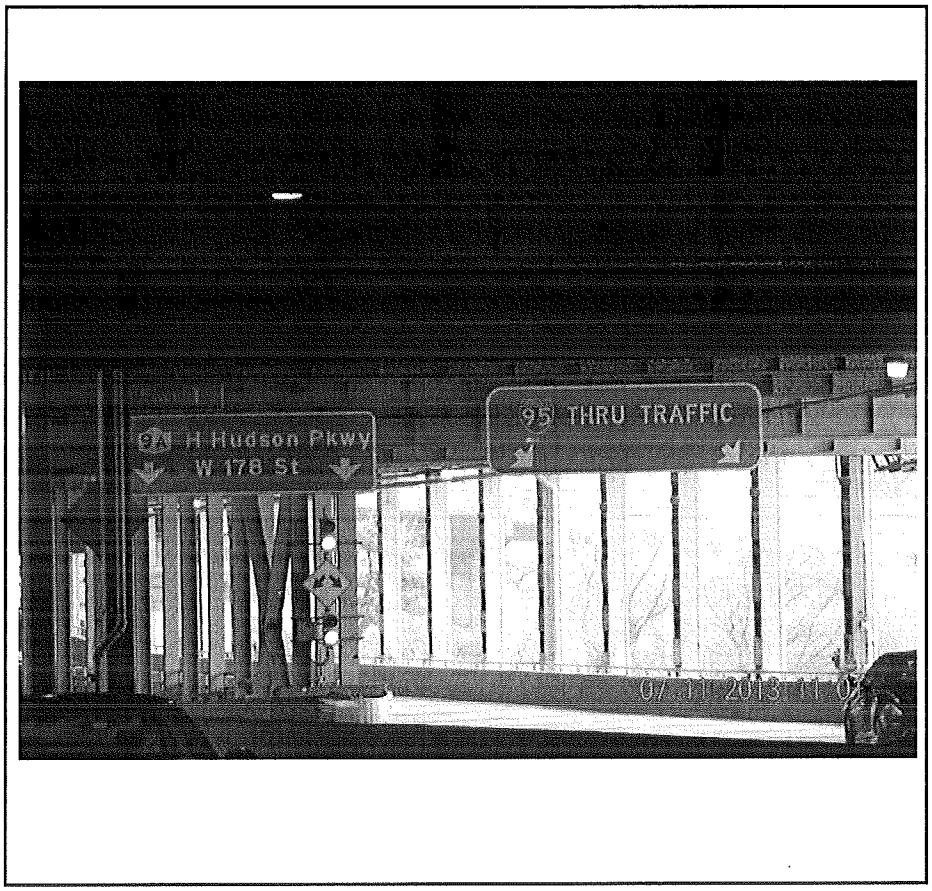
GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



67C & 67D

S45

GEORGE WASHINGTON BRIDGE LOWER LEVEL – SIGN STRUCTURES



S33 & S34

Engineering Quality
Assurance Division
B04-925.110

Port Authority Facility Condition Survey Program

George Washington Bridge Main Span Upper Level 2013 Biennial Inspection

Volume 2 of 2

December 2013

Engineering Department

THE PORT AUTHORITY OF NY & NJ

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Volume 2

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Appendix A
Orthotropic Deck – Cracked Rib Welds Table

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
2W-3W	B2	R52	E	FW	4
2W-3W	B7	R2	W	½	6
2W-3W	**B7**	**R67**	**E**	**½**	**2**
2W-3W	B12	R3	E	½	6
2W-3W	B12	R4	E	¼	6
2W-3W	B12	R17	W	1	6
3W	RISER BEAM	R2	E	3	4
3W	RISER BEAM	R3	E	FW	4
3W	RISER BEAM	R4	E	FW	4
3W	RISER BEAM	R6	E	2	4
3W	RISER BEAM	R7	E	2	4
3W	RISER BEAM	R12	E	1 ½	6
3W	RISER BEAM	R52	E	FW	4
3W-4W	**B1**	**R6**	**E**	**1 ½**	**2**
3W-4W	B1	R7	E	1 ½	4
3W-4W	B1	R8	E	1	4
3W-4W	B1	R9	E	1	6
3W-4W	B1	R11	E	1	4
3W-4W	B1	R21	E	1	6
3W-4W	B1	R28	E	1	6
3W-4W	B1	R38	E	1	6
3W-4W	B2	R2	W	FW	4
3W-4W	**B2**	**R61**	**E**	**2 ½**	**2**
3W-4W	**B10**	**R12**	**E**	**1 ½**	**2**
3W-4W	B11	R38	E	2	4
3W-4W	B11	R56	E	¾	6
3W-4W	B11	R64	E	2	6
3W-4W	**B11**	**R66**	**W**	**½**	**2**
3W-4W	B12	R8	W	½	4
3W-4W	B12	R17	W	1 ¼	4
3W-4W	B12	R30	W	FW	4
3W-4W	B12	R46	W	FW	6
3W-4W	B12	R47	W	FW	6
3W-4W	B12	R54	W	1	4
3W-4W	B12	R56	W	2	4
3W-4W	B12	R58	W	2 ½	4
3W-4W	B12	R61	W	1	6
3W-4W	B12	R63	W	FW	6
3W-4W	B12	R64	W	FW	6
3W-4W	B12	R65	W	FW	6
3W-4W	B12	R66	W	FW	6
3W-4W	B12	R67	W	2 ½	6
3W-4W	B12	R68	W	3	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
3W-4W	B12	R69	W	2 ½	6
4W	RISER BEAM	R3	E	3 ¾	6
4W	RISER BEAM	R5	E	2	6
4W	RISER BEAM	R8	E	1 ¼	6
4W	RISER BEAM	R10	E	1 ½	4
4W	RISER BEAM	R11	E	1 ¾	4
4W	RISER BEAM	R12	E	3	4
4W	RISER BEAM	R13	E	2	4
4W	RISER BEAM	R14	E	2 & 1	6
4W	RISER BEAM	R15	E	2	4
4W	RISER BEAM	R16	E	FW	4
4W	RISER BEAM	R21	E	2	4
4W	**RISER BEAM**	**R22**	**E**	**½**	**2**
4W	RISER BEAM	R23	E	1 ½	4
4W	RISER BEAM	R25	E	1	4
4W	RISER BEAM	R45	E	3	4
4W	RISER BEAM	R50	E	2 ¼	4
4W	RISER BEAM	R51	E	2	6
4W	RISER BEAM	R58	E	2 ½	4
4W	RISER BEAM	R62	E	¼	6
4W	RISER BEAM	R66	E	2 ½	4
4W	RISER BEAM	R67	E	½	6
4W	RISER BEAM	R68	E	1 ½	6
4W	RISER BEAM	R69	E	2	6
4W-5W	**B1**	**R1**	**W**	**FW**	**2**
4W-5W	B1	R10	W	FW	4
4W-5W	B1	R11	E	1 ⅞	4
4W-5W	B1	R12	E	2 ¼	4
4W-5W	B1	R28	W	2	6
4W-5W	**B1**	**R32**	**E**	**2**	**2**
4W-5W	**B1**	**R34**	**W**	**2**	**2**
4W-5W	B1	R34	E	1 ½	4
4W-5W	B1	R41	E	¼ & ¼	6
4W-5W	B1	R42	E	½ & ¼	6
4W-5W	B1	R42	W	½ & ¼	6
4W-5W	B1	R43	E	½ & ½	6
4W-5W	B1	R43	W	1 & ½	6
4W-5W	B1	R51	E	3	4
4W-5W	B1	R60	E	¼	6
4W-5W	B1	R60	W	½	6
4W-5W	B1	R63	W	1 ¼	6
4W-5W	**B2**	**R10**	**W**	**2**	**2**
4W-5W	**B2**	**R19**	**E**	**½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
4W-5W	**B2**	**R19**	**W**	**FW**	**2**
4W-5W	**B2**	**R28**	**W**	**FW**	**2**
4W-5W	**B2**	**R29**	**W**	**1 ½**	**2**
4W-5W	**B2**	**R30**	**W**	**2 ½**	**2**
4W-5W	**B4**	**R10**	**W**	**1**	**2**
4W-5W	**B4**	**R17**	**W**	**¼**	**2**
4W-5W	**B4**	**R19**	**E**	**¼**	**2**
4W-5W	**B4**	**R19**	**W**	**½**	**2**
4W-5W	**B4**	**R63**	**W**	**1**	**2**
4W-5W	**B5**	**R19**	**E**	**¼**	**2**
4W-5W	**B5**	**R19**	**W**	**¼**	**2**
4W-5W	**B5**	**R61**	**E**	**½**	**2**
4W-5W	**B6**	**R21**	**E**	**1 ¼**	**2**
4W-5W	**B7**	**R21**	**W**	**1 ½**	**2**
4W-5W	**B8**	**R19**	**E**	**¼**	**2**
4W-5W	**B8**	**R20**	**E**	**2**	**2**
4W-5W	**B9**	**R19**	**E**	**¼**	**2**
4W-5W	B11	R20	W	FW	4
4W-5W	**B11**	**R26**	**E**	**2**	**2**
4W-5W	B11	R34	W	1	6
4W-5W	B11	R35	W	1 ½	6
4W-5W	B12	R12	W	FW	4
4W-5W	B12	R21	W	1	4
4W-5W	B12	R23	W	3	4
4W-5W	B12	R24	W	½	6
4W-5W	B12	R32	W	¾	6
4W-5W	B12	R33	W	1	6
4W-5W	B12	R46	W	1 ½	6
4W-5W	B12	R49	W	1	6
4W-5W	B12	R51	W	2 ½	6
4W-5W	B12	R57	W	1 ½	4
4W-5W	B12	R58	W	2 ½	4
4W-5W	B12	R60	W	3	4
4W-5W	B12	R61	W	FW	4
4W-5W	B12	R62	W	FW	6
4W-5W	B12	R64	W	FW	4
4W-5W	B12	R66	W	FW	4
4W-5W	B12	R68	W	1 ½	4
5W	RISER BEAM	R1	E	1	4
5W	RISER BEAM	R2	E	2 ½	4
5W	RISER BEAM	R3	E	FW	4
5W	RISER BEAM	R4	E	3	4
5W	RISER BEAM	R5	E	3 ½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
5W	RISER BEAM	R6	E	3 ½	4
5W	RISER BEAM	R7	E	3	4
5W	RISER BEAM	R8	E	3 ½	4
5W	RISER BEAM	R10	E	3	4
5W	RISER BEAM	R11	E	3	4
5W	RISER BEAM	R12	E	1 ¼	4
5W	RISER BEAM	R13	E	2	4
5W	RISER BEAM	R17	E	¾	6
5W	RISER BEAM	R21	E	2	4
5W	RISER BEAM	R31	E	1	6
5W	RISER BEAM	R32	E	3	6
5W	RISER BEAM	R47	E	3	6
5W	**RISER BEAM**	**R49**	**E**	**2**	**2**
5W	**RISER BEAM**	**R50**	**E**	**½**	**2**
5W	**RISER BEAM**	**R51**	**E**	**2**	**2**
5W	RISER BEAM	R59	E	1 ½	4
5W	RISER BEAM	R60	E	2 ½	4
5W	RISER BEAM	R61	E	½	4
5W	**RISER BEAM**	**R64**	**E**	**½**	**2**
5W	**RISER BEAM**	**R65**	**E**	**1**	**2**
5W-6W	B1	R2	W	2	4
5W-6W	B1	R3	W	FW	4
5W-6W	B1	R8	E	3	6
5W-6W	B1	R28	W	FW	4
5W-6W	B1	R30	E	3	4
5W-6W	B1	R30	W	FW	4
5W-6W	B1	R32	W	FW	4
5W-6W	**B1**	**R33**	**W**	**2**	**2**
5W-6W	**B1**	**R34**	**W**	**FW**	**2**
5W-6W	**B1**	**R36**	**W**	**½**	**2**
5W-6W	B1	R41	E	½ & ¼	6
5W-6W	B1	R42	E	¼	6
5W-6W	B1	R43	E	½ & ¼	6
5W-6W	B1	R51	E	2 ½	4
5W-6W	B1	R68	E	FW	4
5W-6W	B1	R69	E	FW	4
5W-6W	**B2**	**R62**	**E**	**3**	**2**
5W-6W	**B3**	**R13**	**E**	**1**	**2**
5W-6W	B7	R36	W	1	6
5W-6W	B9	R9	W	1	6
5W-6W	B9	R11	E	1 ¾	4
5W-6W	B10	R14	W	1	6
5W-6W	B11	R5	E	1	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
5W-6W	B11	R6	E	1 ½	4
5W-6W	B11	R7	E	2	4
5W-6W	B11	R8	E	FW	4
5W-6W	B11	R12	E	FW	4
5W-6W	B11	R12	W	1	4
5W-6W	B11	R13	E	1	4
5W-6W	B11	R13	W	½	4
5W-6W	**B11**	**R14**	**E**	**1**	**2**
5W-6W	B11	R14	W	1 ½	4
5W-6W	B11	R17	W	2	4
5W-6W	B11	R36	W	1	6
5W-6W	B11	R37	E	1	6
5W-6W	B11	R37	W	1 ½	6
5W-6W	B11	R43	E	FW	4
5W-6W	B11	R44	E	1	4
5W-6W	**B11**	**R66**	**W**	**2**	**2**
5W-6W	B12	R11	W	2 ½	4
5W-6W	B12	R14	W	1 ¼	4
5W-6W	B12	R33	W	1	4
5W-6W	B12	R34	W	1 ½	4
5W-6W	B12	R45	W	2	6
5W-6W	B12	R47	W	2	4
5W-6W	B12	R48	W	2	4
5W-6W	B12	R49	W	½	6
5W-6W	B12	R51	W	FW	4
5W-6W	B12	R52	W	4	4
5W-6W	B12	R60	W	1 ½	6
5W-6W	B12	R63	W	FW	4
5W-6W	B12	R64	W	FW	4
5W-6W	B12	R65	W	1	4
5W-6W	B12	R67	W	2	4
5W-6W	B12	R69	W	3	4
6W	RISER BEAM	R7	E	3 ½	4
6W	**RISER BEAM**	**R21**	**E**	**2 ½**	**2**
6W	**RISER BEAM**	**R22**	**E**	**2**	**2**
6W	**RISER BEAM**	**R43**	**E**	**2**	**2**
6W	RISER BEAM	R45	E	¼	4
6W	RISER BEAM	R46	E	2	4
6W	RISER BEAM	R47	E	¼	4
6W	RISER BEAM	R53	E	1	4
6W	**RISER BEAM**	**R58**	**E**	**2**	**2**
6W	RISER BEAM	R59	E	2	4
6W	RISER BEAM	R60	E	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
6W	RISER BEAM	R61	E	4	4
6W	RISER BEAM	R66	E	FW	4
6W	RISER BEAM	R67	E	3	4
6W	RISER BEAM	R68	E	1 ½	4
6W-7W	B1	R2	E	FW	4
6W-7W	B1	R2	W	FW	4
6W-7W	B1	R3	W	FW	4
6W-7W	B1	R10	E	1	4
6W-7W	B1	R10	W	FW	4
6W-7W	B1	R11	W	FW	6
6W-7W	B1	R12	W	FW	4
6W-7W	B1	R14	W	1	6
6W-7W	B1	R22	E	FW	6
6W-7W	B1	R24	E	1	6
6W-7W	B1	R45	W	FW	6
6W-7W	B1	R54	W	¾	4
6W-7W	B1	R60	W	½	6
6W-7W	B2	R11	W	FW	4
6W-7W	B2	R12	W	2 ½	4
6W-7W	B2	R19	E	⅜	4
6W-7W	B2	R19	W	FW	4
6W-7W	B2	R62	W	2 ½	4
6W-7W	B3	R19	W	1 ½	4
6W-7W	B4	R19	E	½	4
6W-7W	B4	R19	W	1	4
6W-7W	**B6**	**R2**	**E**	**FW**	**2**
6W-7W	**B6**	**R59**	**E**	**½**	**2**
6W-7W	B7	R2	W	1	6
6W-7W	B7	R19	E	2	6
6W-7W	B8	R10	W	3	6
6W-7W	B8	R62	W	¾	4
6W-7W	B9	R19	E	¾	4
6W-7W	B9	R19	W	½	4
6W-7W	B9	R61	E	2 ½	4
6W-7W	**B9**	**R61**	**W**	**¾**	**2**
6W-7W	B10	R19	W	½	4
6W-7W	B11	R2	W	FW	4
6W-7W	B11	R3	W	3	4
6W-7W	**B11**	**R12**	**E**	**3 ½**	**2**
6W-7W	B11	R20	E	¾	4
6W-7W	B12	R2	W	FW	4
6W-7W	B12	R19	W	FW	4
6W-7W	B12	R20	W	2 ⅜	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
6W-7W	B12	R24	W	FW	4
6W-7W	B12	R31	W	2	4
6W-7W	B12	R53	W	1	4
6W-7W	B12	R55	W	½ & ¼	6
6W-7W	B12	R56	W	¼	6
6W-7W	B12	R58	W	¼ & ¼	6
6W-7W	B12	R59	W	¼ & ½	6
6W-7W	B12	R60	W	3	4
6W-7W	B12	R62	W	2	4
6W-7W	B12	R63	W	1 & ¾	4
6W-7W	B12	R64	W	1 ½ & ¾	4
6W-7W	B12	R65	W	¼ & ¼	6
7W	**RISER BEAM**	**R19**	**E**	**FW**	**2**
7W	**RISER BEAM**	**R21**	**E**	**3**	**2**
7W	**RISER BEAM**	**R28**	**E**	**2 ½**	**2**
7W	**RISER BEAM**	**R29**	**E**	**2**	**2**
7W	**RISER BEAM**	**R30**	**E**	**1 ½**	**2**
7W	**RISER BEAM**	**R31**	**E**	**2**	**2**
7W	**RISER BEAM**	**R33**	**E**	**3**	**2**
7W	**RISER BEAM**	**R34**	**E**	**4**	**2**
7W	RISER BEAM	R54	E	1	6
7W	RISER BEAM	R55	E	1	6
7W	RISER BEAM	R60	E	1 ½	6
7W	**RISER BEAM**	**R63**	**E**	**1**	**2**
7W	RISER BEAM	R64	E	3	6
7W	RISER BEAM	R66	E	3	6
7W	RISER BEAM	R68	E	1 ¾	6
7W-8W	**B1**	**R11**	**W**	**FW**	**2**
7W-8W	**B1**	**R12**	**W**	**FW**	**2**
7W-8W	B1	R13	E	½	6
7W-8W	**B1**	**R19**	**W**	**1 ½**	**2**
7W-8W	B1	R30	W	3	4
7W-8W	B1	R31	E	2	4
7W-8W	B1	R46	E	2 ½	4
7W-8W	B1	R62	E	1 ½	4
7W-8W	**B1**	**R63**	**W**	**2 ½**	**2**
7W-8W	B1	R64	E	1 ¼	4
7W-8W	B1	R65	E	¼	4
7W-8W	B1	R66	E	2	4
7W-8W	B2	R12	E	2	4
7W-8W	**B2**	**R19**	**E**	**½**	**2**
7W-8W	**B3**	**R2**	**E**	**3**	**2**
7W-8W	**B3**	**R2**	**W**	**3**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
7W-8W	**B3**	**R3**	**W**	**3 ½**	**2**
7W-8W	**B3**	**R5**	**W**	**1**	**2**
7W-8W	**B3**	**R6**	**W**	**2**	**2**
7W-8W	B3	R19	W	3	4
7W-8W	B3	R25	E	3	6
7W-8W	B4	R24	W	FW	6
7W-8W	B4	R25	E	FW	6
7W-8W	B4	R25	W	FW	6
7W-8W	B5	R19	E	FW	4
7W-8W	B5	R19	W	FW	4
7W-8W	B8	R10	W	2 ½	6
7W-8W	**B8**	**R11**	**E**	**1 ½**	**2**
7W-8W	**B8**	**R19**	**E**	**FW**	**2**
7W-8W	**B8**	**R19**	**W**	**1**	**2**
7W-8W	**B9**	**R19**	**E**	**3**	**2**
7W-8W	**B9**	**R19**	**W**	**2**	**2**
7W-8W	B9	R29	W	½	6
7W-8W	B10	R10	W	FW	4
7W-8W	**B10**	**R16**	**W**	**1**	**2**
7W-8W	**B10**	**R19**	**W**	**1**	**2**
7W-8W	B11	R2	E	FW	6
7W-8W	B11	R2	W	3	4
7W-8W	B11	R3	W	3	6
7W-8W	B11	R6	W	½	6
7W-8W	B11	R8	W	½	6
7W-8W	B11	R10	E	FW	4
7W-8W	B11	R14	W	2	4
7W-8W	B11	R16	E	2	4
7W-8W	B11	R24	E	3 ½	4
7W-8W	B11	R28	E	1	4
7W-8W	**B11**	**R30**	**E**	**¾**	**2**
7W-8W	**B11**	**R31**	**E**	**2**	**2**
7W-8W	B12	R2	W	FW	4
7W-8W	B12	R10	W	3	4
7W-8W	B12	R11	W	2	4
7W-8W	B12	R12	W	1 ½	4
7W-8W	B12	R13	W	1 ½	4
7W-8W	B12	R14	W	1	4
7W-8W	B12	R15	W	½	4
7W-8W	B12	R22	W	FW	4
7W-8W	B12	R23	W	FW	4
7W-8W	B12	R24	W	FW	4
7W-8W	B12	R25	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
7W-8W	B12	R26	W	FW	4
7W-8W	B12	R28	W	1 ½	4
7W-8W	B12	R29	W	1	4
7W-8W	B12	R30	W	1 ½	4
7W-8W	B12	R31	W	1	6
7W-8W	B12	R33	W	2	4
7W-8W	B12	R34	W	3	4
7W-8W	B12	R35	W	1	4
7W-8W	B12	R39	W	1 ½	6
7W-8W	B12	R57	W	2 ½	4
7W-8W	B12	R58	W	2 ½	4
7W-8W	B12	R62	W	3 & 1 ½	4
7W-8W	B12	R64	W	3	4
7W-8W	B12	R65	W	1	4
7W-8W	B12	R66	W	½	4
8W	**RISER BEAM**	**R14**	**E**	**2 ½**	**2**
8W	**RISER BEAM**	**R15**	**E**	**1 ½**	**2**
8W	**RISER BEAM**	**R31**	**E**	**3**	**2**
8W	**RISER BEAM**	**R34**	**E**	**FW**	**2**
8W	RISER BEAM	R46	E	¼	4
8W	RISER BEAM	R47	E	¼	4
8W	RISER BEAM	R61	E	2	4
8W	RISER BEAM	R62	E	3	4
8W-9W	B1	R6	E	½	4
8W-9W	B1	R10	W	1	4
8W-9W	B1	R32	E	1 ½	6
8W-9W	**B1**	**R64**	**W**	**3**	**2**
8W-9W	B1	R65	E	3	4
8W-9W	B1	R65	W	FW	4
8W-9W	**B2**	**R26**	**E**	**2**	**2**
8W-9W	**B2**	**R61**	**E**	**½**	**2**
8W-9W	**B3**	**R19**	**E**	**½ & 1**	**2**
8W-9W	B4	R19	W	½	6
8W-9W	B8	R19	W	1	4
8W-9W	B8	R62	W	1	4
8W-9W	**B10**	**R19**	**W**	**½**	**2**
8W-9W	B10	R46	W	¾	4
8W-9W	**B11**	**R20**	**E**	**3**	**2**
8W-9W	B11	R34	W	FW	6
8W-9W	**B11**	**R43**	**E**	**2**	**2**
8W-9W	**B11**	**R46**	**E**	**3 ½**	**2**
8W-9W	B11	R46	W	3 ½	4
8W-9W	B12	R10	W	2 ¼	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
8W-9W	B12	R21	W	1	4
8W-9W	B12	R22	W	¾	4
8W-9W	B12	R38	W	1 & ¾	6
8W-9W	B12	R41	W	1 ¼	4
8W-9W	B12	R42	W	1	4
8W-9W	B12	R45	W	3	4
8W-9W	B12	R46	W	2	4
8W-9W	B12	R60	W	½	6
8W-9W	B12	R61	W	FW	6
8W-9W	B12	R62	W	1	4
9W	RISER BEAM	R2	E	¼	4
9W	RISER BEAM	R3	E	¾	4
9W	RISER BEAM	R4	E	FW	4
9W	RISER BEAM	R6	E	1 ½	4
9W	RISER BEAM	R7	E	2 ½	4
9W	RISER BEAM	R8	E	FW	6
9W	RISER BEAM	R10	E	FW	4
9W	RISER BEAM	R11	E	3	4
9W	**RISER BEAM**	**R19**	**E**	**3 ½**	**2**
9W	**RISER BEAM**	**R20**	**E**	**1**	**2**
9W	**RISER BEAM**	**R21**	**E**	**3**	**2**
9W	RISER BEAM	R23	E	2 ½	6
9W	RISER BEAM	R24	E	2	4
9W	RISER BEAM	R25	E	1	4
9W	RISER BEAM	R35	E	3	6
9W	**RISER BEAM**	**R36**	**E**	**3**	**2**
9W	RISER BEAM	R40	E	1	6
9W	RISER BEAM	R46	E	2	6
9W	RISER BEAM	R47	E	FW	6
9W	RISER BEAM	R48	E	3	6
9W	**RISER BEAM**	**R49**	**E**	**2**	**2**
9W	**RISER BEAM**	**R50**	**E**	**¾**	**2**
9W	RISER BEAM	R62	E	3	4
9W	RISER BEAM	R63	E	2	4
9W	RISER BEAM	R64	E	3	4
9W	RISER BEAM	R65	E	2	4
9W	RISER BEAM	R67	E	¾	4
9W-10W	B1	R2	E	½	6
9W-10W	B1	R3	E	1	4
9W-10W	B1	R4	E	1 ½	4
9W-10W	B1	R4	W	2	4
9W-10W	**B1**	**R5**	**W**	**2**	**2**
9W-10W	B1	R10	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
9W-10W	B1	R11	W	1	4
9W-10W	B1	R19	E	½	6
9W-10W	B1	R31	E	½	6
9W-10W	**B1**	**R38**	**W**	**FW**	**2**
9W-10W	**B1**	**R39**	**W**	**FW**	**2**
9W-10W	**B1**	**R40**	**W**	**FW**	**2**
9W-10W	**B1**	**R62**	**W**	**FW**	**2**
9W-10W	B1	R65	E	¾	4
9W-10W	**B2**	**R3**	**W**	**2**	**2**
9W-10W	B2	R26	E	¼	4
9W-10W	B5	R9	E	½	6
9W-10W	B6	R53	W	2	4
9W-10W	**B7**	**R19**	**E**	**½**	**2**
9W-10W	**B8**	**R51**	**E**	**½**	**2**
9W-10W	**B8**	**R51**	**W**	**1**	**2**
9W-10W	**B9**	**R51**	**E**	**1**	**2**
9W-10W	B10	R25	E	3	4
9W-10W	B11	R19	W	2	4
9W-10W	B12	R7	W	1	6
9W-10W	B12	R8	W	½	6
9W-10W	B12	R10	W	¾	6
9W-10W	B12	R19	W	3	4
9W-10W	B12	R21	W	1	4
9W-10W	B12	R24	W	1	6
9W-10W	B12	R37	W	2	6
10W	RISER BEAM	R2	W	FW	4
10W	RISER BEAM	R3	W	FW	4
10W	RISER BEAM	R7	W	3	4
10W	RISER BEAM	R8	W	2	6
10W	**RISER BEAM**	**R11**	**W**	**3½**	**2**
10W	**RISER BEAM**	**R12**	**W**	**3**	**2**
10W	RISER BEAM	R18	W	4	6
10W	**RISER BEAM**	**R19**	**W**	**3**	**2**
10W	RISER BEAM	R21	W	FW	4
10W	RISER BEAM	R27	W	FW	6
10W	RISER BEAM	R32	W	3 ½	4
10W	RISER BEAM	R42	W	FW	4
10W	RISER BEAM	R46	W	FW	6
10W	RISER BEAM	R51	W	½	6
10W	RISER BEAM	R52	W	3	6
10W-11W	B1	R17	E	1	4
10W-11W	B3	R37	E	1	6
11W	RISER BEAM	R51	W	2	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
15W	RISER BEAM	R24	E	1	4
15W	RISER BEAM	R29	E	1 ½	4
15W	**RISER BEAM**	**R41**	**E**	**1**	**2**
15W	RISER BEAM	R42	E	2	4
15W	**RISER BEAM**	**R43**	**E**	**1 ½ & 1 ½**	**2**
15W	**RISER BEAM**	**R45**	**E**	**1**	**2**
15W	**RISER BEAM**	**R46**	**E**	**1**	**2**
15W	**RISER BEAM**	**R48**	**E**	**1**	**2**
15W	RISER BEAM	R51	E	2	4
15W	RISER BEAM	R54	E	½	4
15W	**RISER BEAM**	**R56**	**E**	**FW**	**2**
15W	RISER BEAM	R57	E	FW	4
15W	RISER BEAM	R58	E	2	4
15W	RISER BEAM	R59	E	3 ½	4
15W	RISER BEAM	R60	E	3 ¼	4
15W	RISER BEAM	R61	E	FW	4
15W-16W	B1	R10	W	FW	4
15W-16W	B1	R11	W	FW	4
15W-16W	B1	R19	E	1	6
15W-16W	B1	R60	W	1 ½	4
15W-16W	B1	R61	W	FW	4
15W-16W	B5	R52	W	FW	4
15W-16W	**B5**	**R52**	**E**	**FW**	**2**
15W-16W	B10	R19	E	¾	6
15W-16W	B12	R2	W	1 ½	6
15W-16W	B12	R18	E	2 ½	4
16W	RISER BEAM	R2	W	4	4
16W	RISER BEAM	R3	W	1 ½	4
16W	RISER BEAM	R4	W	2 ½	4
16W	RISER BEAM	R5	W	2 ½	4
16W	RISER BEAM	R7	W	FW	4
16W	RISER BEAM	R23	W	½ & 1	6
16W	RISER BEAM	R28	W	FW	4
16W	RISER BEAM	R29	W	¼	4
16W	RISER BEAM	R30	W	2	4
16W	RISER BEAM	R31	W	1	4
16W	**RISER BEAM**	**R32**	**W**	**1**	**2**
16W	RISER BEAM	R33	W	2 ½	6
16W	RISER BEAM	R45	W	1 ½	4
16W	**RISER BEAM**	**R46**	**W**	**1**	**2**
16W	RISER BEAM	R47	W	2	4
16W	RISER BEAM	R52	W	2 ½	4
16W	RISER BEAM	R69	W	2	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
16W-17W	B1	R2	E	FW	4
16W-17W	B1	R3	E	FW	4
16W-17W	B1	R4	E	FW	4
16W-17W	B1	R5	E	¼ & ½	4
16W-17W	B1	R6	E	2	4
16W-17W	B1	R7	E	1 ½	4
16W-17W	B1	R8	E	3	4
16W-17W	B1	R11	E	1 ½	6
16W-17W	B1	R12	E	1 ½	6
16W-17W	B1	R17	E	¼	6
16W-17W	B1	R33	E	½	6
16W-17W	B1	R62	E	1	4
16W-17W	B1	R63	E	¾	4
16W-17W	B2	R2	W	1	4
16W-17W	B2	R3	W	3	4
16W-17W	B3	R11	E	½	6
16W-17W	**B12**	**R2**	**E**	**FW**	**2**
16W-17W	B12	R3	W	3	6
16W-17W	**B12**	**R3**	**E**	**3 ½**	**2**
16W-17W	B12	R8	E	3	4
16W-17W	B12	R10	W	FW	4
16W-17W	B12	R11	W	FW	4
16W-17W	**B12**	**R14**	**E**	**2**	**2**
16W-17W	B12	R17	W	½	4
16W-17W	**B12**	**R17**	**E**	**4**	**2**
16W-17W	B12	R18	W	3	4
16W-17W	B12	R27	E	FW	4
16W-17W	B12	R28	E	FW	4
16W-17W	B12	R29	E	2	4
16W-17W	**B12**	**R34**	**E**	**3 ½**	**2**
16W-17W	B12	R63	E	4	4
16W-17W	B12	R64	E	FW	4
16W-17W	**B12**	**R65**	**E**	**FW**	**2**
16W-17W	**B12**	**R66**	**E**	**3 ½**	**2**
17W	**RISER BEAM**	**R2**	**W**	**1 ½**	**2**
17W	RISER BEAM	R3	W	2	4
17W	RISER BEAM	R5	W	2	4
17W	RISER BEAM	R6	W	FW	4
17W	RISER BEAM	R7	W	2	4
17W	RISER BEAM	R8	W	FW	4
17W	RISER BEAM	R10	W	3	4
17W	RISER BEAM	R11	W	FW	4
17W	**RISER BEAM**	**R12**	**W**	**FW**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
17W	RISER BEAM	R14	W	FW	4
17W	RISER BEAM	R15	W	3	4
17W	RISER BEAM	R16	W	FW	4
17W	RISER BEAM	R17	W	3	4
17W	**RISER BEAM**	**R28**	**W**	**FW**	**2**
17W	**RISER BEAM**	**R29**	**W**	**3**	**2**
17W	**RISER BEAM**	**R30**	**W**	**1 ½**	**2**
17W	**RISER BEAM**	**R35**	**W**	**1**	**2**
17W	RISER BEAM	R52	W	1 ¾	4
17W	RISER BEAM	R61	W	½	4
17W	RISER BEAM	R62	W	3	4
17W	RISER BEAM	R65	W	FW	4
17W	**RISER BEAM**	**R69**	**W**	**FW**	**2**
17W	**RISER BEAM**	**R70**	**W**	**FW**	**2**
17W-18W	B1	R5	E	1 ½	4
17W-18W	B1	R11	E	1 ¾	4
17W-18W	B1	R12	E	½	4
17W-18W	B1	R13	E	2 ½	4
17W-18W	B1	R14	E	1	4
17W-18W	B1	R15	E	2	4
17W-18W	B1	R16	E	1	4
17W-18W	B1	R17	E	3	4
17W-18W	B1	R19	E	2	4
17W-18W	**B1**	**R20**	**E**	**1**	**2**
17W-18W	B1	R22	E	3	4
17W-18W	B1	R24	E	4	4
17W-18W	B1	R25	E	1	4
17W-18W	B1	R26	E	3	4
17W-18W	B1	R29	E	3	4
17W-18W	B1	R30	E	1	6
17W-18W	B1	R45	E	1	6
17W-18W	**B1**	**R46**	**E**	**1**	**2**
17W-18W	**B1**	**R47**	**E**	**1**	**2**
17W-18W	**B2**	**R10**	**E**	**FW**	**2**
17W-18W	B2	R11	E	1	6
17W-18W	**B12**	**R3**	**W**	**FW**	**2**
17W-18W	**B12**	**R19**	**E**	**1 ½**	**2**
17W-18W	**B12**	**R22**	**E**	**1**	**2**
17W-18W	**B12**	**R23**	**E**	**1 ½**	**2**
17W-18W	**B12**	**R24**	**W**	**1**	**2**
17W-18W	**B12**	**R24**	**E**	**2**	**2**
17W-18W	B12	R25	W	2 ½	6
17W-18W	**B12**	**R25**	**E**	**1 ½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
17W-18W	B12	R26	W	1	6
17W-18W	**B12**	**R26**	**E**	**2 ½**	**2**
17W-18W	B12	R28	W	FW	6
17W-18W	B12	R29	W	2 ½	6
17W-18W	**B12**	**R35**	**E**	**2 ½**	**2**
18W	RISER BEAM	R4	W	3	4
18W	**RISER BEAM**	**R8**	**W**	**2**	**2**
18W	RISER BEAM	R10	W	2	4
18W	RISER BEAM	R11	W	3	4
18W	RISER BEAM	R12	W	FW	4
18W	RISER BEAM	R14	W	FW	4
18W	**RISER BEAM**	**R15**	**W**	**1 & 1**	**2**
18W	**RISER BEAM**	**R16**	**W**	**1**	**2**
18W	**RISER BEAM**	**R18**	**W**	**2 ½**	**2**
18W	RISER BEAM	R20	W	1	4
18W	RISER BEAM	R21	W	1	4
18W	RISER BEAM	R22	W	1 ½	4
18W	RISER BEAM	R23	W	2 ½	4
18W	RISER BEAM	R25	W	FW	4
18W	RISER BEAM	R26	W	FW	4
18W	**RISER BEAM**	**R28**	**W**	**2**	**2**
18W	RISER BEAM	R29	W	2	4
18W	RISER BEAM	R30	W	3	4
18W	RISER BEAM	R32	W	1 ½	6
18W	**RISER BEAM**	**R36**	**W**	**3**	**2**
18W	RISER BEAM	R37	W	3 ½	6
18W	**RISER BEAM**	**R43**	**W**	**½**	**2**
18W	RISER BEAM	R45	W	1 ½	4
18W	RISER BEAM	R46	W	3	4
18W	RISER BEAM	R48	W	1	4
18W	**RISER BEAM**	**R49**	**W**	**½**	**2**
18W	**RISER BEAM**	**R50**	**W**	**½**	**2**
18W	RISER BEAM	R51	W	3 ½	4
18W	**RISER BEAM**	**R61**	**W**	**1 ½**	**2**
18W	RISER BEAM	R66	W	1	6
18W	RISER BEAM	R68	W	2	4
18W	RISER BEAM	R69	W	3	4
18W-19W	**B1**	**R45**	**E**	**1 & ½**	**2**
18W-19W	**B1**	**R52**	**E**	**1**	**2**
18W-19W	**B1**	**R56**	**E**	**¼ & ¼**	**2**
18W-19W	**B1**	**R57**	**E**	**1**	**2**
18W-19W	**B2**	**R2**	**W**	**1**	**2**
18W-19W	**B2**	**R2**	**E**	**FW**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
18W-19W	B2	R3	W	FW	2
18W-19W	B2	R3	E	1 ½	2
18W-19W	B2	R4	W	1 & 1	2
18W-19W	B2	R8	W	1 & 1	2
18W-19W	B2	R9	W	1 & 1	2
18W-19W	B2	R9	E	2	2
18W-19W	B2	R10	E	1	2
18W-19W	B2	R11	W	1	2
18W-19W	B2	R11	E	1	2
18W-19W	B2	R12	W	½	2
18W-19W	B2	R12	E	1	2
18W-19W	B2	R13	W	½	2
18W-19W	B2	R13	E	1	2
18W-19W	B2	R16	E	½	2
18W-19W	B2	R18	E	1	2
18W-19W	B3	R10	W	1	2
18W-19W	B3	R10	E	1	2
18W-19W	B3	R11	W	1	2
18W-19W	B3	R11	E	1	2
18W-19W	B3	R12	W	1	2
18W-19W	B3	R12	E	½ & ½	2
18W-19W	B3	R13	W	1	2
18W-19W	B3	R13	E	1	2
18W-19W	B3	R14	W	1	2
18W-19W	B3	R15	W	1	2
18W-19W	B3	R17	E	1	2
18W-19W	B4	R10	W	1	2
18W-19W	B4	R15	W	1	2
18W-19W	B4	R15	E	1	2
18W-19W	B4	R16	W	1	2
18W-19W	B4	R16	E	1	2
18W-19W	B5	R2	E	4	2
18W-19W	B5	R3	E	1	2
18W-19W	B5	R10	W	1	2
18W-19W	B5	R11	W	1	2
18W-19W	B5	R12	W	½ & 1	2
18W-19W	B5	R14	W	½ & 1	2
18W-19W	B5	R15	W	1 ½	2
18W-19W	B5	R18	W	½	2
18W-19W	B6	R1	W	2	2
18W-19W	B6	R2	E	FW	2
18W-19W	B6	R2	W	2	2
18W-19W	B6	R3	E	2	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
18W-19W	B6	R3	W	2	2
18W-19W	B6	R10	W	1	2
18W-19W	B6	R10	E	1	2
18W-19W	B6	R11	E	1	2
18W-19W	B6	R12	W	1	2
18W-19W	B6	R12	E	1	2
18W-19W	B6	R13	E	1	2
18W-19W	B6	R14	E	1	2
18W-19W	B6	R18	E	1	2
18W-19W	B7	R2	E	3 ½	2
18W-19W	B7	R2	W	3 ½	2
18W-19W	B7	R3	E	2	2
18W-19W	B7	R3	W	2	2
18W-19W	B8	R1	E	FW	2
18W-19W	B8	R2	E	FW	2
18W-19W	B8	R2	W	1 ½	2
18W-19W	B8	R3	E	3	2
18W-19W	B8	R3	W	2	2
18W-19W	B9	R1	W	2 ½	2
18W-19W	B10	R1	W	2	2
18W-19W	B12	R1	W	1	2
18W-19W	B12	R2	W	1	2
18W-19W	B12	R2	E	½	2
18W-19W	B12	R3	W	1 ½	2
18W-19W	B12	R3	E	1	2
18W-19W	B12	R4	W	1 & 1	2
18W-19W	B12	R4	E	1	2
18W-19W	B12	R5	W	1 & 1	2
18W-19W	B12	R5	E	1 & 1	2
18W-19W	B12	R6	W	1 & 1	2
18W-19W	B12	R6	E	1 & 1	2
18W-19W	B12	R7	W	2 & 1	2
18W-19W	B12	R7	E	1 & 1	2
18W-19W	B12	R8	W	FW	2
18W-19W	B12	R8	E	1 & 1	2
18W-19W	B12	R9	W	1	2
18W-19W	B12	R9	E	1	2
18W-19W	B12	R10	W	1	2
18W-19W	B12	R10	E	3	2
18W-19W	B12	R11	W	2 ½ & 1	2
18W-19W	B12	R11	E	2 & 1	2
18W-19W	B12	R12	W	1	2
18W-19W	B12	R12	E	1 & 1	2

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
18W-19W	**B12**	**R13**	**W**	**1**	**2**
18W-19W	**B12**	**R13**	**E**	**1 & 1**	**2**
18W-19W	**B12**	**R14**	**W**	**1 & 1**	**2**
18W-19W	**B12**	**R14**	**E**	**1 & 1**	**2**
18W-19W	**B12**	**R15**	**W**	**1 & 1**	**2**
18W-19W	**B12**	**R15**	**E**	**1 & 1**	**2**
18W-19W	**B12**	**R16**	**W**	**1**	**2**
18W-19W	**B12**	**R17**	**W**	**1 & 1**	**2**
18W-19W	**B12**	**R17**	**E**	**½**	**2**
18W-19W	**B12**	**R18**	**E**	**1**	**2**
18W-19W	**B12**	**R45**	**E**	**3**	**2**
18W-19W	**B12**	**R52**	**W**	**2 ½**	**2**
18W-19W	**B12**	**R66**	**E**	**FW**	**2**
19W	RISER BEAM	R1	W	FW	6
19W	RISER BEAM	R3	W	2	6
19W	**RISER BEAM**	**R4**	**W**	**2**	**2**
19W	RISER BEAM	R5	W	FW	6
19W	RISER BEAM	R6	W	1 & 2 ½	6
19W	RISER BEAM	R7	W	1 ¾	6
19W	RISER BEAM	R8	W	1 ½	6
19W	RISER BEAM	R9	W	1	6
19W	RISER BEAM	R10	W	FW	6
19W	RISER BEAM	R11	W	FW	6
19W	RISER BEAM	R12	W	FW	6
19W	RISER BEAM	R13	W	FW	6
19W	**RISER BEAM**	**R16**	**W**	**1 ½**	**2**
19W	RISER BEAM	R17	W	1 ½	6
19W	RISER BEAM	R18	W	FW	6
19W	**RISER BEAM**	**R40**	**W**	**3 ½**	**2**
19W	**RISER BEAM**	**R46**	**W**	**1**	**2**
19W	RISER BEAM	R52	W	2 ½	6
19W	RISER BEAM	R66	W	3	4
19W	RISER BEAM	R68	W	2	4
19W	RISER BEAM	R69	W	1 ½	4
19W-20W	B1	R61	E	1 ¼ & ½	4
19W-20W	B1	R64	W	2	4
19W-20W	B1	R65	W	FW	4
19W-20W	B1	R66	W	2	4
19W-20W	B2	R63	E	2	6
19W-20W	B2	R63	W	½	6
19W-20W	B2	R64	W	2 ½	4
19W-20W	B2	R65	E	2	4
19W-20W	B2	R65	W	2 ½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
19W-20W	B2	R66	W	2 ½	4
19W-20W	**B5**	**R19**	**W**	**FW**	**2**
19W-20W	**B5**	**R19**	**E**	**FW**	**2**
19W-20W	**B6**	**R19**	**W**	**FW**	**2**
19W-20W	**B6**	**R19**	**E**	**FW**	**2**
19W-20W	B12	R2	E	FW	6
19W-20W	B12	R2	W	FW	6
19W-20W	B12	R3	E	FW	6
19W-20W	B12	R4	E	FW	4
19W-20W	B12	R5	E	FW	4
19W-20W	B12	R6	E	FW	4
19W-20W	B12	R7	E	FW	4
19W-20W	B12	R8	E	FW	4
19W-20W	B12	R10	E	FW	4
19W-20W	**B12**	**R11**	**E**	**1**	**2**
19W-20W	B12	R12	W	3	6
19W-20W	B12	R19	W	½	6
19W-20W	B12	R28	E	FW	4
19W-20W	B12	R28	W	2	6
19W-20W	B12	R29	W	FW	6
19W-20W	B12	R31	E	2 ½	4
19W-20W	B12	R32	E	3	4
19W-20W	**B12**	**R34**	**E**	**FW**	**2**
19W-20W	**B12**	**R58**	**E**	**3 ½**	**2**
19W-20W	**B12**	**R59**	**E**	**1 ½**	**2**
19W-20W	**B12**	**R60**	**E**	**FW**	**2**
19W-20W	**B12**	**R61**	**E**	**2**	**2**
19W-20W	B12	R61	W	1	6
19W-20W	B12	R63	E	FW	6
19W-20W	B12	R63	W	2 ½	6
19W-20W	B12	R64	E	FW	6
19W-20W	B12	R64	W	2	6
19W-20W	B12	R65	E	FW	6
19W-20W	B12	R65	W	1 ¼	6
19W-20W	B12	R66	E	FW	6
19W-20W	B12	R66	W	½	6
19W-20W	B12	R67	W	FW	6
20W	RISER BEAM	R7	W	FW	6
20W	RISER BEAM	R8	W	2	4
20W	RISER BEAM	R13	W	1	4
20W	RISER BEAM	R14	W	1	4
20W	RISER BEAM	R16	W	¼	4
20W	RISER BEAM	R17	W	3	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
20W	**RISER BEAM**	**R20**	**W**	**1 ½**	**2**
20W	RISER BEAM	R21	W	1 ½	4
20W	RISER BEAM	R29	W	FW	4
20W	RISER BEAM	R30	W	2	4
20W	RISER BEAM	R31	W	3	4
20W	RISER BEAM	R32	W	FW	4
20W	**RISER BEAM**	**R36**	**W**	**1 ¼**	**2**
20W	RISER BEAM	R44	W	FW	4
20W	**RISER BEAM**	**R52**	**W**	**2 ½**	**2**
20W	RISER BEAM	R53	W	1	4
20W	RISER BEAM	R54	W	1 & ½	6
20W	RISER BEAM	R55	W	½ & ¼	6
20W	**RISER BEAM**	**R56**	**W**	**2**	**2**
20W	RISER BEAM	R57	W	FW	6
20W	RISER BEAM	R58	W	FW	6
20W	RISER BEAM	R59	W	3 ½	6
20W	RISER BEAM	R60	W	FW	4
20W	RISER BEAM	R61	W	FW	4
20W	RISER BEAM	R62	W	FW	4
20W	RISER BEAM	R67	W	3	4
20W	RISER BEAM	R68	W	2	4
20W	**RISER BEAM**	**R69**	**W**	**1 ½**	**2**
20W-21W	B1	R3	E	¾	4
20W-21W	B1	R4	E	1 & 1	4
20W-21W	B1	R5	E	½ & 1	4
20W-21W	B1	R6	E	1	4
20W-21W	B1	R7	E	3	4
20W-21W	B1	R11	E	2 ¾	4
20W-21W	B1	R19	E	3 ½	4
20W-21W	B1	R20	E	1 ¼	4
20W-21W	B1	R21	E	1	4
20W-21W	B1	R22	E	1 ½	4
20W-21W	B1	R23	E	1 ½	4
20W-21W	B1	R24	E	1 ½	4
20W-21W	B1	R25	E	1 ¾	4
20W-21W	B1	R28	E	2	4
20W-21W	B1	R32	E	2 ½	4
20W-21W	B2	R3	E	1 ¼	6
20W-21W	B2	R7	E	1 ¼	6
20W-21W	B2	R8	E	1	6
20W-21W	B2	R10	W	1	4
20W-21W	B4	R19	E	1	4
20W-21W	B4	R19	W	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
20W-21W	B5	R19	W	1	6
20W-21W	B6	R19	W	1	6
20W-21W	B12	R8	W	1	6
20W-21W	B12	R26	W	2 ½	6
20W-21W	B12	R52	W	¼	6
20W-21W	**B12**	**R58**	**E**	**1**	**2**
20W-21W	**B12**	**R59**	**E**	**1**	**2**
20W-21W	**B12**	**R60**	**E**	**1**	**2**
20W-21W	B12	R60	W	¾	6
20W-21W	B12	R61	W	FW	4
20W-21W	B12	R65	E	FW	6
20W-21W	**B12**	**R66**	**E**	**1**	**2**
20W-21W	B12	R68	E	½ & ½	6
20W-21W	**B12**	**R69**	**W**	**2**	**2**
20W-21W	B12	R69	E	1 ½	6
21W	RISER BEAM	R7	W	¼	6
21W	**RISER BEAM**	**R10**	**W**	**1 ½**	**2**
21W	RISER BEAM	R11	W	1 ½	6
21W	**RISER BEAM**	**R14**	**W**	**1**	**2**
21W	**RISER BEAM**	**R15**	**W**	**1**	**2**
21W	RISER BEAM	R19	W	3 ½	6
21W	**RISER BEAM**	**R20**	**W**	**1**	**2**
21W	RISER BEAM	R23	W	1	6
21W	RISER BEAM	R24	W	½	6
21W	**RISER BEAM**	**R28**	**W**	**½**	**2**
21W	**RISER BEAM**	**R43**	**W**	**FW**	**2**
21W	RISER BEAM	R46	W	1	4
21W	RISER BEAM	R48	W	1	4
21W	RISER BEAM	R49	W	½	6
21W	**RISER BEAM**	**R56**	**W**	**1 & 1 ½**	**2**
21W	RISER BEAM	R57	W	FW	4
21W	RISER BEAM	R58	W	FW	4
21W	RISER BEAM	R59	W	1 ½	6
21W	RISER BEAM	R60	W	1	6
21W	RISER BEAM	R61	W	FW	4
21W	RISER BEAM	R63	W	FW	4
21W	RISER BEAM	R64	W	FW	4
21W	RISER BEAM	R65	W	FW	4
21W	RISER BEAM	R66	W	2	4
21W	RISER BEAM	R67	W	½	6
21W	RISER BEAM	R68	W	1 ½	6
21W-22W	B1	R21	E	3 ½	4
21W-22W	B1	R22	E	1 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
21W-22W	B1	R23	E	1 ¼	4
21W-22W	B1	R24	E	1 ½	4
21W-22W	B1	R25	E	1 ½	4
21W-22W	B1	R26	E	2	4
21W-22W	B1	R27	E	1 ½	4
21W-22W	**B1**	**R28**	**E**	**¾**	**2**
21W-22W	B1	R30	E	½	4
21W-22W	B1	R45	E	2	4
21W-22W	B1	R52	E	½ & ¼	6
21W-22W	B1	R54	E	½	4
21W-22W	B1	R58	E	1	4
21W-22W	B2	R19	E	FW	4
21W-22W	B2	R19	W	FW	4
21W-22W	**B2**	**R52**	**W**	**¼**	**2**
21W-22W	B2	R61	W	2	6
21W-22W	B2	R66	W	½	6
21W-22W	B4	R19	E	FW	4
21W-22W	B4	R19	W	FW	4
21W-22W	B5	R19	E	FW	4
21W-22W	B5	R19	W	FW	4
21W-22W	B6	R19	W	1	6
21W-22W	B12	R2	W	1	6
21W-22W	B12	R3	W	1	6
21W-22W	**B12**	**R5**	**W**	**1 ½**	**2**
21W-22W	**B12**	**R6**	**W**	**3**	**2**
21W-22W	**B12**	**R6**	**E**	**1 ¼**	**2**
21W-22W	**B12**	**R7**	**W**	**½**	**2**
21W-22W	**B12**	**R7**	**E**	**1 ½**	**2**
21W-22W	B12	R8	W	¼ & 1 ½	6
21W-22W	**B12**	**R8**	**E**	**FW**	**2**
21W-22W	**B12**	**R9**	**W**	**½**	**2**
21W-22W	**B12**	**R9**	**E**	**1**	**2**
21W-22W	**B12**	**R10**	**E**	**1**	**2**
21W-22W	**B12**	**R17**	**W**	**¼ & ½**	**2**
21W-22W	B12	R17	E	1	6
21W-22W	B12	R19	E	2	6
21W-22W	B12	R21	E	1 ¼	6
21W-22W	B12	R25	E	1	6
21W-22W	B12	R25	W	¾	6
21W-22W	B12	R26	E	1 ¼ & 1 ¼	6
21W-22W	B12	R26	W	1 ½	6
21W-22W	B12	R37	W	FW	6
21W-22W	**B12**	**R54**	**W**	**1**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
21W-22W	B12	R61	W	1 ½	4
21W-22W	B12	R62	W	2	4
22W	RISER BEAM	R1	W	3	4
22W	RISER BEAM	R2	W	FW	4
22W	RISER BEAM	R3	W	2	4
22W	RISER BEAM	R4	W	2 ½	4
22W	RISER BEAM	R6	W	2 ½ & ¼	4
22W	**RISER BEAM**	**R7**	**W**	**1**	**2**
22W	**RISER BEAM**	**R12**	**W**	**2 ½**	**2**
22W	RISER BEAM	R21	W	2	4
22W	RISER BEAM	R23	W	¼	6
22W	RISER BEAM	R24	W	½	6
22W	RISER BEAM	R25	W	½	6
22W	RISER BEAM	R26	W	FW	6
22W	**RISER BEAM**	**R29**	**W**	**3**	**2**
22W	**RISER BEAM**	**R30**	**W**	**3**	**2**
22W	RISER BEAM	R31	W	3 ½	6
22W	RISER BEAM	R32	W	2	6
22W	RISER BEAM	R44	W	½	6
22W	RISER BEAM	R47	W	¼	6
22W	**RISER BEAM**	**R48**	**W**	**1**	**2**
22W	RISER BEAM	R52	W	½	6
22W	RISER BEAM	R54	W	FW	4
22W	RISER BEAM	R55	W	¾	4
22W	RISER BEAM	R56	W	½	4
22W	RISER BEAM	R57	W	1 & ½	4
22W	RISER BEAM	R58	W	1 ½	4
22W	RISER BEAM	R59	W	2	4
22W	**RISER BEAM**	**R60**	**W**	**¼**	**2**
22W	RISER BEAM	R61	W	FW	4
22W	RISER BEAM	R62	W	½	4
22W	**RISER BEAM**	**R63**	**W**	**1**	**2**
22W	RISER BEAM	R64	W	1	4
22W	RISER BEAM	R65	W	2 ½	4
22W	RISER BEAM	R66	W	3	4
22W-23W	B1	R2	E	FW	4
22W-23W	B1	R6	E	1	6
22W-23W	B1	R7	E	1 ½	6
22W-23W	B1	R8	E	2	6
22W-23W	B1	R14	E	1 ⅜	4
22W-23W	B1	R14	W	1	6
22W-23W	B1	R21	E	1 ½	4
22W-23W	B1	R22	E	2 ½ & ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
22W-23W	B1	R22	W	2 ½ & ½	6
22W-23W	B1	R23	E	1 & ¾	4
22W-23W	B1	R26	E	1	4
22W-23W	**B1**	**R40**	**E**	**1**	**2**
22W-23W	B1	R43	E	2	6
22W-23W	B1	R44	E	FW	4
22W-23W	B1	R45	E	FW	4
22W-23W	B1	R46	E	2 & ½	4
22W-23W	B1	R48	E	½ & ¼	6
22W-23W	B1	R49	E	¼ & ½	6
22W-23W	B1	R50	E	1 ½ & ½	6
22W-23W	B1	R52	E	1	6
22W-23W	B1	R62	E	¼	4
22W-23W	B1	R63	E	1 ¼	6
22W-23W	B1	R68	E	2	6
22W-23W	B2	R2	W	FW	4
22W-23W	B2	R3	W	2	4
22W-23W	**B2**	**R5**	**W**	**¾**	**2**
22W-23W	B2	R10	W	¼	4
22W-23W	**B2**	**R12**	**W**	**3 ½**	**2**
22W-23W	B2	R22	E	1	6
22W-23W	B2	R23	E	1	6
22W-23W	B2	R24	E	¼	6
22W-23W	B2	R25	E	1	6
22W-23W	B2	R32	E	2	4
22W-23W	B2	R36	W	2	6
22W-23W	B2	R69	W	3	6
22W-23W	B3	R12	W	¾	6
22W-23W	B3	R19	E	FW	4
22W-23W	B3	R19	W	FW	4
22W-23W	B4	R19	E	FW	4
22W-23W	B4	R19	W	FW	4
22W-23W	B5	R19	E	FW	4
22W-23W	**B5**	**R19**	**W**	**FW**	**2**
22W-23W	**B5**	**R52**	**W**	**2**	**2**
22W-23W	B6	R19	E	FW	4
22W-23W	B6	R19	W	FW	4
22W-23W	**B8**	**R19**	**E**	**½**	**2**
22W-23W	**B9**	**R19**	**W**	**¼**	**2**
22W-23W	B9	R19	E	¼	4
22W-23W	B10	R19	E	½	4
22W-23W	B12	R1	W	1	6
22W-23W	B12	R2	W	3	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
22W-23W	B12	R3	E	½ & ¼	6
22W-23W	B12	R3	W	2	6
22W-23W	B12	R4	W	½	6
22W-23W	B12	R5	E	¼	6
22W-23W	B12	R7	W	1	6
22W-23W	B12	R8	E	2 ½	6
22W-23W	B12	R8	W	2	4
22W-23W	B12	R10	E	2 ½	6
22W-23W	B12	R19	E	2	6
22W-23W	B12	R19	W	1	4
22W-23W	**B12**	**R22**	**E**	**1 ½**	**2**
22W-23W	B12	R31	E	FW	6
22W-23W	B12	R32	E	1	6
22W-23W	B12	R33	E	¾	6
22W-23W	B12	R69	E	FW	6
23W	RISER BEAM	R4	W	1 ½	6
23W	**RISER BEAM**	**R5**	**W**	**2**	**2**
23W	RISER BEAM	R6	W	2 ½	6
23W	RISER BEAM	R7	W	2	6
23W	RISER BEAM	R8	W	1 ¾	6
23W	RISER BEAM	R21	W	FW	4
23W	RISER BEAM	R23	W	2	4
23W	RISER BEAM	R29	W	½	4
23W	**RISER BEAM**	**R47**	**W**	**1**	**2**
23W	**RISER BEAM**	**R48**	**W**	**FW**	**2**
23W	RISER BEAM	R50	W	2	6
23W	RISER BEAM	R51	W	2	6
23W	RISER BEAM	R61	W	½	6
23W	RISER BEAM	R62	W	1 ½	6
23W	RISER BEAM	R63	W	½	6
23W	RISER BEAM	R66	W	2 ½	4
23W	RISER BEAM	R67	W	1	4
23W	**RISER BEAM**	**R68**	**W**	**¾**	**2**
23W	RISER BEAM	R69	W	2	4
23W-24W	B1	R5	E	½	6
23W-24W	B1	R6	E	½	6
23W-24W	B1	R7	E	2	6
23W-24W	B1	R8	E	2 ½	4
23W-24W	B1	R10	E	1 ½	4
23W-24W	B1	R11	E	½ & ¼	6
23W-24W	B1	R12	E	1	6
23W-24W	B1	R13	E	1	6
23W-24W	B1	R43	E	¼	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
23W-24W	B1	R49	E	¼	6
23W-24W	B1	R50	E	½	6
23W-24W	B1	R60	E	1 ½	6
23W-24W	B1	R65	E	1	6
23W-24W	B2	R3	W	1	4
23W-24W	B2	R5	E	3 ½	6
23W-24W	B2	R7	E	3	6
23W-24W	**B2**	**R10**	**W**	**¼**	**2**
23W-24W	**B2**	**R52**	**W**	**¼**	**2**
23W-24W	B4	R19	W	1 ¼	4
23W-24W	B5	R19	E	1	4
23W-24W	B6	R19	W	1 ¼	4
23W-24W	B10	R19	W	1 ⅜	4
23W-24W	B11	R19	W	1	4
23W-24W	**B12**	**R2**	**E**	**¼**	**2**
23W-24W	**B12**	**R6**	**E**	**¾**	**2**
23W-24W	**B12**	**R7**	**E**	**1**	**2**
23W-24W	B12	R7	W	¼	6
23W-24W	**B12**	**R8**	**E**	**2**	**2**
23W-24W	B12	R8	W	2	6
23W-24W	B12	R10	W	¼	6
23W-24W	**B12**	**R14**	**E**	**2**	**2**
23W-24W	B12	R19	W	½	4
23W-24W	**B12**	**R32**	**E**	**¾**	**2**
23W-24W	**B12**	**R33**	**E**	**¼**	**2**
23W-24W	**B12**	**R34**	**E**	**1**	**2**
23W-24W	**B12**	**R35**	**E**	**½**	**2**
23W-24W	B12	R37	W	3	6
23W-24W	**B12**	**R64**	**E**	**¾**	**2**
23W-24W	**B12**	**R66**	**E**	**1**	**2**
24W	RISER BEAM	R2	W	2	4
24W	RISER BEAM	R3	W	½	4
24W	RISER BEAM	R4	W	1 ½	4
24W	RISER BEAM	R5	W	¾	4
24W	RISER BEAM	R6	W	¼	4
24W	RISER BEAM	R7	W	1	4
24W	RISER BEAM	R8	W	1 ½	4
24W	RISER BEAM	R12	W	1 ½	4
24W	**RISER BEAM**	**R13**	**W**	**1 ¼**	**2**
24W	RISER BEAM	R22	W	1	4
24W	RISER BEAM	R24	W	1	4
24W	**RISER BEAM**	**R43**	**W**	**1 ½**	**2**
24W	RISER BEAM	R52	W	1	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
24W	**RISER BEAM**	**R57**	**W**	**2**	**2**
24W	**RISER BEAM**	**R59**	**W**	**¼**	**2**
24W	RISER BEAM	R61	W	FW	4
24W	RISER BEAM	R63	W	FW	4
24W	RISER BEAM	R64	W	1 ¼ & ½	4
24W	RISER BEAM	R65	W	2 ½	4
24W	**RISER BEAM**	**R66**	**W**	**2 ½ & 1**	**2**
24W	**RISER BEAM**	**R67**	**W**	**FW**	**2**
24W-25W	B1	R5	E	1	6
24W-25W	B1	R6	E	1 ½	6
24W-25W	**B1**	**R7**	**E**	**¾**	**2**
24W-25W	B1	R11	E	½	6
24W-25W	B1	R12	E	1	6
24W-25W	B1	R16	E	¼	6
24W-25W	B1	R17	E	½	6
24W-25W	B1	R19	E	½	6
24W-25W	B1	R22	E	¼	6
24W-25W	B1	R26	E	1	6
24W-25W	B1	R31	E	¼	6
24W-25W	B1	R34	E	4 ½	6
24W-25W	B1	R38	E	¾	6
24W-25W	B1	R41	E	¼	4
24W-25W	B1	R42	E	½	4
24W-25W	B1	R43	E	1 & ½	4
24W-25W	B1	R45	E	2	4
24W-25W	B1	R46	E	2	4
24W-25W	B1	R48	E	1	6
24W-25W	**B1**	**R53**	**E**	**2**	**2**
24W-25W	B1	R61	E	½	6
24W-25W	B1	R63	E	1	4
24W-25W	B1	R66	E	½	4
24W-25W	B2	R37	W	2	6
24W-25W	**B2**	**R67**	**E**	**2**	**2**
24W-25W	B4	R19	E	FW	6
24W-25W	B4	R19	W	FW	6
24W-25W	B5	R19	E	FW	6
24W-25W	B5	R19	W	FW	6
24W-25W	B8	R60	W	¼	4
24W-25W	**B8**	**R62**	**W**	**1 ½**	**2**
24W-25W	**B8**	**R62**	**E**	**1 ¼**	**2**
24W-25W	B9	R45	E	½	4
24W-25W	B12	R4	W	¾	6
24W-25W	B12	R5	W	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
24W-25W	B12	R6	W	¾	6
24W-25W	B12	R7	W	2	6
24W-25W	B12	R8	W	1 ¾	6
24W-25W	**B12**	**R37**	**E**	**1**	**2**
24W-25W	**B12**	**R37**	**W**	**1**	**2**
24W-25W	**B12**	**R38**	**E**	**1**	**2**
24W-25W	**B12**	**R38**	**W**	**½**	**2**
24W-25W	**B12**	**R39**	**E**	**3**	**2**
24W-25W	B12	R39	W	2	6
24W-25W	B12	R43	W	2	4
24W-25W	B12	R61	W	3	4
24W-25W	**B12**	**R63**	**E**	**2 ½**	**2**
24W-25W	B12	R63	W	1	4
24W-25W	B12	R64	E	1	4
24W-25W	**B12**	**R64**	**W**	**2 ½**	**2**
24W-25W	**B12**	**R65**	**E**	**1**	**2**
24W-25W	**B12**	**R65**	**W**	**FW**	**2**
24W-25W	B12	R68	E	FW	4
24W-25W	B12	R68	W	FW	4
24W-25W	B12	R69	E	FW	4
24W-25W	B12	R69	W	FW	4
24W-25W	B12	R70	E	FW	4
24W-25W	B12	R70	W	FW	4
25W	RISER BEAM	R7	W	2	6
25W	**RISER BEAM**	**R8**	**W**	**2**	**2**
25W	RISER BEAM	R10	W	2 ½	6
25W	RISER BEAM	R18	W	2	6
25W	RISER BEAM	R19	W	4	6
25W	RISER BEAM	R20	W	2 ½	6
25W	RISER BEAM	R21	W	FW	4
25W	RISER BEAM	R22	W	2	4
25W	RISER BEAM	R23	W	2 ¾	4
25W	RISER BEAM	R24	W	¾	4
25W	RISER BEAM	R28	W	FW	4
25W	RISER BEAM	R36	W	2 ½	4
25W	RISER BEAM	R37	W	1 ½	6
25W	**RISER BEAM**	**R39**	**W**	**1**	**2**
25W	RISER BEAM	R41	W	½	6
25W	RISER BEAM	R43	W	1 ½	4
25W	**RISER BEAM**	**R50**	**W**	**2**	**2**
25W	RISER BEAM	R54	W	2 ½	4
25W	**RISER BEAM**	**R58**	**W**	**½**	**2**
25W	RISER BEAM	R61	W	2 ½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
25W	RISER BEAM	R63	W	3	4
25W	RISER BEAM	R64	W	1 ½ & ½	4
25W	RISER BEAM	R65	W	2 ½	4
25W	RISER BEAM	R66	W	2 ¼ & ½	4
25W	RISER BEAM	R67	W	2 & ½	4
25W	RISER BEAM	R68	W	2 & 1	4
25W	RISER BEAM	R69	W	1 ½	4
25W-26W	B1	R8	E	1 ½	6
25W-26W	B1	R20	E	1	6
25W-26W	B1	R22	E	½	4
25W-26W	B1	R22	W	¾	4
25W-26W	B1	R23	E	1 & 2	4
25W-26W	B1	R24	E	FW	4
25W-26W	B1	R24	W	1	4
25W-26W	B1	R25	E	3	4
25W-26W	B1	R26	E	2	4
25W-26W	B1	R26	W	½	4
25W-26W	B1	R27	E	3	4
25W-26W	B1	R28	E	1 ½	4
25W-26W	B1	R29	E	2	4
25W-26W	B1	R29	W	¼	4
25W-26W	B1	R30	W	½	4
25W-26W	B1	R31	W	2	4
25W-26W	B1	R38	E	2 ½	4
25W-26W	B1	R39	E	4	4
25W-26W	B1	R41	E	FW	4
25W-26W	B1	R42	E	FW	4
25W-26W	B1	R43	E	FW	4
25W-26W	B1	R45	E	¼	4
25W-26W	B1	R46	E	¼	4
25W-26W	B1	R47	E	½	4
25W-26W	B1	R52	E	½	4
25W-26W	B1	R54	E	½	4
25W-26W	B1	R55	E	1	4
25W-26W	B1	R56	E	¾	4
25W-26W	B1	R57	E	¾	4
25W-26W	B1	R58	E	¼	4
25W-26W	B1	R63	E	¾ & ½	4
25W-26W	B1	R64	E	¾	4
25W-26W	B1	R65	E	1	4
25W-26W	**B2**	**R6**	**W**	**½**	**2**
25W-26W	B2	R61	W	½	4
25W-26W	B12	R2	W	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
25W-26W	B12	R3	E	FW	6
25W-26W	B12	R3	W	1 ½	6
25W-26W	**B12**	**R10**	**E**	**FW**	**2**
25W-26W	**B12**	**R11**	**E**	**1 ¼**	**2**
25W-26W	**B12**	**R12**	**E**	**1**	**2**
25W-26W	B12	R20	W	1	6
25W-26W	B12	R21	W	2	6
25W-26W	B12	R33	W	FW	6
25W-26W	B12	R34	W	FW	6
25W-26W	**B12**	**R45**	**W**	**3**	**2**
25W-26W	B12	R63	E	4	4
25W-26W	B12	R63	W	1	6
26W	RISER BEAM	R4	W	1 & 1	6
26W	RISER BEAM	R8	W	1	6
26W	**RISER BEAM**	**R10**	**W**	**½**	**2**
26W	RISER BEAM	R12	W	FW	6
26W	RISER BEAM	R13	W	FW	6
26W	RISER BEAM	R19	W	¼	6
26W	RISER BEAM	R20	W	¼ & ½	6
26W	**RISER BEAM**	**R21**	**W**	**½**	**2**
26W	**RISER BEAM**	**R22**	**W**	**1**	**2**
26W	RISER BEAM	R23	W	1 ½ & 1 ½	4
26W	RISER BEAM	R25	W	1	4
26W	**RISER BEAM**	**R26**	**W**	**1**	**2**
26W	RISER BEAM	R28	W	1 ½	4
26W	**RISER BEAM**	**R30**	**W**	**1 & 1 ½**	**2**
26W	RISER BEAM	R31	W	2	4
26W	RISER BEAM	R32	W	2 & 1 ¼	4
26W	RISER BEAM	R33	W	FW	4
26W	RISER BEAM	R34	W	FW	4
26W	**RISER BEAM**	**R43**	**W**	**1**	**2**
26W	**RISER BEAM**	**R44**	**W**	**2**	**2**
26W	RISER BEAM	R45	W	3 ½	4
26W	RISER BEAM	R46	W	1 & ¾	4
26W	RISER BEAM	R47	W	2	4
26W	**RISER BEAM**	**R48**	**W**	**2**	**2**
26W	RISER BEAM	R52	W	3	4
26W-27W	B1	R8	E	½	6
26W-27W	B1	R10	E	1 ½	6
26W-27W	B1	R12	E	1	6
26W-27W	B1	R20	E	½	4
26W-27W	B1	R21	E	½ & ½	4
26W-27W	B1	R22	E	2 ½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
26W-27W	B1	R23	E	½	4
26W-27W	B1	R26	E	1 ½	4
26W-27W	B1	R27	E	1 ½	4
26W-27W	B1	R41	E	1	4
26W-27W	B1	R42	E	½	4
26W-27W	B1	R46	E	1 ¼	4
26W-27W	B1	R62	E	1	4
26W-27W	B1	R63	E	3 ½	4
26W-27W	B1	R64	E	½	4
26W-27W	B1	R65	E	¾	4
26W-27W	B2	R10	E	¼	6
26W-27W	B2	R43	E	1	4
26W-27W	**B2**	**R64**	**W**	**½**	**2**
26W-27W	B5	R23	W	1	6
26W-27W	B10	R65	E	½	4
26W-27W	**B12**	**R19**	**W**	**1**	**2**
26W-27W	**B12**	**R26**	**W**	**FW**	**2**
26W-27W	**B12**	**R26**	**E**	**FW**	**2**
26W-27W	B12	R33	W	3 ½	6
26W-27W	B12	R37	E	FW	6
26W-27W	B12	R38	E	FW	6
26W-27W	B12	R62	E	¾	4
26W-27W	B12	R63	E	FW	4
26W-27W	B12	R64	E	FW	4
26W-27W	B12	R65	E	FW	4
26W-27W	B12	R66	E	FW	4
26W-27W	B12	R66	W	¾	4
26W-27W	B12	R67	E	1 ½	4
26W-27W	B12	R67	W	2	4
26W-27W	**B12**	**R68**	**E**	**1**	**2**
27W	RISER BEAM	R2	W	FW	6
27W	RISER BEAM	R4	W	FW	6
27W	RISER BEAM	R5	W	2 ½	6
27W	RISER BEAM	R6	W	2 ¼ & ½	6
27W	RISER BEAM	R11	W	2	6
27W	RISER BEAM	R12	W	FW	6
27W	RISER BEAM	R13	W	FW	6
27W	RISER BEAM	R14	W	3 ½	6
27W	**RISER BEAM**	**R15**	**W**	**2**	**2**
27W	**RISER BEAM**	**R16**	**W**	**2 ½**	**2**
27W	RISER BEAM	R17	W	2	6
27W	RISER BEAM	R19	W	FW	4
27W	RISER BEAM	R22	W	2 ½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
27W	RISER BEAM	R24	W	2 & 1 ¼	4
27W	**RISER BEAM**	**R25**	**W**	**½**	**2**
27W	RISER BEAM	R26	W	2 ½ & 2	4
27W	**RISER BEAM**	**R28**	**W**	**1**	**2**
27W	RISER BEAM	R33	W	2 & 1 ½	4
27W	RISER BEAM	R34	W	2 & 1 ½	4
27W	RISER BEAM	R35	W	FW	4
27W	RISER BEAM	R41	W	1	4
27W	**RISER BEAM**	**R43**	**W**	**1 ½**	**2**
27W	**RISER BEAM**	**R46**	**W**	**2**	**2**
27W	RISER BEAM	R63	W	FW	4
27W	RISER BEAM	R64	W	½	4
27W	RISER BEAM	R65	W	2 ½	4
27W	RISER BEAM	R66	W	4	4
27W	RISER BEAM	R67	W	FW	4
27W	RISER BEAM	R68	W	FW	4
27W	RISER BEAM	R69	W	FW	4
27W	RISER BEAM	R70	W	FW	4
27W-28W	B1	R19	E	3	6
27W-28W	B1	R20	E	1	6
27W-28W	B1	R22	E	¾ & ¼	6
27W-28W	B1	R23	E	¾	6
27W-28W	B1	R24	E	1	6
27W-28W	B1	R28	E	3	4
27W-28W	B1	R29	E	3	4
27W-28W	B1	R31	E	3	4
27W-28W	B1	R40	E	2	6
27W-28W	B1	R46	E	2	6
27W-28W	B1	R47	E	1	6
27W-28W	B1	R48	E	½	6
27W-28W	B1	R55	E	1	6
27W-28W	B1	R56	E	FW	6
27W-28W	B1	R57	E	2 ½	6
27W-28W	B1	R58	E	½ & ½	6
27W-28W	B1	R59	E	2 & 1	4
27W-28W	B1	R60	E	2 & 1 ½	4
27W-28W	B1	R64	E	1	6
27W-28W	B1	R65	E	¾ & ½	6
27W-28W	B1	R66	E	1	6
27W-28W	**B2**	**R37**	**W**	**¾**	**2**
27W-28W	B2	R61	E	3	4
27W-28W	B2	R66	W	1 ½	6
27W-28W	B2	R67	W	¾	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
27W-28W	**B2**	**R69**	**E**	**½**	**2**
27W-28W	B8	R45	E	½	4
27W-28W	B11	R19	W	½	6
27W-28W	B11	R19	E	½	6
27W-28W	B12	R26	E	2	6
27W-28W	**B12**	**R41**	**E**	**FW**	**2**
27W-28W	**B12**	**R42**	**E**	**3**	**2**
27W-28W	**B12**	**R43**	**E**	**¾**	**2**
27W-28W	B12	R59	W	½	6
27W-28W	B12	R60	W	1	6
27W-28W	B12	R61	W	¾	6
27W-28W	B12	R63	W	FW	6
27W-28W	B12	R64	W	½	6
27W-28W	B12	R65	W	1	6
27W-28W	**B12**	**R66**	**E**	**4**	**2**
27W-28W	B12	R67	E	FW	4
27W-28W	B12	R67	W	½	6
27W-28W	B12	R68	E	1	4
27W-28W	B12	R68	W	¾	6
27W-28W	B12	R69	W	2	4
28W	**RISER BEAM**	**R11**	**W**	**2**	**2**
28W	**RISER BEAM**	**R12**	**W**	**½**	**2**
28W	RISER BEAM	R23	W	FW	4
28W	RISER BEAM	R24	W	2	4
28W	RISER BEAM	R25	W	FW	4
28W	RISER BEAM	R26	W	FW	4
28W	**RISER BEAM**	**R45**	**W**	**2 ½**	**2**
28W	RISER BEAM	R51	W	¼	4
28W	RISER BEAM	R52	W	½	4
28W	**RISER BEAM**	**R59**	**W**	**1**	**2**
28W	RISER BEAM	R60	W	2	4
28W	RISER BEAM	R61	W	½	4
28W	RISER BEAM	R63	W	3 ½	4
28W	RISER BEAM	R64	W	1	4
28W	RISER BEAM	R65	W	FW	4
28W	RISER BEAM	R67	W	2	4
28W	RISER BEAM	R69	W	3	4
28W-29W	B1	R19	E	½	4
28W-29W	B1	R26	E	2	6
28W-29W	B1	R34	E	½	6
28W-29W	B1	R43	E	1	6
28W-29W	B1	R45	E	½	6
28W-29W	B1	R46	E	1 & ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
28W-29W	B1	R47	E	1	6
28W-29W	B1	R48	E	1 ¾	6
28W-29W	B1	R61	E	1 ½	6
28W-29W	B1	R63	E	2 ½	6
28W-29W	B2	R19	W	¼	4
28W-29W	B2	R46	W	¼	6
28W-29W	B2	R63	E	½	6
28W-29W	B2	R63	W	2 ½	6
28W-29W	B2	R64	W	¾	6
28W-29W	B2	R65	E	1	6
28W-29W	B2	R65	W	1	6
28W-29W	B2	R66	E	2	6
28W-29W	B2	R66	W	¾	6
28W-29W	B2	R67	E	1	6
28W-29W	B2	R68	E	¾	6
28W-29W	B2	R69	E	1	6
28W-29W	B4	R46	W	1	6
28W-29W	**B5**	**R19**	**E**	**2**	**2**
28W-29W	B5	R52	W	½	6
28W-29W	**B6**	**R19**	**W**	**FW**	**2**
28W-29W	**B6**	**R19**	**E**	**FW**	**2**
28W-29W	B6	R46	W	¾	6
28W-29W	**B8**	**R19**	**W**	**¼ & ¼**	**2**
28W-29W	**B8**	**R19**	**E**	**¼**	**2**
28W-29W	B8	R52	E	FW	4
28W-29W	B8	R52	W	FW	6
28W-29W	B9	R19	W	½	4
28W-29W	**B9**	**R19**	**E**	**½**	**2**
28W-29W	B9	R52	E	FW	4
28W-29W	B9	R52	W	FW	4
28W-29W	B11	R43	W	¾	6
28W-29W	**B11**	**R68**	**E**	**¼**	**2**
28W-29W	**B11**	**R69**	**E**	**¾**	**2**
28W-29W	**B12**	**R4**	**E**	**¾**	**2**
28W-29W	**B12**	**R5**	**E**	**¾ & ½**	**2**
28W-29W	**B12**	**R6**	**E**	**½ & ½**	**2**
28W-29W	**B12**	**R7**	**E**	**¾**	**2**
28W-29W	B12	R19	W	½	4
28W-29W	B12	R37	W	1	6
28W-29W	B12	R38	W	1	6
28W-29W	B12	R39	W	1	6
28W-29W	**B12**	**R56**	**E**	**1**	**2**
28W-29W	**B12**	**R58**	**E**	**1**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
28W-29W	B12	R59	E	3	4
28W-29W	**B12**	**R60**	**E**	**1**	**2**
28W-29W	**B12**	**R61**	**E**	**FW**	**2**
28W-29W	B12	R63	W	1	6
28W-29W	**B12**	**R63**	**E**	**1**	**2**
28W-29W	B12	R65	W	½	6
28W-29W	**B12**	**R65**	**E**	**3**	**2**
28W-29W	B12	R66	W	1	6
28W-29W	**B12**	**R66**	**E**	**1 ½**	**2**
28W-29W	B12	R67	W	1 ¼	6
28W-29W	**B12**	**R67**	**E**	**2**	**2**
28W-29W	B12	R68	W	¾ & ½	6
28W-29W	**B12**	**R68**	**E**	**FW**	**2**
28W-29W	B12	R69	W	¾	6
28W-29W	**B12**	**R69**	**E**	**FW**	**2**
28W-29W	B12	R70	W	1 ½	6
29W	RISER BEAM	R2	W	FW	4
29W	RISER BEAM	R3	W	2	4
29W	RISER BEAM	R5	W	1	4
29W	RISER BEAM	R6	W	2 ½	4
29W	RISER BEAM	R7	W	FW	4
29W	RISER BEAM	R8	W	3	4
29W	RISER BEAM	R11	W	¾	6
29W	RISER BEAM	R17	W	¼	4
29W	RISER BEAM	R18	W	1 ½	4
29W	**RISER BEAM**	**R20**	**W**	**2 ½**	**2**
29W	RISER BEAM	R35	W	½	6
29W	**RISER BEAM**	**R43**	**W**	**¼**	**2**
29W	RISER BEAM	R57	W	3	4
29W	RISER BEAM	R58	W	1 ½	4
29W	RISER BEAM	R60	W	2	6
29W	RISER BEAM	R61	W	2 ½	6
29W	RISER BEAM	R63	W	1 ½ & ½	4
29W	RISER BEAM	R64	W	2 ½	4
29W	**RISER BEAM**	**R66**	**W**	**¾**	**2**
29W	**RISER BEAM**	**R67**	**W**	**¾**	**2**
29W-30W	B1	R4	E	2	6
29W-30W	B1	R5	E	1 & ½	6
29W-30W	B1	R6	E	2	6
29W-30W	B1	R19	E	2	4
29W-30W	B1	R26	E	½	6
29W-30W	B1	R41	E	1	6
29W-30W	B1	R42	E	2 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
29W-30W	B1	R43	E	½	6
29W-30W	B1	R45	E	1 & ½	6
29W-30W	B1	R46	E	1 & ½	6
29W-30W	B1	R49	E	2	6
29W-30W	**B1**	**R50**	**E**	**1**	**2**
29W-30W	B1	R52	E	1	6
29W-30W	B1	R54	E	2	6
29W-30W	B1	R55	E	2	6
29W-30W	B1	R56	E	2 ½	6
29W-30W	B1	R57	E	1	6
29W-30W	B1	R59	E	1	6
29W-30W	B1	R60	E	2 ½	6
29W-30W	B1	R61	E	½ & ¾	6
29W-30W	B1	R64	E	½	6
29W-30W	**B2**	**R2**	**W**	**½**	**2**
29W-30W	**B2**	**R3**	**W**	**3 ½**	**2**
29W-30W	B2	R3	E	½	6
29W-30W	**B2**	**R4**	**W**	**1**	**2**
29W-30W	B2	R4	E	1	6
29W-30W	B2	R53	W	1 ½	6
29W-30W	B9	R19	W	½	6
29W-30W	B9	R19	E	½	4
29W-30W	B11	R19	W	¼	4
29W-30W	B11	R43	W	1	4
29W-30W	B12	R19	W	½	6
29W-30W	**B12**	**R41**	**E**	**1 ¼**	**2**
29W-30W	B12	R61	W	2 ½	6
29W-30W	B12	R62	E	¼	6
29W-30W	**B12**	**R63**	**E**	**2**	**2**
30W	RISER BEAM	R3	W	½	6
30W	RISER BEAM	R17	W	¼	6
30W	RISER BEAM	R23	W	2 ¾	4
30W	RISER BEAM	R24	W	½	6
30W	RISER BEAM	R27	W	2	4
30W	RISER BEAM	R39	W	1 ½	6
30W	RISER BEAM	R41	W	FW	6
30W	**RISER BEAM**	**R45**	**W**	**1 ½**	**2**
30W	RISER BEAM	R48	W	2	4
30W	RISER BEAM	R57	W	2 ½	6
30W	**RISER BEAM**	**R65**	**W**	**1 ½**	**2**
30W	RISER BEAM	R66	W	¾	4
30W-31W	B1	R13	E	1	4
30W-31W	B1	R26	E	½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
30W-31W	B1	R28	E	½	4
30W-31W	B1	R52	E	1	4
30W-31W	B2	R63	W	¾	6
30W-31W	**B2**	**R64**	**W**	**½**	**2**
30W-31W	**B2**	**R66**	**W**	**¼**	**2**
30W-31W	**B2**	**R67**	**W**	**¼**	**2**
30W-31W	**B2**	**R68**	**W**	**1**	**2**
30W-31W	**B2**	**R69**	**W**	**¼**	**2**
30W-31W	B4	R19	E	½	6
30W-31W	B5	R19	E	1	4
30W-31W	B5	R19	W	½	6
30W-31W	**B6**	**R19**	**E**	**¼**	**2**
30W-31W	**B8**	**R52**	**W**	**¼**	**2**
30W-31W	B9	R19	W	½	4
30W-31W	B9	R52	E	2	6
30W-31W	**B9**	**R55**	**W**	**¼**	**2**
30W-31W	B10	R19	E	FW	4
30W-31W	**B10**	**R52**	**E**	**1**	**2**
30W-31W	B11	R26	W	1	6
30W-31W	B11	R66	W	¼	6
30W-31W	B12	R2	E	¼	6
30W-31W	B12	R24	W	½	6
30W-31W	B12	R26	W	1 ½	6
30W-31W	B12	R32	W	1	6
30W-31W	B12	R34	W	1	6
30W-31W	B12	R37	W	1	4
30W-31W	B12	R39	W	1	4
30W-31W	B12	R63	W	2 ½	6
30W-31W	**B12**	**R63**	**E**	**1**	**2**
30W-31W	B12	R64	W	½	6
30W-31W	**B12**	**R65**	**E**	**¾**	**2**
30W-31W	B12	R66	W	FW	6
30W-31W	**B12**	**R66**	**E**	**¾**	**2**
30W-31W	B12	R67	W	½	6
31W	**RISER BEAM**	**R4**	**W**	**3**	**2**
31W	**RISER BEAM**	**R7**	**W**	**1**	**2**
31W	**RISER BEAM**	**R19**	**W**	**½**	**2**
31W	RISER BEAM	R22	W	½	4
31W	RISER BEAM	R23	W	1 ½	4
31W	RISER BEAM	R24	W	¾	4
31W	RISER BEAM	R25	W	¼ & ¼	4
31W	**RISER BEAM**	**R32**	**W**	**1**	**2**
31W	**RISER BEAM**	**R34**	**W**	**3 ½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
31W	RISER BEAM	R36	W	2 ½	4
31W	RISER BEAM	R37	W	1 ½	4
31W	**RISER BEAM**	**R38**	**W**	**1**	**2**
31W	RISER BEAM	R39	W	FW	4
31W	RISER BEAM	R40	W	FW	4
31W	RISER BEAM	R41	W	FW	4
31W	RISER BEAM	R42	W	3 ½	4
31W	RISER BEAM	R43	W	3 ½	6
31W	RISER BEAM	R44	W	2 ½	4
31W	**RISER BEAM**	**R47**	**W**	**½**	**2**
31W	RISER BEAM	R48	W	1 & ½	4
31W	**RISER BEAM**	**R49**	**W**	**1**	**2**
31W	RISER BEAM	R54	W	¼	4
31W	RISER BEAM	R57	W	2	6
31W	**RISER BEAM**	**R58**	**W**	**¾**	**2**
31W	**RISER BEAM**	**R59**	**W**	**¼**	**2**
31W	RISER BEAM	R60	W	¼	6
31W	RISER BEAM	R62	W	2 ½	4
31W	RISER BEAM	R65	W	2 ½	6
31W	RISER BEAM	R66	W	FW	4
31W	RISER BEAM	R67	W	FW	4
31W	RISER BEAM	R68	W	3	4
31W	RISER BEAM	R69	W	2 ½	4
31W-32W	B1	R8	W	¼	6
31W-32W	B1	R10	E	2 ½	4
31W-32W	B1	R10	W	½	6
31W-32W	B1	R18	E	1	6
31W-32W	B1	R22	E	2	4
31W-32W	B1	R25	E	2	4
31W-32W	**B1**	**R26**	**E**	**½ & ½**	**2**
31W-32W	B1	R32	E	½	6
31W-32W	B1	R33	E	¾	6
31W-32W	B1	R34	E	2	6
31W-32W	B1	R37	E	1 ½	4
31W-32W	B1	R41	E	2	6
31W-32W	B1	R44	E	4	6
31W-32W	B1	R45	E	3 ½	6
31W-32W	B1	R46	E	2	6
31W-32W	B1	R47	E	1 & 1	6
31W-32W	B1	R48	E	1	6
31W-32W	B1	R49	E	¾	6
31W-32W	B1	R52	E	¼	4
31W-32W	B1	R58	E	¾	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
31W-32W	B1	R59	E	½	4
31W-32W	B1	R61	W	2	4
31W-32W	B1	R62	E	3	4
31W-32W	B1	R64	E	2	4
31W-32W	B1	R65	E	3	4
31W-32W	B1	R66	E	2	4
31W-32W	B1	R68	E	¼ & ½	4
31W-32W	B2	R43	E	½	6
31W-32W	**B2**	**R44**	**E**	**½ & ½**	**2**
31W-32W	B2	R63	E	½	6
31W-32W	B2	R63	W	FW	4
31W-32W	B2	R64	W	1	4
31W-32W	B2	R64	E	FW	6
31W-32W	B2	R65	W	1 ½	6
31W-32W	B2	R65	E	FW	6
31W-32W	B2	R66	E	FW	4
31W-32W	B2	R67	W	1 ½	6
31W-32W	B2	R67	E	FW	4
31W-32W	B2	R68	E	FW	6
31W-32W	B2	R69	E	1	6
31W-32W	**B3**	**R67**	**W**	**1**	**2**
31W-32W	B3	R70	E	2 ½	4
31W-32W	B4	R19	E	½	6
31W-32W	B5	R19	E	¼	6
31W-32W	B5	R19	W	½	6
31W-32W	B5	R70	E	1	4
31W-32W	B6	R47	E	¾	6
31W-32W	**B8**	**R47**	**E**	**½**	**2**
31W-32W	B9	R19	E	½	4
31W-32W	B9	R47	E	1	6
31W-32W	B10	R19	E	½	4
31W-32W	B10	R19	W	½	4
31W-32W	B12	R8	E	¼	6
31W-32W	B12	R19	E	½	4
31W-32W	B12	R19	W	½	4
31W-32W	B12	R24	W	¼	6
31W-32W	B12	R32	W	¾	6
31W-32W	B12	R33	W	¾	6
31W-32W	B12	R34	W	FW	6
31W-32W	**B12**	**R34**	**E**	**1 ½**	**2**
31W-32W	**B12**	**R37**	**W**	**FW**	**2**
31W-32W	B12	R39	W	4	6
31W-32W	**B12**	**R39**	**E**	**3 ½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
31W-32W	**B12**	**R44**	**E**	**2 ½**	**2**
31W-32W	**B12**	**R45**	**E**	**2 ½**	**2**
31W-32W	B12	R53	W	3	6
31W-32W	B12	R54	E	1	4
31W-32W	B12	R56	W	2	6
31W-32W	**B12**	**R56**	**E**	**¼**	**2**
31W-32W	**B12**	**R57**	**E**	**2**	**2**
31W-32W	B12	R58	E	FW	4
31W-32W	**B12**	**R59**	**E**	**1 ½**	**2**
31W-32W	B12	R61	E	2	4
31W-32W	B12	R61	W	2 ½	6
31W-32W	B12	R63	W	¼	6
31W-32W	**B12**	**R63**	**E**	**1**	**2**
31W-32W	B12	R64	W	¾	6
32W	RISER BEAM	R5	W	1 ½	4
32W	RISER BEAM	R6	W	1 ½	4
32W	RISER BEAM	R7	W	1	4
32W	**RISER BEAM**	**R8**	**W**	**1**	**2**
32W	RISER BEAM	R11	W	1	4
32W	RISER BEAM	R12	W	½	4
32W	RISER BEAM	R13	W	1 ½	4
32W	RISER BEAM	R18	W	1 & 1	4
32W	RISER BEAM	R19	W	FW	4
32W	RISER BEAM	R20	W	2 ½	4
32W	RISER BEAM	R21	W	½	4
32W	**RISER BEAM**	**R22**	**W**	**1 ½**	**2**
32W	RISER BEAM	R27	W	1 ½	6
32W	RISER BEAM	R32	W	3	6
32W	RISER BEAM	R33	W	½	6
32W	RISER BEAM	R34	W	¼	6
32W	RISER BEAM	R37	W	FW	6
32W	RISER BEAM	R38	W	1	6
32W	RISER BEAM	R39	W	½	6
32W	**RISER BEAM**	**R41**	**W**	**FW**	**2**
32W	**RISER BEAM**	**R43**	**W**	**FW**	**2**
32W	RISER BEAM	R44	W	2	4
32W	RISER BEAM	R52	W	2 ½	4
32W	RISER BEAM	R53	W	3	4
32W	RISER BEAM	R54	W	2 ½	4
32W	**RISER BEAM**	**R56**	**W**	**1**	**2**
32W	RISER BEAM	R57	W	2 & 1	4
32W	RISER BEAM	R58	W	FW	4
32W	RISER BEAM	R59	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
32W	RISER BEAM	R60	W	2 ½ & 1	4
32W	RISER BEAM	R61	W	3	4
32W	**RISER BEAM**	**R62**	**W**	**3**	**2**
32W	RISER BEAM	R63	W	1 ½	4
32W	RISER BEAM	R66	W	¼	4
32W	RISER BEAM	R67	W	1 ½	4
32W	**RISER BEAM**	**R68**	**W**	**½**	**2**
32W-33W	B1	R6	E	½	4
32W-33W	B1	R19	E	FW	6
32W-33W	B1	R19	W	1	4
32W-33W	B1	R21	E	½	6
32W-33W	B1	R22	E	½	6
32W-33W	B1	R23	E	2	4
32W-33W	B1	R24	E	1	4
32W-33W	B1	R25	E	1	4
32W-33W	B1	R26	E	¾	4
32W-33W	B1	R39	E	1	6
32W-33W	B1	R42	E	2	6
32W-33W	B1	R43	E	1 ½	6
32W-33W	B1	R44	E	¾	6
32W-33W	B1	R45	E	2 ¾	6
32W-33W	B1	R46	E	1	4
32W-33W	B1	R47	E	1 & ½	6
32W-33W	B1	R48	E	½	6
32W-33W	B1	R49	E	1 & 1	6
32W-33W	B2	R5	E	¾	6
32W-33W	**B2**	**R7**	**E**	**¼**	**2**
32W-33W	B2	R69	E	1 ½	6
32W-33W	B4	R19	E	¼	6
32W-33W	B4	R19	W	¾	6
32W-33W	B4	R47	W	½	4
32W-33W	B5	R19	E	¼	4
32W-33W	B6	R46	E	½	4
32W-33W	B6	R52	E	½	6
32W-33W	**B12**	**R3**	**E**	**1**	**2**
32W-33W	**B12**	**R4**	**E**	**½**	**2**
32W-33W	**B12**	**R12**	**E**	**½ & ¼**	**2**
32W-33W	B12	R22	W	¾	6
32W-33W	B12	R41	W	FW	6
32W-33W	B12	R53	W	FW	6
32W-33W	**B12**	**R69**	**E**	**2 ½**	**2**
33W	RISER BEAM	R4	W	¾	4
33W	RISER BEAM	R5	W	2	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
33W	RISER BEAM	R6	W	FW	6
33W	RISER BEAM	R7	W	1	4
33W	RISER BEAM	R8	W	2	4
33W	RISER BEAM	R9	W	1 ½	4
33W	RISER BEAM	R10	W	2	4
33W	RISER BEAM	R11	W	FW	4
33W	RISER BEAM	R12	W	FW	4
33W	RISER BEAM	R13	W	FW	4
33W	RISER BEAM	R14	W	FW	4
33W	RISER BEAM	R16	W	½	4
33W	RISER BEAM	R17	W	½	4
33W	RISER BEAM	R18	W	1	4
33W	RISER BEAM	R19	W	FW	4
33W	RISER BEAM	R21	W	1 ¼	4
33W	**RISER BEAM**	**R22**	**W**	**2**	**2**
33W	**RISER BEAM**	**R26**	**W**	**1**	**2**
33W	RISER BEAM	R27	W	2 ½	6
33W	**RISER BEAM**	**R34**	**W**	**½**	**2**
33W	**RISER BEAM**	**R41**	**W**	**2**	**2**
33W	**RISER BEAM**	**R42**	**W**	**3**	**2**
33W	**RISER BEAM**	**R43**	**W**	**1**	**2**
33W	RISER BEAM	R46	W	2	4
33W	RISER BEAM	R47	W	1 & ¾	4
33W	RISER BEAM	R48	W	½	6
33W	**RISER BEAM**	**R49**	**W**	**1**	**2**
33W	RISER BEAM	R50	W	FW	4
33W	RISER BEAM	R51	W	3½	4
33W	RISER BEAM	R52	W	4	4
33W	RISER BEAM	R53	W	½	4
33W	RISER BEAM	R54	W	2 ½	4
33W	**RISER BEAM**	**R64**	**W**	**½**	**2**
33W	RISER BEAM	R65	W	1½	4
33W	RISER BEAM	R69	W	2 ½	6
33W-34W	B1	R27	E	1 ½	4
33W-34W	B1	R30	E	1	4
33W-34W	B1	R45	E	1 ¼ & ½	6
33W-34W	B1	R45	W	½ & 1	6
33W-34W	B1	R46	E	¼ & ½	6
33W-34W	B1	R47	E	¼	6
33W-34W	B1	R48	W	¼	6
33W-34W	B1	R49	E	½	6
33W-34W	B1	R51	E	½	6
33W-34W	B1	R52	E	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
33W-34W	B1	R65	E	½	4
33W-34W	B1	R66	E	½	4
33W-34W	B1	R68	E	1 ½	4
33W-34W	B2	R10	W	FW	6
33W-34W	B2	R19	E	1 ½	6
33W-34W	B2	R41	E	1	6
33W-34W	B2	R41	W	1 ½	6
33W-34W	**B2**	**R62**	**E**	**½**	**2**
33W-34W	B2	R63	W	1	6
33W-34W	B2	R64	W	1	6
33W-34W	B2	R65	W	3 ½	6
33W-34W	B2	R66	E	¾	6
33W-34W	B2	R67	E	¾	6
33W-34W	B2	R68	E	¾	6
33W-34W	B2	R69	E	2	6
33W-34W	**B12**	**R2**	**E**	**1**	**2**
33W-34W	B12	R9	W	½	6
33W-34W	B12	R24	W	1	6
33W-34W	B12	R37	W	3	6
33W-34W	**B12**	**R62**	**E**	**2**	**2**
33W-34W	B12	R63	W	1 ½	6
33W-34W	**B12**	**R63**	**E**	**½**	**2**
34W	**RISER BEAM**	**R10**	**W**	**1**	**2**
34W	**RISER BEAM**	**R12**	**W**	**1**	**2**
34W	**RISER BEAM**	**R13**	**W**	**2 ½**	**2**
34W	**RISER BEAM**	**R17**	**W**	**½**	**2**
34W	RISER BEAM	R21	W	1 & ½	4
34W	**RISER BEAM**	**R31**	**W**	**1**	**2**
34W	RISER BEAM	R32	W	1	4
34W	RISER BEAM	R34	W	¾	4
34W	RISER BEAM	R35	W	1 ½	4
34W	**RISER BEAM**	**R39**	**W**	**1 ¼**	**2**
34W	**RISER BEAM**	**R42**	**W**	**FW**	**2**
34W	**RISER BEAM**	**R46**	**W**	**½**	**2**
34W	**RISER BEAM**	**R48**	**W**	**½**	**2**
34W	RISER BEAM	R63	W	FW	6
34W	RISER BEAM	R64	W	1 ½	6
34W	RISER BEAM	R66	W	FW	6
34W	RISER BEAM	R67	W	3 ½	4
34W	RISER BEAM	R68	W	3	4
34W	RISER BEAM	R69	W	4	4
34W-35W	B1	R12	E	½	6
34W-35W	B1	R19	E	¾	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
34W-35W	B1	R21	E	3	4
34W-35W	B1	R23	E	3	4
34W-35W	B1	R24	E	½	6
34W-35W	B1	R25	E	1	4
34W-35W	B1	R26	E	½	4
34W-35W	B1	R30	E	¼	6
34W-35W	B1	R42	E	¼	6
34W-35W	B1	R43	E	¼	6
34W-35W	B1	R52	E	4	6
34W-35W	B1	R54	E	3	4
34W-35W	B1	R55	E	¾	6
34W-35W	B1	R56	E	2	6
34W-35W	B1	R66	E	1 ½	6
34W-35W	**B2**	**R39**	**E**	**½**	**2**
34W-35W	B2	R57	E	¾	6
34W-35W	B2	R60	E	½	6
34W-35W	B2	R60	W	3 ½	6
34W-35W	B2	R61	W	1	4
34W-35W	B2	R63	E	FW	6
34W-35W	B2	R64	E	¾	6
34W-35W	B2	R69	E	FW	6
34W-35W	B3	R62	E	2	6
34W-35W	B4	R62	E	½	6
34W-35W	B5	R52	E	FW	4
34W-35W	B5	R52	W	FW	6
34W-35W	**B5**	**R62**	**W**	**½**	**2**
34W-35W	B5	R62	E	1 ¾	6
34W-35W	B6	R62	W	1	6
34W-35W	B8	R61	E	2	4
34W-35W	B8	R62	E	2 ½	6
34W-35W	B11	R65	E	1	6
34W-35W	B11	R69	E	3 ½	6
34W-35W	B11	R69	W	3 ½	4
34W-35W	B12	R10	W	FW	4
34W-35W	**B12**	**R10**	**E**	**1 ½**	**2**
34W-35W	B12	R11	W	2 ½	4
34W-35W	B12	R12	W	½	6
34W-35W	B12	R19	E	½	4
34W-35W	B12	R19	W	½	4
34W-35W	B12	R24	W	1	6
34W-35W	B12	R37	W	3	6
34W-35W	B12	R44	E	FW	6
34W-35W	B12	R44	W	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
34W-35W	B12	R45	E	FW	6
34W-35W	B12	R46	E	FW	6
34W-35W	B12	R48	E	FW	6
34W-35W	B12	R68	W	FW	6
34W-35W	B12	R69	E	FW	6
34W-35W	B12	R69	W	FW	6
35W	RISER BEAM	R9	W	1 ½	4
35W	RISER BEAM	R10	W	FW	4
35W	RISER BEAM	R11	W	FW	4
35W	RISER BEAM	R12	W	2 ½	6
35W	RISER BEAM	R13	W	½	6
35W	RISER BEAM	R19	W	½	6
35W	RISER BEAM	R26	W	3	4
35W	**RISER BEAM**	**R28**	**W**	**1**	**2**
35W	**RISER BEAM**	**R32**	**W**	**½**	**2**
35W	RISER BEAM	R36	W	4	6
35W	RISER BEAM	R37	W	2 ½	4
35W	RISER BEAM	R38	W	1	4
35W	RISER BEAM	R39	W	3	4
35W	RISER BEAM	R40	W	FW	4
35W	RISER BEAM	R41	W	FW	4
35W	**RISER BEAM**	**R42**	**W**	**1 ½**	**2**
35W	RISER BEAM	R53	W	2	4
35W	**RISER BEAM**	**R62**	**W**	**1 ¼**	**2**
35W	RISER BEAM	R63	W	3 ¾	6
35W	**RISER BEAM**	**R64**	**W**	**1 ¼**	**2**
35W	**RISER BEAM**	**R65**	**W**	**FW**	**2**
35W	**RISER BEAM**	**R66**	**W**	**FW**	**2**
35W	RISER BEAM	R67	W	1 ½	6
35W-36W	B1	R10	E	4	6
35W-36W	B1	R13	E	1	6
35W-36W	B1	R39	E	2	6
35W-36W	B1	R42	E	FW	4
35W-36W	B1	R45	E	1	4
35W-36W	B1	R48	E	1 ½	6
35W-36W	B1	R49	E	2	4
35W-36W	B1	R62	W	½	4
35W-36W	B2	R39	E	3 ½	6
35W-36W	**B2**	**R40**	**W**	**FW**	**2**
35W-36W	B2	R40	E	3	6
35W-36W	**B2**	**R41**	**W**	**2 ½**	**2**
35W-36W	B2	R60	E	FW	4
35W-36W	B2	R61	E	FW	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
35W-36W	B2	R62	W	FW	4
35W-36W	**B2**	**R66**	**E**	**1 ½**	**2**
35W-36W	**B2**	**R68**	**E**	**3**	**2**
35W-36W	**B2**	**R69**	**E**	**¾**	**2**
35W-36W	B3	R41	W	1	4
35W-36W	B9	R21	W	1 ½	6
35W-36W	B11	R25	W	1	6
35W-36W	**B11**	**R32**	**E**	**1**	**2**
35W-36W	**B11**	**R34**	**E**	**¼ & ¼**	**2**
35W-36W	**B11**	**R35**	**E**	**1**	**2**
35W-36W	B12	R36	W	1 ½	6
35W-36W	**B12**	**R36**	**E**	**FW**	**2**
35W-36W	B12	R37	W	FW	6
35W-36W	**B12**	**R37**	**E**	**1**	**2**
35W-36W	B12	R38	W	1	6
35W-36W	**B12**	**R38**	**E**	**2**	**2**
35W-36W	**B12**	**R43**	**E**	**1 ½**	**2**
35W-36W	**B12**	**R49**	**E**	**2**	**2**
35W-36W	**B12**	**R58**	**E**	**1**	**2**
35W-36W	**B12**	**R59**	**E**	**1**	**2**
35W-36W	**B12**	**R60**	**E**	**½**	**2**
35W-36W	**B12**	**R61**	**E**	**1**	**2**
35W-36W	B12	R63	W	2 ½	6
35W-36W	B12	R64	W	¾	6
35W-36W	B12	R65	W	½	6
35W-36W	**B12**	**R65**	**E**	**1**	**2**
36W	**RISER BEAM**	**R6**	**W**	**1 ½**	**2**
36W	RISER BEAM	R10	W	2 ½	6
36W	RISER BEAM	R18	W	FW	6
36W	**RISER BEAM**	**R22**	**W**	**1**	**2**
36W	RISER BEAM	R23	W	1 ½	4
36W	RISER BEAM	R24	W	2	4
36W	RISER BEAM	R25	W	1 ½	4
36W	RISER BEAM	R26	W	FW	4
36W	**RISER BEAM**	**R30**	**W**	**1 ½**	**2**
36W	**RISER BEAM**	**R31**	**W**	**1 ½**	**2**
36W	**RISER BEAM**	**R33**	**W**	**½**	**2**
36W	RISER BEAM	R34	W	1	4
36W	RISER BEAM	R35	W	1 ½	4
36W	RISER BEAM	R40	W	FW	6
36W	RISER BEAM	R42	W	FW	4
36W	RISER BEAM	R43	W	FW	4
36W	RISER BEAM	R45	W	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
36W	**RISER BEAM**	**R48**	**W**	**½ & ½**	**2**
36W	**RISER BEAM**	**R49**	**W**	**2 ½**	**2**
36W	RISER BEAM	R50	W	1 ¾	6
36W	RISER BEAM	R51	W	FW	6
36W	RISER BEAM	R52	W	FW	4
36W	RISER BEAM	R53	W	FW	4
36W	RISER BEAM	R54	W	FW	4
36W	RISER BEAM	R56	W	FW	4
36W	RISER BEAM	R57	W	1 ½	4
36W	RISER BEAM	R58	W	1	4
36W	**RISER BEAM**	**R59**	**W**	**1**	**2**
36W	**RISER BEAM**	**R60**	**W**	**1 ½**	**2**
36W	**RISER BEAM**	**R61**	**W**	**FW**	**2**
36W	RISER BEAM	R62	W	1 ½	4
36W	RISER BEAM	R63	W	3	4
36W	RISER BEAM	R64	W	FW	6
36W	RISER BEAM	R65	W	FW	4
36W	RISER BEAM	R66	W	3	4
36W	RISER BEAM	R67	W	2 ½	4
36W	**RISER BEAM**	**R68**	**W**	**½**	**2**
36W	**RISER BEAM**	**R69**	**W**	**½**	**2**
36W-37W	B1	R17	E	1	6
36W-37W	B1	R37	E	1 & 1	6
36W-37W	B1	R38	E	1 ½	4
36W-37W	B1	R39	E	1 & 1 ½	6
36W-37W	B1	R41	E	3	6
36W-37W	B1	R44	E	1 ½	6
36W-37W	B2	R37	E	2	6
36W-37W	**B2**	**R38**	**W**	**1**	**2**
36W-37W	**B2**	**R40**	**W**	**FW**	**2**
36W-37W	B2	R40	E	3 ½	6
36W-37W	B2	R41	E	4	6
36W-37W	B2	R51	E	2 ½	6
36W-37W	**B2**	**R63**	**W**	**3**	**2**
36W-37W	**B2**	**R66**	**E**	**2 ½**	**2**
36W-37W	**B2**	**R68**	**E**	**1**	**2**
36W-37W	**B2**	**R69**	**E**	**1**	**2**
36W-37W	B4	R19	E	1	6
36W-37W	B6	R19	W	FW	4
36W-37W	B6	R19	E	FW	4
36W-37W	B7	R44	E	3 ½	6
36W-37W	B7	R44	W	3	6
36W-37W	B9	R19	E	2	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
36W-37W	B9	R19	W	½	6
36W-37W	B10	R19	E	½	6
36W-37W	B11	R67	W	¼	4
36W-37W	B12	R2	E	1 ½ & 1	6
36W-37W	B12	R66	W	3	4
36W-37W	**B12**	**R66**	**E**	**¾**	**2**
36W-37W	**B12**	**R67**	**E**	**¼**	**2**
36W-37W	**B12**	**R68**	**E**	**¼**	**2**
36W-37W	**B12**	**R69**	**E**	**¼**	**2**
37W	**RISER BEAM**	**R5**	**W**	**FW**	**2**
37W	RISER BEAM	R18	W	1 ½	4
37W	RISER BEAM	R19	W	1 ¼	4
37W	RISER BEAM	R21	W	1 ½	4
37W	**RISER BEAM**	**R24**	**W**	**1 ¼**	**2**
37W	**RISER BEAM**	**R26**	**W**	**FW**	**2**
37W	**RISER BEAM**	**R28**	**W**	**1**	**2**
37W	RISER BEAM	R41	W	2	4
37W	RISER BEAM	R46	W	½	6
37W	RISER BEAM	R63	W	1	4
37W	RISER BEAM	R64	W	½	4
37W	RISER BEAM	R65	W	2 ½	4
37W	RISER BEAM	R66	W	1	4
37W	RISER BEAM	R67	W	2 ½	4
37W	RISER BEAM	R68	W	1 ½	4
37W	RISER BEAM	R69	W	½	4
37W	RISER BEAM	R70	W	1	4
37W-38W	B1	R3	E	½	6
37W-38W	B1	R8	E	2 ½	4
37W-38W	B1	R10	E	3	4
37W-38W	B1	R12	E	¾	4
37W-38W	B1	R13	E	¾	4
37W-38W	B1	R17	E	1	6
37W-38W	B1	R19	E	1	4
37W-38W	B1	R20	E	1	6
37W-38W	B1	R44	E	1	6
37W-38W	B1	R45	E	1	6
37W-38W	B1	R46	E	½	6
37W-38W	B1	R47	E	¾	6
37W-38W	B1	R52	E	2 ½	6
37W-38W	B1	R65	E	3	6
37W-38W	B1	R66	E	3	6
37W-38W	B2	R6	E	½	6
37W-38W	B2	R61	W	1 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
37W-38W	**B2**	**R62**	**W**	**2**	**2**
37W-38W	B2	R63	W	1	6
37W-38W	**B2**	**R63**	**E**	**1 ½**	**2**
37W-38W	B2	R64	E	2	6
37W-38W	B2	R66	E	1	6
37W-38W	B2	R66	W	1	4
37W-38W	B2	R67	E	1 ½	6
37W-38W	B2	R67	W	1	6
37W-38W	B2	R68	E	4	6
37W-38W	B2	R68	W	1	6
37W-38W	B2	R69	W	4	6
37W-38W	B5	R19	E	½	6
37W-38W	B8	R52	E	1	6
37W-38W	B10	R39	E	3	6
37W-38W	B10	R39	W	1 ½	6
37W-38W	**B10**	**R50**	**E**	**1**	**2**
37W-38W	**B11**	**R38**	**W**	**2**	**2**
37W-38W	**B11**	**R39**	**W**	**4**	**2**
37W-38W	B12	R45	W	1 ½	6
37W-38W	**B12**	**R45**	**E**	**FW**	**2**
37W-38W	**B12**	**R66**	**W**	**1**	**2**
38W	RISER BEAM	R34	W	½	6
38W	RISER BEAM	R45	W	1	4
38W	RISER BEAM	R46	W	1 ½	4
38W	RISER BEAM	R47	W	2	4
38W	RISER BEAM	R48	W	1 ½	4
38W	RISER BEAM	R49	W	1	4
38W	RISER BEAM	R58	W	¼	4
38W	RISER BEAM	R61	W	1 ½	4
38W	RISER BEAM	R64	W	1	4
38W	RISER BEAM	R65	W	½	4
38W	RISER BEAM	R66	W	1 ½	4
38W	RISER BEAM	R67	W	FW	4
38W	RISER BEAM	R68	W	FW	4
38W	RISER BEAM	R69	W	3	4
38W-39W	B1	R25	E	¾	4
38W-39W	B1	R29	E	¼	6
38W-39W	**B1**	**R37**	**E**	**¼**	**2**
38W-39W	B1	R38	E	¼	6
38W-39W	B1	R39	E	1 ½ & 1 ½	6
38W-39W	B1	R41	E	3 ½	6
38W-39W	B1	R42	E	1	6
38W-39W	B1	R43	E	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
38W-39W	B1	R46	E	½	6
38W-39W	B1	R46	W	1	6
38W-39W	B1	R50	E	½	6
38W-39W	B1	R52	E	3	6
38W-39W	B1	R53	E	2	6
38W-39W	B1	R54	E	½	6
38W-39W	B1	R55	E	2	6
38W-39W	B1	R59	E	¼	6
38W-39W	B1	R60	E	2	6
38W-39W	B1	R61	E	1 ½	6
38W-39W	B1	R63	E	1+1	6
38W-39W	B1	R64	E	1	6
38W-39W	B2	R41	E	3	6
38W-39W	**B2**	**R42**	**E**	**½**	**2**
38W-39W	**B2**	**R43**	**E**	**1**	**2**
38W-39W	**B2**	**R52**	**W**	**1 ½**	**2**
38W-39W	**B2**	**R52**	**E**	**2 ½**	**2**
38W-39W	B2	R63	W	1	6
38W-39W	B2	R64	W	1	6
38W-39W	B2	R65	W	4	6
38W-39W	**B2**	**R65**	**E**	**½**	**2**
38W-39W	B2	R68	E	2	6
38W-39W	**B2**	**R69**	**E**	**1**	**2**
38W-39W	**B5**	**R19**	**W**	**½**	**2**
38W-39W	B6	R19	W	FW	4
38W-39W	B6	R19	E	FW	4
38W-39W	B8	R52	W	1 ½	6
38W-39W	B9	R19	W	FW	4
38W-39W	B9	R19	E	FW	4
38W-39W	B10	R19	W	FW	4
38W-39W	B10	R19	E	FW	4
38W-39W	**B10**	**R60**	**E**	**3**	**2**
38W-39W	**B10**	**R65**	**E**	**½**	**2**
38W-39W	**B10**	**R66**	**E**	**½**	**2**
38W-39W	B10	R67	E	½	6
38W-39W	**B10**	**R69**	**E**	**1**	**2**
38W-39W	**B11**	**R46**	**W**	**½**	**2**
38W-39W	B12	R3	W	1 ½	6
38W-39W	**B12**	**R5**	**E**	**1 ½**	**2**
38W-39W	**B12**	**R6**	**E**	**2**	**2**
38W-39W	B12	R24	W	2 ½	6
38W-39W	B12	R26	W	1	6
38W-39W	B12	R41	W	1 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
38W-39W	B12	R60	W	½	6
38W-39W	B12	R63	W	¾	6
38W-39W	B12	R64	W	½	6
38W-39W	**B12**	**R64**	**E**	**½**	**2**
38W-39W	B12	R65	W	¾	6
38W-39W	**B12**	**R65**	**E**	**1**	**2**
38W-39W	B12	R66	W	**FW**	6
38W-39W	**B12**	**R68**	**E**	**1**	**2**
39W	RISER BEAM	R5	W	FW	4
39W	RISER BEAM	R6	W	FW	4
39W	RISER BEAM	R7	W	2 ½	4
39W	RISER BEAM	R8	W	3	4
39W	RISER BEAM	R23	W	1 ¼	4
39W	RISER BEAM	R24	W	3	4
39W	RISER BEAM	R25	W	FW	4
39W	RISER BEAM	R27	W	3	4
39W	**RISER BEAM**	**R36**	**W**	**1 ¼**	**2**
39W	RISER BEAM	R40	W	FW	4
39W	**RISER BEAM**	**R58**	**W**	**¼**	**2**
39W	**RISER BEAM**	**R59**	**W**	**¼**	**2**
39W	**RISER BEAM**	**R60**	**W**	**¼**	**2**
39W	**RISER BEAM**	**R63**	**W**	**¼**	**2**
39W-40W	B1	R4	E	¼	6
39W-40W	B1	R5	E	½	4
39W-40W	B1	R6	E	¾	4
39W-40W	B1	R7	E	¾	4
39W-40W	B1	R17	E	1	6
39W-40W	B1	R22	E	2	6
39W-40W	B1	R23	E	2	6
39W-40W	B1	R24	E	2	6
39W-40W	B1	R26	E	½	6
39W-40W	B1	R28	E	3	4
39W-40W	B1	R29	E	1 ¼	6
39W-40W	B1	R30	E	1 ½	4
39W-40W	**B1**	**R34**	**E**	**1**	**2**
39W-40W	**B1**	**R37**	**E**	**2**	**2**
39W-40W	B1	R44	E	1 ½	4
39W-40W	B1	R45	E	1 ½	6
39W-40W	B1	R56	E	½	6
39W-40W	B1	R61	E	2	6
39W-40W	B1	R63	E	3	6
39W-40W	B1	R64	E	3	6
39W-40W	B2	R7	E	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
39W-40W	B2	R8	W	3	6
39W-40W	B2	R63	W	3 ½	6
39W-40W	B3	R2	E	¾	6
39W-40W	**B3**	**R2**	**W**	**FW**	**2**
39W-40W	B4	R2	W	1	6
39W-40W	B4	R19	W	FW	4
39W-40W	B4	R19	E	FW	4
39W-40W	B4	R28	E	½	6
39W-40W	B5	R2	W	1	6
39W-40W	B5	R19	W	FW	4
39W-40W	B5	R19	E	FW	4
39W-40W	B5	R28	E	½	6
39W-40W	B5	R52	W	½	6
39W-40W	**B5**	**R52**	**E**	**¼**	**2**
39W-40W	B6	R19	W	FW	4
39W-40W	B6	R19	E	FW	4
39W-40W	B7	R19	W	FW	4
39W-40W	B7	R19	E	FW	4
39W-40W	B9	R45	W	¼	6
39W-40W	**B9**	**R45**	**E**	**½**	**2**
39W-40W	B12	R5	W	FW	6
39W-40W	B12	R6	W	1	6
39W-40W	B12	R7	W	1	6
39W-40W	B12	R17	W	1	6
39W-40W	**B12**	**R22**	**E**	**1**	**2**
39W-40W	B12	R27	W	½	6
39W-40W	**B12**	**R32**	**E**	**1**	**2**
39W-40W	**B12**	**R37**	**E**	**1**	**2**
39W-40W	B12	R57	E	1	4
39W-40W	B12	R57	W	1	6
39W-40W	B12	R58	E	1	4
39W-40W	B12	R58	W	1 ½	6
39W-40W	**B12**	**R65**	**W**	**½**	**2**
39W-40W	B12	R66	W	½	6
39W-40W	B12	R68	W	½	6
39W-40W	B12	R69	W	½	6
40W	RISER BEAM	R12	W	2	6
40W	**RISER BEAM**	**R13**	**W**	**1 ½**	**2**
40W	RISER BEAM	R14	W	1	4
40W	RISER BEAM	R15	W	1	6
40W	**RISER BEAM**	**R16**	**W**	**1**	**2**
40W	**RISER BEAM**	**R17**	**W**	**½**	**2**
40W	RISER BEAM	R19	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
40W	**RISER BEAM**	**R22**	**W**	**3**	**2**
40W	RISER BEAM	R28	W	1 ½	4
40W	RISER BEAM	R29	W	2 ½	4
40W	**RISER BEAM**	**R37**	**W**	**2**	**2**
40W	**RISER BEAM**	**R47**	**W**	**1**	**2**
40W	RISER BEAM	R54	W	2 ½	4
40W	RISER BEAM	R55	W	2 ½	4
40W	RISER BEAM	R56	W	FW	4
40W	RISER BEAM	R57	W	FW	4
40W	RISER BEAM	R58	W	FW	4
40W	**RISER BEAM**	**R59**	**W**	**1 & ½**	**2**
40W	RISER BEAM	R68	W	2	4
40W	RISER BEAM	R69	W	2 ½	4
40W-41W	B1	R7	E	1	4
40W-41W	B1	R8	E	¼	6
40W-41W	B1	R22	E	¼	6
40W-41W	B1	R23	E	2	6
40W-41W	B1	R24	E	2	6
40W-41W	B1	R25	E	½ + ½	6
40W-41W	B1	R25	W	1	6
40W-41W	B1	R29	E	1	6
40W-41W	B1	R45	E	FW	4
40W-41W	B1	R46	E	1 ½	4
40W-41W	B1	R47	E	1 ½	6
40W-41W	B1	R49	E	1	4
40W-41W	B1	R50	E	1 ½	4
40W-41W	B1	R52	E	3 ½	6
40W-41W	B1	R54	E	¼	6
40W-41W	B1	R58	E	2	4
40W-41W	B1	R60	E	½	6
40W-41W	B1	R63	E	FW	6
40W-41W	B1	R64	E	2	4
40W-41W	B1	R66	E	¼	6
40W-41W	B1	R67	E	¾	6
40W-41W	**B2**	**R63**	**W**	**½**	**2**
40W-41W	B4	R46	W	1	6
40W-41W	B4	R52	E	¼	4
40W-41W	B5	R19	E	1	6
40W-41W	B6	R19	W	¾	6
40W-41W	B6	R46	W	1	6
40W-41W	B7	R34	E	½	6
40W-41W	B8	R46	E	1	6
40W-41W	B8	R46	W	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
40W-41W	B11	R19	W	FW	4
40W-41W	B11	R19	E	FW	4
40W-41W	B12	R19	W	1	4
40W-41W	B12	R28	W	¼	6
40W-41W	B12	R35	W	1	6
40W-41W	B12	R39	W	FW	6
40W-41W	B12	R43	W	1	6
40W-41W	B12	R45	E	1 ½	6
40W-41W	B12	R45	W	3	6
40W-41W	B12	R46	E	1 ½	6
40W-41W	B12	R46	W	1	4
40W-41W	**B12**	**R47**	**E**	**1 ½**	**2**
40W-41W	**B12**	**R49**	**E**	**1**	**2**
40W-41W	B12	R50	W	3	6
40W-41W	B12	R62	E	2	4
40W-41W	B12	R62	W	FW	6
40W-41W	B12	R63	W	3	6
40W-41W	B12	R65	W	½	6
40W-41W	B12	R67	E	3	4
40W-41W	B12	R68	W	FW	6
40W-41W	B12	R69	W	FW	4
40W-41W	**B12**	**R69**	**E**	**1**	**2**
41W	RISER BEAM	R5	W	2 ½	4
41W	RISER BEAM	R6	W	1	4
41W	**RISER BEAM**	**R7**	**W**	**1**	**2**
41W	RISER BEAM	R8	W	2 ½	4
41W	**RISER BEAM**	**R9**	**W**	**1 ½**	**2**
41W	RISER BEAM	R19	W	FW	4
41W	RISER BEAM	R21	W	3 ½	4
41W	RISER BEAM	R25	W	1	4
41W	**RISER BEAM**	**R29**	**W**	**1**	**2**
41W	RISER BEAM	R30	W	1	4
41W	RISER BEAM	R36	W	FW	4
41W	RISER BEAM	R37	W	FW	4
41W	RISER BEAM	R38	W	3	4
41W	RISER BEAM	R39	W	2 ½	4
41W	**RISER BEAM**	**R41**	**W**	**3**	**2**
41W	**RISER BEAM**	**R42**	**W**	**2 ½**	**2**
41W	RISER BEAM	R43	W	2 ½	4
41W	RISER BEAM	R45	W	1	6
41W	RISER BEAM	R46	W	2	6
41W	RISER BEAM	R47	W	1	4
41W	RISER BEAM	R49	W	1	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
41W	RISER BEAM	R51	W	FW	4
41W	RISER BEAM	R52	W	2 ½	4
41W	RISER BEAM	R61	W	2 ½	4
41W	RISER BEAM	R62	W	FW	4
41W	RISER BEAM	R63	W	FW	4
41W	RISER BEAM	R64	W	FW	4
41W	RISER BEAM	R65	W	3	4
41W	RISER BEAM	R66	W	1 ¼	4
41W-42W	B1	R7	E	½	6
41W-42W	B1	R8	E	¼ + ¼	6
41W-42W	B1	R10	E	1 ½	4
41W-42W	B1	R19	E	3	4
41W-42W	B1	R25	E	½	6
41W-42W	B1	R28	E	2	6
41W-42W	B1	R32	E	1 ½	6
41W-42W	**B1**	**R38**	**E**	**¼**	**2**
41W-42W	B1	R41	E	2	6
41W-42W	B1	R42	E	1	4
41W-42W	B1	R43	E	2 ½	6
41W-42W	B1	R45	E	½	6
41W-42W	**B1**	**R46**	**E**	**¼**	**2**
41W-42W	B1	R47	E	¾	6
41W-42W	B1	R48	E	¾	6
41W-42W	B1	R50	E	2½	4
41W-42W	B1	R51	E	2 ½	6
41W-42W	B1	R53	E	½	6
41W-42W	B1	R54	E	3	4
41W-42W	B1	R55	E	1	4
41W-42W	B1	R56	E	1	6
41W-42W	B1	R57	E	1 ¼	6
41W-42W	B1	R58	E	2½	4
41W-42W	B1	R59	E	½	6
41W-42W	B1	R60	E	½	4
41W-42W	B1	R61	E	2 ½	4
41W-42W	**B1**	**R64**	**E**	**1**	**2**
41W-42W	**B1**	**R65**	**E**	**½**	**2**
41W-42W	**B2**	**R37**	**W**	**½**	**2**
41W-42W	B2	R39	E	½	6
41W-42W	**B2**	**R41**	**E**	**½**	**2**
41W-42W	**B2**	**R42**	**W**	**¼**	**2**
41W-42W	**B2**	**R47**	**W**	**½**	**2**
41W-42W	B2	R60	E	1 ½	6
41W-42W	B2	R61	E	FW	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
41W-42W	B2	R61	W	FW	6
41W-42W	**B2**	**R62**	**W**	**2 ½**	**2**
41W-42W	**B2**	**R63**	**W**	**¼**	**2**
41W-42W	**B2**	**R64**	**W**	**¼**	**2**
41W-42W	**B2**	**R65**	**W**	**¼**	**2**
41W-42W	**B2**	**R65**	**E**	**¼**	**2**
41W-42W	**B2**	**R66**	**W**	**¼**	**2**
41W-42W	**B2**	**R67**	**W**	**¼**	**2**
41W-42W	B2	R68	E	1	6
41W-42W	B4	R21	E	¼	6
41W-42W	B4	R54	W	¼	6
41W-42W	B4	R55	W	1	4
41W-42W	B5	R2	E	4	6
41W-42W	B5	R28	W	3	6
41W-42W	B8	R34	E	½	6
41W-42W	B8	R42	E	¼	6
41W-42W	B8	R43	E	¼	6
41W-42W	B9	R19	E	½	4
41W-42W	B9	R19	W	½	4
41W-42W	B9	R55	W	¼	6
41W-42W	B10	R19	E	¼	4
41W-42W	B10	R42	E	¼	6
41W-42W	**B11**	**R45**	**W**	**½**	**2**
41W-42W	**B12**	**R2**	**E**	**FW**	**2**
41W-42W	**B12**	**R3**	**E**	**FW**	**2**
41W-42W	**B12**	**R26**	**W**	**3**	**2**
41W-42W	**B12**	**R26**	**E**	**FW**	**2**
41W-42W	**B12**	**R33**	**E**	**1 ½**	**2**
41W-42W	B12	R34	W	1	6
41W-42W	**B12**	**R34**	**E**	**FW**	**2**
41W-42W	B12	R38	W	1 ½	6
41W-42W	**B12**	**R45**	**E**	**½**	**2**
41W-42W	**B12**	**R52**	**E**	**1 ½**	**2**
42W	RISER BEAM	R3	W	1	4
42W	RISER BEAM	R4	W	¾	4
42W	RISER BEAM	R7	W	¾	4
42W	RISER BEAM	R8	W	1	4
42W	RISER BEAM	R11	W	FW	4
42W	**RISER BEAM**	**R13**	**W**	**1**	**2**
42W	**RISER BEAM**	**R14**	**W**	**1 ¼**	**2**
42W	**RISER BEAM**	**R15**	**W**	**½**	**2**
42W	**RISER BEAM**	**R17**	**W**	**¼**	**2**
42W	**RISER BEAM**	**R26**	**W**	**1**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
42W	**RISER BEAM**	**R27**	**W**	**1 ½**	**2**
42W	**RISER BEAM**	**R34**	**W**	**1 ½**	**2**
42W	**RISER BEAM**	**R35**	**W**	**2**	**2**
42W	RISER BEAM	R45	W	1	6
42W	**RISER BEAM**	**R49**	**W**	**2**	**2**
42W	**RISER BEAM**	**R50**	**W**	**½**	**2**
42W	**RISER BEAM**	**R52**	**W**	**2 ½**	**2**
42W	RISER BEAM	R59	W	1	6
42W	RISER BEAM	R60	W	½	6
42W	**RISER BEAM**	**R64**	**W**	**½**	**2**
42W	**RISER BEAM**	**R66**	**W**	**1 ½**	**2**
42W-42	**B1**	**R6**	**E**	**¼**	**2**
42W-43	B1	R8	E	1	6
42W-43	B1	R14	E	¼	6
42W-43	B1	R16	E	1	4
42W-43	B1	R21	E	1 ½	6
42W-43	B1	R22	E	2 ½	4
42W-43	B1	R36	E	3	6
42W-43	B1	R37	E	FW	6
42W-43	B1	R45	E	3	4
42W-43	B1	R46	E	½	6
42W-43	B1	R47	E	FW	6
42W-43	B1	R48	E	½	6
42W-43	B1	R49	E	¼	6
42W-43	B2	R62	W	1 ¼	6
42W-43	B2	R63	W	3	6
42W-43	**B2**	**R68**	**W**	**½**	**2**
42W-43	**B2**	**R69**	**W**	**1**	**2**
42W-43	B3	R19	E	2	6
42W-43	B4	R19	W	1	4
42W-43	B5	R19	E	½	6
42W-43	B5	R19	W	¾	4
42W-43	**B5**	**R21**	**W**	**1**	**2**
42W-43	B6	R19	W	½	6
42W-43	B6	R28	E	¼	6
42W-43	B8	R28	E	½	6
42W-43	B10	R19	W	½	4
42W-43	B11	R28	W	½	6
42W-43	B11	R46	W	1	6
42W-43	**B12**	**R2**	**E**	**FW**	**2**
42W-43	**B12**	**R3**	**E**	**2 ½**	**2**
42W-43	B12	R21	W	½	6
42W-43	B12	R33	W	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
42W-43	B12	R34	W	½	6
42W-43	**B12**	**R61**	**E**	**1 ½**	**2**
42W-43	B13	R2	W	FW	4
42W-43	B13	R3	W	1	4
42W-43	**B13**	**R4**	**W**	**1**	**2**
42W-43	B13	R5	W	1 ½	4
42W-43	**B13**	**R7**	**W**	**FW**	**2**
42W-43	B13	R10	W	1 ½	4
42W-43	B13	R11	W	2 ½	4
42W-43	B13	R14	W	½	6
42W-43	B13	R17	W	1 ½	6
42W-43	B13	R19	W	½	6
42W-43	**B13**	**R22**	**W**	**½**	**2**
42W-43	B13	R23	W	FW	4
42W-43	B13	R24	W	1	4
42W-43	B13	R25	W	2	4
42W-43	B13	R26	W	FW	4
42W-43	**B13**	**R33**	**W**	**1**	**2**
42W-43	**B13**	**R34**	**W**	**¼**	**2**
42W-43	**B13**	**R35**	**W**	**¼**	**2**
42W-43	**B13**	**R54**	**W**	**1**	**2**
42W-43	**B13**	**R55**	**W**	**1 ¼**	**2**
42W-43	**B13**	**R58**	**W**	**2**	**2**
42W-43	**B13**	**R61**	**W**	**½**	**2**
42W-43	**B13**	**R63**	**W**	**1 ¼**	**2**
42W-43	**B13**	**R64**	**W**	**½**	**2**
42W-43	**B13**	**R65**	**W**	**¼**	**2**
43	RISER BEAM	R3	E	2 ½	6
43	RISER BEAM	R4	E	2 ½	6
43	RISER BEAM	R10	E	FW	4
43	RISER BEAM	R11	E	FW	4
43	RISER BEAM	R12	E	FW	4
43	RISER BEAM	R13	E	FW	4
43	RISER BEAM	R14	E	FW	4
43	RISER BEAM	R19	E	FW	4
43	RISER BEAM	R20	E	2 ½	4
43	RISER BEAM	R21	E	FW	4
43	RISER BEAM	R22	E	FW	4
43	RISER BEAM	R23	E	FW	4
43	**RISER BEAM**	**R24**	**E**	**1 ½**	**2**
43	**RISER BEAM**	**R25**	**E**	**FW**	**2**
43	RISER BEAM	R26	E	3	4
43	RISER BEAM	R28	E	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
43	RISER BEAM	R30	E	FW	4
43	RISER BEAM	R31	E	FW	4
43	**RISER BEAM**	**R32**	**E**	**3**	**2**
43	**RISER BEAM**	**R41**	**E**	**¾**	**2**
43	**RISER BEAM**	**R44**	**E**	**½**	**2**
43	RISER BEAM	R45	E	½	4
43	**RISER BEAM**	**R57**	**E**	**¾**	**2**
43	**RISER BEAM**	**R59**	**E**	**1 ½**	**2**
43	RISER BEAM	R60	E	FW	4
43	RISER BEAM	R61	E	FW	6
43	RISER BEAM	R62	E	2	4
43	RISER BEAM	R63	E	2	4
43	RISER BEAM	R64	E	¾	6
43	RISER BEAM	R66	E	3	4
43	RISER BEAM	R67	E	FW	4
43	RISER BEAM	R68	E	FW	4
43	RISER BEAM	R69	E	3	4
42E-43	B1	R5	E	4	4
42E-43	B1	R7	E	3 ½	6
42E-43	B1	R7	W	3 ½	6
42E-43	B1	R8	W	2	6
42E-43	**B1**	**R10**	**E**	**2 ½**	**2**
42E-43	**B1**	**R23**	**W**	**1 ¼**	**2**
42E-43	**B1**	**R37**	**E**	**1**	**2**
42E-43	**B1**	**R43**	**W**	**FW**	**2**
42E-43	**B1**	**R60**	**E**	**1**	**2**
42E-43	B1	R60	W	FW	4
42E-43	B1	R61	W	1	4
42E-43	B1	R63	W	1	6
42E-43	B1	R64	W	FW	4
42E-43	B1	R65	W	FW	4
42E-43	B1	R66	W	2	6
42E-43	**B1**	**R66**	**E**	**FW**	**2**
42E-43	B1	R67	E	3 ½	4
42E-43	**B1**	**R67**	**W**	**3**	**2**
42E-43	B1	R68	W	2 ½	6
42E-43	B1	R69	E	½	4
42E-43	B1	R69	W	FW	4
42E-43	B2	R61	E	½	6
42E-43	B9	R46	W	½	6
42E-43	B12	R9	W	1	4
42E-43	B12	R20	W	3	6
42E-43	B12	R23	W	2	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
42E-43	B12	R28	W	1 ½	6
42E-43	B12	R29	W	2	6
42E-43	B12	R30	W	2 ½	6
42E-43	B12	R32	W	2 ½	6
42E-43	B12	R33	W	½	6
42E-43	B12	R34	W	2 ½	6
42E-43	B12	R37	W	1 ¼	6
42E-43	B12	R39	W	2	6
42E-43	B12	R40	W	1	6
42E-43	B12	R54	W	¼	4
42E-43	B12	R55	W	¼	4
42E-43	B12	R56	W	½	4
42E-43	B12	R57	W	2	4
42E-43	B12	R58	W	1 ½ & ½	4
42E-43	B12	R60	W	¾	4
42E-43	B12	R61	W	1	4
42E-43	B12	R62	W	3	4
42E-43	B12	R65	W	1 ¼	4
42E	RISER BEAM	R10	E	FW	4
42E	**RISER BEAM**	**R12**	**E**	**FW**	**2**
42E	**RISER BEAM**	**R22**	**E**	**1**	**2**
42E	**RISER BEAM**	**R23**	**E**	**1 ¼**	**2**
42E	RISER BEAM	R26	E	1	6
42E	RISER BEAM	R28	E	3	6
42E	RISER BEAM	R37	E	2	6
42E	RISER BEAM	R39	E	1 ½ & 2	6
42E	RISER BEAM	R40	E	FW	6
42E	RISER BEAM	R41	E	1 ½	6
42E	RISER BEAM	R42	E	2	6
42E	RISER BEAM	R48	E	2 ½	4
42E	RISER BEAM	R50	E	2 ½	4
42E	RISER BEAM	R51	E	FW	4
42E	**RISER BEAM**	**R52**	**E**	**1**	**2**
42E	RISER BEAM	R58	E	3½	4
42E	RISER BEAM	R63	E	1½	4
42E	**RISER BEAM**	**R64**	**E**	**½**	**2**
42E	RISER BEAM	R65	E	FW	4
42E	RISER BEAM	R66	E	3	4
42E	RISER BEAM	R68	E	1¼	4
42E	RISER BEAM	R69	E	¾	6
42E	RISER BEAM	R70	E	2 ½	6
41E-42E	**B1**	**R24**	**W**	**¼**	**2**
41E-42E	**B1**	**R25**	**W**	**½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
41E-42E	**B1**	**R39**	**E**	**1 ½**	**2**
41E-42E	**B1**	**R40**	**E**	**FW**	**2**
41E-42E	B1	R41	W	FW	6
41E-42E	B1	R42	W	2	6
41E-42E	**B1**	**R49**	**W**	**¾**	**2**
41E-42E	B1	R56	W	½	6
41E-42E	B1	R57	W	1	6
41E-42E	**B1**	**R58**	**W**	**1½**	**2**
41E-42E	B1	R59	E	3	6
41E-42E	B1	R60	E	1	6
41E-42E	B1	R60	W	3½	6
41E-42E	B1	R61	W	FW	6
41E-42E	**B1**	**R63**	**W**	**3**	**2**
41E-42E	B1	R64	W	FW	4
41E-42E	**B1**	**R65**	**W**	**FW**	**2**
41E-42E	B1	R66	W	FW	4
41E-42E	B1	R67	E	2	4
41E-42E	B1	R68	W	FW	4
41E-42E	B1	R68	E	4	4
41E-42E	B2	R19	E	¼	4
41E-42E	B4	R1	W	1 ½	6
41E-42E	B4	R47	E	¾	6
41E-42E	B7	R47	E	4	6
41E-42E	B8	R47	W	½	6
41E-42E	B12	R23	W	1	4
41E-42E	B12	R24	W	FW	4
41E-42E	B12	R25	W	1	4
41E-42E	B12	R26	W	½ & 1	4
41E-42E	B12	R43	W	3	6
41E-42E	B12	R48	W	1	6
41E-42E	B12	R52	W	¼	4
41E-42E	B12	R53	W	2 ½	6
41E-42E	B12	R57	W	¾	6
41E	RISER BEAM	R2	E	2	6
41E	RISER BEAM	R3	E	2	6
41E	RISER BEAM	R4	E	2 ¼	6
41E	RISER BEAM	R5	E	¼	6
41E	RISER BEAM	R6	E	¼	6
41E	RISER BEAM	R9	E	¾	6
41E	RISER BEAM	R24	E	¾	6
41E	RISER BEAM	R25	E	FW	6
41E	RISER BEAM	R27	E	1 ½	6
41E	RISER BEAM	R41	E	2 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
41E	RISER BEAM	R42	E	1	6
41E	RISER BEAM	R51	E	FW	4
41E	RISER BEAM	R52	E	2 ½	6
41E	RISER BEAM	R56	E	½	4
41E	**RISER BEAM**	**R59**	**E**	**2 ½**	**2**
41E	RISER BEAM	R60	E	2 ½	4
41E	RISER BEAM	R61	E	¾	6
41E	RISER BEAM	R62	E	4 & 2	6
41E	RISER BEAM	R63	E	¾	6
41E	RISER BEAM	R66	E	3	6
41E	RISER BEAM	R67	E	3	6
40E-41E	B1	R44	W	4	4
40E-41E	B1	R47	W	FW	6
40E-41E	B1	R48	W	½	6
40E-41E	B1	R50	E	1	6
40E-41E	B1	R51	E	1	6
40E-41E	B1	R52	E	FW	4
40E-41E	B1	R52	W	1 ¼	6
40E-41E	**B1**	**R66**	**W**	**3**	**2**
40E-41E	**B1**	**R67**	**W**	**3**	**2**
40E-41E	B2	R25	E	2 ¼	6
40E-41E	B2	R25	W	1 ¼	6
40E-41E	B2	R44	W	1 ½	6
40E-41E	B3	R19	E	FW	4
40E-41E	B3	R19	W	FW	4
40E-41E	B4	R24	E	1	6
40E-41E	B4	R25	E	FW	6
40E-41E	B4	R25	W	FW	6
40E-41E	B8	R19	W	½	4
40E-41E	B8	R25	E	1	6
40E-41E	B8	R25	W	1 ¼	6
40E-41E	B9	R21	W	½	6
40E-41E	B10	R25	W	1	6
40E-41E	B11	R21	W	1	6
40E-41E	B12	R4	W	½	6
40E-41E	B12	R5	W	½	6
40E-41E	B12	R45	W	1 & 3 ½	4
40E-41E	B12	R46	W	½	4
40E-41E	B12	R47	W	2¼	4
40E-41E	B12	R50	W	1	4
40E-41E	**B12**	**R51**	**W**	**1**	**2**
40E-41E	B12	R52	W	FW	6
40E-41E	B12	R55	W	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
40E-41E	B12	R56	W	1	6
40E-41E	B12	R57	W	1	6
40E-41E	B12	R60	W	FW	4
40E	RISER BEAM	R24	E	¾	4
40E	RISER BEAM	R25	E	FW	4
40E	RISER BEAM	R27	E	4 & 1	4
40E	**RISER BEAM**	**R28**	**E**	**1 & ¼**	**2**
40E	RISER BEAM	R43	E	FW	4
40E	RISER BEAM	R67	E	3 ½	6
40E	RISER BEAM	R68	E	2	6
40E	RISER BEAM	R69	E	1 ½	6
39E-40E	**B1**	**R25**	**E**	**FW**	**2**
39E-40E	B1	R43	E	FW	4
39E-40E	**B1**	**R66**	**E**	**1**	**2**
39E-40E	B1	R68	E	FW	4
39E-40E	B1	R69	E	2 ½ & 2 ½	6
39E-40E	B2	R52	E	¼	4
39E-40E	B3	R25	W	¾	6
39E-40E	B4	R25	W	1	6
39E-40E	B5	R25	E	1	6
39E-40E	B5	R25	W	1	6
39E-40E	B6	R25	E	½	6
39E-40E	B6	R25	W	1	6
39E-40E	B7	R52	E	1 ½	6
39E-40E	B7	R52	W	⅜	4
39E-40E	B8	R25	E	1	6
39E-40E	B8	R25	W	1	6
39E-40E	B8	R52	E	FW	4
39E-40E	B8	R52	W	FW	6
39E-40E	B9	R25	E	1	6
39E-40E	B9	R25	W	¾	6
39E-40E	B9	R28	E	1	6
39E-40E	B9	R28	W	½	6
39E-40E	B10	R28	W	1 ¼	6
39E-40E	B11	R28	W	½	6
39E-40E	B12	R19	W	1	4
39E-40E	B12	R28	W	1 ½	6
39E-40E	**B12**	**R34**	**W**	**2 ½**	**2**
39E-40E	B12	R37	W	2 ½	4
39E-40E	B12	R38	W	2 ½	4
39E-40E	**B12**	**R39**	**W**	**1**	**2**
39E-40E	B12	R57	W	½ & ½	4
39E-40E	B12	R58	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
39E-40E	B12	R59	W	3	6
39E-40E	B12	R60	W	FW	4
39E-40E	B12	R61	W	4	4
39E	**RISER BEAM**	**R10**	**E**	**FW**	**2**
39E	**RISER BEAM**	**R25**	**E**	**¼**	**2**
39E	RISER BEAM	R27	E	2 ½	6
39E	RISER BEAM	R37	E	1	6
39E	RISER BEAM	R39	E	½	6
39E	**RISER BEAM**	**R41**	**E**	**2**	**2**
39E	**RISER BEAM**	**R45**	**E**	**1**	**2**
39E	RISER BEAM	R48	E	1	4
39E	RISER BEAM	R49	E	¾	6
39E	**RISER BEAM**	**R50**	**E**	**3**	**2**
39E	**RISER BEAM**	**R51**	**E**	**3**	**2**
39E	RISER BEAM	R52	E	FW	4
39E	RISER BEAM	R54	E	1	6
39E	RISER BEAM	R55	E	1	4
39E	RISER BEAM	R56	E	½	6
39E	RISER BEAM	R57	E	1	6
39E	RISER BEAM	R59	E	½	6
39E	RISER BEAM	R63	E	3 ½	6
38E-39E	**B1**	**R4**	**W**	**3**	**2**
38E-39E	B1	R37	W	2 ½	6
38E-39E	**B1**	**R67**	**W**	**½**	**2**
38E-39E	**B1**	**R69**	**W**	**½**	**2**
38E-39E	B1	R70	E	3	6
38E-39E	B3	R25	E	1	6
38E-39E	B4	R52	E	⅜	4
38E-39E	B5	R25	W	½	6
38E-39E	B7	R46	W	1	6
38E-39E	**B10**	**R10**	**W**	**¼**	**2**
38E-39E	B12	R43	W	3 ½	6
38E-39E	**B12**	**R54**	**W**	**¾**	**2**
38E-39E	B12	R55	W	½	6
38E-39E	B12	R57	W	2 ½	6
38E-39E	B12	R58	W	2	4
38E-39E	B12	R59	W	3	6
38E-39E	B12	R60	W	2 ½	6
38E-39E	B12	R61	W	2 ½	6
38E	RISER BEAM	R2	E	FW	4
38E	RISER BEAM	R4	E	¼	6
38E	RISER BEAM	R6	E	½	6
38E	RISER BEAM	R7	E	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
38E	**RISER BEAM**	**R34**	**E**	**½**	**2**
38E	**RISER BEAM**	**R41**	**E**	**¼**	**2**
38E	**RISER BEAM**	**R42**	**E**	**1 ¼**	**2**
38E	RISER BEAM	R46	E	2	4
38E	RISER BEAM	R50	E	¼	6
38E	RISER BEAM	R52	E	2	6
38E	RISER BEAM	R54	E	¾	6
38E	RISER BEAM	R57	E	1	6
38E	RISER BEAM	R58	E	1	6
38E	RISER BEAM	R59	E	½ & ½	6
38E	RISER BEAM	R60	E	2	4
38E	RISER BEAM	R61	E	FW	6
38E	RISER BEAM	R62	E	2	6
38E	RISER BEAM	R65	E	½	6
37E-38E	B1	R2	E	FW	6
37E-38E	B1	R2	W	FW	4
37E-38E	B1	R3	W	1 ½	6
37E-38E	B1	R4	W	½	6
37E-38E	**B1**	**R5**	**W**	**¼**	**2**
37E-38E	B10	R25	E	1	6
37E-38E	B11	R7	W	2	6
37E-38E	**B11**	**R19**	**E**	**½**	**2**
37E-38E	B12	R6	W	1	4
37E-38E	B12	R7	W	4 ½	6
37E-38E	B12	R8	W	FW	6
37E-38E	B12	R9	W	3	6
37E-38E	B12	R18	W	FW	6
37E-38E	B12	R22	W	½	6
37E-38E	B12	R23	W	½	6
37E-38E	B12	R24	W	½	6
37E-38E	B12	R25	W	¾	6
37E-38E	B12	R26	W	1 ½	6
37E-38E	B12	R29	W	1	4
37E-38E	B12	R30	W	2	6
37E-38E	**B12**	**R32**	**W**	**1**	**2**
37E-38E	**B12**	**R37**	**W**	**¼**	**2**
37E-38E	**B12**	**R39**	**W**	**¼**	**2**
37E-38E	B12	R56	W	1	6
37E-38E	B12	R61	W	1	6
37E	**RISER BEAM**	**R2**	**E**	**1 ½**	**2**
37E	**RISER BEAM**	**R3**	**E**	**2 ½**	**2**
37E	**RISER BEAM**	**R4**	**E**	**1 ½**	**2**
37E	**RISER BEAM**	**R5**	**E**	**2**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
37E	RISER BEAM	R6	E	2 ½	6
37E	RISER BEAM	R7	E	FW	6
37E	RISER BEAM	R8	E	1 &1	6
37E	RISER BEAM	R9	E	3	6
37E	RISER BEAM	R10	E	FW	6
37E	RISER BEAM	R11	E	FW	4
37E	**RISER BEAM**	**R22**	**E**	**1**	**2**
37E	RISER BEAM	R23	E	1 ¼	4
37E	RISER BEAM	R28	E	2	6
37E	RISER BEAM	R30	E	1	6
37E	RISER BEAM	R32	W	2	4
37E	RISER BEAM	R33	W	1	4
37E	RISER BEAM	R34	E	2 ½	6
37E	RISER BEAM	R34	W	FW	4
37E	RISER BEAM	R38	E	3	6
37E	**RISER BEAM**	**R42**	**E**	**1 ½**	**2**
37E	RISER BEAM	R56	E	1	6
37E	RISER BEAM	R57	E	1	6
37E	RISER BEAM	R60	E	FW	6
37E	RISER BEAM	R61	E	2	6
37E	RISER BEAM	R63	E	2	6
37E	RISER BEAM	R64	E	1	6
37E	**RISER BEAM**	**R66**	**E**	**2**	**2**
37E	RISER BEAM	R67	E	2	4
37E	**RISER BEAM**	**R68**	**E**	**½**	**2**
36E-37E	B1	R10	E	1 ½	6
36E-37E	B1	R11	E	FW	6
36E-37E	B1	R26	E	1 ¼	6
36E-37E	**B1**	**R26**	**W**	**1 ¼**	**2**
36E-37E	B1	R29	W	1	6
36E-37E	**B1**	**R29**	**E**	**1**	**2**
36E-37E	B1	R32	W	3	6
36E-37E	B1	R33	W	FW	6
36E-37E	B1	R34	W	FW	6
36E-37E	B1	R37	W	2 ½	6
36E-37E	B1	R39	W	FW	6
36E-37E	B1	R60	E	3 ½	6
36E-37E	B1	R61	E	2 ½	6
36E-37E	B1	R69	W	2 ½	6
36E-37E	B7	R43	E	FW	4
36E-37E	B8	R27	W	1	6
36E-37E	B12	R8	W	FW	6
36E-37E	B12	R24	W	1 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
36E-37E	B12	R37	W	½	4
36E-37E	**B12**	**R38**	**W**	**½**	**2**
36E-37E	B12	R41	W	2	4
36E-37E	B12	R43	W	3 ½	4
36E	RISER BEAM	R2	E	½	6
36E	RISER BEAM	R4	E	¾	6
36E	RISER BEAM	R5	E	¾	6
36E	RISER BEAM	R6	E	½ & ½	6
36E	RISER BEAM	R7	E	1	6
36E	RISER BEAM	R8	E	1 ¼	6
36E	RISER BEAM	R9	E	½	6
36E	**RISER BEAM**	**R34**	**E**	**2 ½**	**2**
36E	**RISER BEAM**	**R35**	**E**	**3**	**2**
36E	RISER BEAM	R41	E	1	6
36E	RISER BEAM	R42	E	1 & ½	6
36E	RISER BEAM	R43	E	1 ½	6
36E	RISER BEAM	R46	E	3	6
36E	RISER BEAM	R52	E	3	4
36E	RISER BEAM	R54	E	1	6
36E	RISER BEAM	R56	E	¾	6
36E	RISER BEAM	R57	E	2	6
36E	RISER BEAM	R58	E	1 ½	6
36E	RISER BEAM	R59	E	FW	6
36E	RISER BEAM	R60	E	FW	4
36E	RISER BEAM	R61	E	3 ½	6
36E	RISER BEAM	R63	E	FW	4
36E	RISER BEAM	R64	E	FW	4
36E	RISER BEAM	R65	E	FW	4
36E	RISER BEAM	R66	E	FW	4
36E	RISER BEAM	R67	E	FW	6
36E	RISER BEAM	R69	E	1 ¼	4
35E-36E	B1	R2	E	¼	4
35E-36E	B1	R3	W	¾	6
35E-36E	B1	R4	E	½	6
35E-36E	B1	R26	E	3 ¼	6
35E-36E	B1	R26	W	1 ½	6
35E-36E	B1	R63	E	4	4
35E-36E	B1	R63	W	½	6
35E-36E	B1	R64	E	4 ½	4
35E-36E	B1	R64	W	½	6
35E-36E	**B1**	**R65**	**E**	**FW**	**2**
35E-36E	**B1**	**R66**	**W**	**2**	**2**
35E-36E	B1	R66	E	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
35E-36E	B1	R67	E	4	6
35E-36E	B2	R25	E	½	6
35E-36E	B2	R62	W	1	4
35E-36E	**B2**	**R69**	**W**	**FW**	**2**
35E-36E	B3	R19	E	FW	6
35E-36E	B3	R19	W	FW	4
35E-36E	B8	R26	W	½	6
35E-36E	B8	R28	E	1	6
35E-36E	B10	R28	W	4 ½	6
35E-36E	B11	R19	W	¾	6
35E-36E	B11	R25	W	1 ½	6
35E-36E	B11	R26	W	½	6
35E-36E	B12	R23	W	½	4
35E-36E	B12	R24	W	½	4
35E-36E	B12	R26	W	½	4
35E-36E	B12	R27	W	4	6
35E-36E	B12	R28	W	1	6
35E-36E	B12	R47	W	1	4
35E-36E	B12	R48	W	1 & ½	6
35E-36E	B12	R52	W	2	6
35E-36E	B12	R62	W	2	6
35E	RISER BEAM	R4	E	1 ½	6
35E	RISER BEAM	R9	E	1 & ½	6
35E	RISER BEAM	R10	E	FW	4
35E	RISER BEAM	R11	E	2 ½	6
35E	RISER BEAM	R27	E	1	6
35E	RISER BEAM	R29	E	½	4
35E	RISER BEAM	R45	E	3 ½	4
35E	**RISER BEAM**	**R59**	**E**	**¾**	**2**
35E	RISER BEAM	R60	E	¾	6
35E	RISER BEAM	R63	E	1	6
35E	RISER BEAM	R64	E	¾	6
35E	RISER BEAM	R65	E	¼ & ¾	6
35E	RISER BEAM	R66	E	3	6
35E	RISER BEAM	R67	E	FW	6
35E	RISER BEAM	R68	E	FW	4
34E-35E	B1	R10	E	FW	6
34E-35E	B2	R15	W	½	6
34E-35E	B2	R25	E	½	4
34E-35E	B5	R52	W	FW	4
34E-35E	B6	R19	E	FW	6
34E-35E	B6	R19	W	FW	6
34E-35E	B9	R19	E	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
34E-35E	B9	R19	W	FW	4
34E-35E	**B9**	**R52**	**W**	**¼**	**2**
34E-35E	B9	R52	E	½	6
34E-35E	B12	R22	W	1	6
34E-35E	B12	R25	W	4	6
34E-35E	B12	R26	W	FW	6
34E-35E	B12	R27	W	1 ½	6
34E-35E	B12	R28	W	3 ½	4
34E-35E	B12	R29	W	2	6
34E-35E	**B12**	**R49**	**W**	**1**	**2**
34E-35E	**B12**	**R50**	**W**	**1**	**2**
34E-35E	B12	R54	W	2 ½	6
34E-35E	B12	R55	W	1 ½ & 1	6
34E-35E	B12	R58	W	1	6
34E-35E	B12	R59	W	2	6
34E-35E	B12	R60	W	2	6
34E	RISER BEAM	R4	W	¼	4
34E	RISER BEAM	R19	E	FW	6
34E	RISER BEAM	R22	E	¼	4
34E	RISER BEAM	R23	E	2 ½	6
34E	RISER BEAM	R24	E	1 ¼	6
34E	RISER BEAM	R26	E	1 ¼	6
34E	RISER BEAM	R28	E	FW	6
34E	RISER BEAM	R29	E	FW	6
34E	**RISER BEAM**	**R45**	**E**	**¼**	**2**
34E	**RISER BEAM**	**R46**	**E**	**¼**	**2**
34E	RISER BEAM	R51	E	3	6
34E	RISER BEAM	R52	E	2 & ¾	6
34E	RISER BEAM	R57	E	¼	4
34E	RISER BEAM	R58	E	¾	6
34E	RISER BEAM	R59	E	¾	6
34E	RISER BEAM	R60	E	1	6
34E	RISER BEAM	R61	E	1 & ¼	6
34E	RISER BEAM	R62	E	2	6
34E	**RISER BEAM**	**R63**	**E**	**¼**	**2**
34E	RISER BEAM	R64	E	1	6
34E	RISER BEAM	R65	E	1 ¼	4
34E	RISER BEAM	R66	E	2 ½	6
34E	RISER BEAM	R67	E	½	6
34E	RISER BEAM	R68	E	¼	4
33E-34E	**B1**	**R8**	**W**	**½**	**2**
33E-34E	**B1**	**R26**	**E**	**1**	**2**
33E-34E	**B1**	**R28**	**W**	**½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
33E-34E	**B1**	**R28**	**E**	**4**	**2**
33E-34E	B2	R19	E	¼	6
33E-34E	B8	R19	E	FW	4
33E-34E	B8	R19	W	FW	4
33E-34E	B9	R19	E	FW	4
33E-34E	B9	R19	W	FW	4
33E-34E	**B10**	**R19**	**W**	**1 ½**	**2**
33E-34E	B12	R18	W	2	6
33E-34E	B12	R24	W	1	6
33E-34E	B12	R25	W	¼	6
33E-34E	**B12**	**R26**	**W**	**½**	**2**
33E-34E	B12	R27	W	¾	6
33E-34E	B12	R28	W	1	6
33E	RISER BEAM	R27	E	2	6
33E	RISER BEAM	R35	E	FW	6
33E	RISER BEAM	R42	E	¾	6
33E	RISER BEAM	R43	E	½	6
33E	RISER BEAM	R44	E	¼	4
33E	RISER BEAM	R45	E	¾ & ¾	4
33E	**RISER BEAM**	**R46**	**E**	**½**	**2**
33E	RISER BEAM	R47	E	½	4
33E	**RISER BEAM**	**R61**	**E**	**½**	**2**
33E	RISER BEAM	R64	E	½	6
33E	RISER BEAM	R65	E	2	6
33E	RISER BEAM	R66	E	¼	6
33E	**RISER BEAM**	**R67**	**E**	**½**	**2**
33E	RISER BEAM	R68	E	1 ½	6
32E-33E	B1	R37	W	1	6
32E-33E	B1	R64	E	3	6
32E-33E	B1	R65	E	2 ½	6
32E-33E	B1	R66	E	1 ½	6
32E-33E	B1	R68	E	3 ½	6
32E-33E	B1	R69	E	FW	4
32E-33E	B2	R19	W	FW	4
32E-33E	B3	R43	E	½	6
32E-33E	B4	R37	W	1	6
32E-33E	B4	R47	W	1	4
32E-33E	B4	R52	E	¼	4
32E-33E	B4	R52	W	¼	4
32E-33E	B5	R19	E	¼	6
32E-33E	B7	R19	E	¼	6
32E-33E	B7	R27	E	¼	4
32E-33E	**B8**	**R38**	**E**	**1 ¼**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
32E-33E	B9	R26	W	¾	6
32E-33E	B9	R43	E	FW	6
32E-33E	B9	R43	W	FW	6
32E-33E	B9	R52	E	¼	4
32E-33E	B12	R12	W	1	6
32E-33E	B12	R26	W	1	4
32E-33E	B12	R27	W	1 ½	6
32E	RISER BEAM	R6	E	½	6
32E	RISER BEAM	R9	E	FW	4
32E	RISER BEAM	R10	E	3	6
32E	RISER BEAM	R11	E	FW	4
32E	RISER BEAM	R12	E	1	6
32E	RISER BEAM	R13	E	3 ½	6
32E	RISER BEAM	R14	E	¾	6
32E	RISER BEAM	R15	E	¾	6
32E	**RISER BEAM**	**R17**	**E**	**¼**	**2**
32E	**RISER BEAM**	**R19**	**E**	**1**	**2**
32E	RISER BEAM	R34	E	2 ½	6
32E	RISER BEAM	R41	E	½	6
32E	**RISER BEAM**	**R43**	**E**	**1 ½**	**2**
32E	RISER BEAM	R45	E	3	6
32E	RISER BEAM	R46	E	1	6
32E	RISER BEAM	R47	E	1 ¼	6
32E	RISER BEAM	R48	E	1 ½	6
32E	RISER BEAM	R49	E	1	6
32E	RISER BEAM	R53	E	FW	4
32E	RISER BEAM	R54	E	1 ½	6
32E	RISER BEAM	R57	E	2	6
32E	RISER BEAM	R58	E	FW	6
32E	RISER BEAM	R59	E	½ & 1	6
32E	RISER BEAM	R62	E	4	4
32E	RISER BEAM	R63	E	3	6
32E	RISER BEAM	R64	E	¾	6
32E	RISER BEAM	R65	E	1	6
32E	RISER BEAM	R66	E	1 ¾ & ¼	6
31E-32E	B1	R10	E	½	6
31E-32E	B1	R10	W	2	6
31E-32E	B1	R11	W	FW	6
31E-32E	B1	R12	E	FW	6
31E-32E	**B1**	**R13**	**W**	**½**	**2**
31E-32E	B1	R13	E	FW	6
31E-32E	B1	R61	W	3	6
31E-32E	**B1**	**R67**	**W**	**½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
31E-32E	**B1**	**R68**	**W**	**FW**	**2**
31E-32E	B1	R68	E	1 & 2	6
31E-32E	B1	R69	W	1	6
31E-32E	**B4**	**R46**	**W**	**¾**	**2**
31E-32E	**B4**	**R47**	**W**	**½**	**2**
31E-32E	**B4**	**R51**	**E**	**½**	**2**
31E-32E	**B5**	**R43**	**W**	**FW**	**2**
31E-32E	**B5**	**R43**	**E**	**FW**	**2**
31E-32E	B8	R47	E	1	6
31E-32E	B8	R48	E	1	6
31E-32E	**B11**	**R19**	**W**	**½**	**2**
31E-32E	**B11**	**R19**	**E**	**½**	**2**
31E-32E	B11	R52	E	FW	4
31E-32E	B11	R52	W	FW	4
31E-32E	B12	R19	W	4	6
31E-32E	B12	R26	W	2	6
31E-32E	B12	R28	W	½	6
31E-32E	B12	R46	W	1	6
31E-32E	B12	R47	W	1 & 2 ½	6
31E-32E	B12	R52	W	FW	6
31E-32E	B12	R54	W	1	6
31E-32E	B12	R62	W	FW	4
31E-32E	B12	R63	W	1 ½	6
31E-32E	B12	R64	W	3	4
31E	**RISER BEAM**	**R17**	**E**	**1**	**2**
31E	RISER BEAM	R25	E	3	4
31E	RISER BEAM	R34	E	1 ½	6
31E	RISER BEAM	R42	E	2 ½	4
31E	**RISER BEAM**	**R43**	**E**	**2 ½**	**2**
31E	RISER BEAM	R46	E	2	4
31E	**RISER BEAM**	**R60**	**E**	**1**	**2**
31E	**RISER BEAM**	**R64**	**E**	**¼ & ½**	**2**
31E	RISER BEAM	R68	E	3	4
30E-31E	B1	R10	E	1	6
30E-31E	B1	R61	W	FW	4
30E-31E	B1	R62	E	2 ½	6
30E-31E	**B1**	**R63**	**E**	**3**	**2**
30E-31E	**B1**	**R64**	**W**	**1 ½**	**2**
30E-31E	**B1**	**R65**	**W**	**½**	**2**
30E-31E	**B1**	**R69**	**W**	**1**	**2**
30E-31E	**B1**	**R69**	**E**	**2 ½**	**2**
30E-31E	B2	R37	E	¾	6
30E-31E	**B7**	**R50**	**E**	**½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
30E-31E	B9	R43	E	¼	6
30E-31E	B10	R42	W	½	6
30E-31E	B11	R61	E	1 ½	6
30E-31E	B12	R32	W	3	4
30E-31E	B12	R41	W	1	6
30E-31E	B12	R42	W	2 ½	6
30E-31E	B12	R43	W	2 ½	6
30E-31E	B12	R45	W	3	6
30E-31E	B12	R46	W	½	4
30E-31E	B12	R47	W	4	6
30E-31E	B12	R48	W	1 & 1 ½	6
30E-31E	B12	R49	W	3	6
30E-31E	B12	R52	W	2	6
30E-31E	B12	R54	W	1	6
30E-31E	B12	R58	W	¾	4
30E-31E	**B12**	**R59**	**W**	**½**	**2**
30E-31E	B12	R61	W	1	4
30E-31E	B12	R65	W	1 ½	6
30E	RISER BEAM	R2	E	3	6
30E	RISER BEAM	R5	E	1	6
30E	RISER BEAM	R6	E	3 ½	6
30E	RISER BEAM	R7	E	¾	6
30E	RISER BEAM	R8	E	1	6
30E	RISER BEAM	R11	E	1 ½	6
30E	RISER BEAM	R12	E	½	6
30E	RISER BEAM	R13	E	¾	6
30E	RISER BEAM	R14	E	½	6
30E	RISER BEAM	R19	E	FW	4
30E	RISER BEAM	R20	E	4 ½	6
30E	RISER BEAM	R21	E	½	6
30E	RISER BEAM	R22	E	½ & 1	6
30E	RISER BEAM	R23	E	1	6
30E	RISER BEAM	R24	E	FW	6
30E	RISER BEAM	R25	E	FW	6
30E	RISER BEAM	R26	E	1	6
30E	RISER BEAM	R27	E	¼	6
30E	RISER BEAM	R28	E	3	6
30E	RISER BEAM	R29	E	FW	4
30E	RISER BEAM	R30	E	FW	6
30E	RISER BEAM	R41	E	2 ½	6
30E	RISER BEAM	R42	E	3	6
30E	RISER BEAM	R43	E	1 & 1	6
30E	RISER BEAM	R45	E	1 ¼	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
30E	RISER BEAM	R46	E	1 ¾	6
30E	RISER BEAM	R47	E	4	6
30E	RISER BEAM	R48	E	2	6
30E	RISER BEAM	R49	E	2	6
30E	RISER BEAM	R50	E	1 ¼	4
30E	**RISER BEAM**	**R51**	**E**	**½**	**2**
30E	RISER BEAM	R52	E	2	6
30E	RISER BEAM	R56	E	¼ & ½	6
30E	RISER BEAM	R57	E	¾	6
30E	**RISER BEAM**	**R58**	**E**	**½**	**2**
30E	RISER BEAM	R59	E	3	6
30E	RISER BEAM	R60	E	FW	4
30E	RISER BEAM	R61	E	FW	6
30E	RISER BEAM	R63	E	3 ½	6
30E	RISER BEAM	R64	E	FW	6
30E	RISER BEAM	R65	E	FW	6
30E	RISER BEAM	R66	E	1 & ¾	6
30E	RISER BEAM	R67	E	1	6
30E	RISER BEAM	R69	E	3	6
29E-30E	**B1**	**R6**	**E**	**¾**	**2**
29E-30E	**B1**	**R10**	**W**	**½**	**2**
29E-30E	B1	R10	E	½	6
29E-30E	B1	R11	W	½	6
29E-30E	B1	R12	E	1 ¼	6
29E-30E	B1	R12	W	1	6
29E-30E	B1	R13	W	½	6
29E-30E	B1	R16	W	3	6
29E-30E	B1	R17	W	½	6
29E-30E	B1	R23	E	1	6
29E-30E	B1	R30	E	FW	6
29E-30E	**B1**	**R33**	**W**	**1 ½**	**2**
29E-30E	B1	R34	E	FW	6
29E-30E	B1	R34	W	FW	4
29E-30E	**B1**	**R35**	**W**	**3**	**2**
29E-30E	**B1**	**R35**	**E**	**FW**	**2**
29E-30E	B1	R38	W	¼	6
29E-30E	B1	R40	W	FW	6
29E-30E	**B1**	**R41**	**E**	**2**	**2**
29E-30E	**B1**	**R42**	**E**	**½**	**2**
29E-30E	B1	R47	W	¾	6
29E-30E	B1	R48	W	½	6
29E-30E	**B1**	**R54**	**W**	**½**	**2**
29E-30E	**B1**	**R57**	**W**	**1**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
29E-30E	B1	R60	W	3	6
29E-30E	**B1**	**R63**	**E**	**1**	**2**
29E-30E	**B1**	**R64**	**E**	**1**	**2**
29E-30E	B1	R65	E	FW	4
29E-30E	B1	R65	W	½	6
29E-30E	B1	R66	E	FW	4
29E-30E	B1	R66	W	1	6
29E-30E	**B1**	**R68**	**E**	**1 ¼**	**2**
29E-30E	B2	R10	E	1	6
29E-30E	B2	R33	E	½	6
29E-30E	**B2**	**R34**	**W**	**1 ½**	**2**
29E-30E	B2	R34	E	½ & ¼	6
29E-30E	B5	R1	E	¼	6
29E-30E	**B5**	**R42**	**E**	**¼**	**2**
29E-30E	B5	R43	E	½	6
29E-30E	B7	R19	E	1	6
29E-30E	**B11**	**R11**	**W**	**2 ½**	**2**
29E-30E	**B11**	**R17**	**W**	**2 ½**	**2**
29E-30E	B11	R20	W	2 ½	6
29E-30E	B11	R43	W	1	4
29E-30E	B12	R6	W	1	6
29E-30E	B12	R7	W	FW	4
29E-30E	B12	R8	W	FW	4
29E-30E	B12	R10	W	FW	4
29E-30E	B12	R14	W	2 ½	6
29E-30E	B12	R16	W	1	6
29E-30E	B12	R17	W	½	4
29E-30E	B12	R18	W	2	6
29E-30E	B12	R26	W	½	6
29E-30E	B12	R37	W	1 ¼	6
29E-30E	B12	R39	W	1	6
29E-30E	**B12**	**R42**	**W**	**1**	**2**
29E-30E	**B12**	**R54**	**W**	**½**	**2**
29E-30E	B12	R56	W	¼	6
29E-30E	B12	R58	W	½	6
29E-30E	B12	R59	W	½	6
29E-30E	B12	R60	W	1	6
29E	RISER BEAM	R2	E	FW	4
29E	RISER BEAM	R3	E	2	4
29E	RISER BEAM	R5	E	1 ½	4
29E	RISER BEAM	R7	E	FW	6
29E	RISER BEAM	R8	E	4	6
29E	RISER BEAM	R9	E	FW	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
29E	RISER BEAM	R10	E	FW	4
29E	RISER BEAM	R11	E	FW	4
29E	RISER BEAM	R12	E	FW	4
29E	RISER BEAM	R13	E	FW	4
29E	RISER BEAM	R14	E	FW	4
29E	RISER BEAM	R15	E	FW	4
29E	RISER BEAM	R16	E	1	4
29E	RISER BEAM	R19	E	2	4
29E	**RISER BEAM**	**R21**	**E**	**1 ¼**	**2**
29E	RISER BEAM	R23	E	1 ¼	6
29E	RISER BEAM	R24	E	2 ½ & ½	6
29E	RISER BEAM	R25	E	2 ½	6
29E	RISER BEAM	R26	E	2 ½	4
29E	RISER BEAM	R28	E	1	6
29E	RISER BEAM	R34	E	1	4
29E	RISER BEAM	R52	E	FW	6
29E	RISER BEAM	R58	E	1	6
29E	RISER BEAM	R59	E	2	6
29E	**RISER BEAM**	**R60**	**E**	**1**	**2**
29E	RISER BEAM	R64	E	FW	6
29E	RISER BEAM	R66	E	FW	6
29E	RISER BEAM	R67	E	1	6
29E	**RISER BEAM**	**R68**	**E**	**1**	**2**
28E-29E	B1	R2	E	FW	4
28E-29E	B1	R2	W	FW	4
28E-29E	B1	R3	E	1	6
28E-29E	B1	R3	W	FW	4
28E-29E	B1	R4	W	3	6
28E-29E	B1	R5	E	3	6
28E-29E	B1	R5	W	1	6
28E-29E	B1	R6	E	FW	6
28E-29E	**B1**	**R7**	**W**	**½**	**2**
28E-29E	B1	R7	E	2 ½	6
28E-29E	**B1**	**R9**	**W**	**2**	**2**
28E-29E	B1	R9	E	FW	6
28E-29E	B1	R10	E	FW	4
28E-29E	B1	R10	W	4	4
28E-29E	B1	R11	E	FW	4
28E-29E	B1	R11	W	1 ½	6
28E-29E	B1	R12	E	FW	4
28E-29E	B1	R12	W	2	6
28E-29E	B1	R13	E	4 ½	4
28E-29E	B1	R13	W	3	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
28E-29E	B1	R14	E	½	6
28E-29E	B1	R16	W	¾	6
28E-29E	B1	R28	E	3	4
28E-29E	B1	R28	W	2	6
28E-29E	**B1**	**R29**	**W**	**¾**	**2**
28E-29E	B1	R34	E	2	6
28E-29E	B1	R34	W	1 ½	6
28E-29E	B1	R35	W	1	6
28E-29E	B1	R38	E	1	6
28E-29E	B1	R39	E	1	6
28E-29E	**B1**	**R45**	**W**	**1**	**2**
28E-29E	**B1**	**R48**	**E**	**1**	**2**
28E-29E	B1	R52	E	1	6
28E-29E	**B1**	**R65**	**W**	**FW**	**2**
28E-29E	B1	R68	W	2 ½	6
28E-29E	B1	R69	E	1	6
28E-29E	B1	R69	W	FW	6
28E-29E	B2	R2	E	FW	4
28E-29E	B2	R2	W	1 ¼	6
28E-29E	B2	R3	E	2	6
28E-29E	B2	R37	W	1	6
28E-29E	B2	R52	E	1	4
28E-29E	B2	R52	W	2	6
28E-29E	B3	R2	W	½	6
28E-29E	B3	R52	W	¼	4
28E-29E	B5	R26	W	1	6
28E-29E	B5	R28	W	1	6
28E-29E	B6	R28	W	½	6
28E-29E	B8	R52	E	FW	4
28E-29E	B8	R52	W	FW	6
28E-29E	B9	R19	E	¼	6
28E-29E	B9	R52	E	FW	6
28E-29E	B9	R52	W	FW	6
28E-29E	B11	R31	W	3 ½	6
28E-29E	B11	R52	E	1	6
28E-29E	B11	R52	W	1	6
28E-29E	B11	R61	E	½	6
28E-29E	B11	R62	E	1	6
28E-29E	B12	R6	W	½	6
28E-29E	B12	R7	W	1	6
28E-29E	**B12**	**R8**	**W**	**1**	**2**
28E-29E	B12	R19	W	2 ½	6
28E-29E	B12	R20	W	3	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
28E-29E	B12	R21	W	4	4
28E-29E	B12	R24	W	1 ¼	6
28E-29E	**B12**	**R39**	**W**	**1**	**2**
28E-29E	**B12**	**R46**	**W**	**1**	**2**
28E-29E	**B12**	**R47**	**W**	**1 ½**	**2**
28E-29E	**B12**	**R48**	**W**	**1**	**2**
28E-29E	**B12**	**R54**	**W**	**1 ½**	**2**
28E-29E	**B12**	**R56**	**W**	**½**	**2**
28E-29E	B12	R57	W	1	6
28E-29E	B12	R58	W	1	6
28E-29E	B12	R59	W	2	6
28E-29E	B12	R61	W	¼	6
28E	RISER BEAM	R3	E	1	6
28E	RISER BEAM	R4	E	1	6
28E	RISER BEAM	R5	E	¾	6
28E	RISER BEAM	R6	E	¾	6
28E	RISER BEAM	R7	E	¾	6
28E	RISER BEAM	R8	E	2	6
28E	RISER BEAM	R10	E	1	6
28E	RISER BEAM	R13	E	¾	6
28E	RISER BEAM	R14	E	1	6
28E	RISER BEAM	R20	E	4	4
28E	RISER BEAM	R21	E	1	6
28E	RISER BEAM	R22	E	1	6
28E	RISER BEAM	R23	E	1	6
28E	RISER BEAM	R24	E	2	6
28E	**RISER BEAM**	**R46**	**E**	**½**	**2**
28E	RISER BEAM	R63	E	3	4
28E	**RISER BEAM**	**R64**	**E**	**½**	**2**
28E	RISER BEAM	R66	E	3	6
28E	RISER BEAM	R68	E	½	6
27E-28E	B1	R2	E	2 ½	6
27E-28E	B1	R3	E	¾	6
27E-28E	B1	R3	W	3	6
27E-28E	B1	R4	E	½	6
27E-28E	**B1**	**R5**	**E**	**½**	**2**
27E-28E	B1	R7	W	2	6
27E-28E	B1	R8	E	1 ½	6
27E-28E	B1	R10	E	1 ½	6
27E-28E	B1	R10	W	FW	6
27E-28E	**B2**	**R10**	**E**	**½**	**2**
27E-28E	B2	R52	E	¼	4
27E-28E	B3	R4	E	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
27E-28E	**B4**	**R19**	**E**	**½**	**2**
27E-28E	**B8**	**R46**	**E**	**½**	**2**
27E-28E	**B9**	**R19**	**E**	**1**	**2**
27E-28E	**B11**	**R19**	**E**	**¾**	**2**
27E-28E	**B11**	**R36**	**E**	**FW**	**2**
27E-28E	B12	R19	W	3	6
27E-28E	B12	R25	W	¾	6
27E-28E	B12	R63	W	3	4
27E	RISER BEAM	R3	E	¾	6
27E	RISER BEAM	R6	E	3	4
27E	RISER BEAM	R7	E	3	4
27E	RISER BEAM	R8	E	3	6
27E	RISER BEAM	R9	E	2	6
27E	RISER BEAM	R10	E	FW	4
27E	RISER BEAM	R11	E	FW	4
27E	**RISER BEAM**	**R12**	**E**	**½**	**2**
27E	RISER BEAM	R13	E	FW	4
27E	RISER BEAM	R14	E	4 ½	4
27E	RISER BEAM	R15	E	½	6
27E	RISER BEAM	R16	E	¾	6
27E	RISER BEAM	R17	E	¾	6
27E	RISER BEAM	R19	E	¾	6
27E	RISER BEAM	R20	E	½	6
27E	**RISER BEAM**	**R21**	**E**	**½**	**2**
27E	RISER BEAM	R22	E	3	6
27E	RISER BEAM	R23	E	2	6
27E	RISER BEAM	R24	E	1 ½	6
27E	**RISER BEAM**	**R32**	**E**	**½**	**2**
27E	**RISER BEAM**	**R33**	**E**	**½**	**2**
27E	**RISER BEAM**	**R34**	**E**	**½**	**2**
27E	**RISER BEAM**	**R35**	**E**	**¾**	**2**
27E	**RISER BEAM**	**R63**	**E**	**½**	**2**
27E	**RISER BEAM**	**R64**	**E**	**1 ½**	**2**
27E	**RISER BEAM**	**R65**	**E**	**1**	**2**
27E	**RISER BEAM**	**R66**	**E**	**1**	**2**
26E-27E	**B1**	**R2**	**W**	**½**	**2**
26E-27E	B1	R7	E	¼	6
26E-27E	B1	R7	W	1 ¼	6
26E-27E	B1	R8	E	2	6
26E-27E	B1	R8	W	FW	6
26E-27E	B1	R10	E	FW	6
26E-27E	B1	R11	E	FW	6
26E-27E	B1	R12	E	¾	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
26E-27E	B1	R13	E	1	6
26E-27E	B1	R13	W	3 ½	6
26E-27E	**B1**	**R34**	**E**	**1**	**2**
26E-27E	B1	R64	W	4	6
26E-27E	B1	R69	E	1	4
26E-27E	B3	R52	W	½	6
26E-27E	**B4**	**R45**	**W**	**¼**	**2**
26E-27E	B4	R52	W	¾	6
26E-27E	**B5**	**R52**	**E**	**½**	**2**
26E-27E	B6	R52	E	FW	4
26E-27E	B6	R52	W	FW	4
26E-27E	B7	R52	E	FW	4
26E-27E	B7	R52	W	FW	4
26E-27E	B8	R1	E	1	6
26E-27E	B8	R28	E	½	6
26E-27E	B8	R52	E	FW	4
26E-27E	B8	R52	W	FW	4
26E-27E	B9	R52	E	FW	4
26E-27E	B9	R52	W	FW	4
26E-27E	B11	R2	W	¾	6
26E-27E	B12	R5	W	1	4
26E-27E	B12	R6	W	1	4
26E-27E	B12	R7	W	FW	4
26E-27E	B12	R22	W	2 ½	6
26E-27E	B12	R23	W	2	6
26E-27E	B12	R25	W	1	6
26E-27E	B12	R26	W	2 ½	6
26E-27E	B12	R29	W	2	6
26E-27E	B12	R30	W	3	6
26E-27E	B12	R32	W	¾	4
26E-27E	**B12**	**R33**	**W**	**1 ½**	**2**
26E	RISER BEAM	R2	E	1	6
26E	RISER BEAM	R3	E	FW	4
26E	RISER BEAM	R5	E	2 ½	6
26E	RISER BEAM	R8	E	FW	6
26E	RISER BEAM	R10	E	3	4
26E	RISER BEAM	R11	E	½	4
26E	RISER BEAM	R12	E	FW	4
26E	RISER BEAM	R14	E	2 ½	6
26E	RISER BEAM	R15	E	2 ¼	6
26E	**RISER BEAM**	**R16**	**E**	**1 ½**	**2**
26E	RISER BEAM	R17	E	1 ½	6
26E	RISER BEAM	R18	E	2	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
26E	RISER BEAM	R22	E	3	4
26E	RISER BEAM	R23	E	½ & ¾	6
26E	RISER BEAM	R25	E	¾	6
26E	RISER BEAM	R26	E	2 ½	6
26E	**RISER BEAM**	**R32**	**E**	**2**	**2**
26E	RISER BEAM	R58	E	2	6
26E	RISER BEAM	R61	E	1	6
26E	RISER BEAM	R66	E	¼	4
25E-26E	B1	R3	E	¾ & 1	6
25E-26E	B1	R3	W	3	6
25E-26E	B1	R8	W	FW	4
25E-26E	B1	R9	W	2 ½	6
25E-26E	B1	R10	W	FW	4
25E-26E	B1	R11	W	3	6
25E-26E	B1	R15	W	1	6
25E-26E	B1	R18	W	3 & ¼	6
25E-26E	B1	R19	W	FW	4
25E-26E	B1	R21	E	¾	6
25E-26E	B1	R22	W	2 ½	6
25E-26E	B1	R32	E	1	6
25E-26E	B1	R33	E	1	6
25E-26E	B1	R34	E	½	6
25E-26E	B1	R63	W	¼	4
25E-26E	B1	R69	W	¼	4
25E-26E	B2	R8	E	¾	6
25E-26E	B2	R46	E	½	4
25E-26E	B3	R42	W	½	6
25E-26E	B3	R43	W	½	4
25E-26E	B3	R52	E	1 ½	6
25E-26E	B4	R52	E	FW	4
25E-26E	B4	R52	W	FW	4
25E-26E	B5	R52	W	1 ½	6
25E-26E	**B5**	**R52**	**E**	**¼**	**2**
25E-26E	**B7**	**R44**	**W**	**½**	**2**
25E-26E	**B7**	**R52**	**E**	**⅛**	**2**
25E-26E	B8	R52	E	1	4
25E-26E	B8	R52	W	½	6
25E-26E	B9	R19	E	¾	6
25E-26E	B9	R19	W	¾	6
25E-26E	**B9**	**R52**	**W**	**⅛**	**2**
25E-26E	**B9**	**R52**	**E**	**¼**	**2**
25E-26E	B10	R19	E	1	6
25E-26E	B10	R19	W	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
25E-26E	B11	R52	E	1	6
25E-26E	B11	R52	W	FW	4
25E-26E	B12	R6	W	1 ½	6
25E-26E	B12	R7	W	3	4
25E-26E	B12	R8	W	¾ & ½	6
25E-26E	B12	R10	W	1 ½	6
25E-26E	B12	R13	W	¾	6
25E-26E	B12	R19	W	¾	6
25E-26E	B12	R32	W	1	6
25E-26E	B12	R42	W	2	6
25E-26E	B12	R43	W	4	6
25E-26E	B12	R45	W	1	6
25E-26E	B12	R57	W	1 ½	6
25E-26E	B12	R61	W	½	6
25E-26E	B12	R63	W	½	6
25E	RISER BEAM	R2	E	FW	4
25E	RISER BEAM	R3	E	FW	4
25E	RISER BEAM	R4	E	FW	4
25E	RISER BEAM	R5	E	1 ¼	6
25E	RISER BEAM	R6	E	¾	6
25E	RISER BEAM	R7	E	FW	4
25E	RISER BEAM	R8	E	1 ¼	6
25E	RISER BEAM	R10	E	2	4
25E	RISER BEAM	R11	E	FW	6
25E	RISER BEAM	R12	E	1 ½ & 1 ½	6
25E	RISER BEAM	R13	E	FW	6
25E	RISER BEAM	R14	E	2	6
25E	RISER BEAM	R15	E	1	6
25E	RISER BEAM	R16	E	¾	6
25E	RISER BEAM	R17	E	1 ½ & ¾	6
25E	RISER BEAM	R18	E	4	6
25E	RISER BEAM	R19	E	3	6
25E	RISER BEAM	R20	E	1	6
25E	RISER BEAM	R22	E	2	4
25E	RISER BEAM	R23	E	1	4
25E	RISER BEAM	R24	E	2 & 1	6
25E	RISER BEAM	R25	E	2 ¼	6
25E	RISER BEAM	R26	E	FW	4
25E	RISER BEAM	R27	E	FW	4
25E	RISER BEAM	R28	E	2	6
25E	RISER BEAM	R29	E	2	6
25E	RISER BEAM	R30	E	1	4
25E	RISER BEAM	R31	E	2	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
25E	RISER BEAM	R32	E	2 ½	6
25E	RISER BEAM	R33	E	FW	4
25E	RISER BEAM	R34	E	1 ½	4
25E	RISER BEAM	R35	E	3 ½	6
25E	RISER BEAM	R63	E	¾	6
25E	RISER BEAM	R66	E	1 ½	6
25E	RISER BEAM	R67	E	1	6
25E	RISER BEAM	R68	E	2	4
25E	RISER BEAM	R69	E	2 ½	6
24E-25E	B1	R2	E	1	6
24E-25E	B1	R2	W	4	6
24E-25E	B1	R3	E	½	6
24E-25E	B1	R4	W	FW	4
24E-25E	B1	R5	W	FW	4
24E-25E	B1	R6	E	2	4
24E-25E	B1	R6	W	3 ½	6
24E-25E	B1	R7	E	3	6
24E-25E	B1	R7	W	FW	4
24E-25E	B1	R8	E	FW	4
24E-25E	B1	R8	W	3	6
24E-25E	B1	R9	E	4	6
24E-25E	B1	R10	E	2	6
24E-25E	B1	R10	W	2 ½	6
24E-25E	B1	R11	W	1	4
24E-25E	B1	R12	W	2 ½	4
24E-25E	B1	R13	W	4	6
24E-25E	B1	R17	W	2 ½	6
24E-25E	B1	R21	E	2	6
24E-25E	B1	R26	W	½	6
24E-25E	B1	R27	W	4	6
24E-25E	B1	R28	W	FW	4
24E-25E	B1	R29	W	2 ½	4
24E-25E	B1	R30	E	3	6
24E-25E	B1	R31	E	½	6
24E-25E	B1	R31	W	FW	4
24E-25E	B1	R32	E	1	6
24E-25E	B1	R32	W	2 & 1	6
24E-25E	B1	R33	E	FW	4
24E-25E	B1	R33	W	1	6
24E-25E	B1	R34	E	FW	4
24E-25E	B1	R34	W	FW	6
24E-25E	B2	R2	E	3	6
24E-25E	B2	R2	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
24E-25E	B2	R6	W	2	4
24E-25E	B2	R8	W	FW	6
24E-25E	**B2**	**R42**	**E**	**1**	**2**
24E-25E	B3	R2	W	½	6
24E-25E	B4	R52	E	1 ½	6
24E-25E	**B5**	**R43**	**E**	**½**	**2**
24E-25E	B5	R52	E	1 ¼	4
24E-25E	B5	R52	W	1	6
24E-25E	B6	R52	E	¾	4
24E-25E	B6	R52	W	½	6
24E-25E	B8	R42	E	1	6
24E-25E	B8	R43	E	¾	4
24E-25E	B8	R52	E	¾	4
24E-25E	**B11**	**R10**	**E**	**½**	**2**
24E-25E	B12	R6	W	¼	4
24E-25E	B12	R8	W	½	4
24E-25E	B12	R10	W	2	6
24E-25E	B12	R41	W	1 ½	4
24E-25E	B12	R42	W	3 ½	6
24E-25E	B12	R43	W	3	4
24E-25E	**B12**	**R54**	**W**	**¼**	**2**
24E-25E	B12	R55	W	¼	4
24E-25E	B12	R62	W	4	4
24E-25E	B12	R64	W	1	6
24E-25E	B12	R65	W	¾	6
24E	RISER BEAM	R2	E	3 ½	4
24E	RISER BEAM	R3	E	1 ½	4
24E	RISER BEAM	R5	E	1 ½	4
24E	**RISER BEAM**	**R6**	**E**	**¾**	**2**
24E	**RISER BEAM**	**R8**	**E**	**¼ & ½**	**2**
24E	**RISER BEAM**	**R10**	**E**	**½**	**2**
24E	**RISER BEAM**	**R11**	**E**	**½**	**2**
24E	**RISER BEAM**	**R12**	**E**	**¾**	**2**
24E	**RISER BEAM**	**R14**	**E**	**½**	**2**
24E	RISER BEAM	R18	E	1	4
24E	**RISER BEAM**	**R19**	**E**	**1**	**2**
24E	RISER BEAM	R26	E	¾	4
24E	RISER BEAM	R27	E	FW	4
24E	RISER BEAM	R28	E	3	4
24E	RISER BEAM	R30	E	1	4
24E	RISER BEAM	R34	E	2	4
24E	**RISER BEAM**	**R37**	**E**	**1 ¼**	**2**
24E	**RISER BEAM**	**R38**	**E**	**1**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
24E	RISER BEAM	R44	E	FW	4
24E	RISER BEAM	R51	E	FW	4
24E	RISER BEAM	R52	E	2 ½	4
24E	RISER BEAM	R53	E	FW	4
24E	RISER BEAM	R57	E	1	4
24E	RISER BEAM	R58	E	½	4
24E	RISER BEAM	R59	E	3 ½	4
24E	RISER BEAM	R63	E	1	4
24E	RISER BEAM	R64	E	FW	4
24E	RISER BEAM	R65	E	FW	4
24E	**RISER BEAM**	**R68**	**E**	**1 ½**	**2**
23E-24E	B1	R2	E	1 ½	6
23E-24E	**B1**	**R3**	**W**	**1**	**2**
23E-24E	B1	R3	E	FW	6
23E-24E	**B1**	**R6**	**W**	**¾**	**2**
23E-24E	**B1**	**R8**	**W**	**1**	**2**
23E-24E	B1	R10	E	FW	6
23E-24E	B1	R19	E	½	6
23E-24E	B1	R28	E	¾	6
23E-24E	B1	R34	W	FW	4
23E-24E	**B1**	**R44**	**W**	**1**	**2**
23E-24E	**B1**	**R53**	**E**	**1 ½**	**2**
23E-24E	B1	R55	W	1	4
23E-24E	**B1**	**R63**	**W**	**1**	**2**
23E-24E	**B1**	**R64**	**W**	**1**	**2**
23E-24E	**B1**	**R65**	**W**	**3**	**2**
23E-24E	**B1**	**R65**	**E**	**4**	**2**
23E-24E	**B2**	**R2**	**W**	**1**	**2**
23E-24E	**B2**	**R6**	**W**	**¾**	**2**
23E-24E	**B2**	**R19**	**W**	**½**	**2**
23E-24E	**B2**	**R19**	**E**	**1**	**2**
23E-24E	B3	R28	E	¼	6
23E-24E	B3	R43	W	FW	4
23E-24E	**B3**	**R43**	**E**	**FW**	**2**
23E-24E	**B3**	**R44**	**E**	**1**	**2**
23E-24E	B5	R25	E	¾	6
23E-24E	B5	R52	W	½	4
23E-24E	B6	R14	W	1	6
23E-24E	B6	R19	W	1	6
23E-24E	**B8**	**R16**	**E**	**1**	**2**
23E-24E	B8	R18	W	**FW**	6
23E-24E	**B8**	**R18**	**E**	**FW**	**2**
23E-24E	**B8**	**R43**	**W**	**FW**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
23E-24E	**B8**	**R43**	**E**	**FW**	**2**
23E-24E	B8	R52	E	¾	4
23E-24E	B8	R52	W	½	4
23E-24E	**B9**	**R43**	**E**	**FW**	**2**
23E-24E	**B9**	**R43**	**W**	**FW**	**2**
23E-24E	B11	R19	W	FW	4
23E-24E	B12	R5	W	½	6
23E-24E	B12	R7	W	1	6
23E-24E	B12	R8	W	1	6
23E-24E	B12	R19	W	2 ½	6
23E-24E	**B12**	**R23**	**W**	**2**	**2**
23E-24E	B12	R24	W	1	6
23E-24E	B12	R25	W	1	6
23E-24E	B12	R26	W	FW	6
23E-24E	B12	R28	W	1	6
23E-24E	B12	R45	W	2 ½	4
23E-24E	B12	R48	W	¼	4
23E-24E	B12	R54	W	½	4
23E-24E	B12	R56	W	½	4
23E-24E	**B12**	**R66**	**W**	**1**	**2**
23E	RISER BEAM	R4	E	2	6
23E	RISER BEAM	R5	E	¼	6
23E	RISER BEAM	R6	E	¾	6
23E	RISER BEAM	R7	E	¾	6
23E	RISER BEAM	R8	E	3	6
23E	RISER BEAM	R11	E	FW	6
23E	RISER BEAM	R12	E	1 ½	6
23E	RISER BEAM	R13	E	¾	6
23E	RISER BEAM	R15	E	¼	6
23E	RISER BEAM	R17	E	3	6
23E	RISER BEAM	R18	E	3 ½	6
23E	RISER BEAM	R21	E	1 ½	6
23E	RISER BEAM	R25	E	1	4
23E	RISER BEAM	R26	E	2 ½	4
23E	RISER BEAM	R27	E	2 ½	6
23E	RISER BEAM	R32	E	2	4
23E	RISER BEAM	R34	E	2	4
23E	RISER BEAM	R45	E	¾	6
23E	RISER BEAM	R46	E	¼	4
23E	RISER BEAM	R48	E	¾	6
23E	RISER BEAM	R50	E	1 ½	6
23E	RISER BEAM	R51	E	FW	6
23E	RISER BEAM	R57	E	¼	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
23E	RISER BEAM	R58	E	½ & ½	6
23E	RISER BEAM	R59	E	1	6
23E	RISER BEAM	R60	E	¼ & ¾	6
23E	RISER BEAM	R62	E	1 ½	6
23E	RISER BEAM	R66	E	¾	6
23E	RISER BEAM	R68	E	¾	6
22E-23E	B1	R2	E	1	6
22E-23E	B1	R2	W	FW	4
22E-23E	B1	R3	E	1 ½	6
22E-23E	B1	R3	W	¾	6
22E-23E	B1	R4	E	¾ & ¾	6
22E-23E	B1	R4	W	¾	6
22E-23E	B1	R5	E	¾	6
22E-23E	B1	R5	W	1	6
22E-23E	B1	R6	W	1	6
22E-23E	B1	R7	W	1	6
22E-23E	B1	R10	W	2 ½	6
22E-23E	B1	R26	E	FW	6
22E-23E	B1	R26	W	1	6
22E-23E	B1	R27	W	4	6
22E-23E	B1	R28	E	1 ½	4
22E-23E	B1	R29	E	1	6
22E-23E	B1	R30	E	3	6
22E-23E	B1	R32	E	2	6
22E-23E	B1	R32	W	2 ½	6
22E-23E	B1	R33	E	¾	6
22E-23E	B1	R33	W	¾ & 1	6
22E-23E	B1	R34	E	¾	6
22E-23E	B1	R34	W	½ & ¾	6
22E-23E	B1	R35	E	1	6
22E-23E	B2	R2	W	2 ¾	6
22E-23E	B2	R19	E	FW	6
22E-23E	B2	R19	W	4 ½	6
22E-23E	B2	R32	W	2	6
22E-23E	**B3**	**R19**	**W**	**FW**	**2**
22E-23E	B3	R19	E	FW	6
22E-23E	B3	R25	W	FW	6
22E-23E	B3	R52	W	½	6
22E-23E	B4	R19	W	1 ½	6
22E-23E	B7	R52	E	¾	6
22E-23E	B7	R52	W	½	4
22E-23E	B8	R8	W	2	6
22E-23E	B8	R52	E	1	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
22E-23E	B9	R47	E	1	6
22E-23E	B9	R52	E	FW	4
22E-23E	B9	R52	W	FW	4
22E-23E	B10	R26	W	¼	6
22E-23E	**B10**	**R47**	**E**	**1**	**2**
22E-23E	B10	R52	E	FW	4
22E-23E	B10	R52	W	FW	4
22E-23E	**B11**	**R19**	**W**	**1**	**2**
22E-23E	B11	R19	E	FW	4
22E-23E	B11	R26	E	½	6
22E-23E	B11	R26	W	¼	4
22E-23E	B11	R52	E	FW	4
22E-23E	B11	R52	W	FW	4
22E-23E	B12	R5	W	1 ½	4
22E-23E	B12	R8	W	3	6
22E-23E	B12	R10	W	2	4
22E-23E	B12	R18	W	3 ½	6
22E-23E	B12	R28	W	1 ½	6
22E-23E	B12	R52	W	1 ½	6
22E	RISER BEAM	R2	E	2 ½	6
22E	RISER BEAM	R3	E	FW	4
22E	RISER BEAM	R6	E	¾	6
22E	RISER BEAM	R7	E	2	6
22E	RISER BEAM	R8	E	3	4
22E	RISER BEAM	R11	E	1	6
22E	RISER BEAM	R17	E	¾	6
22E	**RISER BEAM**	**R19**	**E**	**3**	**2**
22E	**RISER BEAM**	**R21**	**E**	**½**	**2**
22E	RISER BEAM	R28	E	1 ½	6
22E	RISER BEAM	R32	E	½	6
22E	RISER BEAM	R34	E	¾	6
22E	RISER BEAM	R35	E	¼	6
22E	RISER BEAM	R42	E	1	6
22E	RISER BEAM	R63	E	½ & ½	6
22E	RISER BEAM	R65	E	½	6
22E	RISER BEAM	R66	E	1 ½	6
22E	RISER BEAM	R67	E	¼	4
22E	RISER BEAM	R68	E	¾	4
21E-22E	B1	R6	E	1 ½	6
21E-22E	B1	R7	E	¾	6
21E-22E	B1	R8	W	¾	6
21E-22E	B1	R10	E	1	6
21E-22E	B1	R10	W	3	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
21E-22E	B1	R19	E	½	6
21E-22E	B1	R21	E	1 ¼	6
21E-22E	B1	R28	W	1	6
21E-22E	B1	R33	W	¾ & 1 ½	6
21E-22E	B1	R34	W	1 & 1 ½	6
21E-22E	B1	R45	W	1	6
21E-22E	B1	R68	W	2	6
21E-22E	B2	R2	E	½	6
21E-22E	**B2**	**R20**	**W**	**1**	**2**
21E-22E	B2	R24	W	¾	6
21E-22E	B3	R21	E	½	6
21E-22E	B4	R30	W	¾	6
21E-22E	B4	R52	W	¼	6
21E-22E	B6	R1	E	2 ½	6
21E-22E	B6	R7	E	2	6
21E-22E	B6	R18	E	¾	6
21E-22E	B8	R52	W	½	6
21E-22E	B9	R19	W	2 ¾	6
21E-22E	B9	R26	E	½	6
21E-22E	B10	R19	W	¼	6
21E-22E	B10	R26	W	FW	6
21E-22E	B10	R28	E	1 ½	6
21E-22E	B10	R29	E	1	6
21E-22E	B11	R27	E	1 ½	6
21E-22E	B12	R17	W	½	6
21E-22E	B12	R19	W	1	4
21E-22E	B12	R22	W	¾	6
21E-22E	B12	R23	W	¾ & ¾	6
21E-22E	B12	R24	W	1	6
21E-22E	B12	R25	W	½	6
21E-22E	B12	R26	W	3	4
21E-22E	B12	R27	W	3 ½	6
21E-22E	B12	R32	W	½	6
21E-22E	B12	R34	W	¾	6
21E-22E	B12	R43	W	½ & 1 ½	4
21E-22E	B12	R50	W	2 ½	6
21E-22E	B12	R52	W	2 ½	6
21E-22E	B12	R54	W	½	6
21E-22E	B12	R57	W	½ & ½	6
21E-22E	B12	R58	W	1 ½	4
21E-22E	B12	R59	W	2	4
21E-22E	B12	R61	W	½	4
21E-22E	B12	R65	W	2 ½	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
21E	RISER BEAM	R2	E	FW	4
21E	RISER BEAM	R6	E	2 ½	4
21E	RISER BEAM	R7	E	FW	4
21E	RISER BEAM	R9	E	4	4
21E	RISER BEAM	R10	E	FW	4
21E	RISER BEAM	R11	E	FW	4
21E	RISER BEAM	R12	E	3	4
21E	RISER BEAM	R13	E	FW	4
21E	RISER BEAM	R14	E	FW	6
21E	RISER BEAM	R15	E	FW	4
21E	RISER BEAM	R16	E	4	4
21E	RISER BEAM	R17	E	FW	4
21E	RISER BEAM	R18	E	4	4
21E	**RISER BEAM**	**R26**	**E**	**1**	**2**
21E	RISER BEAM	R29	E	1 ½	4
21E	RISER BEAM	R32	E	3	6
21E	RISER BEAM	R33	E	1 ½	6
21E	RISER BEAM	R34	E	1	6
21E	RISER BEAM	R35	E	3	6
21E	RISER BEAM	R39	E	1	6
21E	RISER BEAM	R42	E	3	4
21E	RISER BEAM	R43	E	2	4
21E	RISER BEAM	R52	E	1	6
21E	RISER BEAM	R67	E	1	4
21E	RISER BEAM	R70	E	1 ½	6
20E-21E	B1	R1	W	1	6
20E-21E	B1	R2	E	FW	4
20E-21E	B1	R2	W	FW	4
20E-21E	B1	R3	W	3	6
20E-21E	B1	R4	E	1 ½ & ½	6
20E-21E	B1	R4	W	1	6
20E-21E	B1	R5	E	½	6
20E-21E	B1	R5	W	1 ½	6
20E-21E	B1	R6	E	1 ½	6
20E-21E	B1	R6	W	2	6
20E-21E	B1	R8	E	3	6
20E-21E	B1	R10	E	½	6
20E-21E	B1	R19	E	4	6
20E-21E	B1	R21	E	1 ½	6
20E-21E	B1	R21	W	2	6
20E-21E	B1	R22	E	1	6
20E-21E	B1	R23	E	¾	6
20E-21E	B1	R25	E	2	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
20E-21E	B1	R26	E	2 ½	6
20E-21E	B1	R26	W	FW	6
20E-21E	B1	R32	W	FW	6
20E-21E	B1	R34	E	4	6
20E-21E	B1	R35	E	4	6
20E-21E	B1	R43	W	FW	4
20E-21E	B2	R3	W	½	6
20E-21E	B2	R8	W	½	6
20E-21E	B3	R18	W	1	4
20E-21E	B3	R43	E	FW	6
20E-21E	B3	R43	W	FW	6
20E-21E	B5	R42	E	3	6
20E-21E	B7	R26	E	½	6
20E-21E	**B9**	**R19**	**W**	**1**	**2**
20E-21E	**B9**	**R19**	**E**	**1**	**2**
20E-21E	B9	R34	E	1 ½	6
20E-21E	B11	R34	W	½	6
20E-21E	B12	R5	W	2	6
20E-21E	B12	R6	W	½	6
20E-21E	B12	R7	W	½	6
20E-21E	B12	R11	W	½	6
20E-21E	B12	R12	W	1 ½	6
20E-21E	B12	R13	W	1	4
20E-21E	B12	R19	W	1	6
20E-21E	B12	R20	W	2	4
20E-21E	B12	R22	W	1 ½	6
20E-21E	B12	R24	W	1 ½	6
20E-21E	B12	R25	W	1	6
20E-21E	B12	R27	W	2 ½	6
20E-21E	**B12**	**R28**	**W**	¾	**2**
20E-21E	B12	R29	W	2	6
20E-21E	B12	R31	W	4	6
20E-21E	B12	R32	W	2 ½	6
20E-21E	B12	R33	W	FW	4
20E-21E	B12	R34	W	4	4
20E-21E	B12	R37	W	2 ½	6
20E-21E	B12	R42	W	2	6
20E-21E	B12	R43	W	2	6
20E-21E	B12	R46	W	½	6
20E-21E	**B12**	**R48**	**W**	¾	**2**
20E-21E	B12	R54	W	½	6
20E-21E	B12	R58	W	½	6
20E-21E	B12	R59	W	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
20E-21E	B12	R60	W	½	6
20E-21E	B12	R61	W	1 ½	6
20E-21E	B12	R63	W	1 ½	6
20E	RISER BEAM	R3	E	2 ½	4
20E	RISER BEAM	R4	E	1	4
20E	RISER BEAM	R5	E	½	6
20E	RISER BEAM	R6	E	½	6
20E	RISER BEAM	R10	E	¾ & ¾	6
20E	RISER BEAM	R21	E	FW	6
20E	RISER BEAM	R22	E	2 ½ & 1	6
20E	RISER BEAM	R23	E	2 & ¼	6
20E	RISER BEAM	R24	E	2	6
20E	RISER BEAM	R25	E	1	6
20E	**RISER BEAM**	**R33**	**E**	**1 ½**	**2**
20E	**RISER BEAM**	**R36**	**E**	**2**	**2**
20E	**RISER BEAM**	**R37**	**E**	**2**	**2**
20E	RISER BEAM	R41	E	2 ½	4
20E	RISER BEAM	R42	E	3	4
20E	RISER BEAM	R43	E	FW	4
20E	RISER BEAM	R45	E	1	6
20E	RISER BEAM	R46	E	1	4
20E	**RISER BEAM**	**R65**	**E**	**1 ½**	**2**
19E-20E	B1	R2	E	FW	4
19E-20E	B1	R3	E	3	6
19E-20E	B1	R4	E	¾	6
19E-20E	B1	R5	E	2	6
19E-20E	B1	R5	W	3	4
19E-20E	B1	R6	E	1 ½	6
19E-20E	B1	R6	W	3	6
19E-20E	B1	R7	W	½	6
19E-20E	B1	R8	E	1	6
19E-20E	B1	R8	W	1	6
19E-20E	B1	R10	W	FW	4
19E-20E	B1	R12	W	2 ½	4
19E-20E	B1	R13	E	½	6
19E-20E	B1	R19	E	1	6
19E-20E	B1	R20	E	¾	6
19E-20E	B1	R21	E	3 & ¾	6
19E-20E	B1	R24	W	3	6
19E-20E	B1	R28	E	½	4
19E-20E	B1	R33	E	1 ½	6
19E-20E	B1	R34	E	1	4
19E-20E	B1	R43	E	¼ & ¼	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
19E-20E	B1	R45	W	2	6
19E-20E	B2	R2	W	FW	4
19E-20E	B2	R3	E	¾	6
19E-20E	B2	R6	W	1	6
19E-20E	B2	R28	W	½	6
19E-20E	B3	R1	W	1	6
19E-20E	B3	R19	E	1	6
19E-20E	B3	R28	E	¾	6
19E-20E	B8	R52	E	FW	4
19E-20E	B8	R52	W	FW	4
19E-20E	B9	R52	E	FW	4
19E-20E	B9	R52	W	FW	4
19E-20E	B10	R52	E	FW	4
19E-20E	B10	R52	W	FW	4
19E-20E	B11	R19	W	½	6
19E-20E	B11	R52	W	¼	6
19E-20E	B12	R6	W	1 ½	6
19E-20E	B12	R7	W	3	6
19E-20E	B12	R8	W	1 ½	4
19E-20E	**B12**	**R12**	**W**	**1**	**2**
19E-20E	B12	R13	W	1	4
19E-20E	B12	R14	W	1	4
19E-20E	B12	R16	W	2	4
19E-20E	B12	R17	W	3	6
19E-20E	B12	R19	W	4	6
19E-20E	B12	R20	W	3	6
19E-20E	B12	R21	W	1 ½	6
19E-20E	B12	R22	W	1	6
19E-20E	B12	R23	W	1	6
19E-20E	B12	R24	W	3	6
19E-20E	B12	R25	W	2	6
19E-20E	B12	R26	W	1 ½	6
19E-20E	B12	R28	W	2	6
19E-20E	B12	R29	W	1	6
19E-20E	B12	R30	W	2	6
19E-20E	B12	R31	W	¾	6
19E-20E	B12	R32	W	1	6
19E-20E	B12	R33	W	2	6
19E-20E	B12	R34	W	1	6
19E-20E	B12	R36	E	2	6
19E-20E	B12	R37	E	1	6
19E-20E	B12	R46	W	1	6
19E-20E	B12	R47	W	⅜	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
19E-20E	B12	R48	W	⅜	6
19E-20E	B12	R58	W	½	6
19E-20E	B12	R63	W	¾	6
19E	RISER BEAM	R3	E	3	6
19E	RISER BEAM	R4	E	4	6
19E	RISER BEAM	R5	E	3 ½	4
19E	RISER BEAM	R6	E	1	6
19E	RISER BEAM	R7	E	2	4
19E	RISER BEAM	R10	E	FW	4
19E	RISER BEAM	R11	E	FW	4
19E	RISER BEAM	R12	E	FW	4
19E	RISER BEAM	R13	E	FW	4
19E	RISER BEAM	R14	E	FW	6
19E	RISER BEAM	R15	E	FW	6
19E	RISER BEAM	R16	E	FW	4
19E	RISER BEAM	R17	E	3	6
19E	RISER BEAM	R19	E	FW	4
19E	RISER BEAM	R21	E	FW	6
19E	RISER BEAM	R22	E	2	6
19E	RISER BEAM	R27	E	4 ½	6
19E	RISER BEAM	R28	E	FW	4
19E	RISER BEAM	R29	E	4	6
19E	RISER BEAM	R32	E	FW	6
19E	RISER BEAM	R33	E	FW	6
19E	RISER BEAM	R34	E	FW	4
19E	RISER BEAM	R43	E	1	6
19E	RISER BEAM	R65	E	½	6
19E	RISER BEAM	R66	E	½	6
19E	RISER BEAM	R67	E	1 ½	6
19E	RISER BEAM	R68	E	1	4
18E-19E	B1	R6	W	FW	4
18E-19E	B1	R7	W	FW	4
18E-19E	B1	R8	W	FW	4
18E-19E	B1	R10	W	FW	4
18E-19E	B1	R11	E	4	6
18E-19E	B1	R12	E	2	6
18E-19E	B1	R12	W	3	6
18E-19E	B1	R13	E	1 ½	6
18E-19E	B1	R17	E	1	6
18E-19E	B1	R26	W	1 & ½	6
18E-19E	B1	R28	E	2	6
18E-19E	B1	R28	W	2	6
18E-19E	B1	R29	E	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
18E-19E	B1	R29	W	2	6
18E-19E	B1	R30	E	1 ½	6
18E-19E	B1	R30	W	2	6
18E-19E	B1	R31	W	1	6
18E-19E	B1	R32	E	½	6
18E-19E	B1	R32	W	3	6
18E-19E	B1	R33	E	1 ½	6
18E-19E	B1	R33	W	FW	6
18E-19E	B1	R34	E	1	6
18E-19E	B1	R34	W	FW	4
18E-19E	B2	R8	W	1	6
18E-19E	B2	R10	E	3	6
18E-19E	B2	R10	W	1	6
18E-19E	B2	R11	W	2	6
18E-19E	B2	R28	E	1	6
18E-19E	B3	R12	W	2	6
18E-19E	B4	R52	E	FW	4
18E-19E	B4	R52	W	FW	4
18E-19E	B5	R19	E	½	6
18E-19E	B5	R19	W	½	6
18E-19E	B7	R17	E	4 ¼	6
18E-19E	**B7**	**R58**	**E**	**FW**	**2**
18E-19E	B8	R16	W	¾ & ¾	6
18E-19E	B8	R17	W	4 ¼	6
18E-19E	B9	R52	E	1	6
18E-19E	B9	R52	W	1	4
18E-19E	B10	R28	E	1	6
18E-19E	B11	R7	W	¾	6
18E-19E	B11	R52	E	½	4
18E-19E	B11	R52	W	½	6
18E-19E	B12	R5	W	¾	6
18E-19E	B12	R6	W	4 ½	6
18E-19E	B12	R7	W	4	6
18E-19E	B12	R11	W	2	4
18E-19E	B12	R12	W	1 ½	6
18E-19E	B12	R21	W	2	6
18E-19E	B12	R22	W	1	6
18E-19E	B12	R23	W	3	6
18E-19E	B12	R24	W	½	6
18E-19E	B12	R25	W	1	6
18E-19E	B12	R26	W	FW	4
18E-19E	B12	R27	W	1 ½	6
18E-19E	B12	R28	W	½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
18E	RISER BEAM	R2	E	¾	6
18E	RISER BEAM	R3	E	2	6
18E	RISER BEAM	R5	E	2	4
18E	RISER BEAM	R6	E	2	4
18E	RISER BEAM	R9	E	1	6
18E	RISER BEAM	R11	E	1 & ½	6
18E	RISER BEAM	R12	E	1 ½	6
18E	RISER BEAM	R15	E	FW	6
18E	RISER BEAM	R18	E	½	6
18E	RISER BEAM	R32	E	1	6
18E	RISER BEAM	R35	E	¾	4
18E	RISER BEAM	R40	E	½	6
17E-18E	B1	R2	E	3	6
17E-18E	B1	R2	W	2	4
17E-18E	B1	R3	E	½ & ½	6
17E-18E	B1	R3	W	FW	6
17E-18E	B1	R4	E	3	6
17E-18E	B1	R4	W	½	6
17E-18E	B1	R5	E	½	6
17E-18E	B1	R5	W	1 ½	6
17E-18E	B1	R10	E	½	6
17E-18E	B1	R12	E	1	6
17E-18E	B1	R19	E	FW	4
17E-18E	B1	R24	E	¾	6
17E-18E	B1	R39	E	1 ½	6
17E-18E	**B1**	**R45**	**E**	**1**	**2**
17E-18E	B2	R2	W	FW	4
17E-18E	**B2**	**R2**	**E**	**¼**	**2**
17E-18E	B2	R3	E	½	6
17E-18E	B2	R19	E	½	6
17E-18E	B2	R28	E	2	6
17E-18E	**B2**	**R33**	**W**	**2**	**2**
17E-18E	B2	R52	W	½	6
17E-18E	**B3**	**R19**	**W**	**1**	**2**
17E-18E	B3	R19	E	1	6
17E-18E	B3	R42	E	1 ½	6
17E-18E	B4	R28	E	1	6
17E-18E	B4	R52	W	½	6
17E-18E	B8	R52	W	½	6
17E-18E	B11	R28	E	3 ½	6
17E-18E	B11	R52	W	½	6
17E-18E	B12	R1	W	¼	6
17E-18E	B12	R2	W	2	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
17E-18E	B12	R38	W	2	6
17E	RISER BEAM	R1	E	FW	4
17E	RISER BEAM	R2	E	1	4
17E	RISER BEAM	R8	E	2 ½	4
17E	RISER BEAM	R17	E	½	6
17E	RISER BEAM	R19	E	FW	6
17E	RISER BEAM	R43	E	2	6
17E	RISER BEAM	R52	E	½	6
17E	RISER BEAM	R64	E	2 ½	6
17E	RISER BEAM	R65	E	¼	6
17E	RISER BEAM	R66	E	2	6
17E	RISER BEAM	R67	E	FW	6
17E	RISER BEAM	R68	E	1 & ½	6
17E	RISER BEAM	R69	E	2	6
16E-17E	B1	R2	E	3	4
16E-17E	B1	R26	E	2 ½	6
16E-17E	B1	R43	W	¾	6
16E-17E	B3	R47	W	¼	6
16E-17E	B4	R52	W	1 ⅛	4
16E-17E	**B4**	**R52**	**E**	**1**	**2**
16E-17E	B6	R52	E	1 ½	6
16E-17E	**B7**	**R44**	**E**	**FW**	**2**
16E-17E	B7	R47	E	½	6
16E-17E	B7	R52	E	FW	4
16E-17E	B7	R52	W	FW	4
16E-17E	B8	R47	E	½	6
16E-17E	B8	R47	W	½	6
16E-17E	B8	R52	E	FW	4
16E-17E	B8	R52	W	FW	4
16E-17E	B9	R34	E	FW	6
16E-17E	B9	R34	W	FW	6
16E-17E	B9	R43	E	FW	4
16E-17E	B9	R43	W	1	6
16E-17E	B9	R52	E	FW	4
16E-17E	B9	R52	W	FW	6
16E-17E	**B10**	**R47**	**W**	**1**	**2**
16E-17E	B10	R47	E	1	6
16E-17E	B10	R52	E	FW	6
16E-17E	B10	R52	W	FW	6
16E-17E	B11	R52	E	FW	6
16E-17E	B11	R52	W	FW	6
16E-17E	B12	R8	W	1 ½	6
16E-17E	B12	R10	W	¾	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
16E-17E	B12	R17	W	1	6
16E-17E	B12	R38	W	½ & ½	6
16E-17E	B12	R39	W	2 & 1 ½	6
16E-17E	B12	R40	W	2	6
16E-17E	B12	R41	W	2½	4
16E-17E	B12	R42	W	2	6
16E-17E	B12	R43	W	2 & 1	6
16E-17E	B12	R48	W	¾	4
16E-17E	B12	R57	W	½	6
16E-17E	B12	R58	W	¼	6
16E-17E	B12	R60	W	2	6
16E-17E	B12	R61	W	1	6
16E	RISER BEAM	R3	E	3	4
16E	RISER BEAM	R4	E	2	6
16E	RISER BEAM	R6	E	1 ½	6
16E	RISER BEAM	R7	E	2 ½	4
16E	RISER BEAM	R8	E	1	6
16E	RISER BEAM	R21	E	3 ½	6
16E	RISER BEAM	R22	E	3	6
16E	RISER BEAM	R26	E	1	6
16E	RISER BEAM	R29	E	2	6
16E	RISER BEAM	R30	E	½	6
16E	RISER BEAM	R34	E	¼	4
16E	RISER BEAM	R35	E	4	6
16E	**RISER BEAM**	**R37**	**E**	**1 & ½**	**2**
16E	**RISER BEAM**	**R38**	**E**	**1 ½**	**2**
16E	**RISER BEAM**	**R39**	**E**	**FW**	**2**
16E	RISER BEAM	R41	E	4	6
16E	RISER BEAM	R42	E	1	6
16E	RISER BEAM	R43	E	2 ½	6
16E	RISER BEAM	R48	E	3	6
16E	RISER BEAM	R57	E	½	4
16E	RISER BEAM	R58	E	1	6
16E	RISER BEAM	R59	E	3	6
16E	RISER BEAM	R60	E	1 ½	6
16E	RISER BEAM	R61	E	1 & ¼	4
16E	RISER BEAM	R63	E	2	6
16E	RISER BEAM	R64	E	2	6
16E	RISER BEAM	R65	E	4	6
16E	RISER BEAM	R66	E	2	6
16E	RISER BEAM	R67	E	1 ½	6
16E	RISER BEAM	R68	E	1 ½	4
15E-16E	B1	R2	E	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
15E-16E	B1	R2	W	3	4
15E-16E	B1	R3	E	½	4
15E-16E	B1	R4	E	½	4
15E-16E	B1	R17	E	½	6
15E-16E	B1	R19	E	2 ½	4
15E-16E	B1	R19	W	FW	6
15E-16E	B1	R20	W	3	6
15E-16E	B1	R25	E	¼	6
15E-16E	B1	R26	E	1	6
15E-16E	B1	R26	W	1	6
15E-16E	B1	R27	W	2 & 2	6
15E-16E	B1	R32	E	1 ¼	6
15E-16E	B1	R32	W	½	6
15E-16E	B1	R34	E	1 ½	6
15E-16E	B1	R34	W	2 ½	6
15E-16E	B1	R37	E	1	6
15E-16E	B1	R37	W	1 ½	6
15E-16E	B1	R38	E	1 ½	6
15E-16E	B1	R39	E	1 ½	6
15E-16E	B1	R41	E	½ & ½	6
15E-16E	B1	R41	W	3	6
15E-16E	B1	R42	E	½	6
15E-16E	B1	R42	W	1 ¾	6
15E-16E	B1	R43	E	½ & ½	6
15E-16E	B1	R43	W	FW	6
15E-16E	B1	R46	W	1	6
15E-16E	B1	R47	E	½	6
15E-16E	B1	R47	W	½	6
15E-16E	B1	R48	E	1 ½	6
15E-16E	B1	R48	W	1 & ½	6
15E-16E	B1	R49	E	1 ½	6
15E-16E	B1	R49	W	1 ½	6
15E-16E	B1	R50	E	2 ½	6
15E-16E	B1	R52	W	FW	4
15E-16E	B1	R55	W	¼	6
15E-16E	B1	R56	W	2 ½	6
15E-16E	B1	R57	W	2	6
15E-16E	B1	R58	W	1	6
15E-16E	B1	R59	W	1	6
15E-16E	B1	R60	W	1	4
15E-16E	B1	R61	W	3	6
15E-16E	B1	R62	W	2	6
15E-16E	B1	R64	E	4	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
15E-16E	B1	R64	W	1 ½	6
15E-16E	**B1**	**R65**	**W**	**1 ½**	**2**
15E-16E	B1	R65	E	1 ½	6
15E-16E	B3	R28	W	½	6
15E-16E	B4	R52	E	FW	4
15E-16E	B4	R52	W	FW	4
15E-16E	B12	R2	W	1	6
15E	RISER BEAM	R2	W	3 ½	6
15E	RISER BEAM	R3	W	3	6
15E	RISER BEAM	R4	W	3	6
15E	RISER BEAM	R5	W	2 & 1	6
15E	RISER BEAM	R7	W	FW	6
15E	RISER BEAM	R8	W	FW	6
15E	RISER BEAM	R10	W	2 ½ & ½	4
15E	RISER BEAM	R11	W	3 ½	6
15E	RISER BEAM	R12	W	FW	6
15E	RISER BEAM	R13	W	FW	4
15E	RISER BEAM	R14	W	FW	6
15E	RISER BEAM	R15	W	FW	6
15E	RISER BEAM	R16	W	FW	4
15E	RISER BEAM	R17	W	3 ½	6
15E	**RISER BEAM**	**R18**	**W**	**FW**	**2**
15E	RISER BEAM	R19	W	FW	4
15E	RISER BEAM	R20	W	2	6
15E	RISER BEAM	R21	W	FW	6
15E	RISER BEAM	R28	W	4 & ½	6
15E	RISER BEAM	R29	W	FW	4
15E	**RISER BEAM**	**R33**	**W**	**FW**	**2**
15E	**RISER BEAM**	**R34**	**W**	**FW**	**2**
15E	**RISER BEAM**	**R35**	**W**	**FW**	**2**
15E	RISER BEAM	R36	W	FW	6
15E	RISER BEAM	R46	W	¾	6
15E	RISER BEAM	R47	W	1	6
15E	RISER BEAM	R48	W	¾	6
14E-15E	B1	R23	E	2 ½	6
14E-15E	B1	R52	E	1	6
14E-15E	B1	R54	E	½	6
14E-15E	B1	R59	E	½	6
14E-15E	**B2**	**R9**	**E**	**2**	**2**
14E-15E	B2	R14	W	½	6
14E-15E	B2	R18	E	FW	6
14E-15E	B3	R9	W	FW	6
14E-15E	B3	R18	W	3 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
14E-15E	B4	R18	E	2	6
14E-15E	B5	R9	E	1 ½	6
14E-15E	**B5**	**R41**	**E**	**1**	**2**
14E-15E	**B6**	**R41**	**W**	**FW**	**2**
14E-15E	**B6**	**R41**	**E**	**1 ½**	**2**
14E-15E	**B6**	**R42**	**W**	**FW**	**2**
14E-15E	**B6**	**R42**	**E**	**2**	**2**
14E-15E	**B6**	**R43**	**W**	**FW**	**2**
14E-15E	**B6**	**R43**	**E**	**FW**	**2**
14E-15E	B8	R52	W	FW	6
10E-11E	B1	R33	W	2 ½	4
10E-11E	**B9**	**R47**	**W**	**1**	**2**
10E-11E	B12	R49	W	1	6
10E-11E	B12	R51	W	1	6
10E-11E	**B12**	**R52**	**W**	**1 ½**	**2**
10E-11E	B12	R56	W	¾	6
10E-11E	**B12**	**R57**	**W**	**½**	**2**
10E-11E	B12	R58	W	1 ¼	6
10E-11E	**B12**	**R59**	**W**	**FW**	**2**
10E-11E	**B12**	**R60**	**W**	**FW**	**2**
10E-11E	**B12**	**R61**	**W**	**FW**	**2**
10E	RISER BEAM	R2	E	4	6
10E	RISER BEAM	R4	E	1	6
10E	RISER BEAM	R6	E	½	6
10E	RISER BEAM	R7	E	½	6
10E	RISER BEAM	R8	E	¾	6
10E	**RISER BEAM**	**R21**	**E**	**1**	**2**
10E	RISER BEAM	R22	E	1 + ¾	6
10E	RISER BEAM	R23	E	FW	4
10E	RISER BEAM	R24	E	2	6
10E	RISER BEAM	R25	E	2	6
10E	RISER BEAM	R26	E	1	6
10E	RISER BEAM	R27	E	3 ½ + 2	4
10E	RISER BEAM	R28	E	1 ½	6
10E	RISER BEAM	R41	E	2 ½	6
10E	RISER BEAM	R42	E	2	6
10E	RISER BEAM	R43	E	3 ½	4
10E	RISER BEAM	R50	E	2	6
10E	RISER BEAM	R65	E	1 ½	4
10E	RISER BEAM	R66	E	2 ½	4
10E	RISER BEAM	R67	E	2	4
9E-10E	B1	R2	E	FW	4
9E-10E	B1	R8	E	FW	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
9E-10E	B1	R10	W	½	6
9E-10E	B1	R27	E	1 & 1	4
9E-10E	B1	R28	E	¾	4
9E-10E	B1	R29	E	¼	4
9E-10E	B1	R31	W	1	4
9E-10E	**B1**	**R35**	**E**	**1**	**2**
9E-10E	**B1**	**R36**	**E**	**1**	**2**
9E-10E	**B1**	**R43**	**E**	**½**	**2**
9E-10E	**B1**	**R43**	**W**	**1**	**2**
9E-10E	B1	R63	W	FW	4
9E-10E	B2	R19	W	½	6
9E-10E	B2	R26	E	½	6
9E-10E	**B2**	**R30**	**W**	**½**	**2**
9E-10E	B2	R52	E	FW	4
9E-10E	B2	R52	W	FW	4
9E-10E	B3	R26	W	4 ½	6
9E-10E	B3	R28	E	½	6
9E-10E	B3	R28	W	½	6
9E-10E	B3	R30	E	½	6
9E-10E	B3	R52	E	FW	4
9E-10E	B3	R52	W	FW	4
9E-10E	B4	R19	W	¼	6
9E-10E	B4	R30	W	1	6
9E-10E	B4	R35	W	FW	6
9E-10E	**B4**	**R52**	**W**	**¼**	**2**
9E-10E	B5	R28	E	1	6
9E-10E	B5	R28	W	½	6
9E-10E	**B5**	**R52**	**W**	**¼**	**2**
9E-10E	B7	R26	W	½	6
9E-10E	**B8**	**R19**	**E**	**½**	**2**
9E-10E	**B8**	**R19**	**W**	**½**	**2**
9E-10E	B8	R35	W	1	6
9E-10E	**B8**	**R37**	**W**	**½**	**2**
9E-10E	**B8**	**R39**	**W**	**¼**	**2**
9E-10E	**B8**	**R47**	**E**	**1**	**2**
9E-10E	B8	R52	W	¼	6
9E-10E	**B9**	**R19**	**E**	**½**	**2**
9E-10E	**B9**	**R19**	**W**	**½**	**2**
9E-10E	B9	R26	E	FW	6
9E-10E	B9	R26	W	FW	6
9E-10E	**B9**	**R52**	**E**	**¼**	**2**
9E-10E	**B10**	**R19**	**W**	**½**	**2**
9E-10E	B10	R24	W	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
9E-10E	B10	R26	E	4	6
9E-10E	**B10**	**R27**	**W**	**¾**	**2**
9E-10E	B10	R28	W	1	6
9E-10E	B11	R2	E	3	6
9E-10E	**B11**	**R12**	**W**	**½**	**2**
9E-10E	B11	R25	E	FW	6
9E-10E	B11	R26	W	FW	6
9E-10E	**B11**	**R47**	**W**	**FW**	**2**
9E-10E	B12	R5	W	2 ½	4
9E-10E	B12	R6	W	1 ½	4
9E-10E	B12	R10	W	1 ½	6
9E-10E	B12	R34	E	2 ½	4
9E-10E	B12	R49	W	3 ½	4
9E-10E	B12	R52	W	1	6
9E-10E	B12	R54	W	½	6
9E	RISER BEAM	R1	E	FW	6
9E	RISER BEAM	R2	E	FW	6
9E	RISER BEAM	R3	E	FW	4
9E	RISER BEAM	R4	E	FW	4
9E	RISER BEAM	R5	E	¾	4
9E	RISER BEAM	R9	E	FW	4
9E	RISER BEAM	R10	E	2	4
9E	RISER BEAM	R14	E	FW	4
9E	RISER BEAM	R18	E	FW	4
9E	RISER BEAM	R22	E	3	6
9E	RISER BEAM	R23	E	3	4
9E	RISER BEAM	R24	E	1 ½	4
9E	RISER BEAM	R25	E	3	6
9E	RISER BEAM	R26	E	FW	6
9E	RISER BEAM	R28	E	FW	4
9E	RISER BEAM	R29	E	3	4
9E	RISER BEAM	R30	E	1	6
9E	RISER BEAM	R32	E	4	6
9E	RISER BEAM	R33	E	FW	6
9E	RISER BEAM	R53	E	3	4
9E	RISER BEAM	R56	E	½	4
9E	RISER BEAM	R57	E	FW	4
9E	RISER BEAM	R58	E	3	4
9E	RISER BEAM	R59	E	2 & ¼	4
9E	RISER BEAM	R60	E	FW	4
9E	RISER BEAM	R61	E	FW	4
8E-9E	B1	R1	E	FW	4
8E-9E	B1	R1	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
8E-9E	B1	R2	W	FW	4
8E-9E	B1	R3	W	FW	4
8E-9E	B1	R4	W	FW	4
8E-9E	B1	R5	E	¾	6
8E-9E	B1	R5	W	FW	4
8E-9E	B1	R6	W	FW	4
8E-9E	B1	R7	E	1	6
8E-9E	B1	R7	W	2	6
8E-9E	B1	R8	E	FW	4
8E-9E	**B1**	**R9**	**E**	**FW**	**2**
8E-9E	B1	R10	E	FW	4
8E-9E	B1	R11	E	FW	4
8E-9E	B1	R11	W	2	6
8E-9E	B1	R12	E	FW	4
8E-9E	**B1**	**R26**	**E**	**3**	**2**
8E-9E	B1	R26	W	2	6
8E-9E	B1	R28	E	FW	4
8E-9E	B1	R28	W	FW	6
8E-9E	B1	R30	E	FW	4
8E-9E	B1	R32	E	FW	4
8E-9E	B1	R32	W	FW	6
8E-9E	B1	R33	E	FW	4
8E-9E	B1	R33	W	FW	6
8E-9E	B1	R34	E	FW	4
8E-9E	B1	R34	W	FW	6
8E-9E	B1	R35	E	FW	4
8E-9E	B2	R52	E	FW	4
8E-9E	B2	R52	W	FW	4
8E-9E	B3	R35	E	1	6
8E-9E	B4	R1	W	2	6
8E-9E	B4	R25	W	1	6
8E-9E	B4	R28	E	2 ½	6
8E-9E	B4	R28	W	1	6
8E-9E	B4	R35	W	1	6
8E-9E	B4	R43	W	¼	6
8E-9E	**B4**	**R52**	**W**	**½**	**2**
8E-9E	B5	R1	W	1 ½	6
8E-9E	B5	R2	W	1 ½	6
8E-9E	B5	R43	E	FW	6
8E-9E	B5	R43	W	FW	6
8E-9E	**B5**	**R52**	**W**	**½**	**2**
8E-9E	B7	R19	E	FW	4
8E-9E	B7	R19	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
8E-9E	B8	R1	W	1 ¼	6
8E-9E	B8	R52	E	FW	4
8E-9E	B8	R52	W	FW	4
8E-9E	B9	R43	E	½	6
8E-9E	B9	R52	E	FW	4
8E-9E	B9	R52	W	FW	4
8E-9E	**B11**	**R19**	**E**	**1**	**2**
8E-9E	B12	R8	W	2 ½	6
8E-9E	B12	R24	W	1 ¼	4
8E-9E	B12	R41	W	3	6
8E-9E	B12	R43	W	¼	6
8E	RISER BEAM	R2	E	1 ½	4
8E	RISER BEAM	R3	E	FW	6
8E	RISER BEAM	R5	E	FW	4
8E	RISER BEAM	R6	E	FW	4
8E	RISER BEAM	R7	E	½	6
8E	RISER BEAM	R8	E	FW	4
8E	RISER BEAM	R9	E	1	6
8E	**RISER BEAM**	**R12**	**E**	**¾**	**2**
8E	**RISER BEAM**	**R22**	**E**	**1**	**2**
8E	RISER BEAM	R23	E	FW	4
8E	RISER BEAM	R27	E	FW	4
8E	RISER BEAM	R37	E	1	6
8E	**RISER BEAM**	**R40**	**E**	**2**	**2**
8E	**RISER BEAM**	**R41**	**E**	**¾**	**2**
8E	RISER BEAM	R42	E	FW	4
8E	RISER BEAM	R43	E	3 ½	4
8E	**RISER BEAM**	**R50**	**E**	**1**	**2**
8E	RISER BEAM	R57	E	FW	4
8E	RISER BEAM	R67	E	1	6
8E	RISER BEAM	R68	E	½	6
8E	RISER BEAM	R69	E	3	4
7E-8E	B1	R10	E	1	6
7E-8E	B1	R19	E	½	4
7E-8E	B1	R24	E	2	6
7E-8E	B1	R25	E	1	6
7E-8E	B1	R27	W	3	6
7E-8E	**B1**	**R37**	**W**	**2**	**2**
7E-8E	B1	R65	E	¾	6
7E-8E	B1	R65	W	¼	6
7E-8E	B1	R66	W	1	6
7E-8E	B1	R68	E	3 ½	6
7E-8E	B1	R68	W	2 & ¼	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
7E-8E	B2	R2	E	4	6
7E-8E	B2	R2	W	3	6
7E-8E	**B2**	**R7**	**E**	**1 ½**	**2**
7E-8E	B2	R19	E	FW	4
7E-8E	B2	R19	W	FW	4
7E-8E	B3	R17	E	½	4
7E-8E	B3	R19	E	FW	4
7E-8E	B3	R19	W	FW	4
7E-8E	**B3**	**R25**	**E**	**1**	**2**
7E-8E	B3	R47	W	1 ½	4
7E-8E	**B3**	**R47**	**E**	**FW**	**2**
7E-8E	B4	R19	E	FW	4
7E-8E	B4	R19	W	FW	4
7E-8E	B4	R25	E	4	6
7E-8E	B4	R25	W	4	6
7E-8E	B4	R47	W	1 ½	4
7E-8E	B5	R25	E	2 ½	6
7E-8E	B5	R25	W	4 ½	6
7E-8E	B5	R47	W	¾	4
7E-8E	B6	R19	E	1	4
7E-8E	B6	R25	E	3	6
7E-8E	B6	R25	W	FW	6
7E-8E	B6	R47	E	1	6
7E-8E	B6	R47	W	FW	4
7E-8E	B7	R2	E	1	6
7E-8E	**B7**	**R19**	**W**	**FW**	**2**
7E-8E	B7	R21	E	2 ½	6
7E-8E	B7	R24	E	3	6
7E-8E	B7	R24	W	4	6
7E-8E	B7	R25	E	FW	6
7E-8E	B7	R25	W	FW	6
7E-8E	B7	R26	E	4	6
7E-8E	B7	R26	W	4	4
7E-8E	**B7**	**R41**	**E**	**½**	**2**
7E-8E	B7	R42	E	¾	6
7E-8E	B7	R45	W	1 ¼	6
7E-8E	B7	R47	W	1	4
7E-8E	**B8**	**R19**	**W**	**½**	**2**
7E-8E	B8	R24	E	FW	6
7E-8E	B8	R24	W	3	6
7E-8E	B8	R25	E	FW	6
7E-8E	B8	R25	W	4	6
7E-8E	B8	R26	E	3	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
7E-8E	B8	R26	W	2	6
7E-8E	B9	R19	E	4 ¾	4
7E-8E	B9	R25	E	FW	6
7E-8E	B9	R25	W	FW	6
7E-8E	B9	R26	E	4	6
7E-8E	B9	R26	W	FW	6
7E-8E	**B9**	**R29**	**E**	**¾**	**2**
7E-8E	**B9**	**R41**	**W**	**1**	**2**
7E-8E	B9	R42	W	½	6
7E-8E	B10	R19	E	FW	4
7E-8E	B10	R19	W	FW	4
7E-8E	B10	R25	E	3	6
7E-8E	B10	R25	W	FW	6
7E-8E	B10	R26	W	1	6
7E-8E	B11	R2	E	½	4
7E-8E	B11	R25	W	½	6
7E-8E	B11	R26	W	½	6
7E-8E	B12	R13	W	4	6
7E-8E	B12	R19	W	2 ½	4
7E-8E	B12	R21	W	1 ½	4
7E-8E	B12	R22	W	½	4
7E-8E	B12	R39	W	1 ½	4
7E-8E	B12	R42	W	3	6
7E-8E	B12	R47	W	1	6
7E-8E	B12	R64	W	¾	6
7E	RISER BEAM	R2	E	2 ½ & 1 ½	4
7E	RISER BEAM	R3	E	1 & 3	4
7E	RISER BEAM	R4	E	FW	4
7E	RISER BEAM	R5	E	FW	4
7E	RISER BEAM	R6	E	FW	4
7E	RISER BEAM	R7	E	FW	4
7E	RISER BEAM	R8	E	½	4
7E	RISER BEAM	R10	E	FW	4
7E	RISER BEAM	R14	E	3	4
7E	RISER BEAM	R17	E	3	4
7E	RISER BEAM	R18	E	FW	6
7E	RISER BEAM	R21	E	FW	4
7E	RISER BEAM	R23	E	FW	4
7E	RISER BEAM	R24	E	1 & ½	4
7E	RISER BEAM	R25	E	3	4
7E	RISER BEAM	R28	E	3	4
7E	RISER BEAM	R29	E	FW	4
7E	**RISER BEAM**	**R31**	**E**	**2**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
7E	RISER BEAM	R32	E	2 ½	4
7E	RISER BEAM	R33	E	FW	4
7E	RISER BEAM	R34	E	FW	4
7E	**RISER BEAM**	**R39**	**E**	**1½**	**2**
7E	**RISER BEAM**	**R50**	**E**	**1**	**2**
6E-7E	B1	R2	W	FW	4
6E-7E	B1	R3	E	FW	6
6E-7E	B1	R4	E	FW	6
6E-7E	B1	R4	W	FW	4
6E-7E	B1	R5	W	2	4
6E-7E	B1	R6	W	FW	4
6E-7E	B1	R7	W	FW	4
6E-7E	B1	R10	W	1	6
6E-7E	B1	R17	W	1	6
6E-7E	B1	R19	W	1 ½	6
6E-7E	B1	R23	W	3	4
6E-7E	B1	R27	W	3	4
6E-7E	B1	R28	W	2	4
6E-7E	B1	R29	W	2 ½	4
6E-7E	B1	R30	W	2 ½	6
6E-7E	B1	R32	W	FW	4
6E-7E	B1	R33	E	FW	4
6E-7E	B1	R33	W	FW	4
6E-7E	B2	R6	E	2	6
6E-7E	B2	R6	W	1	6
6E-7E	B2	R19	E	1	4
6E-7E	B2	R19	W	1	4
6E-7E	B2	R33	W	½	4
6E-7E	B2	R34	W	2	4
6E-7E	B2	R35	E	2	4
6E-7E	B2	R35	W	1 ½	4
6E-7E	B3	R16	E	¾	6
6E-7E	B3	R35	E	1	6
6E-7E	**B4**	**R16**	**W**	**FW**	**2**
6E-7E	B5	R28	E	1 ½	6
6E-7E	B5	R47	W	¾	6
6E-7E	B6	R34	W	FW	6
6E-7E	B7	R19	E	½	6
6E-7E	B7	R19	W	½	6
6E-7E	B7	R52	E	2	4
6E-7E	B7	R52	W	1	6
6E-7E	B8	R16	E	¾	4
6E-7E	**B8**	**R46**	**E**	**½**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
6E-7E	B8	R47	E	1 ¼	4
6E-7E	B8	R47	W	3 ½	6
6E-7E	B8	R48	W	¾	6
6E-7E	B9	R34	E	FW	6
6E-7E	B9	R34	W	FW	4
6E-7E	B9	R35	W	2	4
6E-7E	B10	R28	E	¾	4
6E-7E	B10	R34	E	FW	4
6E-7E	B10	R34	W	FW	4
6E-7E	B11	R2	E	3	6
6E-7E	B11	R7	E	1 ½	6
6E-7E	B11	R28	E	1	6
6E-7E	**B12**	**R22**	**W**	**½**	**2**
6E-7E	**B12**	**R31**	**W**	**1**	**2**
6E-7E	**B12**	**R32**	**W**	**¼**	**2**
6E-7E	**B12**	**R33**	**W**	**1**	**2**
6E-7E	**B12**	**R34**	**W**	**1**	**2**
6E-7E	**B12**	**R35**	**W**	**¾**	**2**
6E	RISER BEAM	R1	E	1	6
6E	RISER BEAM	R2	E	FW	4
6E	RISER BEAM	R3	E	FW	4
6E	RISER BEAM	R4	E	FW	4
6E	RISER BEAM	R5	E	FW	4
6E	RISER BEAM	R6	E	FW	4
6E	RISER BEAM	R7	E	FW	4
6E	RISER BEAM	R8	E	FW	4
6E	RISER BEAM	R10	E	1	4
6E	RISER BEAM	R12	E	3	6
6E	RISER BEAM	R14	E	2	6
6E	RISER BEAM	R16	E	2	6
6E	RISER BEAM	R17	E	2	6
6E	RISER BEAM	R18	E	3	6
6E	RISER BEAM	R21	E	3	6
6E	RISER BEAM	R22	E	2	6
6E	RISER BEAM	R23	E	FW	6
6E	RISER BEAM	R25	E	1	6
6E	RISER BEAM	R29	E	FW	4
6E	RISER BEAM	R30	E	FW	4
6E	RISER BEAM	R34	E	FW	4
6E	**RISER BEAM**	**R42**	**E**	**1½**	**2**
6E	RISER BEAM	R63	E	1 & ½	4
6E	RISER BEAM	R64	E	½	6
6E	RISER BEAM	R65	E	1	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
6E	RISER BEAM	R66	E	3	6
6E	RISER BEAM	R68	E	1	4
5E-6E	B1	R2	W	FW	4
5E-6E	B1	R3	E	3	4
5E-6E	B1	R3	W	FW	4
5E-6E	B1	R4	E	1 & ½	6
5E-6E	B1	R4	W	2 & 3	4
5E-6E	B1	R5	E	1	4
5E-6E	B1	R5	W	¾ & 1	6
5E-6E	B1	R6	E	3 ½	4
5E-6E	B1	R6	W	¾	6
5E-6E	B1	R7	E	½ & ½	6
5E-6E	B1	R7	W	3	4
5E-6E	B1	R8	E	1 & 1 ½	4
5E-6E	B1	R8	W	FW	4
5E-6E	B1	R10	E	FW	4
5E-6E	B1	R10	W	2 ½	4
5E-6E	B1	R11	E	3 ½	4
5E-6E	B1	R21	W	FW	6
5E-6E	B1	R24	E	2	4
5E-6E	B1	R24	W	FW	6
5E-6E	B1	R26	E	2	4
5E-6E	B1	R31	E	FW	4
5E-6E	B1	R32	E	3	4
5E-6E	B1	R33	E	FW	4
5E-6E	B1	R33	W	3	6
5E-6E	B1	R34	E	FW	4
5E-6E	B1	R34	W	FW	4
5E-6E	B1	R35	E	FW	4
5E-6E	B1	R35	W	2 ½	4
5E-6E	B1	R52	E	1	6
5E-6E	B1	R66	E	FW	6
5E-6E	**B1**	**R67**	**E**	**¼**	**2**
5E-6E	B1	R69	E	FW	4
5E-6E	B2	R2	W	1 ½	6
5E-6E	B2	R7	E	½	6
5E-6E	B2	R7	W	2	6
5E-6E	B2	R8	W	3	6
5E-6E	B2	R21	W	4 ½	6
5E-6E	**B2**	**R28**	**W**	**½**	**2**
5E-6E	B2	R50	E	¾	6
5E-6E	B2	R52	W	¾	6
5E-6E	B2	R64	W	1 ½	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
5E-6E	B3	R19	W	2	6
5E-6E	B3	R29	E	1 ¼	6
5E-6E	**B4**	**R26**	**E**	**¼**	**2**
5E-6E	**B4**	**R28**	**E**	**½**	**2**
5E-6E	**B4**	**R30**	**W**	**¼**	**2**
5E-6E	B6	R48	E	1	6
5E-6E	**B7**	**R21**	**E**	**2**	**2**
5E-6E	B7	R52	W	1	4
5E-6E	B7	R63	E	1	6
5E-6E	B8	R21	W	FW	4
5E-6E	**B8**	**R21**	**E**	**3**	**2**
5E-6E	B9	R42	E	FW	6
5E-6E	B9	R42	W	FW	6
5E-6E	B10	R20	E	4	6
5E-6E	B10	R21	E	1 ½	6
5E-6E	B11	R52	W	1	6
5E-6E	B12	R7	W	FW	6
5E-6E	B12	R10	W	1	6
5E-6E	B12	R23	W	1	6
5E-6E	B12	R24	W	1 ¼	6
5E-6E	B12	R25	W	2	6
5E-6E	B12	R28	W	1	6
5E-6E	B12	R50	W	3	4
5E	RISER BEAM	R6	E	FW	6
5E	RISER BEAM	R7	E	FW	4
5E	**RISER BEAM**	**R9**	**E**	**1 ½**	**2**
5E	**RISER BEAM**	**R11**	**E**	**2**	**2**
5E	RISER BEAM	R13	E	2	6
5E	RISER BEAM	R14	E	FW	6
5E	RISER BEAM	R15	E	3 ½	4
5E	RISER BEAM	R21	E	FW	4
5E	RISER BEAM	R22	E	FW	4
5E	RISER BEAM	R23	E	FW	4
5E	RISER BEAM	R24	E	FW	4
5E	**RISER BEAM**	**R40**	**E**	**1**	**2**
5E	RISER BEAM	R46	E	1	6
5E	RISER BEAM	R48	E	4	4
5E	RISER BEAM	R49	E	½ & ½	6
5E	**RISER BEAM**	**R50**	**E**	**1**	**2**
5E	RISER BEAM	R64	E	1 ½	4
5E	RISER BEAM	R65	E	1	4
4E-5E	B1	R1	W	FW	4
4E-5E	B1	R2	E	1	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
4E-5E	B1	R2	W	FW	4
4E-5E	B1	R3	W	1	6
4E-5E	**B1**	**R3**	**E**	**FW**	**2**
4E-5E	B1	R4	E	FW	6
4E-5E	B1	R4	W	FW	6
4E-5E	B1	R5	E	½	4
4E-5E	B1	R6	W	FW	6
4E-5E	B1	R16	W	3	6
4E-5E	B1	R19	E	3	6
4E-5E	B1	R21	W	2 ½	4
4E-5E	B1	R22	W	2	4
4E-5E	B1	R26	W	FW	4
4E-5E	B1	R35	E	1 ½	6
4E-5E	B1	R35	W	2 ½	6
4E-5E	B1	R68	E	2	6
4E-5E	B3	R52	W	1	6
4E-5E	B4	R35	W	2 ½	6
4E-5E	B4	R52	W	2	6
4E-5E	B5	R52	W	1	6
4E-5E	B7	R51	E	2	6
4E-5E	B10	R1	W	1 ½ & ½	6
4E-5E	B11	R34	E	¾	6
4E-5E	B11	R35	E	1 ¼	6
4E-5E	B11	R51	W	2	6
4E-5E	B12	R26	W	FW	4
4E	RISER BEAM	R4	E	2	6
4E	RISER BEAM	R18	E	2	6
4E	RISER BEAM	R20	E	1	6
4E	RISER BEAM	R34	E	½	6
3E-4E	B1	R2	E	FW	4
3E-4E	B1	R34	W	2	6
3E-4E	B2	R2	W	FW	6
3E-4E	B2	R33	E	3	6
3E-4E	B2	R38	E	½	6
3E-4E	B2	R43	E	FW	4
3E-4E	B2	R43	W	FW	4
3E-4E	B3	R43	W	1	6
3E-4E	B4	R43	W	½	6
3E-4E	B7	R13	E	1	6
3E-4E	B7	R19	E	½	6
3E-4E	B8	R2	E	FW	4
3E-4E	B8	R43	E	FW	6
3E-4E	B8	R43	W	FW	6

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	Secondary Floorbeam	Rib Number	E / W Weld	Crack Length (in.)	Priority Repair
3E-4E	B8	R52	E	½	4
3E-4E	B8	R52	W	2	4
3E-4E	B9	R2	W	1 ½	6
3E-4E	B9	R36	E	1	6
3E-4E	B9	R43	E	FW	6
3E-4E	B9	R43	W	FW	6
3E-4E	B9	R52	E	FW	6
3E-4E	B9	R52	W	FW	6
3E-4E	B10	R19	E	FW	4
3E-4E	B10	R19	W	FW	4
3E-4E	B10	R36	W	¾	6
3E-4E	B11	R19	E	FW	4
3E-4E	B11	R19	W	FW	4
3E-4E	B11	R51	E	1	4
3E-4E	B11	R51	W	1	4
3E-4E	B11	R52	W	1 ½	6
3E-4E	B12	R45	W	1	6
3E	RISER BEAM	R45	E	FW	4
3E	RISER BEAM	R46	E	4	4
3E	RISER BEAM	R47	E	3	4
3E	RISER BEAM	R48	E	2 ½	6
3E	RISER BEAM	R54	E	2	4
3E	RISER BEAM	R64	E	1	6
2E-3E	B1	R2	E	3	4
2E-3E	B1	R2	W	1	6
2E-3E	**B1**	**R26**	**W**	**2**	**2**
2E-3E	B1	R26	E	¼	6
2E-3E	B1	R27	W	2	6
2E-3E	B1	R32	W	1 ½	6
2E-3E	B1	R33	W	1	4
2E-3E	B1	R34	W	FW	4
2E-3E	B1	R35	W	FW	4
2E-3E	B1	R36	E	3	6
2E-3E	B1	R37	E	½	6
2E-3E	B1	R37	W	1	6
2E-3E	B1	R38	E	1	6
2E-3E	B1	R38	W	1 ½	6
2E-3E	**B1**	**R39**	**W**	**2 ½**	**2**
2E-3E	B2	R33	W	½	6
2E-3E	B3	R19	W	1	6
2E-3E	B3	R29	W	¼	6
2E-3E	B5	R2	W	1 ½	6
2E-3E	**B7**	**R47**	**E**	**¾**	**2**

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

2013 Biennial Inspection of the GWB - Main Span Upper Level Orthotropic Deck - Cracked Rib Welds					
Panel Point	**Secondary Floorbeam**	**Rib Number**	**E / W Weld**	**Crack Length (in.)**	**Priority Repair**
2E-3E	**B8**	**R42**	**E**	**½**	**2**
2E-3E	**B9**	**R42**	**E**	**½**	**2**
2E-3E	B10	R20	E	3	6
2E-3E	B11	R41	E	1	6
2E-3E	B11	R48	E	2	6
2E-3E	B12	R34	W	FW	6
2E-3E	B12	R35	W	FW	6
2E-3E	B12	R36	W	1	6
2E-3E	B12	R41	W	1 ½	6
2E	RISER BEAM	R61	W	3 ½	6
2E	**RISER BEAM**	**R59**	**W**	**1**	**2**
1E-2E	B1	R8	E	1 ½	6
1E-2E	**B1**	**R24**	**E**	**2**	**2**
1E-2E	B1	R26	E	1 ½	6
1E-2E	B1	R39	E	½	6
1E-2E	B1	R48	E	¾	4
1E-2E	**B1**	**R57**	**E**	**2**	**2**
1E-2E	**B1**	**R62**	**E**	**1 ½**	**2**
1E-2E	B2	R3	E	1	6
1E-2E	B2	R4	E	½	6
1E-2E	B2	R5	E	2	6
1E-2E	B2	R7	E	1 ½	6
1E-2E	B2	R19	W	1 ¼	4
1E-2E	B2	R26	E	1	4
1E-2E	B2	R62	W	FW	4
1E-2E	B3	R19	W	1 ¼	6
1E-2E	B3	R21	E	FW	4
1E-2E	B3	R21	W	FW	4
1E-2E	B3	R62	W	1	6
1E-2E	B6	R2	W	1	6
1E-2E	B6	R24	E	4 ½	4
1E-2E	B6	R24	W	½	4
1E-2E	B6	R55	E	1 ½	6
1E-2E	B11	R24	W	½	6
1E-2E	B11	R25	E	FW	4
1E-2E	B11	R25	W	FW	6
1E-2E	B12	R26	W	FW	4

LEGEND: FW – FULL WIDTH; W – WEST; E – EAST; **NEW CRACKS**

Appendix B
Immediate Action Correspondence

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

July 2, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127**

Subject: **Immediate Action – Severe Deterioration Orthotropic Deck Ribs Between Stringers S1 & S2 at Panel Point 11W**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, conditions were found on the orthotropic deck involving cracked and/or severely corroded holes in the web of deck ribs below the deck joint requiring immediate action. The following summarizes the findings:

- At Panel Point 11W (East side) , Ribs 1 thru 4 between Stringers S1 & S2 exhibit severely corroded web bottom with up to 26" long cracks between Secondary Floorbeams SFB1 and SFB2. In addition, the bottom flange and remaining web area of all above ribs between SFB1 and SFB2 show up to 30% section loss. See attached location plan and photos.

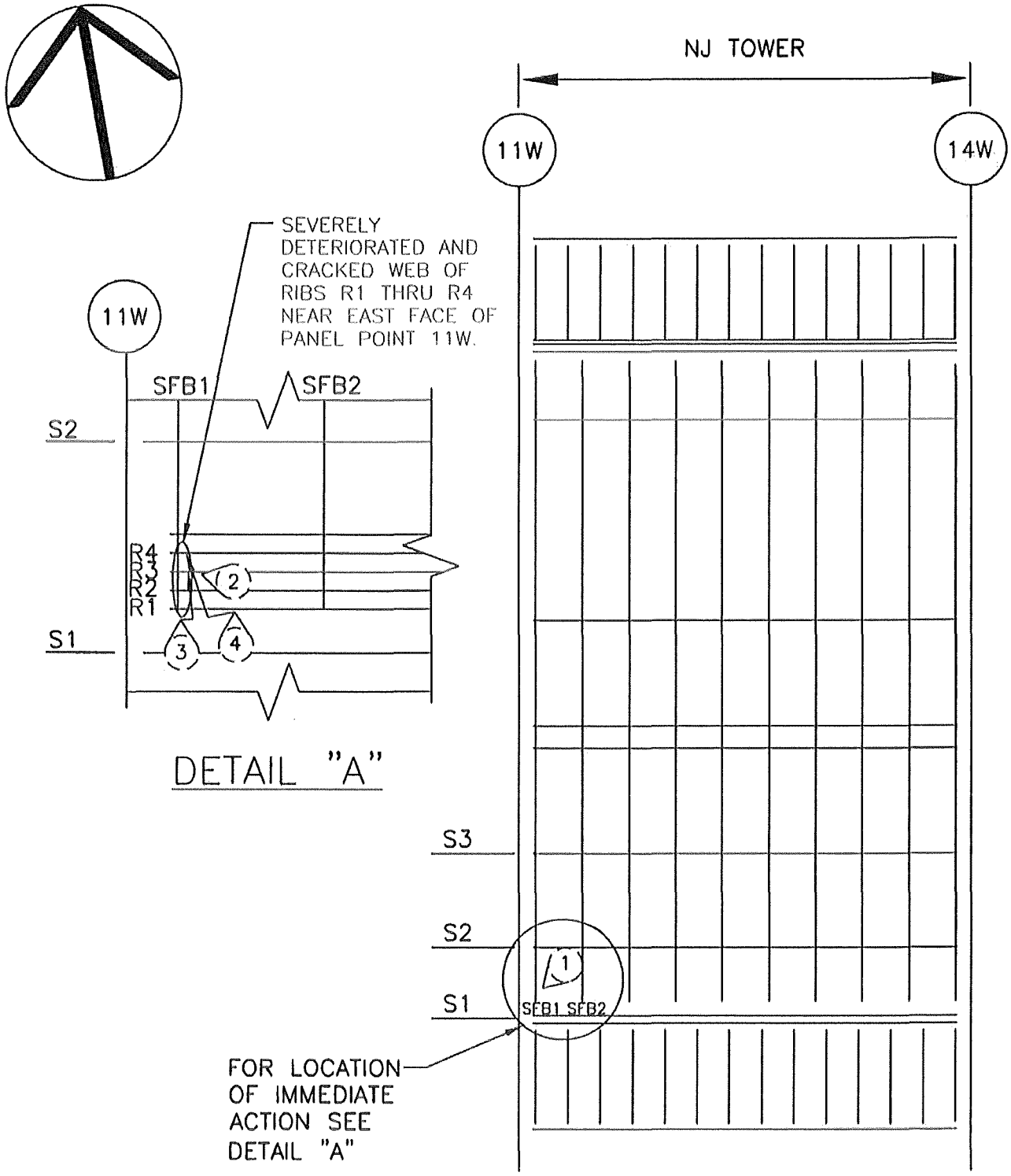
It is recommended to repair the deteriorated and cracked ribs on an immediate basis (See attached QAD-1309-1 & QAD-1309-2).

If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com



GEORGE WASHINGTON BRIDGE
UPPER LEVEL – NEW JERSEY TOWER
UNDERSIDE OF DECK FRAMING

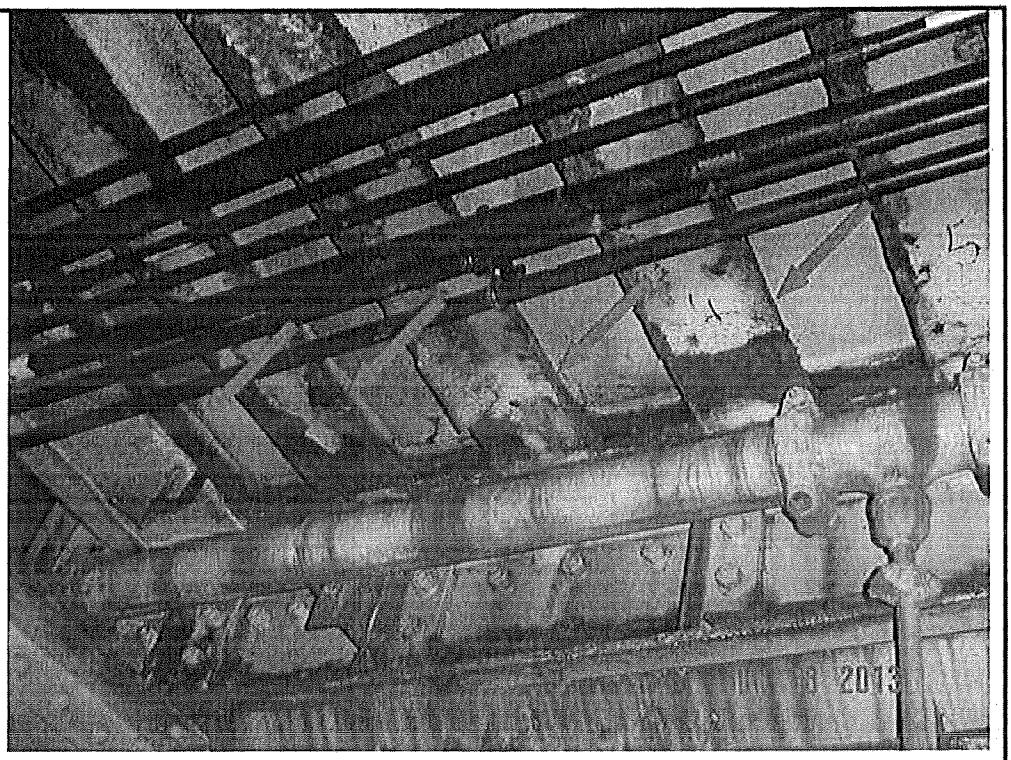
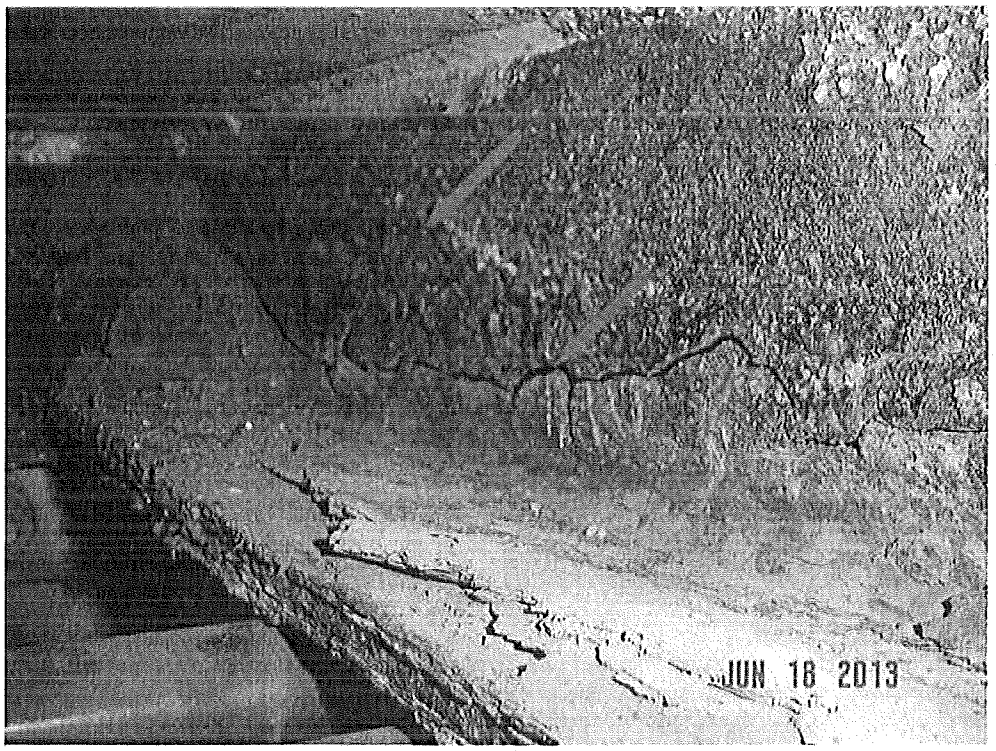
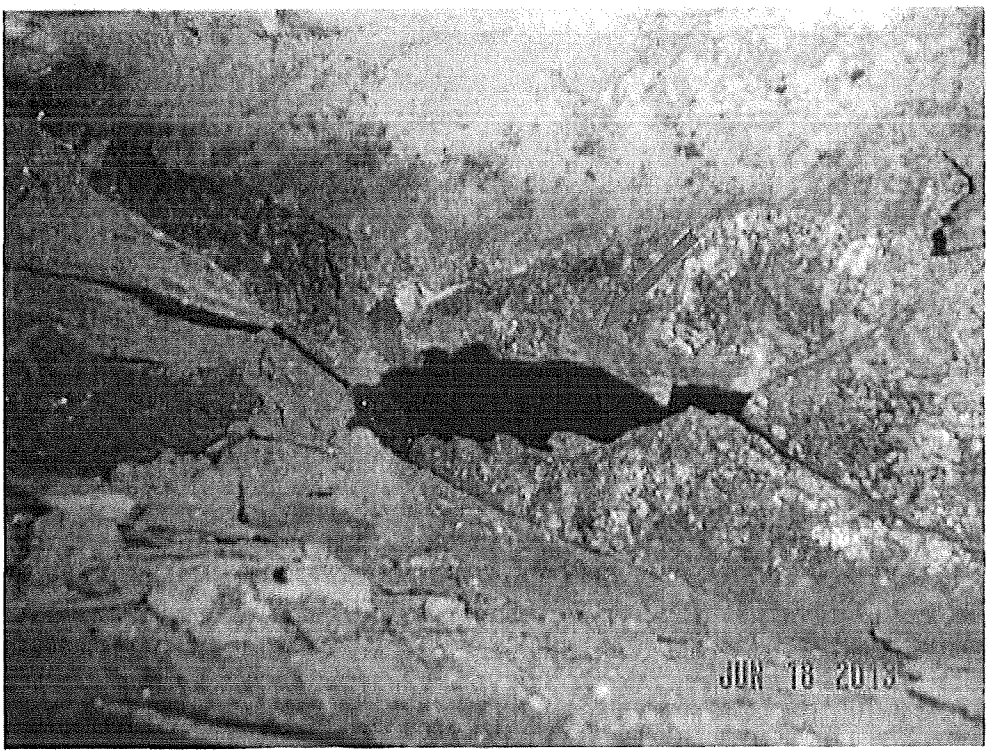
Photo No.: 1 **Location:** Between Stringers S1 & S2 and SFB1 & SFB2 near PP 11W. (Looking Southwest) **Description:** Severely deteriorated deck ribs with cracks and hole thru in the web.	
Photo No.: 2 **Location:** Deck rib 3, Between SFB1 & SFB2 near PP 11W. (Looking west) **Description:** Severely deteriorated deck rib with two cracks (26" and 3" long) in the web.	

Photo No.: 3 **Location:** Deck rib 3, Between SFB1 & SFB2 near PP 11W. (Looking north) **Description:** Severely deteriorated deck rib with two cracks (26" and 3" long) in the web.	
Photo No.: 4 **Location:** Deck rib 4, Between SFB1 & SFB2 near PP 11W. (Looking north) **Description:** Severely deteriorated deck rib with rusted thru hole and two cracks (12" and 2" long) in the web.	

GENERAL NOTES

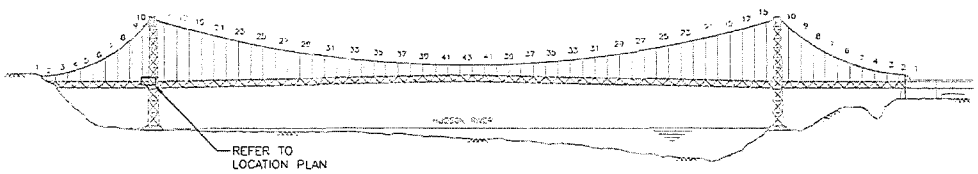
1. ALL STEEL WORK SHALL CONFORM TO REQUIREMENTS IN CURRENT EDITIONS OF THE FOLLOWING PUBLICATIONS.
   A. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ADAPTED BY THE AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS (AASHTO). INCLUDING INTERIM SPECIFICATION.
2. MATERIALS SHALL BE AS FOLLOW:
   A. ALL BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325) UNLESS NOTED OTHERWISE.
   B. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 (GRADE 50) UNLESS NOTED OTHERWISE.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL OBTAIN ALL REQUIRED MEASUREMENTS TO COMPLETE THE WORK PRIOR TO COMMENCING WORK. ANY VARIATIONS FROM THIS DRAWING SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW PRIOR TO THE COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR SHALL PROVIDE MEANS OF CATCHING DEBRIS THAT MAY FALL BENEATH THE WORK AREA. ALL DEBRIS SHALL BE REMOVED TO A LOCATION BEYOND THE FACILITY LIMITS APPROVED BY THE ENGINEER.
5. ANY DAMAGE TO THE EXISTING STRUCTURAL MEMBER TO REMAIN SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO COST TO THE PORT AUTHORITY.

STEEL REPAIRS

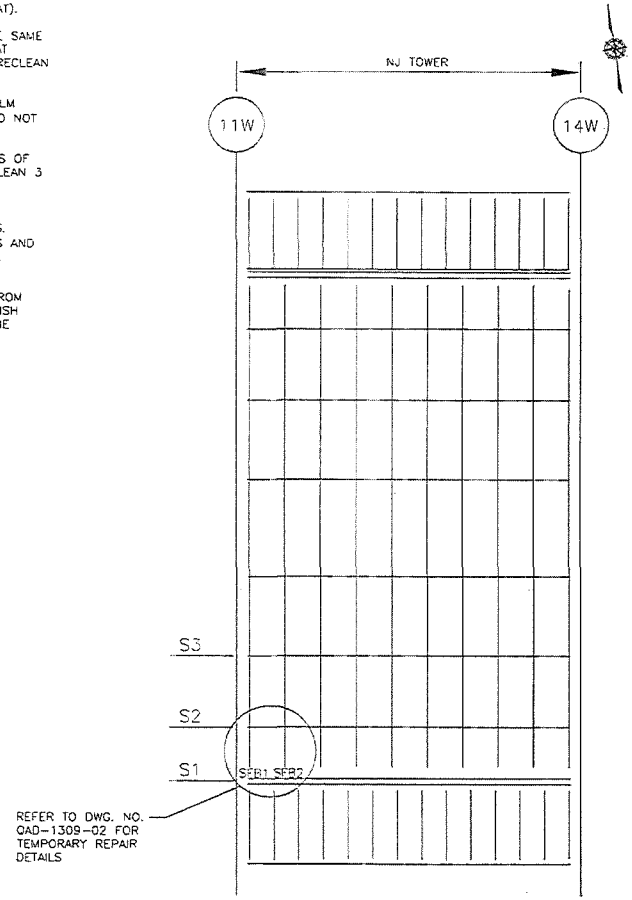
1. STEEL REPAIRS WILL REQUIRE FIELD DRILLING OF EXISTING STEEL.
2. FOLLOW ALL PROCEDURES FOR SLIP CRITICAL CONNECTIONS FOR ALL BOLTS, EVEN WHERE THE CONDITION OF THE EXISTING STEEL MAY PREVENT A FULL SLIP CRITICAL CONNECTION FROM BEING ACHIEVED. FINAL TORQUEING OF BOLTS SHALL BE DONE WITH NO LIVE LOAD IN THE TRAFFIC LANES ABOVE THE REPAIR.
3. BOLTS SHALL BE TIGHTENED TO A TORQUE OF 335 FT-LBS.

CLEANING AND PAINTING NOTES

1. ALL EXISTING METAL SURFACES WITHIN A PERIMETER 3 INCHES BEYOND THE LIMIT OF REPAIR STEEL AND WITHIN 3 INCHES RADIUS AROUND FASTENERS SHALL BE CLEANED TO A ONE TO TWO MIL PROFILE USING SSPC-SP11 (POWER TOOL CLEANING TO BARE METAL) USING TOOLS EQUIPED WITH HEPA VACUUM ATTACHMENTS
2. INSTALLED STEEL SHALL BE SHOP CLEANED TO SSPC-SP10.
3. AFTER TEMPORARY REPAIR IS COMPLETED ALL STEEL SHALL RECEIVE A 3 COAT PAINT SYSTEM PER PAINT DESIGNATION S-15 OF SPECIFICATION 09910 (PRIME, INTERMEDIATE AND FINISH COAT).
4. APPLY PRIME COAT TO FIELD PAINTED SURFACES WITHIN THE SAME WORK PERIOD AS SURFACE PREPARATION, IN THE EVENT THAT PRIMER IS NOT APPLIED DURING THE SAME WORK PERIOD. RECLEAN AS PER SSPC-SP11 PRIOR TO PRIMER APPLICATION.
5. APPLY PRIMER AND SUBSEQUENT PAINT COATS TO A DRY FILM THICKNESS (DFT) RECOMMENDED BY THE MANUFACTURER. DO NOT PAINT CONTACT SURFACES.
6. EXTEND PAINT SYSTEM APPLICATION 3 INCHES BEYOND LIMITS OF SURFACE CLEANED TO SSPC-SP11 ONTO EXISTING PAINT. CLEAN 3 INCHES OVERLAP IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS PRIOR TO PAINTING.
7. DO NOT STOP OR RESUME PAINTING AT EDGES OR CORNERS. ALWAYS EXTEND PAINT A MINIMUM OF 11/2" BEYOND EDGES AND CORNERS BEFORE STOPPING AND WHEN RESUMING PAINTING.
8. PRIMER AND INTERMEDIATE COLORS SHALL BE DISTINCTLY DIFFERENT FROM EACH OTHER AND DISTINCTLY DIFFERENT FROM THE EXISTING PEWTER CUP GRAY PAINT. COLOR OF THE FINISH COAT OF PAINT SHALL BE PEWTER CUP GRAY, TO MATCH THE EXISTING PEWTER CUP GRAY.
9. SHOP PAINTING OF STEEL IS NOT REQUIRED.



SOUTH ELEVATION
N.T.S.



LOCATION PLAN
N.T.S.

Sheet 1 of 2

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE
WASHINGTON
BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

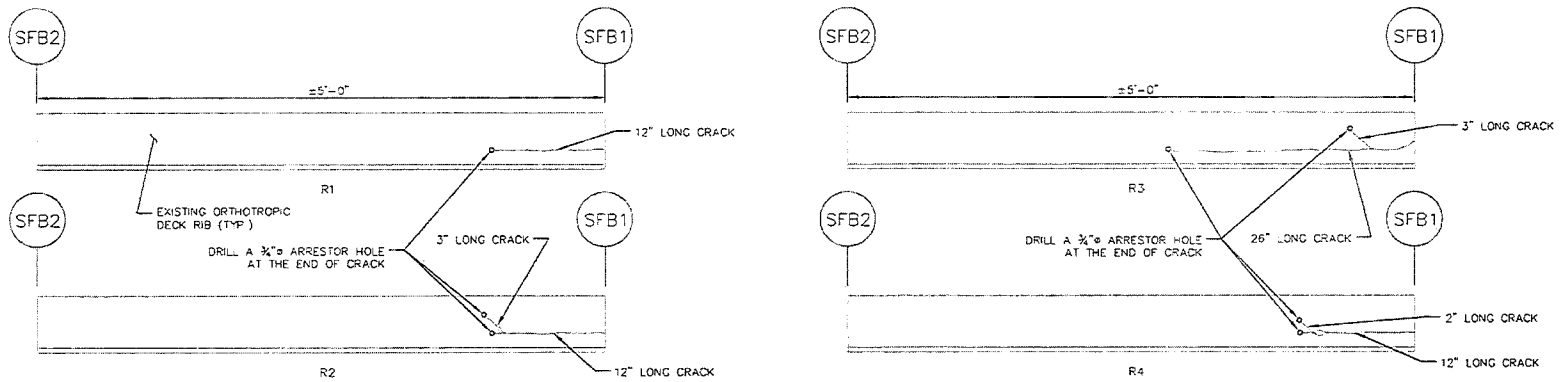
UPPER LEVEL
BETWEEN S1 & S2
AND SFB1 & SFB2
NEAR PP11W
(1 OF 2)

DS	RD	GA
Designed by	Drawn by	Checked by

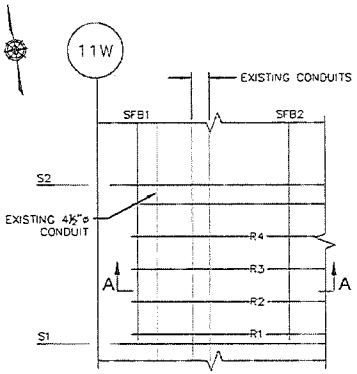
Date JULY 2, 2013

Contract Number 405-13-005

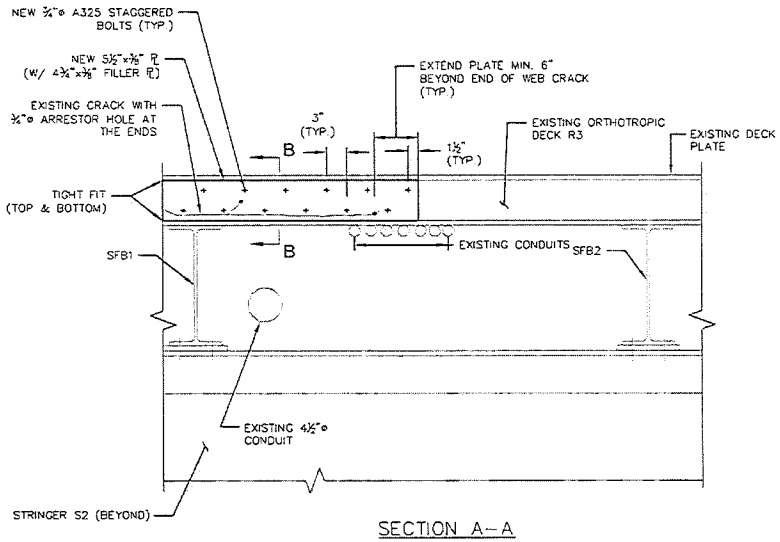
Drawing Number QAD-1309-01



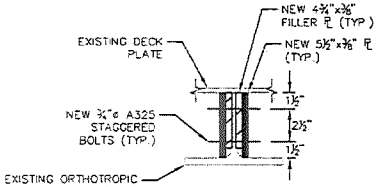
EXISTING CONDITION
(NORTH ELEVATION OF R1 THRU R4 BETWEEN SFB1 & SFB2 NEAR PP11W)
(NTS)



PROPOSED PLAN
(NTS)



SECTION A–A
(TAKEN AT R3)
(NTS)



SECTION B–B
(TAKEN AT R3)
(NTS)

DECK RIB	SPLICE PLATE LENGTH (V.I.F.)
R1	1'-6"
R2	1'-6"
R3	2'-8"
R4	1'-6"

STATE OF NEW YORK
STELIOS NICK BERTOS
LICENSED PROFESSIONAL ENGINEER
106082

Sheet 2 of 2

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL BETWEEN S1 & S2 AND SFB1 & SFB2 NEAR PP11W (2 OF 2)

DS	AD	GA
Designed by	Drawn by	Checked by

Date JULY 2, 2013

Contract Number 405-13-005

Drawing Number QAD-1309-02

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

June 20, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels**
PA Agreement No. 405-13-005; P.O. 4900009127

Subject: **Immediate Action – Upper Level Framing at New York Anchorage Above Eastbound Lower Level Roadway.**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, a ½" crack in the upper web coping of stringer S4 at the connection to the east face of floor beam 8 was found requiring immediate action.

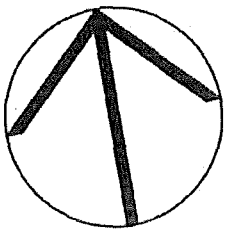
It is recommended that a 1" diameter hole to be drilled at the end of web crack on an immediate basis. See attached location plan and photos.

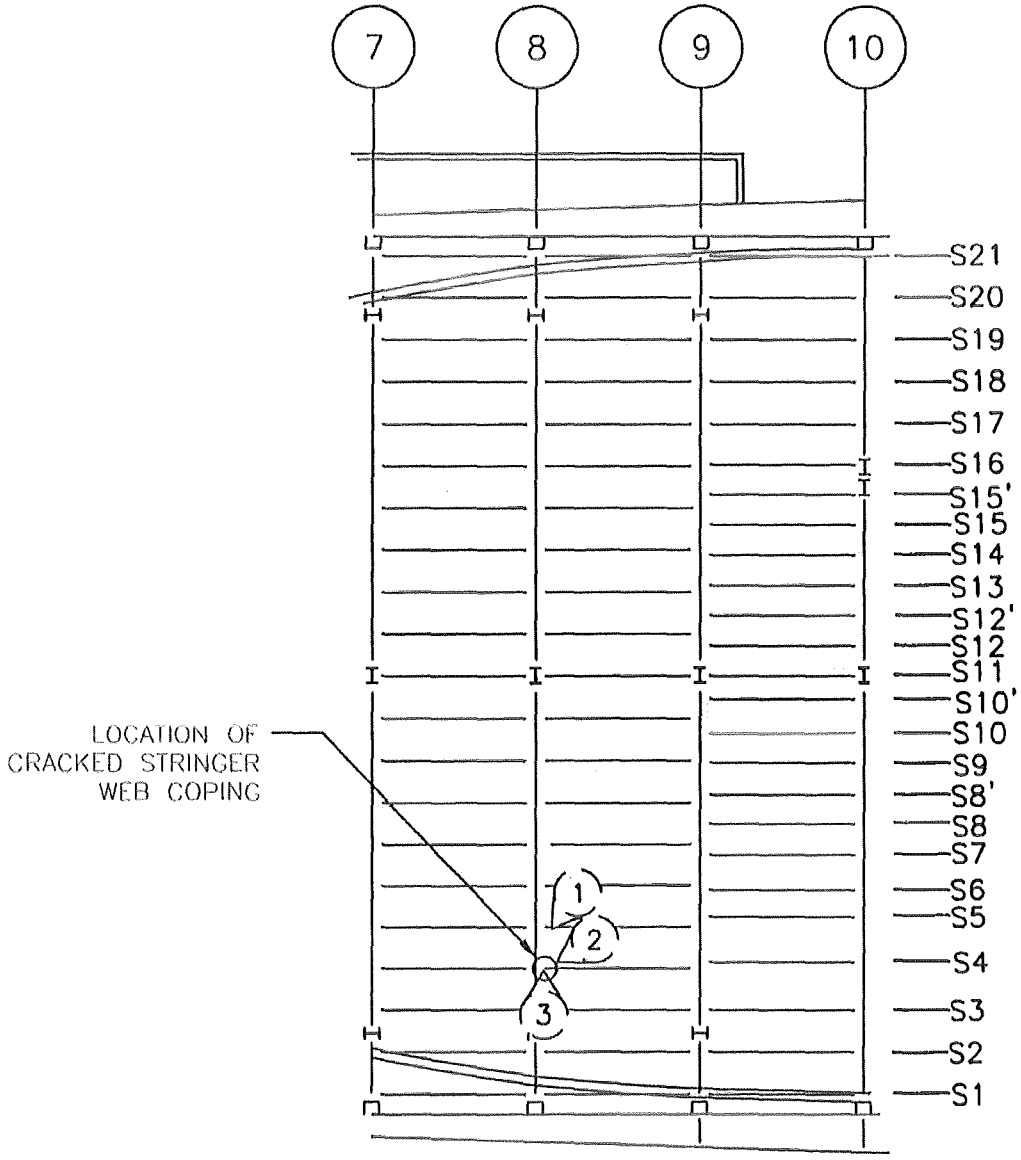
If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

For Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com





GEORGE WASHINGTON BRIDGE
NEW YORK ANCHORAGE
UPPER LEVEL FRAMING

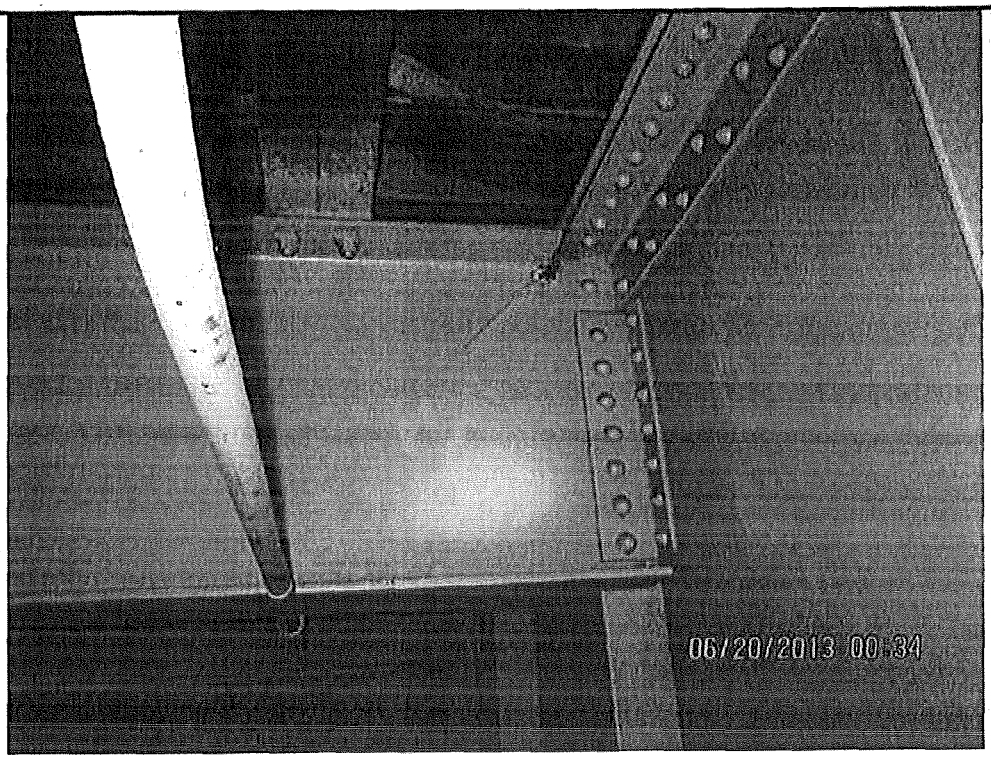
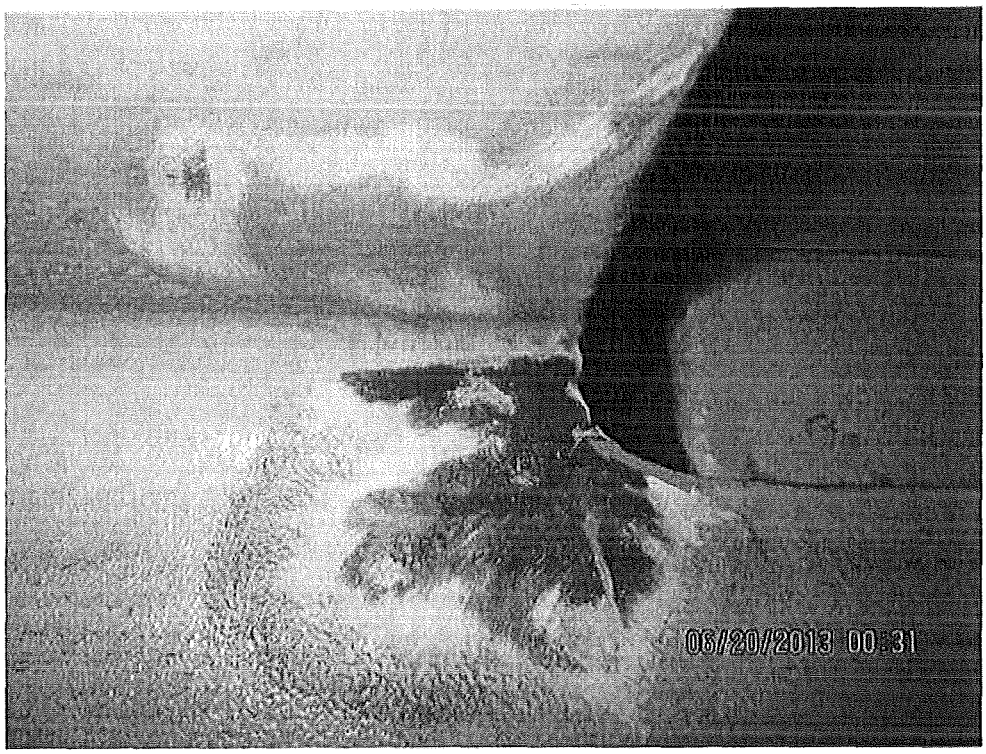
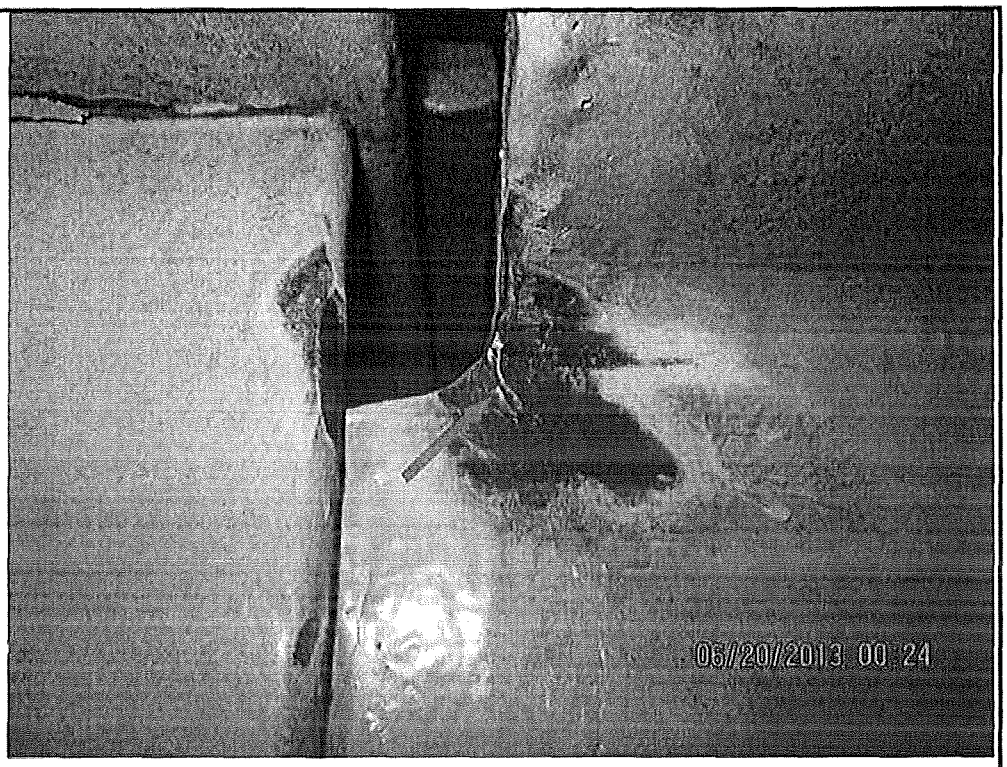
Photo No.: 1 **Location:** North face of stringer S4, at connection to floor beam 8 east face. (Looking southwest) **Description:** ½" long crack at south side of stringer S4 upper web coping.	
Photo No.: 2 **Location:** North face of stringer S4, at connection to floor beam 8 east face. (Looking southwest) **Description:** ½" long crack at north face of stringer S4 upper web coping. (Close up photo)	

Photo No.: 3 **Location:** South face of stringer S4, at connection to floor beam 8 east face. (Looking north) **Description:** ½" long crack at south side of stringer S4 upper web coping. (Close up photo)	

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

July 18, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127**

Subject: **Immediate Action – Deteriorated and Cracked Orthotropic Deck Ribs Between Stringers S5 & S6 at Panel Point 11E**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, conditions were found on the orthotropic deck involving cracks and corrosion in the web and bottom flange of deck ribs below the deck joint requiring immediate action. The following summarizes the findings:

- At Panel Point 11E (East side) , Ribs 45 thru 48 between Stringers S5 & S6 exhibit corroded web bottom with up to 20" long cracks between the Main Floorbeam at Panel Point 11E and Secondary Floorbeam SFB1. In addition, the bottom flange of Ribs 45 thru 47 exhibit up to 4¾" long cracks in the bottom flange that have propagated from the web cracks. See attached location plan and photos.

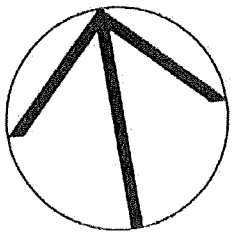
It is recommended to repair the deteriorated and cracked ribs on an immediate basis (See attached QAD-1310-001 & QAD-1310-002).

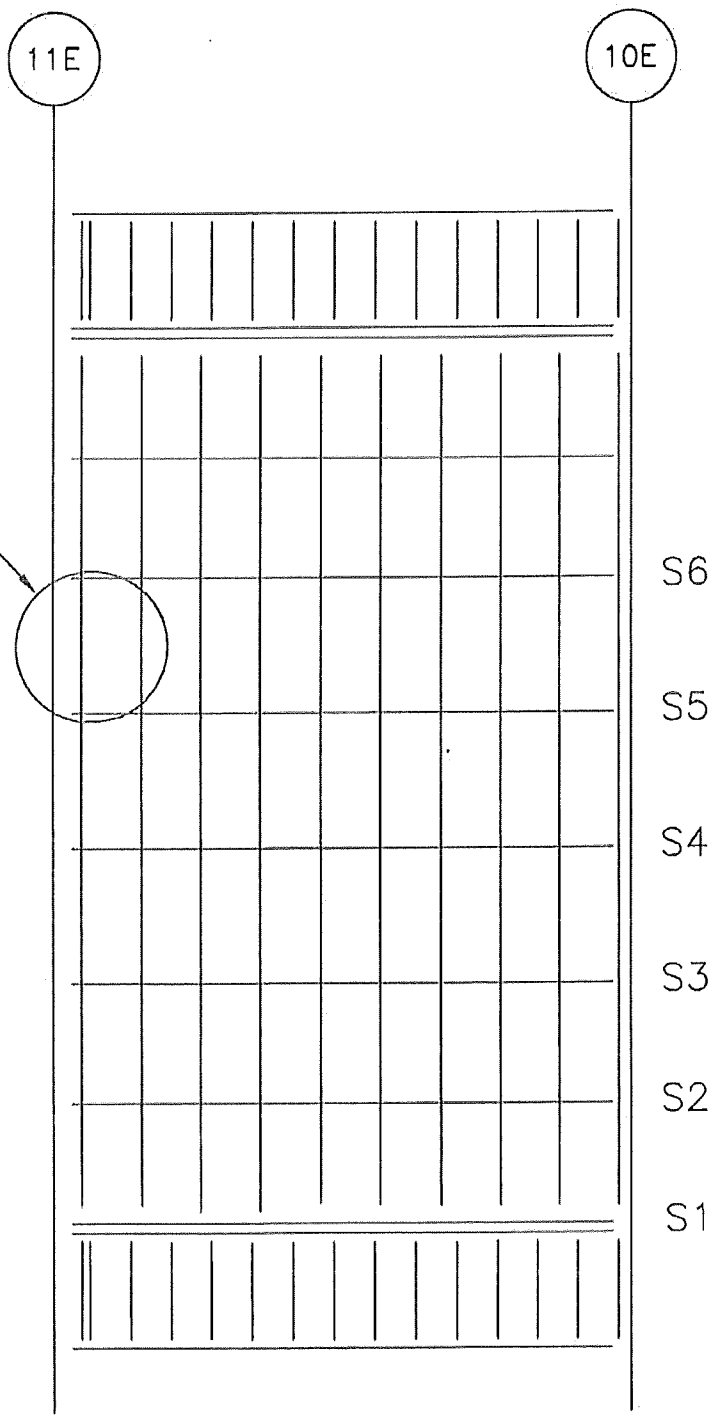
If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

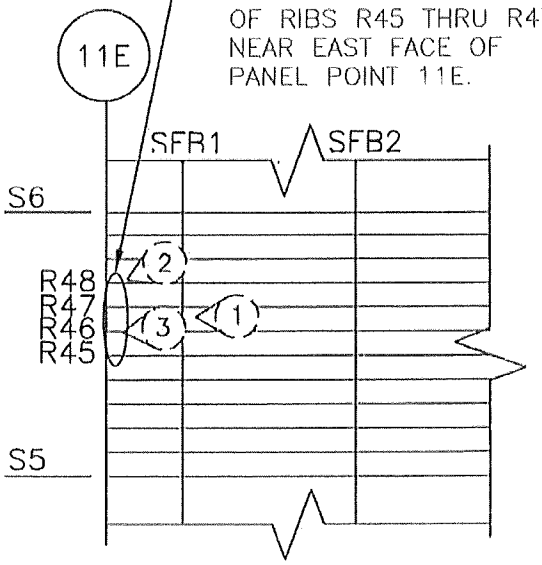
Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com





FOR LOCATION OF IMMEDIATE ACTION SEE DETAIL "A"

DETERIORATED AND CRACKED WEB OF RIBS R45 THRU R48 AND CRACKED BOTTOM FLANGE OF RIBS R45 THRU R47 NEAR EAST FACE OF PANEL POINT 11E.



DETAIL "A"

GEORGE WASHINGTON BRIDGE
UPPER LEVEL
UNDERSIDE OF DECK FRAMING

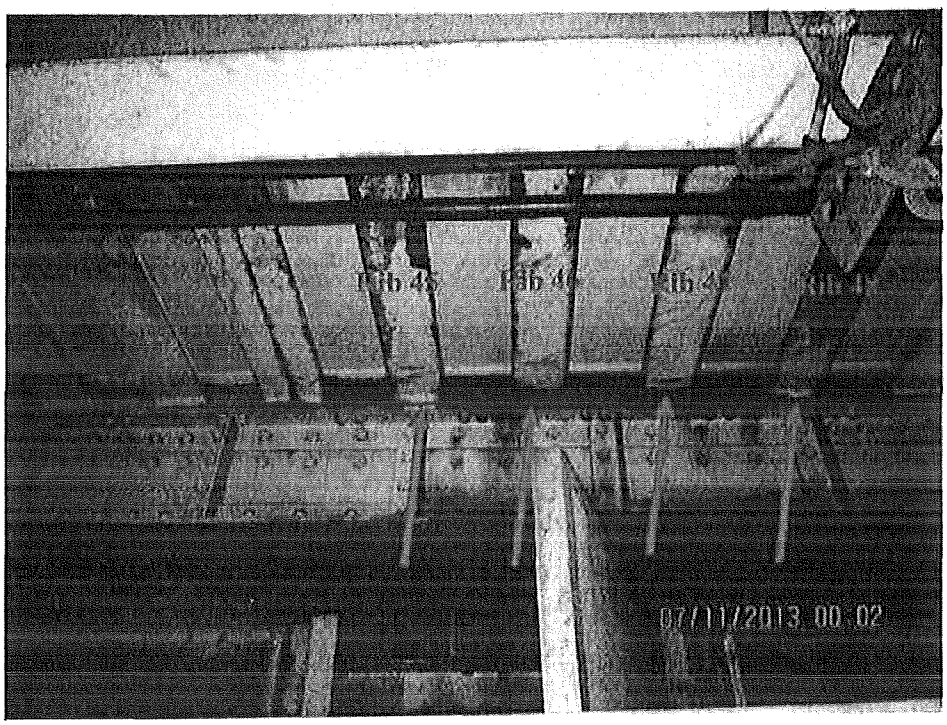
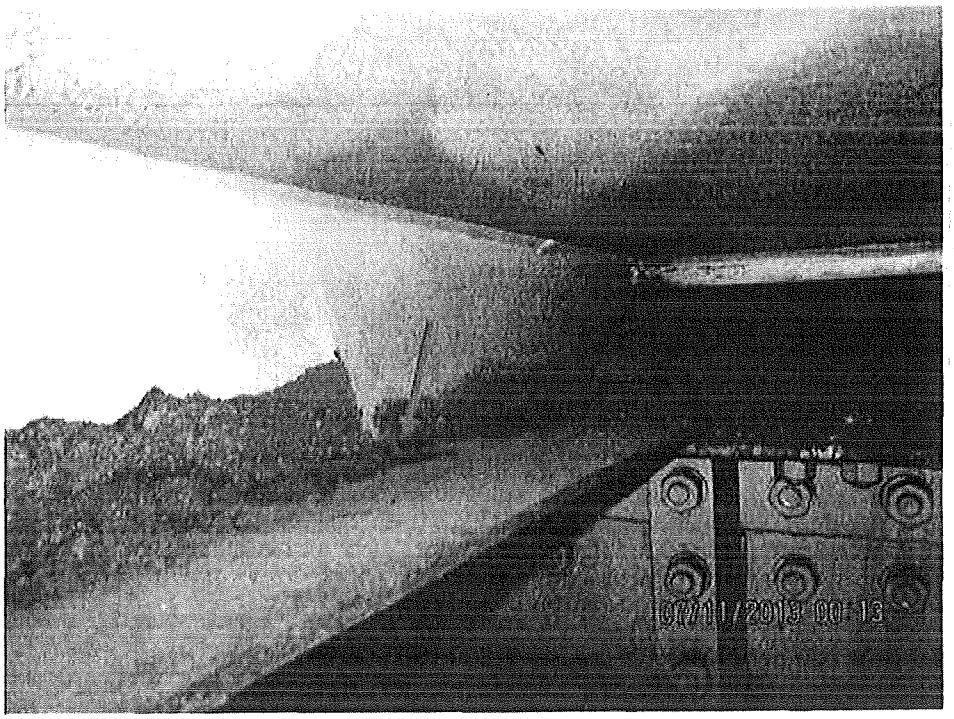
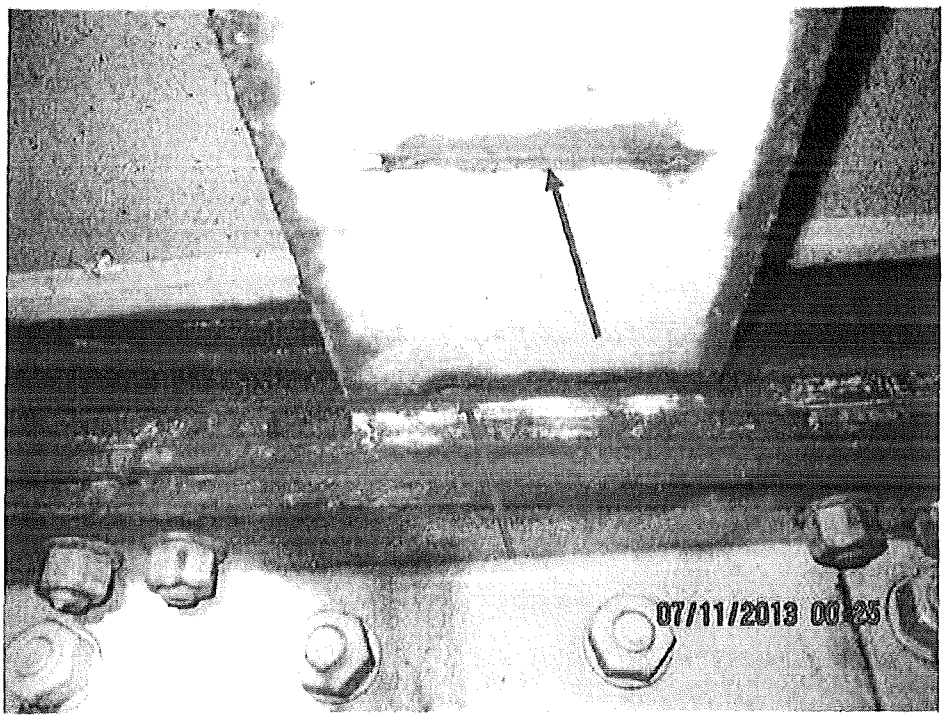
Photo No.: 1 **Location:** Between Stringers S5 & S6 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 11E. (Looking West) **Description:** Deteriorated deck ribs 45 thru 48 with cracks and corrosion in the web and bottom flange.	
Photo No.: 2 **Location:** Deck rib 48, Between Stringers S5 & S6 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 11E. (Looking Southwest) **Description:** Deteriorated deck rib 48 with 20" long crack in the web.	

Photo No.: 3

Location:
Deck rib 46, Between Stringers S5 & S6 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 11E. (Looking West)

Description:
Deteriorated deck rib 46 with 4¾" long crack in the bottom flange propagating from the web crack. Also, a full width crack is found at the deck rib weld.



GENERAL NOTES

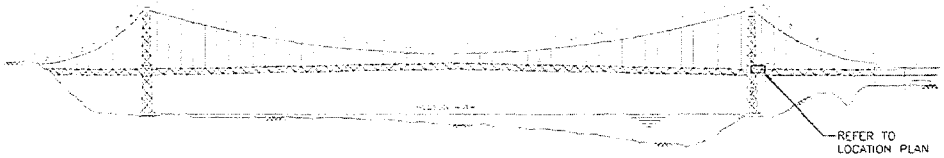
1. ALL STEEL WORK SHALL CONFORM TO REQUIREMENTS IN CURRENT EDITIONS OF THE FOLLOWING PUBLICATIONS:
   A. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ADAPTED BY THE AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS (AASHTO), INCLUDING INTERIM SPECIFICATION.
2. MATERIALS SHALL BE AS FOLLOW:
   A. ALL BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325) UNLESS NOTED OTHERWISE.
   B. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 (GRADE 50) UNLESS NOTED OTHERWISE.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL OBTAIN ALL REQUIRED MEASUREMENTS TO COMPLETE THE WORK PRIOR TO COMMENCING WORK. ANY VARIATIONS FROM THIS DRAWING SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW PRIOR TO THE COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR SHALL PROVIDE MEANS OF CATCHING DEBRIS THAT MAY FALL BENEATH THE WORK AREA. ALL DEBRIS SHALL BE REMOVED TO A LOCATION BEYOND THE FACILITY LIMITS APPROVED BY THE ENGINEER.
5. ANY DAMAGE TO THE EXISTING STRUCTURAL MEMBER TO REMAIN SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO COST TO THE PORT AUTHORITY.

STEEL REPAIRS

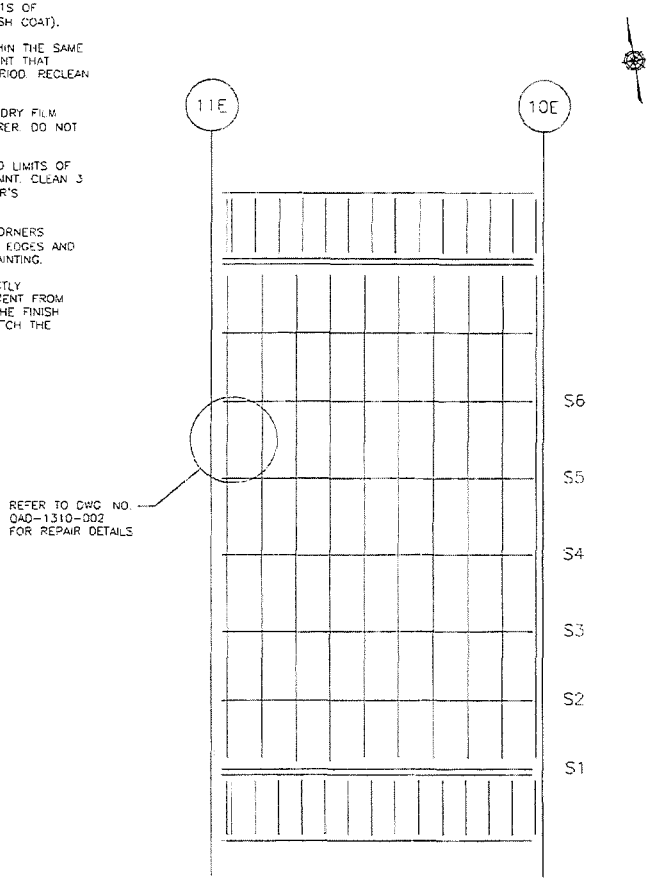
1. STEEL REPAIRS WILL REQUIRE FIELD DRILLING OF EXISTING STEEL.
2. FOLLOW ALL PROCEDURES FOR SLIP CRITICAL CONNECTIONS FOR ALL BOLTS, EVEN WHERE THE CONDITION OF THE EXISTING STEEL MAY PREVENT A FULL SLIP CRITICAL CONNECTION FROM BEING ACHIEVED. FINAL TORQUEING OF BOLTS SHALL BE DONE WITH NO LIVE LOAD IN THE TRAFFIC LANES ABOVE THE REPAIR.
3. BOLTS SHALL BE TIGHTENED TO A TORQUE OF 335 FT-LBS.

CLEANING AND PAINTING NOTES

1. ALL EXISTING METAL SURFACES WITHIN A PERIMETER 3 INCHES BEYOND THE LIMIT OF REPAIR STEEL AND WITHIN 3 INCHES RADIUS AROUND FASTENERS SHALL BE CLEANED TO A ONE TO TWO MIL PROFILE USING SSPC-SP11 (POWER TOOL CLEANING TO BARE METAL) USING TOOLS EQUIPPED WITH HEPA VACUUM ATTACHMENTS.
2. INSTALLED STEEL SHALL BE SHOP CLEANED TO SSPC-SP10.
3. AFTER TEMPORARY REPAIR IS COMPLETED ALL STEEL SHALL RECEIVE A 3 COAT PAINT SYSTEM PER PAINT DESIGNATION S-1S OF SPECIFICATION 09910 (PRIME, INTERMEDIATE AND FINISH COAT).
4. APPLY PRIME COAT TO FIELD PAINTED SURFACES WITHIN THE SAME WORK PERIOD AS SURFACE PREPARATION. IN THE EVENT THAT PRIMER IS NOT APPLIED DURING THE SAME WORK PERIOD, RECLEAN AS PER SSPC-SP11 PRIOR TO PRIMER APPLICATION.
5. APPLY PRIMER AND SUBSEQUENT PAINT COATS TO A DRY FILM THICKNESS (DFT) RECOMMENDED BY THE MANUFACTURER. DO NOT PAINT CONTACT SURFACES.
6. EXTEND PAINT SYSTEM APPLICATION 3 INCHES BEYOND LIMITS OF SURFACE CLEANED TO SSPC-SP11 ONTO EXISTING PAINT. CLEAN 3 INCHES OVERLAP IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS PRIOR TO PAINTING.
7. DO NOT STOP OR RESUME PAINTING AT EDGES OR CORNERS. ALWAYS EXTEND PAINT A MINIMUM OF 1 1/2" BEYOND EDGES AND CORNERS BEFORE STOPPING AND WHEN RESUMING PAINTING.
8. PRIMER AND INTERMEDIATE COLORS SHALL BE DISTINCTLY DIFFERENT FROM EACH OTHER AND DISTINCTLY DIFFERENT FROM THE EXISTING PEWTER CUP GRAY PAINT. COLOR OF THE FINISH COAT OF PAINT SHALL BE PEWTER CUP GRAY, TO MATCH THE EXISTING PEWTER CUP GRAY.
9. SHOP PAINTING OF STEEL IS NOT REQUIRED.



SOUTH ELEVATION
N.T.S.



LOCATION PLAN
N.T.S.

STATE OF NEW YORK
STELIOS NICK BERTOS
066628-1
LICENSED PROFESSIONAL ENGINEER

Sheet 1 of 2

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS BETWEEN S5 & S6 AT PP11E (1 OF 2)

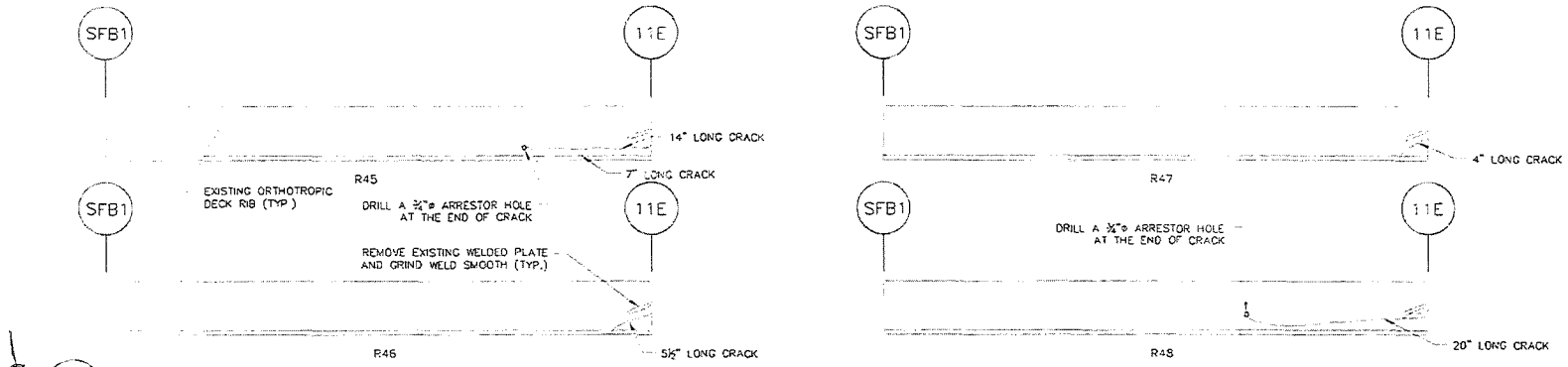
EH	RQ	GA
Designed by	Drawn by	Checked by

Date JULY 18, 2013

Contract Number 405-13-005

Drawing Number QAD-1310-001

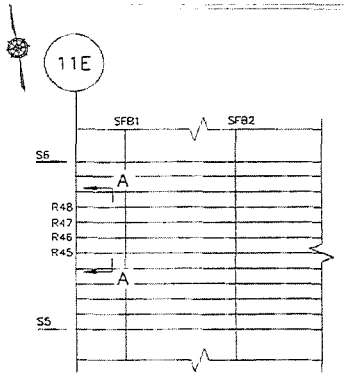
THE PORT AUTHORITY OF NY & NJ



EXISTING CONDITION

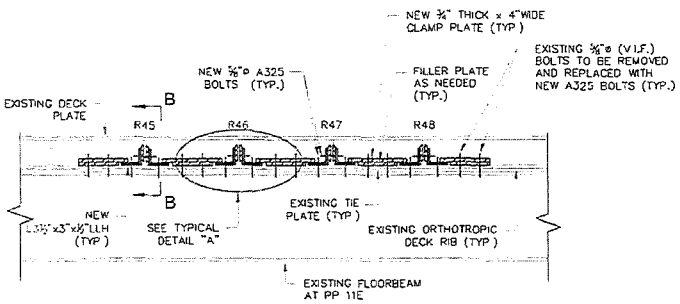
(NORTH ELEVATION OF R45 THRU R48 BETWEEN 11E & SFB1)

(NTS)



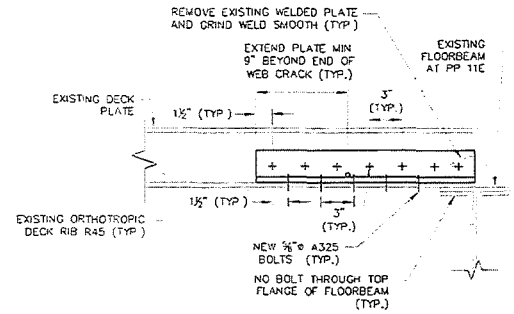
PROPOSED PLAN

(NTS)



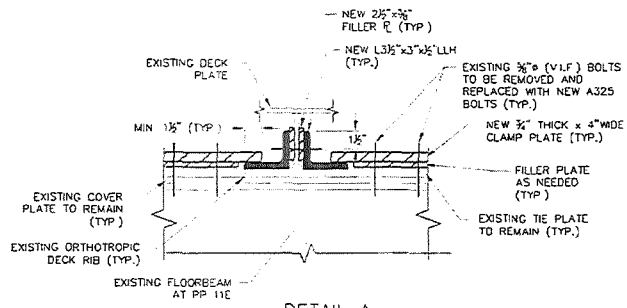
SECTION A--A

(NTS)



SECTION B–B

(NTS)



DETAIL A

(NTS)

DECK RIB	SPLICE ANGLE LENGTH (V.I.F.)
R45	2'-0"
R46	1'-3"
R47	1'-0"
R48	2'-6"

STATE OF NEW YORK
STELIOS NICK BERTOS
066025
LICENSED PROFESSIONAL ENGINEER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION FACILITY CONDITION SURVEYS

Title: 2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5622508

UPPER LEVEL DETERIORATED DECK RIBS BETWEEN S5 & S6 AT PP11E (2 OF 2)

Designed by	Drawn by	Checked by
CK	RG	CA

Date: JULY 18, 2013

Contract Number: 405-13-005

Drawing Number: QAD-1310-002

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

August 9, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels**
PA Agreement No. 405-13-005; P.O. 4900009127

Subject: **Immediate Action – Severely Deteriorated and Cracked Orthotropic Deck Ribs Between Stringers S1 & S2, S4 & S6, and S7 & S8 at Panel Point 14W**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, conditions were found on the orthotropic deck involving cracks and severe corrosion at the web of deck ribs below the deck joint requiring immediate action. The following summarizes the findings:

- At Panel Point 14W (East side), Ribs 1 thru 4, 33 thru 36, 39 thru 42, and 66 thru 70 exhibit severely corroded web bottom with up to 39" long cracks between the Main Floorbeam at Panel Point 14W and Secondary Floorbeam SFB1.
- Previously, a supplementary repair beam was installed under severely deteriorated and cracked deck Ribs 33 thru 35 approximately 12" from the main floorbeam at PP14W. However, web cracks at ribs 34 & 35 have propagated up to 12" beyond the edge of the supplementary repair beam and upward towards the deck plate. See attached location plan and photos.

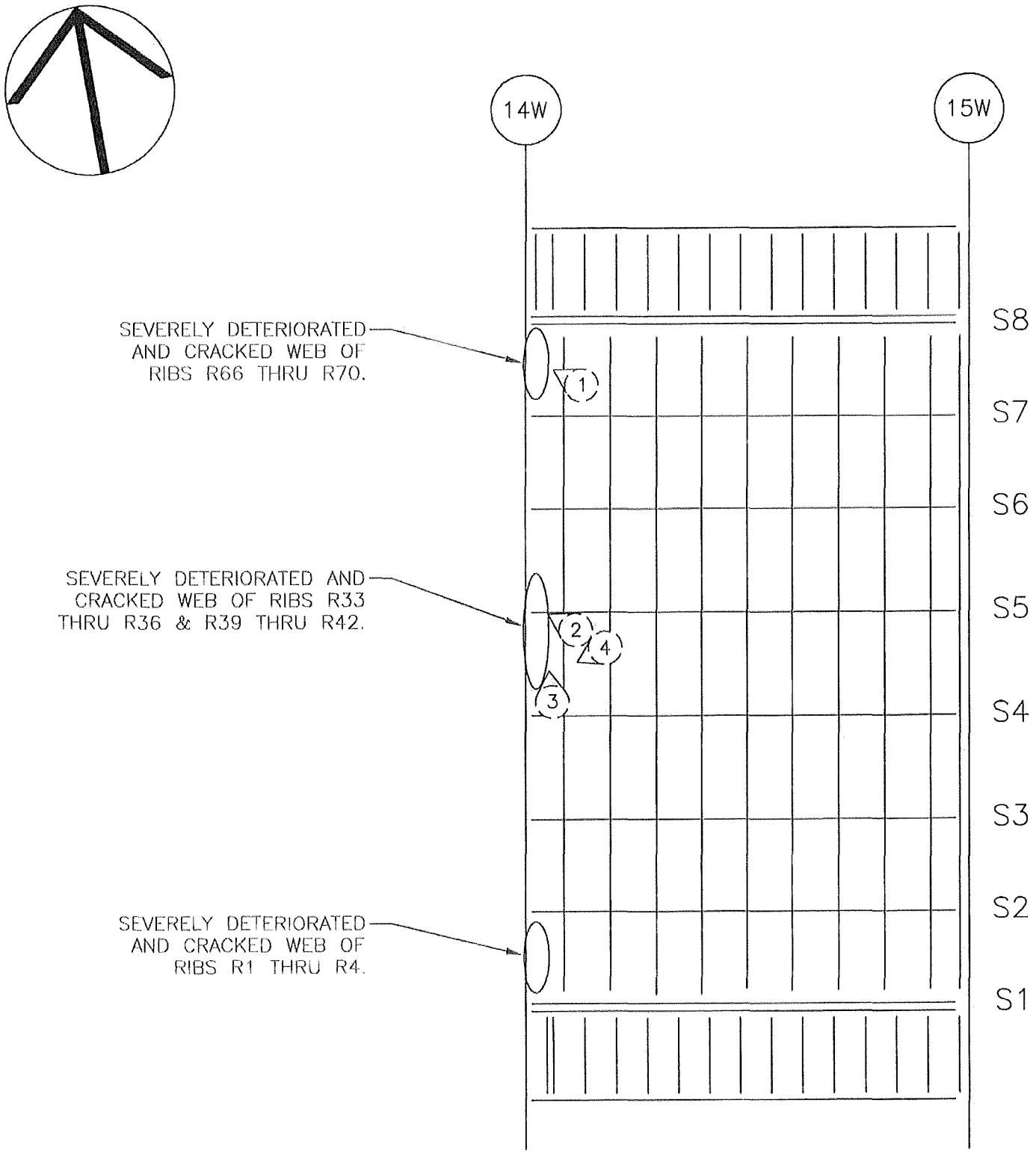
It is recommended to drill a ¾" hole at the end of each rib as illustrated on QAD-1312-002 and repair selected severely deteriorated and cracked ribs on an immediate basis (See attached QAD-1312-001 thru QAD-1312-003).

If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

For Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com



GEORGE WASHINGTON BRIDGE
UPPER LEVEL
UNDERSIDE OF DECK FRAMING

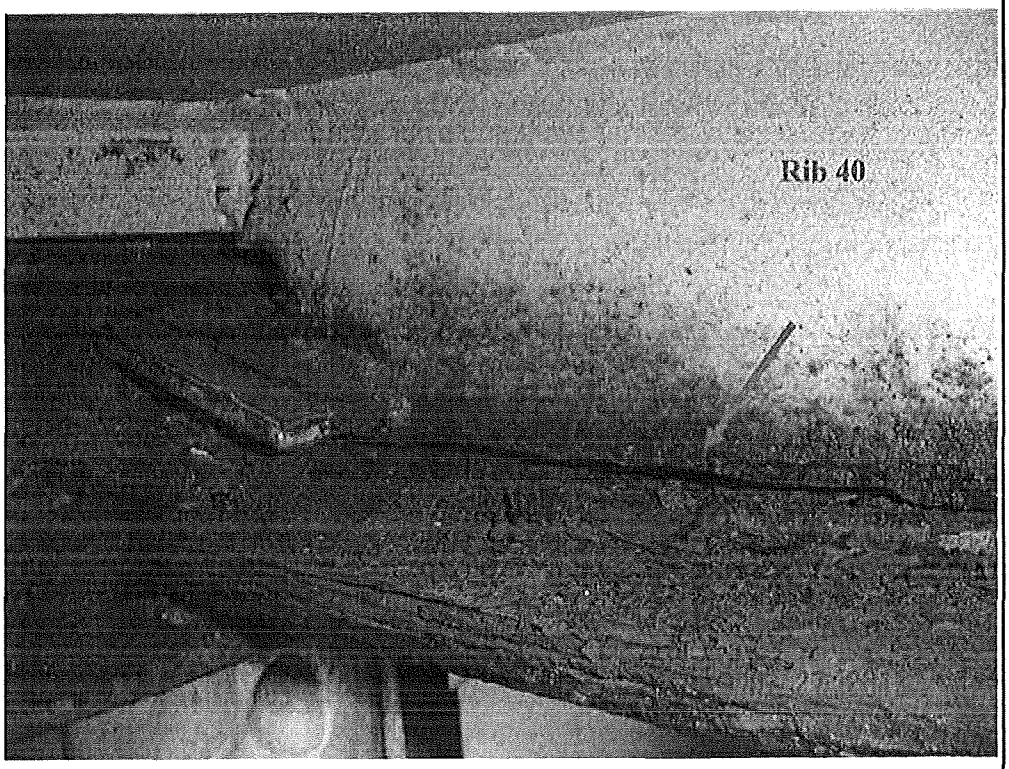
Photo No.: 1 **Location:** Between Stringers S7 & S8 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 14W. (Looking Northwest) **Description:** Severely deteriorated deck ribs 67 thru 70 with cracks and severe corrosion in the web.	
Photo No.: 2 **Location:** Deck rib 40, Between Stringers S5 & S6 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 14W. (Looking Northwest) **Description:** Severely deteriorated deck rib 40 with 19" long crack and severe corrosion at the bottom of the web.	

Photo No.: 3

Location:
Deck rib 33 thru 35, Between Stringers S4 & S5 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 14W. (Looking North)

Description:
Previously installed supplementary repair beam under severely deteriorated deck rib 33 thru 35. Deck ribs 34 & 35 exhibit cracks that propagate up to 12" beyond the supplementary repair beam.

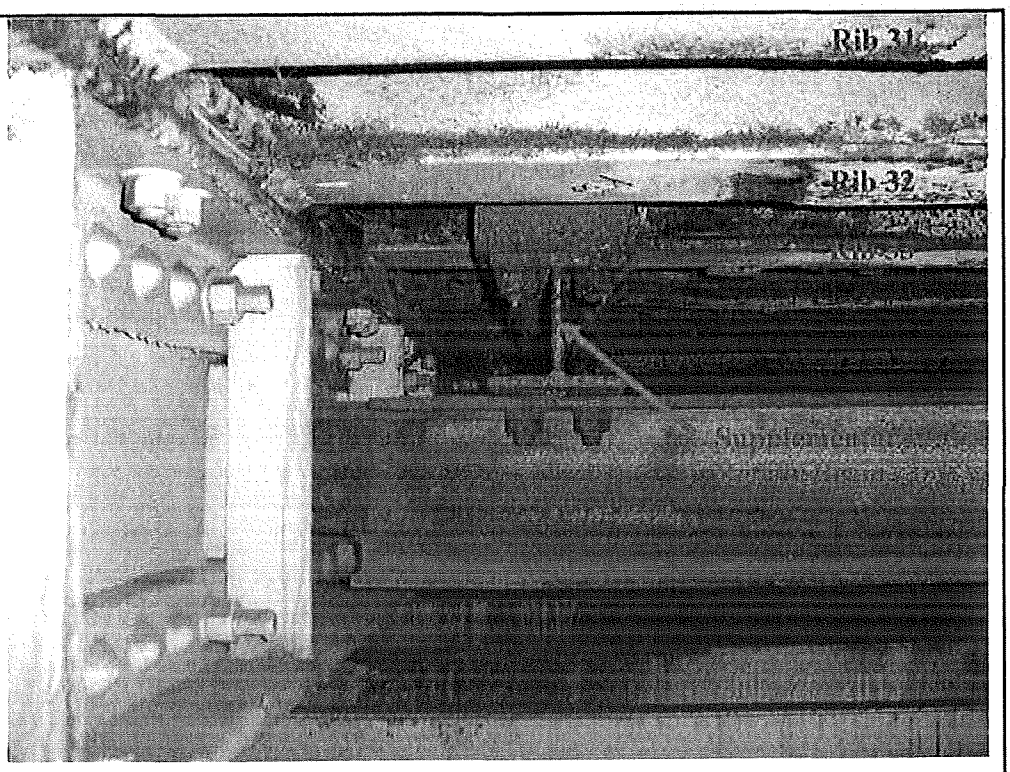
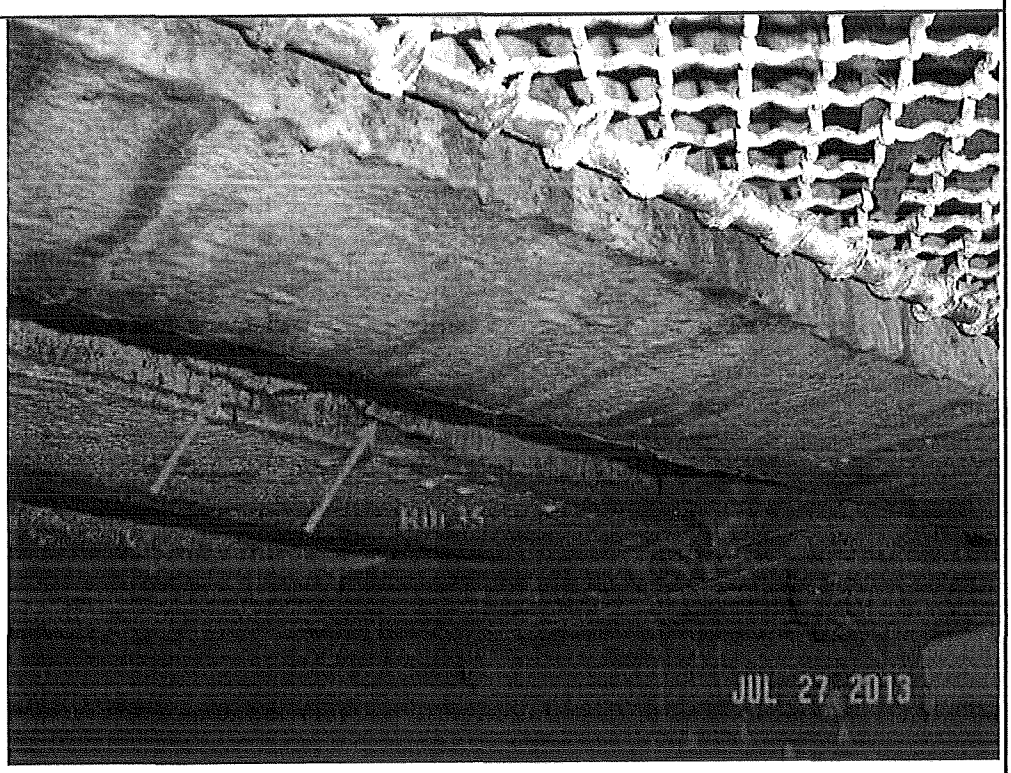


Photo No.: 4

Location:
Deck rib 35, Between Stringers S4 & S5 and Main Floorbeam & Secondary Floorbeam SFB1 at PP 14W. (Looking Southwest)

Description:
Severely deteriorated deck rib 35 with severe corrosion and a crack propagating 12" beyond the edge of the supplementary repair beam and turning up 3" towards the deck plate.



GENERAL NOTES

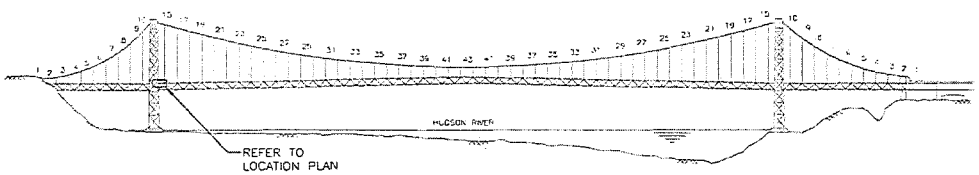
1. ALL STEEL WORK SHALL CONFORM TO REQUIREMENTS IN CURRENT EDITIONS OF THE FOLLOWING PUBLICATIONS.
   A. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ADAPTED BY THE AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS (AASHTO). INCLUDING INTERIM SPECIFICATION.
2. MATERIALS SHALL BE AS FOLLOW:
   A. ALL BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325) UNLESS NOTED OTHERWISE.
   B. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 (GRADE 50) UNLESS NOTED OTHERWISE
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL OBTAIN ALL REQUIRED MEASUREMENTS TO COMPLETE THE WORK PRIOR TO COMMENCING WORK. ANY VARIATIONS FROM THIS DRAWING SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW PRIOR TO THE COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR SHALL PROVIDE MEANS OF CATCHING DEBRIS THAT MAY FALL BENEATH THE WORK AREA. ALL DEBRIS SHALL BE REMOVED TO A LOCATION BEYOND THE FACILITY LIMITS APPROVED BY THE ENGINEER.
5. ANY DAMAGE TO THE EXISTING STRUCTURAL MEMBER TO REMAIN SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO COST TO THE PORT AUTHORITY.

STEEL REPAIRS

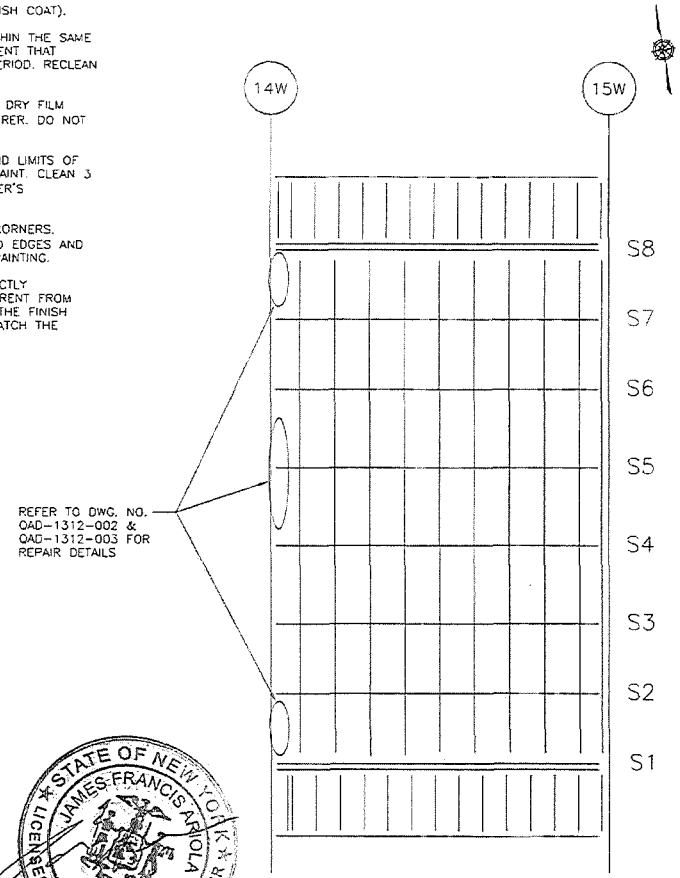
1. STEEL REPAIRS WILL REQUIRE FIELD DRILLING OF EXISTING STEEL.
2. FOLLOW ALL PROCEDURES FOR SLIP CRITICAL CONNECTIONS FOR ALL BOLTS, EVEN WHERE THE CONDITION OF THE EXISTING STEEL MAY PREVENT A FULL SLIP CRITICAL CONNECTION FROM BEING ACHIEVED. FINAL TORQUEING OF BOLTS SHALL BE DONE WITH NO LIVE LOAD IN THE TRAFFIC LANES ABOVE THE REPAIR.
3. BOLTS SHALL BE TIGHTENED TO A TORQUE OF 335 FT-LBS.

CLEANING AND PAINTING NOTES

1. ALL EXISTING METAL SURFACES WITHIN A PERIMETER 3 INCHES BEYOND THE LIMIT OF REPAIR STEEL AND WITHIN 3 INCHES RADIUS AROUND FASTENERS SHALL BE CLEANED TO A ONE TO TWO MIL PROFILE USING SSPC-SP11 (POWER TOOL CLEANING TO BARE METAL) USING TOOLS EQUIPPED WITH HEPA VACUUM ATTACHMENTS.
2. INSTALLED STEEL SHALL BE SHOP CLEANED TO SSPC-SP10.
3. AFTER TEMPORARY REPAIR IS COMPLETED ALL STEEL SHALL RECEIVE A 3 COAT PAINT SYSTEM PER PAINT DESIGNATION S-1S OF SPECIFICATION 09910 (PRIME, INTERMEDIATE AND FINISH COAT).
4. APPLY PRIME COAT TO FIELD PAINTED SURFACES WITHIN THE SAME WORK PERIOD AS SURFACE PREPARATION. IN THE EVENT THAT PRIMER IS NOT APPLIED DURING THE SAME WORK PERIOD, RECLEAN AS PER SSPC-SP11 PRIOR TO PRIMER APPLICATION.
5. APPLY PRIMER AND SUBSEQUENT PAINT COATS TO A DRY FILM THICKNESS (DFT) RECOMMENDED BY THE MANUFACTURER. DO NOT PAINT CONTACT SURFACES.
6. EXTEND PAINT SYSTEM APPLICATION 3 INCHES BEYOND LIMITS OF SURFACE CLEANED TO SSPC-SP11 ONTO EXISTING PAINT. CLEAN 3 INCHES OVERLAP IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS PRIOR TO PAINTING.
7. DO NOT STOP OR RESUME PAINTING AT EDGES OR CORNERS. ALWAYS EXTEND PAINT A MINIMUM OF 11/2" BEYOND EDGES AND CORNERS BEFORE STOPPING AND WHEN RESUMING PAINTING.
8. PRIMER AND INTERMEDIATE COLORS SHALL BE DISTINCTLY DIFFERENT FROM EACH OTHER AND DISTINCTLY DIFFERENT FROM THE EXISTING PEWTER CUP GRAY PAINT. COLOR OF THE FINISH COAT OF PAINT SHALL BE PEWTER CUP GRAY, TO MATCH THE EXISTING PEWTER CUP GRAY.
9. SHOP PAINTING OF STEEL IS NOT REQUIRED.



SOUTH ELEVATION
N.T.S.



LOCATION PLAN
N.T.S.

STATE OF NEW YORK
JAMES FRANCIS ARIOLA
064289
LICENSED PROFESSIONAL ENGINEER

Sheet 1 of 3

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP14W

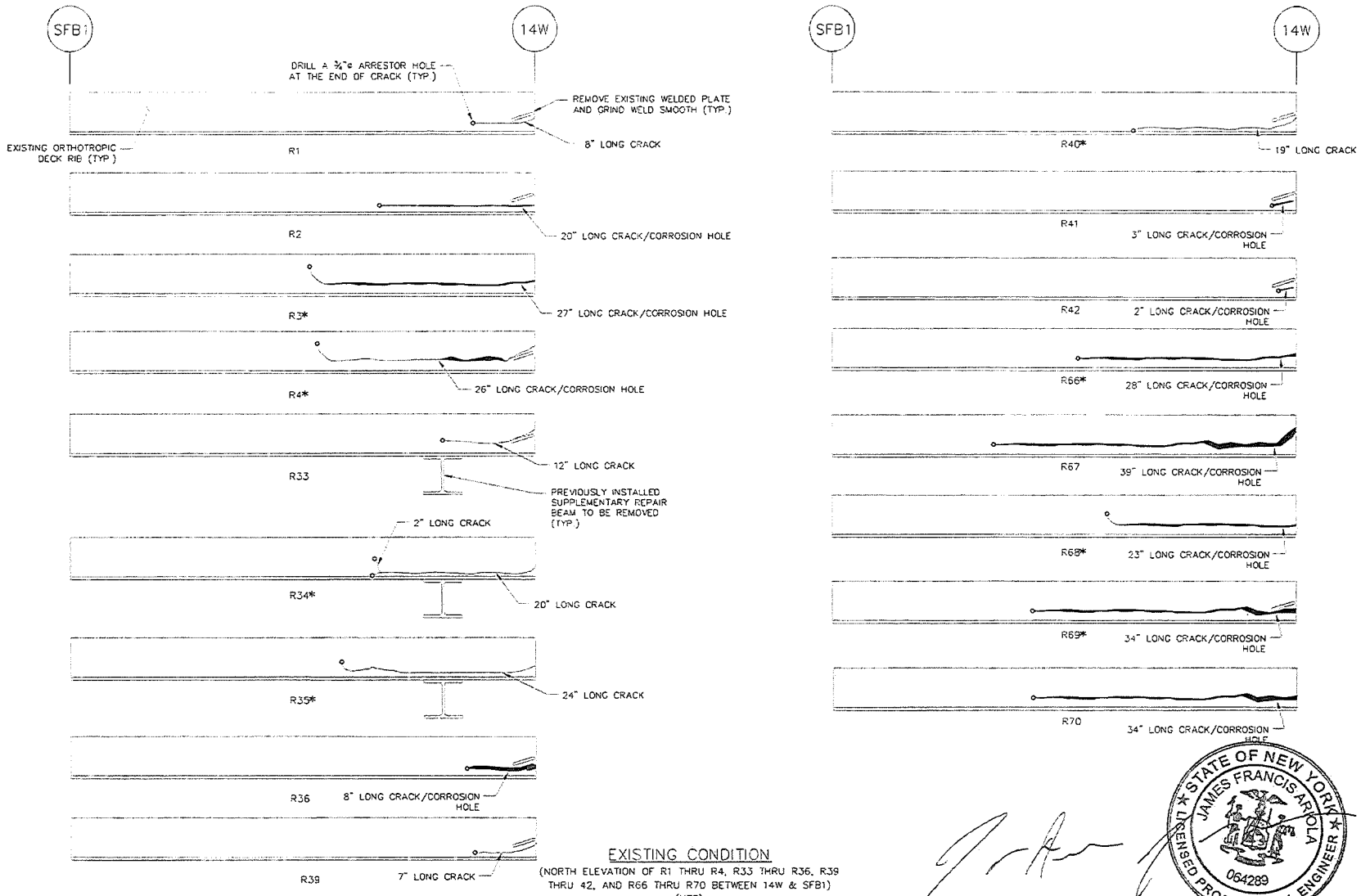
(1 OF 3)

DS	RG	CA
Designed by	Drawn by	Checked by

Date AUGUST 9, 2013

Contract Number 405-13-005

Drawing Number QAD-1312-001



EXISTING CONDITION

(NORTH ELEVATION OF R1 THRU R4, R33 THRU R36, R39 THRU 42, AND R66 THRU R70 BETWEEN 14W & SFB1)
(NTS)

* – INDICATES LOCATIONS SELECTED FOR REPAIR

STATE OF NEW YORK
JAMES FRANCIS ARIOLA
064289
LICENSED PROFESSIONAL ENGINEER

Sheet 2 of 3

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP14W

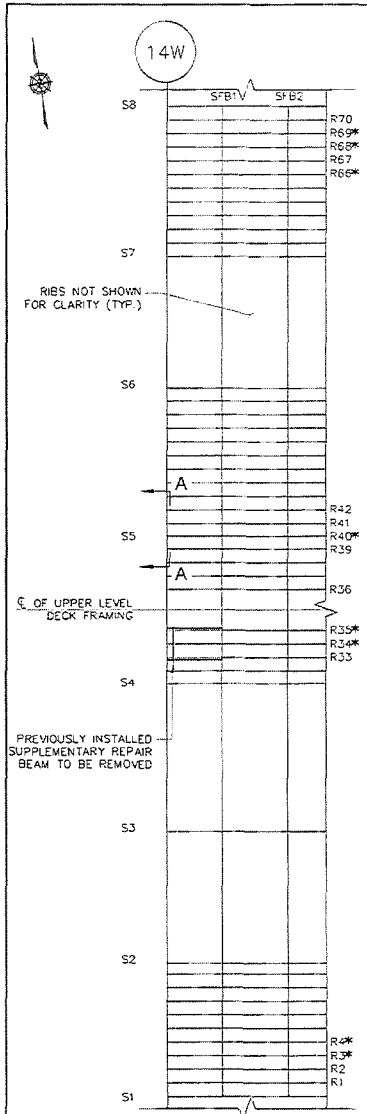
(2 OF 3)

DS	RO	GA
Designed by	Drawn by	Checked by

Date AUGUST 9, 2013

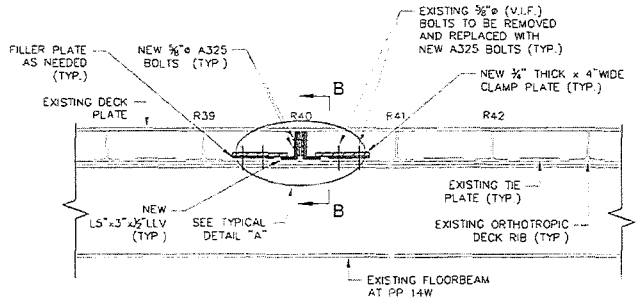
Contract Number 405-13-005

Drawing Number QAD-1312-002



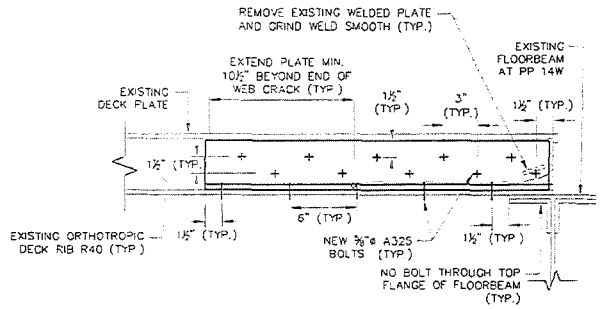
PROPOSED PLAN
(NTS)

* - INDICATES LOCATIONS SELECTED FOR REPAIR

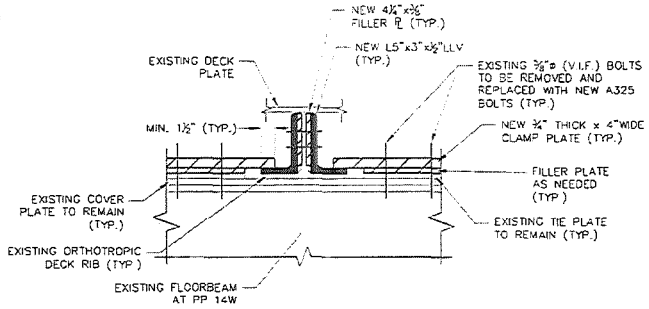


SECTION A–A
(TYPICAL FOR R3, R4, R34, R40, R66, R68 & R69)
(NTS)

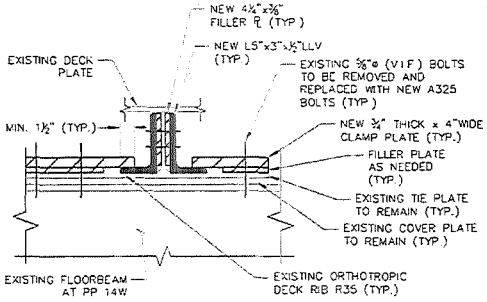
DECK RIB	SPLICE ANGLE LENGTH (V.I.F.)
R3	3'-1 1/2"
R4	3'-1 1/2"
R34	2'-7 1/2"
R35	2'-10 1/2"
R40	2'-7 1/2"
R66	3'-4 1/2"
R68	2'-10 1/2"
R69	3'-10 1/2"



SECTION B–B
(NTS)



DETAIL A
(NTS)



DETAIL AT R35
(NTS)

Sheet 3 of 3

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP14W

(3 OF 3)

DS	RO	GA
Designed by	Drawn by	Checked by

Date AUGUST 9, 2013

Contract Number 405-13-005

Drawing Number QAD-1312-003

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

August 9, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127**

Subject: **Immediate Action – Severely Deteriorated and Cracked Orthotropic Deck Ribs Between Stringers S4 & S5 and S7 & S8 at Panel Point 14E**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, conditions were found on the orthotropic deck involving cracks and severe corrosion at the web of deck ribs below the deck joint requiring immediate action. The following summarizes the findings:

- At Panel Point 14E (West side), Ribs 37 thru 40, 61, 63 thru 66, 69 and 70 exhibit severely corroded web bottom with up to 33" long cracks and corrosion holes between the Main Floorbeam at Panel Point 14E and Secondary Floorbeam SFB10.
- Additionally, Rib 40 exhibits a 3" long transverse crack in the bottom flange propagating from the 6" long crack in the web.

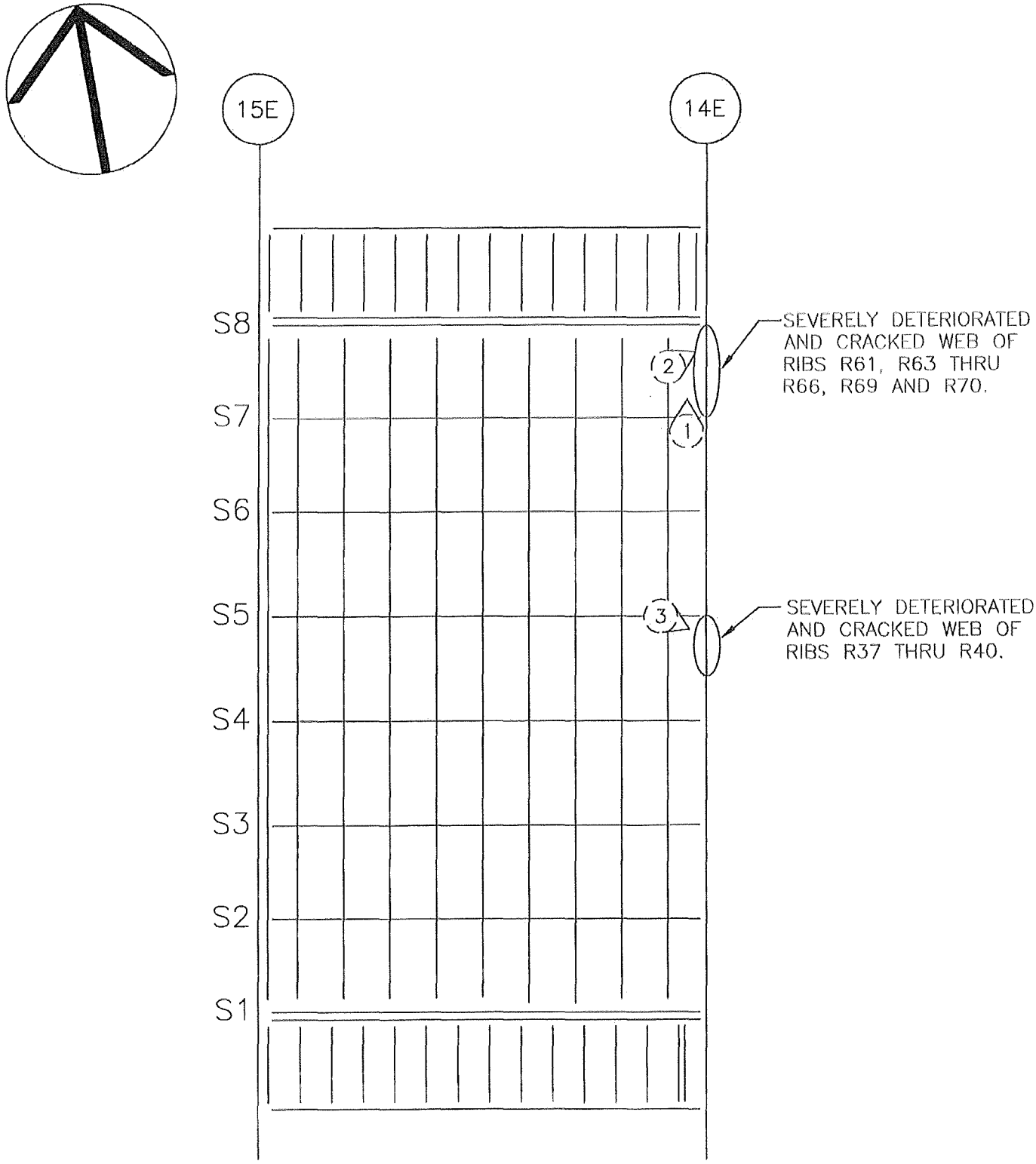
It is recommended to drill a ¾" hole at the end of each rib as illustrated on QAD-1313-002 and repair selected severely deteriorated and cracked ribs on an immediate basis (See attached QAD-1313-001 thru QAD-1313-003).

If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

For Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com



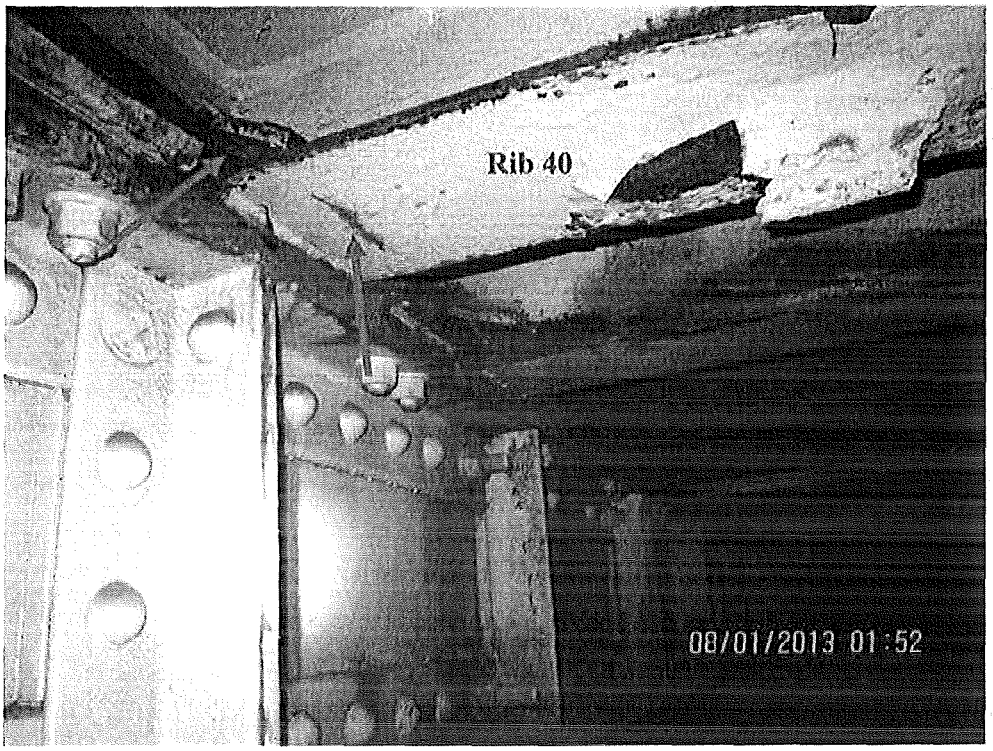
GEORGE WASHINGTON BRIDGE
UPPER LEVEL
UNDERSIDE OF DECK FRAMING

hoto No.: 1 **Location:** Between Stringers S7 & S8 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 14E. (Looking North) **Description:** Severely deteriorated deck ribs 66, 69 and 70 with cracks and corrosion holes in the web.	
Photo No.: 2 **Location:** Deck rib 69, between Stringers S7 & S8 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 14E. (Looking Northeast) **Description:** Severely deteriorated deck rib with 28" long crack and corrosion hole at the bottom of the web.	

Photo No.: 3

Location:
Deck rib 40, between Stringers S4 & S5 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 14E. (Looking Southeast)

Description:
Severely deteriorated deck rib with a 3" long transverse crack in the bottom flange propagating from a 6" long crack in the web.



GENERAL NOTES

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2. MATERIALS SHALL BE AS FOLLOW:

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   B. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 (GRADE 50) UNLESS NOTED OTHERWISE.

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STEEL REPAIRS

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3. BOLTS SHALL BE TIGHTENED TO A TORQUE OF 335 FT-LBS.

CLEANING AND PAINTING NOTES

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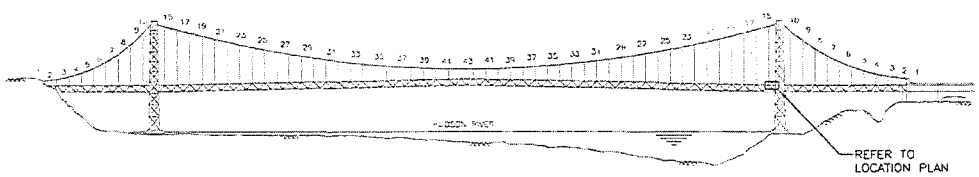
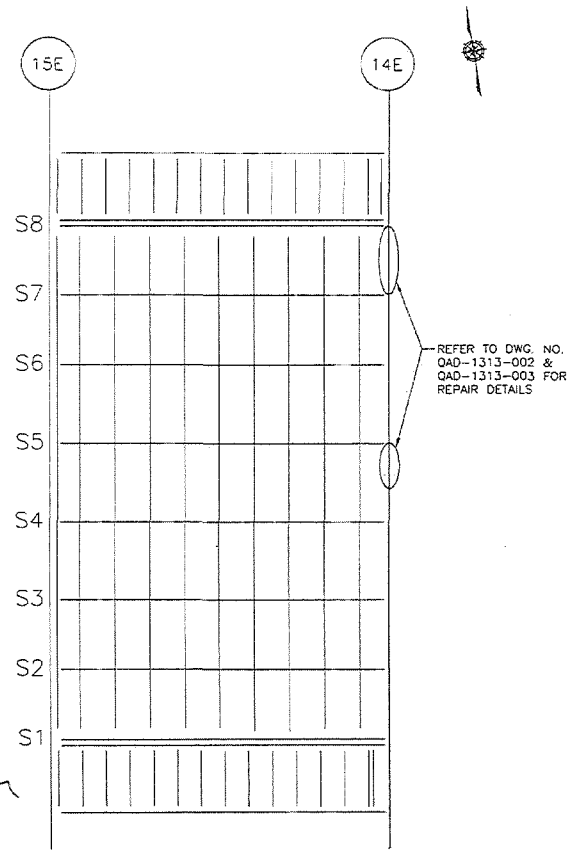
5. APPLY PRIMER AND SUBSEQUENT PAINT COATS TO A DRY FILM THICKNESS (DFT) RECOMMENDED BY THE MANUFACTURER. DO NOT PAINT CONTACT SURFACES.
6. EXTEND PAINT SYSTEM APPLICATION 3 INCHES BEYOND LIMITS OF SURFACE CLEANED TO SSPC-SP11 ONTO EXISTING PAINT. CLEAN 3 INCHES OVERLAP IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS PRIOR TO PAINTING.
7. DO NOT STOP OR RESUME PAINTING AT EDGES OR CORNERS. ALWAYS EXTEND PAINT A MINIMUM OF 11/2" BEYOND EDGES AND CORNERS BEFORE STOPPING AND WHEN RESUMING PAINTING.
8. PRIMER AND INTERMEDIATE COLORS SHALL BE DISTINCTLY DIFFERENT FROM EACH OTHER AND DISTINCTLY DIFFERENT FROM THE EXISTING PEWTER CUP GRAY PAINT. COLOR OF THE FINISH COAT OF PAINT SHALL BE PEWTER CUP GRAY, TO MATCH THE EXISTING PEWTER CUP GRAY.
9. SHOP PAINTING OF STEEL IS NOT REQUIRED.



SOUTH ELEVATION
N.T.S.



LOCATION PLAN
N.T.S.

STATE OF NEW YORK
JAMES FRANCIS ARIOLA
LICENSED PROFESSIONAL ENGINEER
064289

Sheet 1 of 3

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP14E

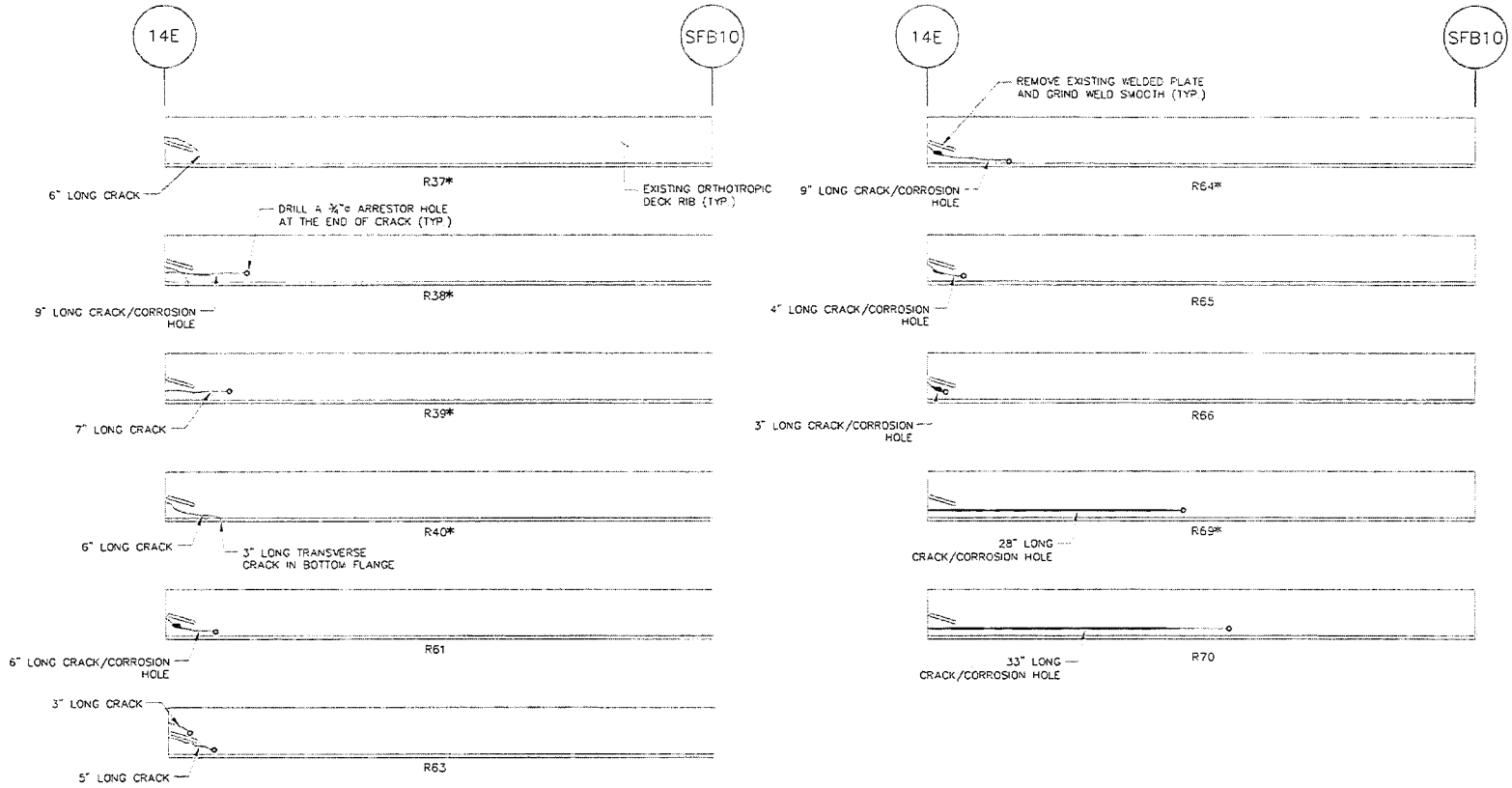
(1 OF 3)

EM	RO	GA
Designed by	Drawn by	Checked by

Date AUGUST 9, 2013

Contract Number 405-13-005

Drawing Number QAD-1313-001



EXISTING CONDITION

(NORTH ELEVATION OF R37 THRU R40, R61, R63 THRU R66, R69 & R70 BETWEEN 14E & SFB10)

(NTS)

* - INDICATES LOCATIONS SELECTED FOR REPAIR

STATE OF NEW YORK
JAMES FRANCIS ARIOLA
064289
LICENSED PROFESSIONAL ENGINEER

Sheet 2 of 3

THE PORT AUTHORITY
OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP14E

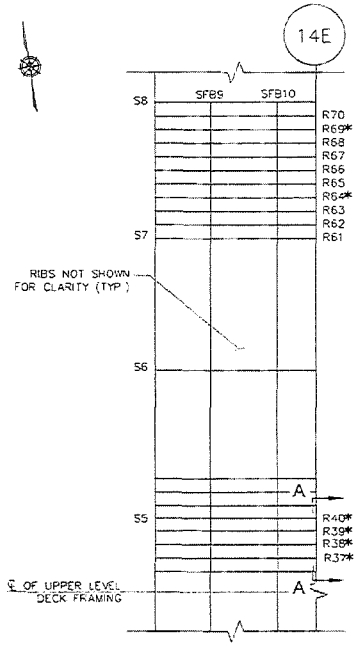
(2 OF 3)

EH	RD	CA
Designed by	Drawn by	Checked by

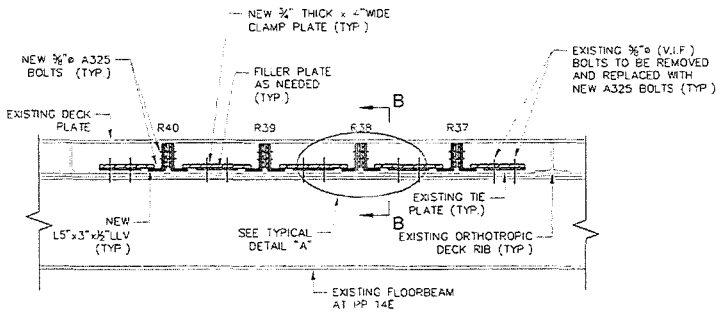
Date AUGUST 9, 2013

Contract Number 405-13-005

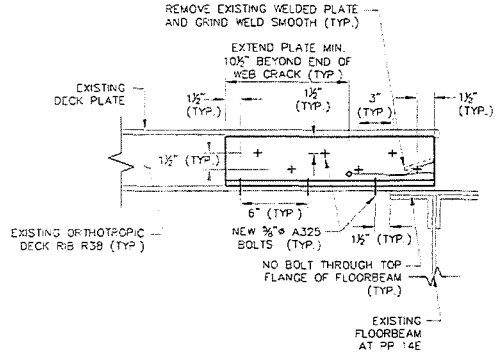
Drawing Number QAD-1313-002



PROPOSED PLAN
(NTS)

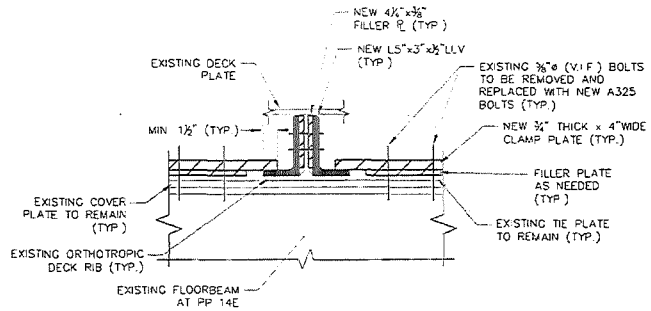


SECTION A-A
(TYPICAL FOR R64 & R69)
(NTS)



SECTION B-B
(NTS)

DECK RIB	SPLICE ANGLE LENGTH (V.I.F.)
R37	1'-7 1/2"
R38	1'-7 1/2"
R39	1'-7 1/2"
R40	1'-3 1/2"
R64	1'-7 1/2"
R69	3'-4 1/2"



DETAIL A
(NTS)

STATE OF NEW YORK
JAMES FRANCIS ARIOLA
064289
LICENSED PROFESSIONAL ENGINEER

*- INDICATES LOCATIONS SELECTED FOR REPAIR

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP14E

(3 OF 3)

EH	RG	GA
Designed by	Drawn by	Checked by

Date AUGUST 9, 2013

Contract Number 405-13-005

Drawing Number QAD-1313-003

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

August 21, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127**

Subject: **Immediate Action – Severely Deteriorated and Cracked Orthotropic Deck Ribs Between Stringers S5 and S6 at Panel Point 11E**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, conditions were found on the orthotropic deck involving cracks and severe corrosion at the web of deck ribs below the deck joint requiring immediate action. The following summarizes the findings:

- At Panel Point 11E (West side), Ribs 47 thru 49 exhibit severely corroded web bottom with up to 6" long cracks between the Secondary Floorbeam SFB9 and Secondary Floorbeam SFB10 at Panel Point 11E.
- Additionally, Ribs 47 and 48 exhibit up to 3" long transverse cracks in the bottom flange propagating from the web cracks.

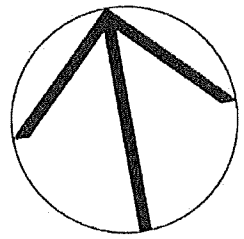
It is recommended to drill a ¾" hole at the end of each web crack as illustrated on QAD-1314-002 and repair selected severely deteriorated and cracked ribs on an immediate basis (See attached QAD-1314-001 thru QAD-1314-002).

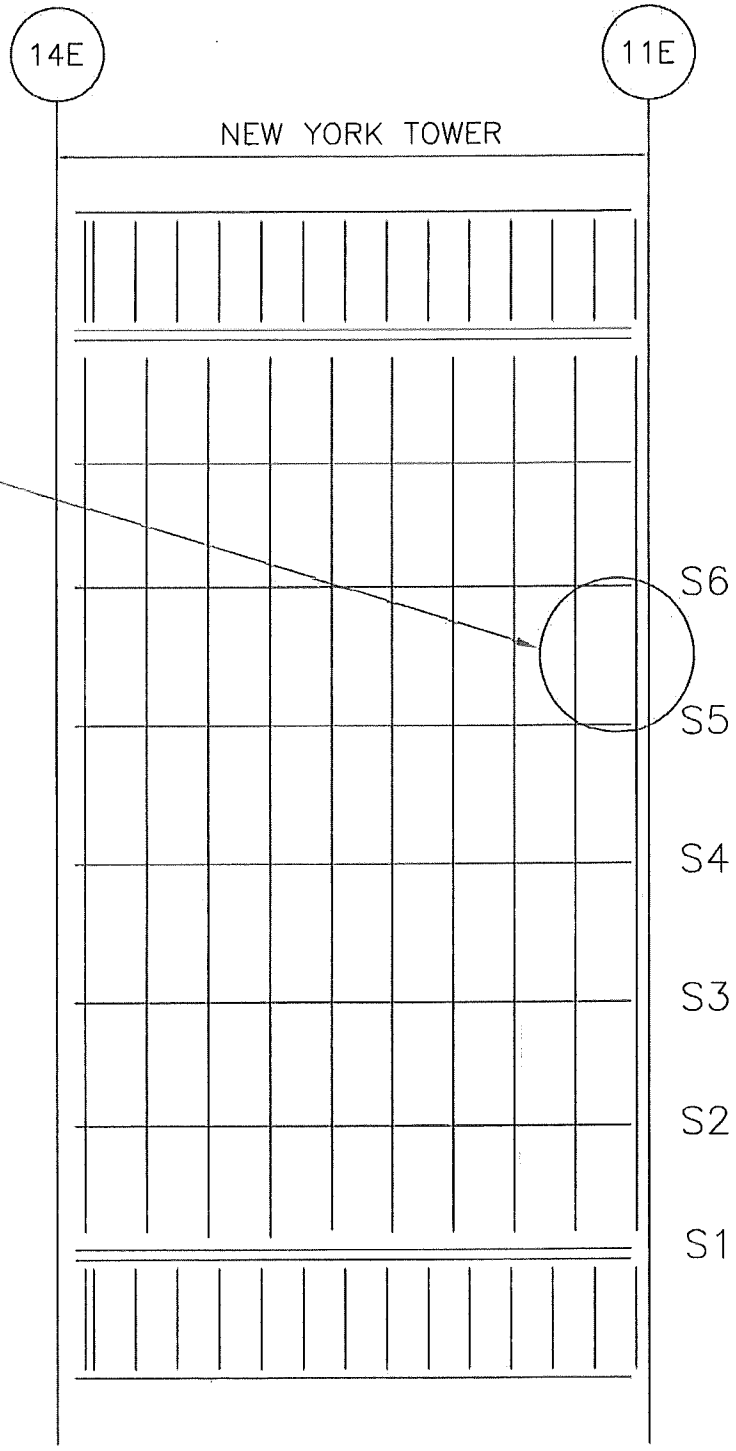
If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

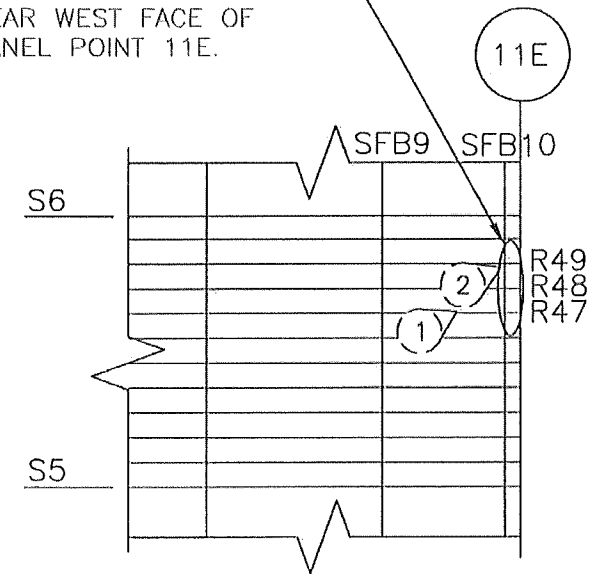
Stelios N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stelios.Bertos@stantec.com





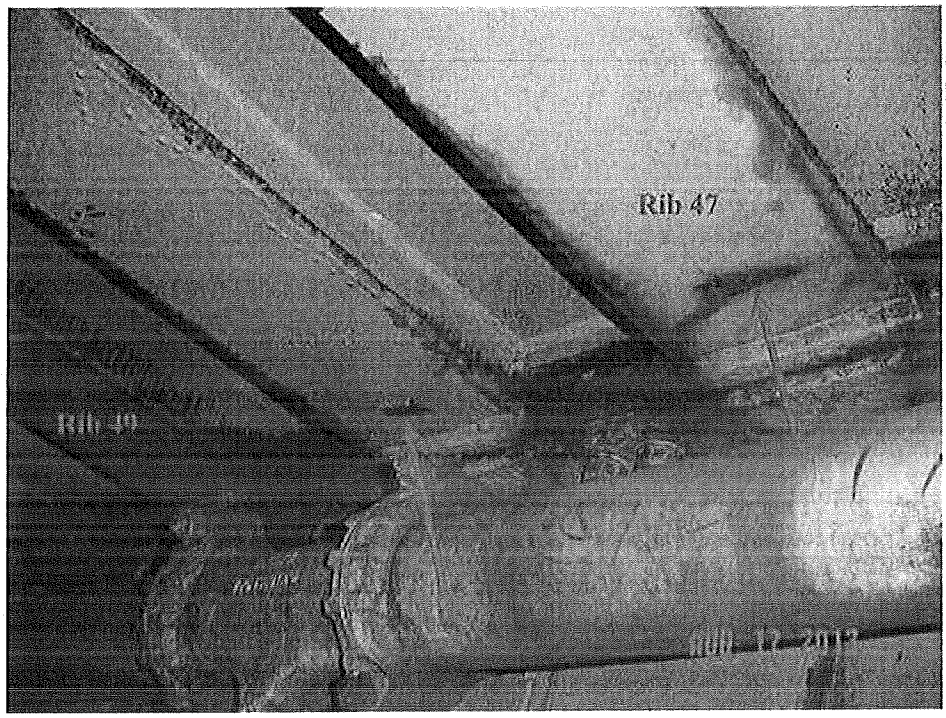
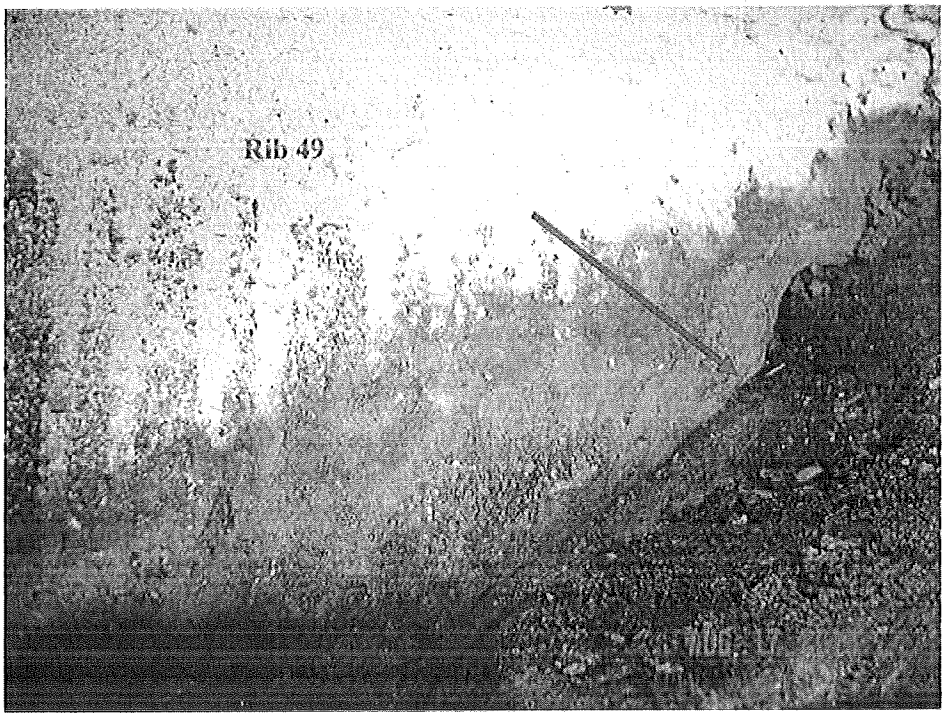
FOR LOCATION OF IMMEDIATE ACTION SEE DETAIL "A"

DETERIORATED AND CRACKED WEB OF RIBS R47 THRU R49 AND CRACKED BOTTOM FLANGE OF RIBS R47 AND R48 NEAR WEST FACE OF PANEL POINT 11E.



DETAIL "A"

GEORGE WASHINGTON BRIDGE
UPPER LEVEL
UNDERSIDE OF DECK FRAMING

Photo No.: 1 **Location:** Between Stringers S5 & S6 and Secondary Floorbeam SFB9 & Secondary Floorbeam SFB10 at PP 11E. (Looking Northeast) **Description:** Severely deteriorated deck ribs 47 thru 49 with cracks and severe corrosion in the web. Deck ribs 47 and 48 exhibit cracks in the bottom flange propagating from the web cracks.	
Photo No.: 2 **Location:** Deck rib 49, Between Stringers S5 & S6 and Secondary Floorbeam SFB9 & Secondary Floorbeam SFB10 at PP 11E. (Looking Northeast) **Description:** Severely deteriorated deck rib with 4" long crack and severe corrosion at the bottom of the web.	

GENERAL NOTES

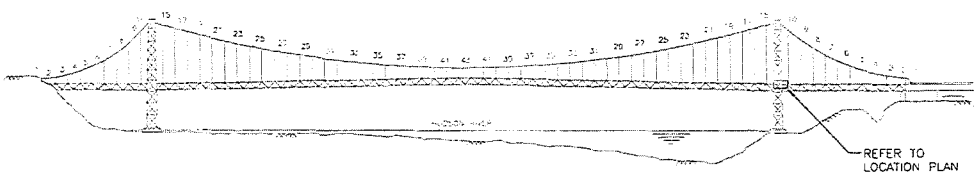
1. ALL STEEL WORK SHALL CONFORM TO REQUIREMENTS IN CURRENT EDITIONS OF THE FOLLOWING PUBLICATIONS.
   A. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ADAPTED BY THE AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS (AASHTO). INCLUDING INTERIM SPECIFICATION
2. MATERIALS SHALL BE AS FOLLOW:
   A. ALL BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325) UNLESS NOTED OTHERWISE.
   B. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 (GRADE 50) UNLESS NOTED OTHERWISE.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL OBTAIN ALL REQUIRED MEASUREMENTS TO COMPLETE THE WORK PRIOR TO COMMENCING WORK. ANY VARIATIONS FROM THIS DRAWING SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW PRIOR TO THE COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR SHALL PROVIDE MEANS OF CATCHING DEBRIS THAT MAY FALL BENEATH THE WORK AREA. ALL DEBRIS SHALL BE REMOVED TO A LOCATION BEYOND THE FACILITY LIMITS APPROVED BY THE ENGINEER
5. ANY DAMAGE TO THE EXISTING STRUCTURAL MEMBER TO REMAIN SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO COST TO THE PORT AUTHORITY.

STEEL REPAIRS

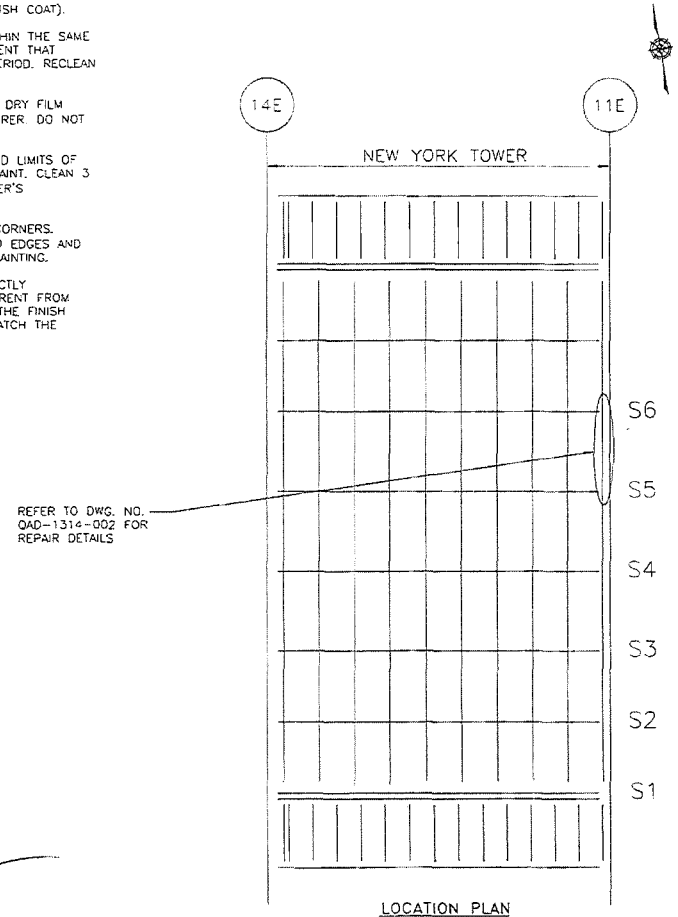
1. STEEL REPAIRS WILL REQUIRE FIELD DRILLING OF EXISTING STEEL.
2. FOLLOW ALL PROCEDURES FOR SLIP CRITICAL CONNECTIONS FOR ALL BOLTS. EVEN WHERE THE CONDITION OF THE EXISTING STEEL MAY PREVENT A FULL SLIP CRITICAL CONNECTION FROM BEING ACHIEVED. FINAL TORQUEING OF BOLTS SHALL BE DONE WITH NO LIVE LOAD IN THE TRAFFIC LANES ABOVE THE REPAIR
3. BOLTS SHALL BE TIGHTENED TO A TORQUE OF 335 FT-LBS.

CLEANING AND PAINTING NOTES

1. ALL EXISTING METAL SURFACES WITHIN A PERIMETER 3 INCHES BEYOND THE LIMIT OF REPAIR STEEL AND WITHIN 3 INCHES RADIUS AROUND FASTENERS SHALL BE CLEANED TO A ONE TO TWO MIL PROFILE USING SSPC-SP11 (POWER TOOL CLEANING TO BARE METAL) USING TOOLS EQUIPPED WITH HEPA VACUUM ATTACHMENTS
2. INSTALLED STEEL SHALL BE SHOP CLEANED TO SSPC-SP10.
3. AFTER TEMPORARY REPAIR IS COMPLETED ALL STEEL SHALL RECEIVE A 3 COAT PAINT SYSTEM PER PAINT DESIGNATION S-1S OF SPECIFICATION 09910 (PRIME, INTERMEDIATE AND FINISH COAT).
4. APPLY PRIME COAT TO FIELD PAINTED SURFACES WITHIN THE SAME WORK PERIOD AS SURFACE PREPARATION, IN THE EVENT THAT PRIMER IS NOT APPLIED DURING THE SAME WORK PERIOD. RECLEAN AS PER SSPC-SP11 PRIOR TO PRIMER APPLICATION.
5. APPLY PRIMER AND SUBSEQUENT PAINT COATS TO A DRY FILM THICKNESS (DFT) RECOMMENDED BY THE MANUFACTURER. DO NOT PAINT CONTACT SURFACES.
6. EXTEND PAINT SYSTEM APPLICATION 3 INCHES BEYOND LIMITS OF SURFACE CLEANED TO SSPC-SP11 ONTO EXISTING PAINT. CLEAN 3 INCHES OVERLAP IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS PRIOR TO PAINTING.
7. DO NOT STOP OR RESUME PAINTING AT EDGES OR CORNERS. ALWAYS EXTEND PAINT A MINIMUM OF 11/2" BEYOND EDGES AND CORNERS BEFORE STOPPING AND WHEN RESUMING PAINTING.
8. PRIMER AND INTERMEDIATE COLORS SHALL BE DISTINCTLY DIFFERENT FROM EACH OTHER AND DISTINCTLY DIFFERENT FROM THE EXISTING PEWTER CUP GRAY PAINT. COLOR OF THE FINISH COAT OF PAINT SHALL BE PEWTER CUP GRAY, TO MATCH THE EXISTING PEWTER CUP GRAY.
9. SHOP PAINTING OF STEEL IS NOT REQUIRED



SOUTH ELEVATION
N.T.S.



LOCATION PLAN
N.T.S.

STATE OF NEW YORK
STELIOS NICK BERTOS
066528-1
LICENSED PROFESSIONAL ENGINEER

Sheet 1 of 2

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP11E

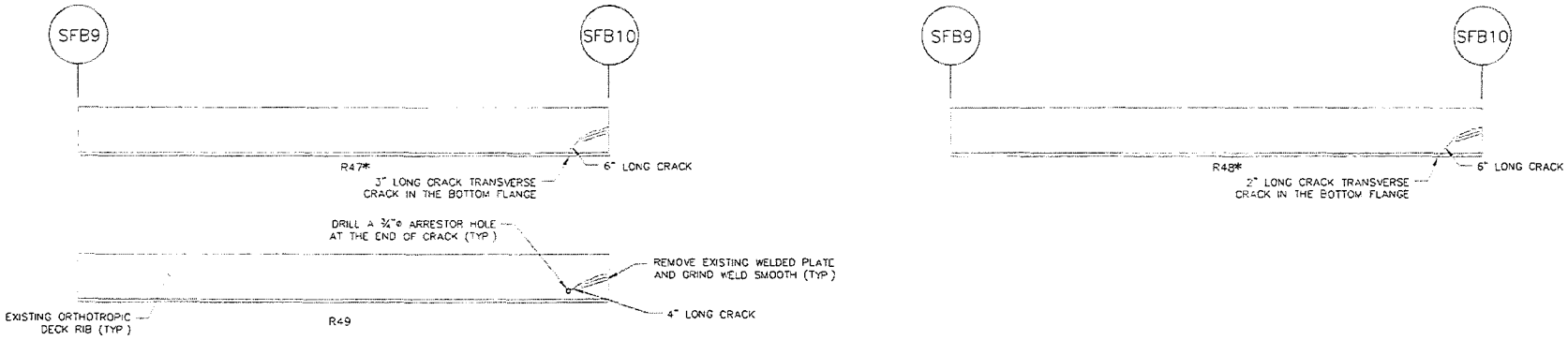
(1 OF 2)

DS	RQ	GA
Designed by	Drawn by	Checked by

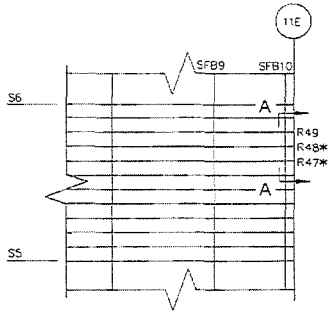
Date AUGUST 21, 2013

Contract Number 405-13-005

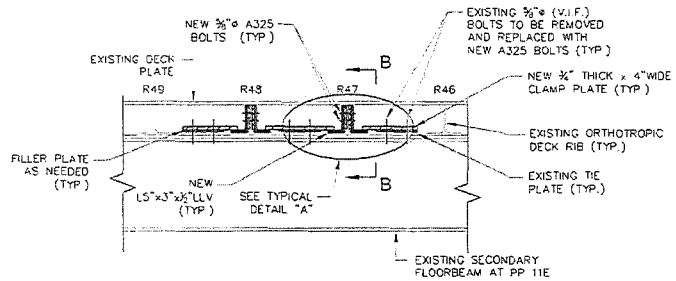
Drawing Number QAD-1314-001



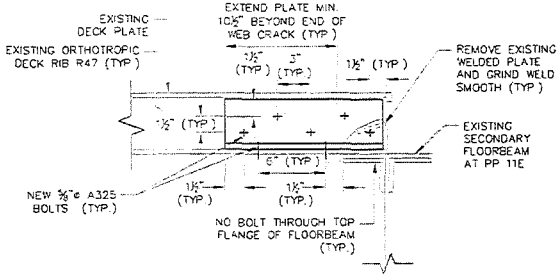
EXISTING CONDITION
(SOUTH ELEVATION OF R47 THRU R49 BETWEEN SFB9 AND SFB10 AT 11E)
(NTS)



PROPOSED PLAN
(NTS)

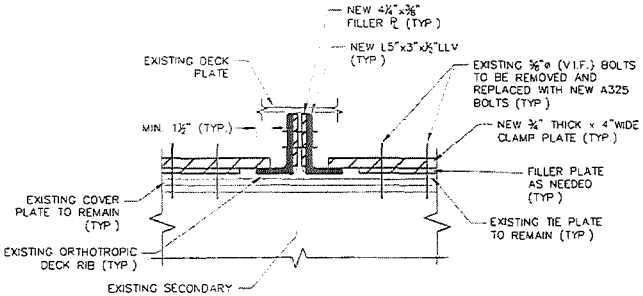


SECTION A–A
(NTS)



SECTION B–B
(NTS)

DECK RIB	SPLICE ANGLE LENGTH (V.I.F.)
R47	1'-4 1/2"
R48	1'-4 1/2"



DETAIL A
(NTS)

STATE OF NEW YORK
STELIOS NICK BERTOS
066628-1
LICENSED PROFESSIONAL ENGINEER

* – INDICATES LOCATIONS SELECTED FOR REPAIR

Sheet 2 of 2

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP11E

(2 OF 2)

DS	RQ	GA
Designed by	Drawn by	Checked by

Date AUGUST 21, 2013

Contract Number 405-13-005

Drawing Number QAD-1314-002

PANY&NJ - QAD - 2013

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

September 5, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127**

Subject: **Immediate Action – Severely Deteriorated and Cracked Orthotropic Deck Ribs Between Stringers S1 & S8 at Panel Point 11W**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, conditions were found on the orthotropic deck involving cracks and severe corrosion at the web of deck ribs below the deck joint requiring immediate action. The following summarizes the findings:

- At Panel Point 11W (West side), Ribs 1 thru 5, 15 thru 17, 19 thru 22, 28 thru 31, 35 thru 43, 57, 58 and 70 exhibit severely corroded web bottom with up to 51" long cracks and corrosion holes between the Main Floorbeam at Panel Point 11W and Secondary Floorbeam SFB10.
- Additionally, Rib 44 exhibits a 6" long crack at the top of the web which branches out to a 2" long transverse crack in the deck plate.

It is recommended to drill a ¾" hole at the end of each crack as illustrated on QAD-1315-02 and repair selected severely deteriorated and cracked ribs on an immediate basis (See attached QAD-1315-01 thru QAD-1315-03).

If you have any questions or need additional information, please contact us.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Stelios N. Bertos, P.E.
Sr. Principal
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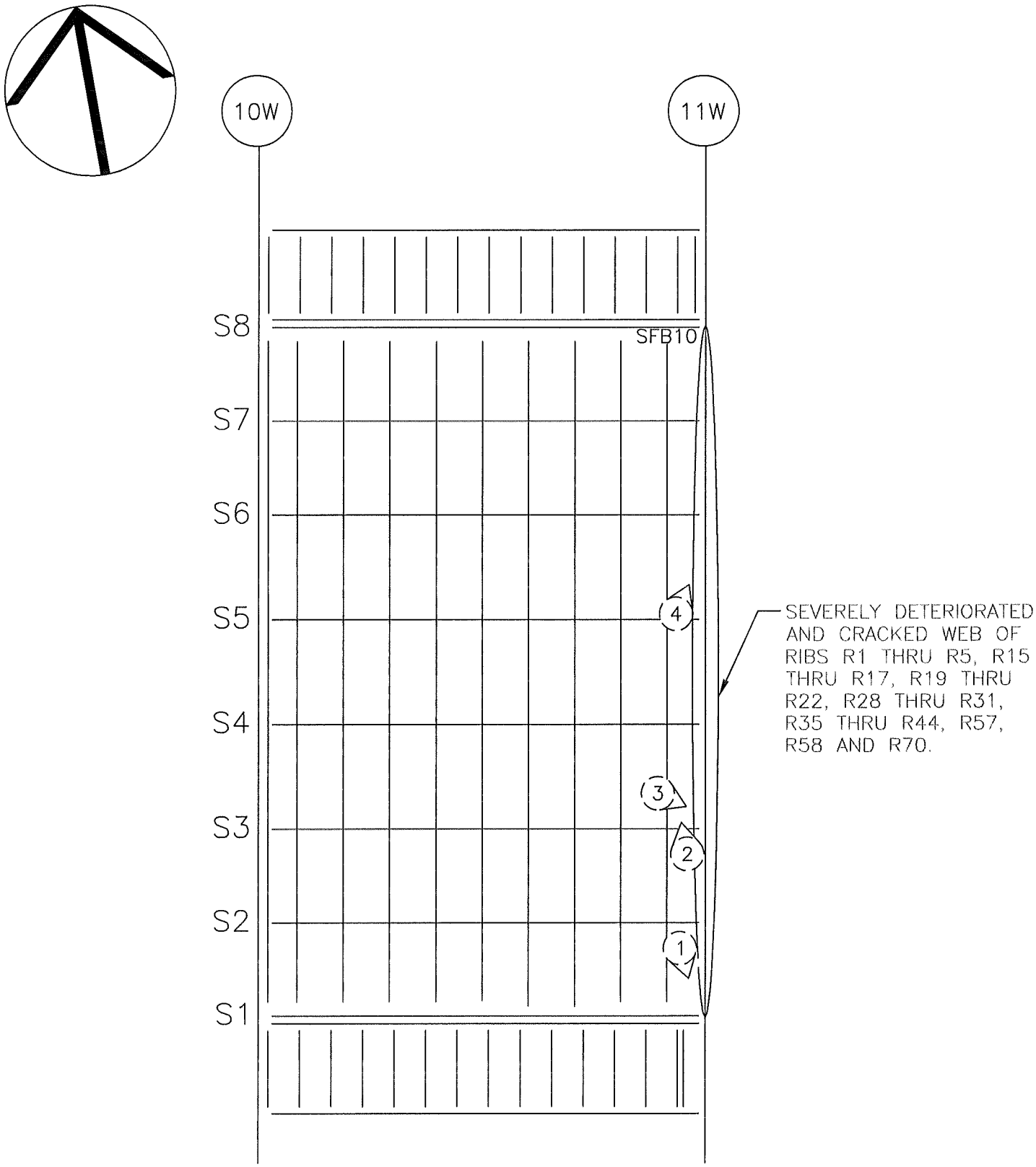

GEORGE WASHINGTON BRIDGE
UPPER LEVEL
UNDERSIDE OF DECK FRAMING

Photo No.: 1

Location:
Deck rib 5, between Stringers S1 & S2 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 11W. (Looking South)

Description:
Severely deteriorated deck rib 5 with cracks and corrosion holes in the web up to 8" long at the web bottom.

Photo No.: 2

Location:
Deck rib 20, between Stringers S3 & S4 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 11W. (Looking Northwest)

Description:
Severely deteriorated deck rib 20 with cracks and corrosion holes in the web up to 10" long with an 8" long crack approaching the deck plate.

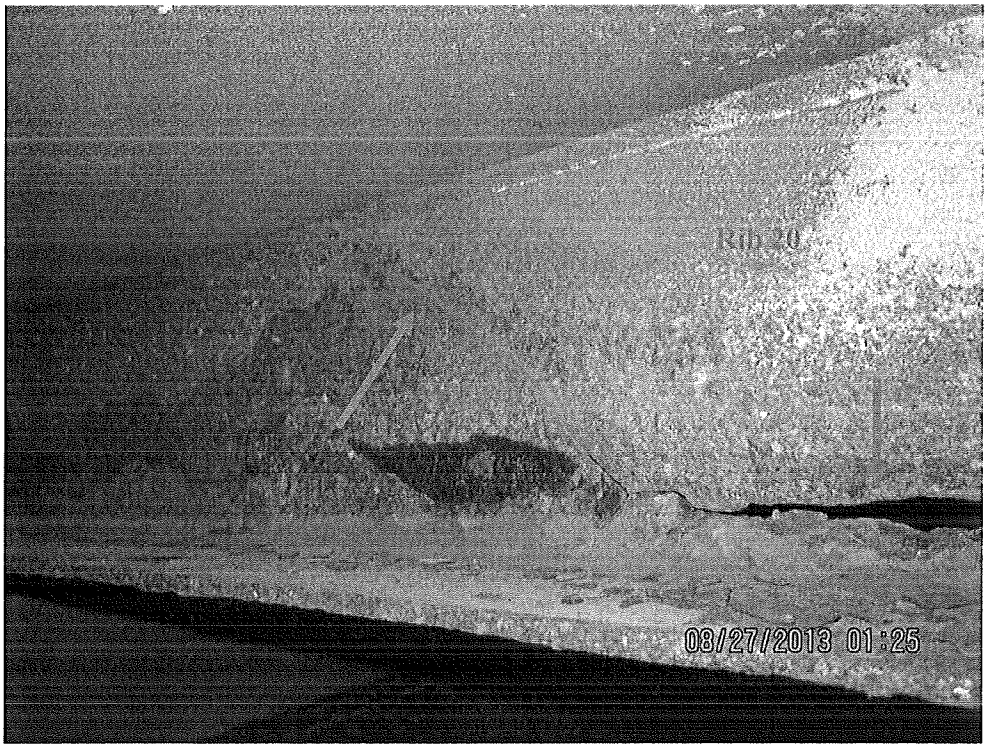

Photo No.: 3

Location:
Deck rib 22, between Stringers S3 & S4 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 11W. (Looking Southwest)

Description:
Severely deteriorated deck rib 22 with cracks and corrosion holes in the web up to 7" long at the web bottom.

Photo No.: 4

Location:
Deck rib 44, between Stringers S5 & S6 and Main Floorbeam & Secondary Floorbeam SFB10 at PP 11W. (Looking Northeast)

Description:
Severely deteriorated deck rib 44 with cracks and corrosion holes in the web up to 6" long with a 2" long crack propagating into the deck plate.

GENERAL NOTES

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2. MATERIALS SHALL BE AS FOLLOW:
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3. BOLTS SHALL BE TIGHTENED TO A TORQUE OF 335 FT-LBS.

CLEANING AND PAINTING NOTES

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2. INSTALLED STEEL SHALL BE SHOP CLEANED TO SSPC-SP10.
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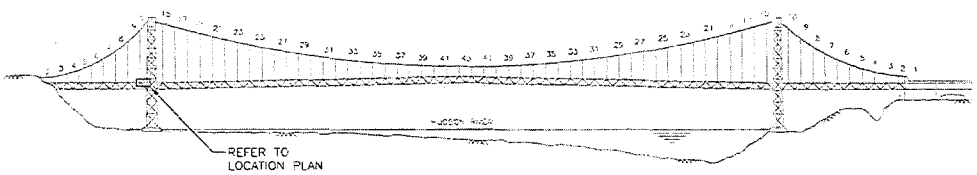
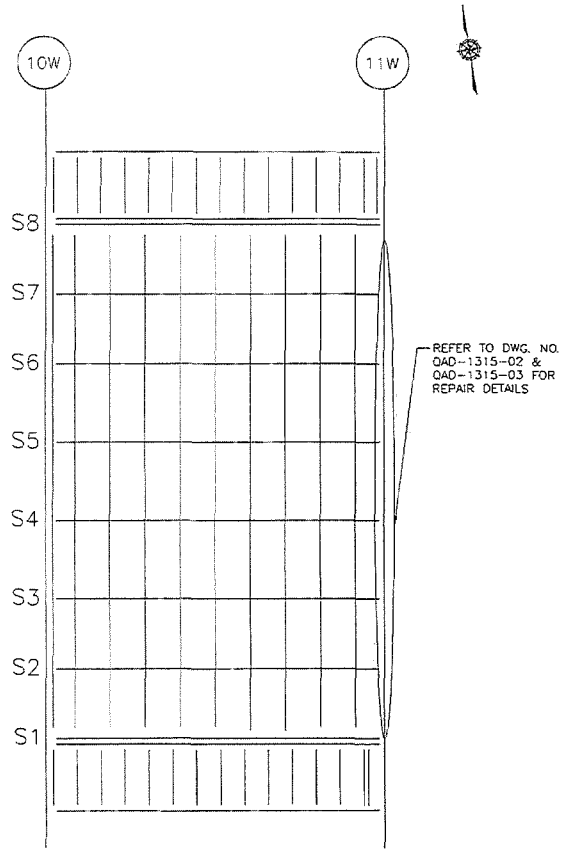
5. APPLY PRIMER AND SUBSEQUENT PAINT COATS TO A DRY FILM THICKNESS (DFT) RECOMMENDED BY THE MANUFACTURER. DO NOT PAINT CONTACT SURFACES.
6. EXTEND PAINT SYSTEM APPLICATION 3 INCHES BEYOND LIMITS OF SURFACE CLEANED TO SSPC-SP11 ONTO EXISTING PAINT. CLEAN 3 INCHES OVERLAP IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS PRIOR TO PAINTING.
7. DO NOT STOP OR RESUME PAINTING AT EDGES OR CORNERS. ALWAYS EXTEND PAINT A MINIMUM OF 11/2" BEYOND EDGES AND CORNERS BEFORE STOPPING AND WHEN RESUMING PAINTING.
8. PRIMER AND INTERMEDIATE COLORS SHALL BE DISTINCTLY DIFFERENT FROM EACH OTHER AND DISTINCTLY DIFFERENT FROM THE EXISTING PEWTER CUP GRAY PAINT. COLOR OF THE FINISH COAT OF PAINT SHALL BE PEWTER CUP GRAY, TO MATCH THE EXISTING PEWTER CUP GRAY.
9. SHOP PAINTING OF STEEL IS NOT REQUIRED.



SOUTH ELEVATION
N.T.S.



LOCATION PLAN
N.T.S.

STATE OF NEW YORK
STELIOS NICK BERTOS
066628-1
LICENSED PROFESSIONAL ENGINEER

Sheet 1 of 3

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP11W

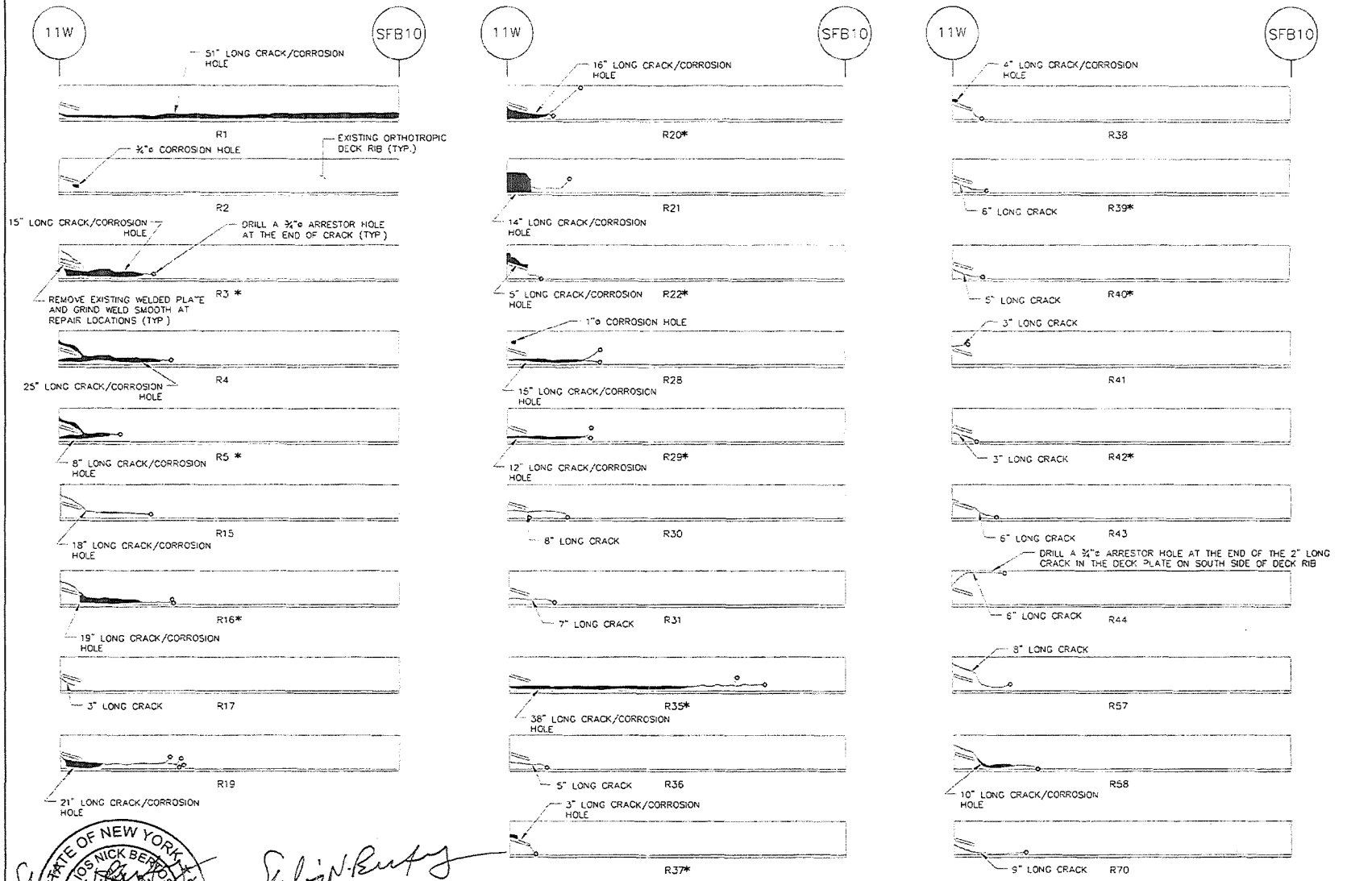
(1 OF 3)

DI	RO	GA
Designed by	Drawn by	Checked by

Date AUGUST 30, 2013

Contract Number 405-13-005

Drawing Number QAD-1315-01



EXISTING CONDITION

(NORTH ELEVATION OF R1 THRU R5, R15 THRU R17, R19 THRU R22, R28 THRU R31, R35 THRU RR44, R57, R58 & R70 BETWEEN 11W & SFB10)

(NTS)

* – INDICATES LOCATION SELECTED FOR REPAIR

STATE OF NEW YORK
STELIOS NICK BERTOS
066628-1
LICENSED PROFESSIONAL ENGINEER

Sheet 2 of 3

THE PORT AUTHORITY OF NY & NJ

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ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP11W

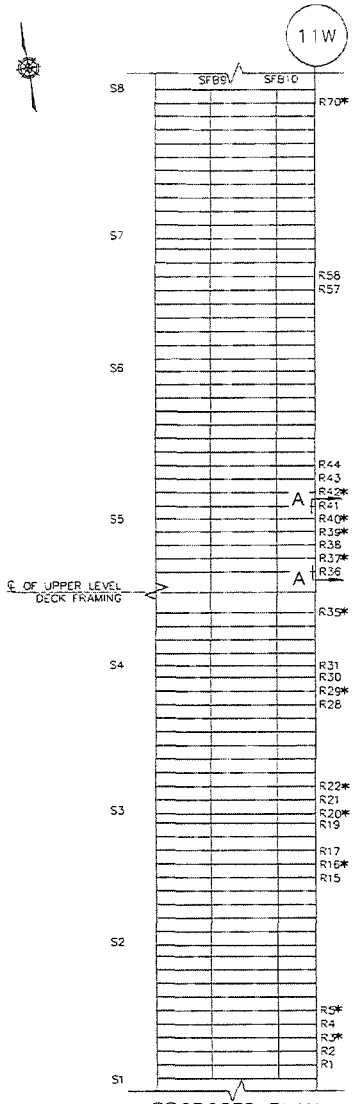
(2 OF 3)

CH	RO	GA
Designed by	Drawn by	Checked by

Date AUGUST 30, 2013

Contract Number 405-13-005

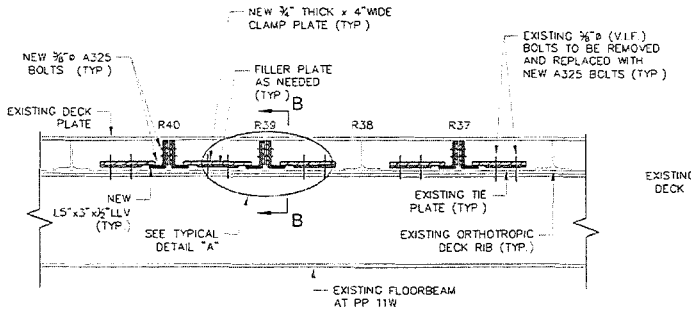
Drawing Number QAD-1315-02



PROPOSED PLAN

(NTS)

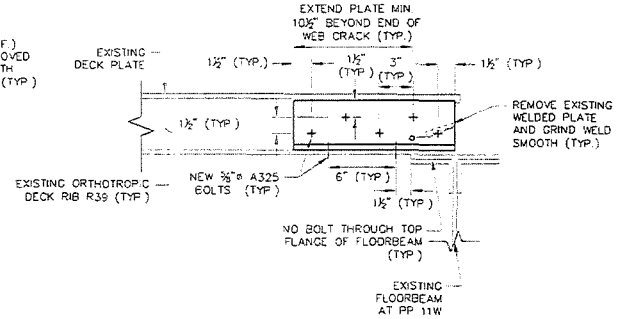
* - INDICATES LOCATION SELECTED FOR REPAIR



SECTION A–A

(TYPICAL FOR R3, R5, R16, R20, R22, R29 & R42)

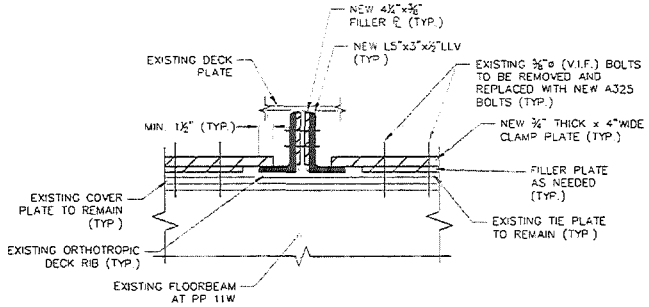
(NTS)



SECTION B–B

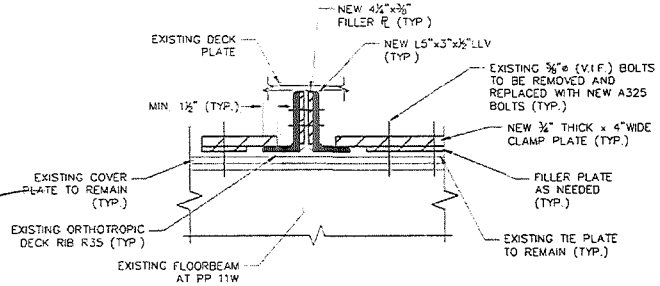
(NTS)

DECK RIB	SPLICE ANGLE LENGTH (V.I.F.)
R3	2'-1 1/2"
R5	1'-6 1/2"
R16	2'-5 1/2"
R20	2'-2 1/2"
R22	1'-3 1/2"
R29	1'-10 1/2"
R35	4'-0 1/2"
R37	1'-1 1/2"
R39	1'-4 1/2"
R40	1'-3 1/2"
R42	1'-1 1/2"



DETAIL A

(NTS)



DETAIL AT R35

(NTS)

STATE OF NEW YORK
STELIOS NICK BERTOS
066628-1
LICENSED PROFESSIONAL ENGINEER

Sheet 3 of 3

THE PORT AUTHORITY OF NY & NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

GEORGE WASHINGTON BRIDGE

QUALITY ASSURANCE DIVISION
FACILITY CONDITION SURVEYS

Title
2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

BIN 5522508

UPPER LEVEL DETERIORATED DECK RIBS AT PP11W

(3 OF 3)

Designed by	Drawn by	Checked by
CH	RD	GA

Date AUGUST 30, 2013

Contract Number 405-13-005

Drawing Number QAD-1315-03

Stantec Consulting Services Inc.
50 West 23rd Street, 8th Floor
New York, NY 10010
Tel: (212) 366-5600
Fax: (212) 366-5629

Stantec

September 24, 2013

Mr. C. John Lin, P.E.
Assistant Chief Engineer - Quality Assurance
Engineering Department
The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Attention: Mr. Camille Dagher, P.E., Project Manager

Reference: **Expert Professional Services for the Performance of Biennial Inspection of the George Washington Bridge, Main Span Upper & Lower Levels PA Agreement No. 405-13-005; P.O. 4900009127**

Subject: **Immediate Action – South Sidewalk Concrete Fascia**

Gentlemen:

During the course of the biennial inspection of the George Washington Bridge – Main Span Upper Level, multiple locations of cracked and delaminated concrete were observed on the south sidewalk concrete fascia, affecting a total number of 14 bridge panel points. Delamination of the sidewalk concrete fascia typically varies between 1' and 12' in length and is located along the concrete fascia above the top flange of the steel fascia stringer.

It is recommended that the cracked and delaminated concrete be removed on an immediate basis.

The attached plans identify all locations which were found to be cracked and delaminated at the time of inspection. Photographs of typical conditions are also included.

If you have any questions or need additional information, please contact us.

Sincerely,

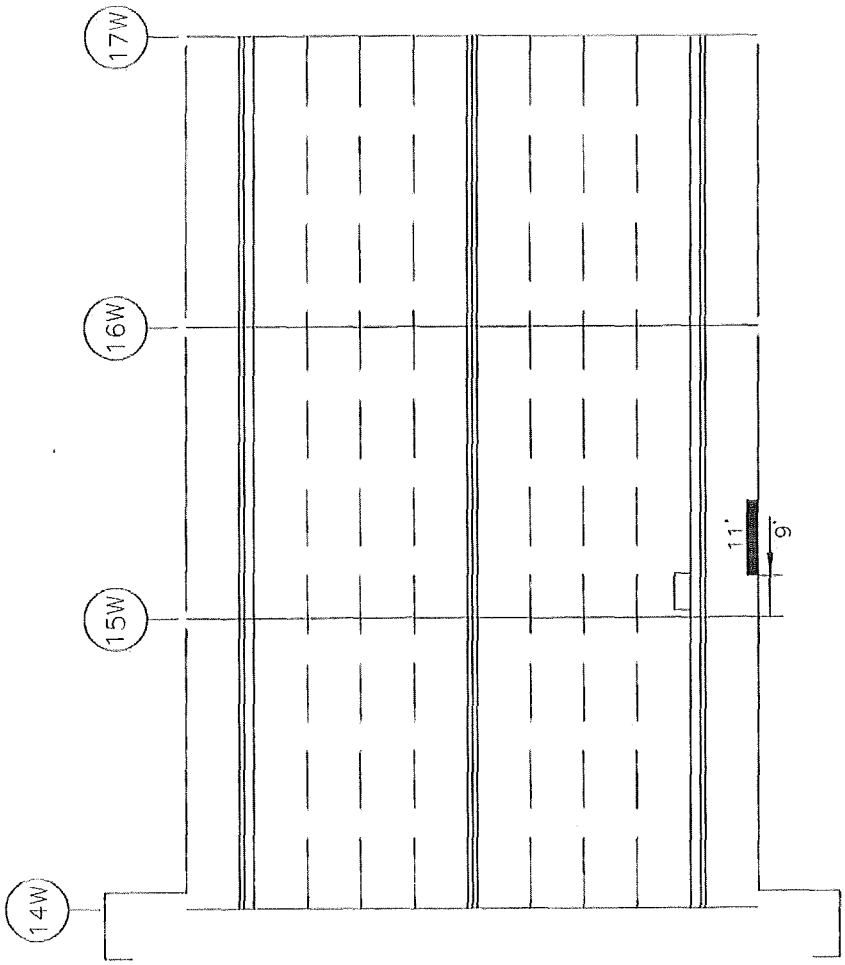
STANTEC CONSULTING SERVICES INC.

Stellos N. Bertos, P.E.
Sr. Principal
Tel: (212) 366-5600
Fax: (212) 366-5629
Stellos.Bertos@stantec.com

2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

LOCATION PLAN FOR CRACKED AND/OR DELAMINATING CONCRETE ALONG SIDEWALK FASCIA

BIN 5522508



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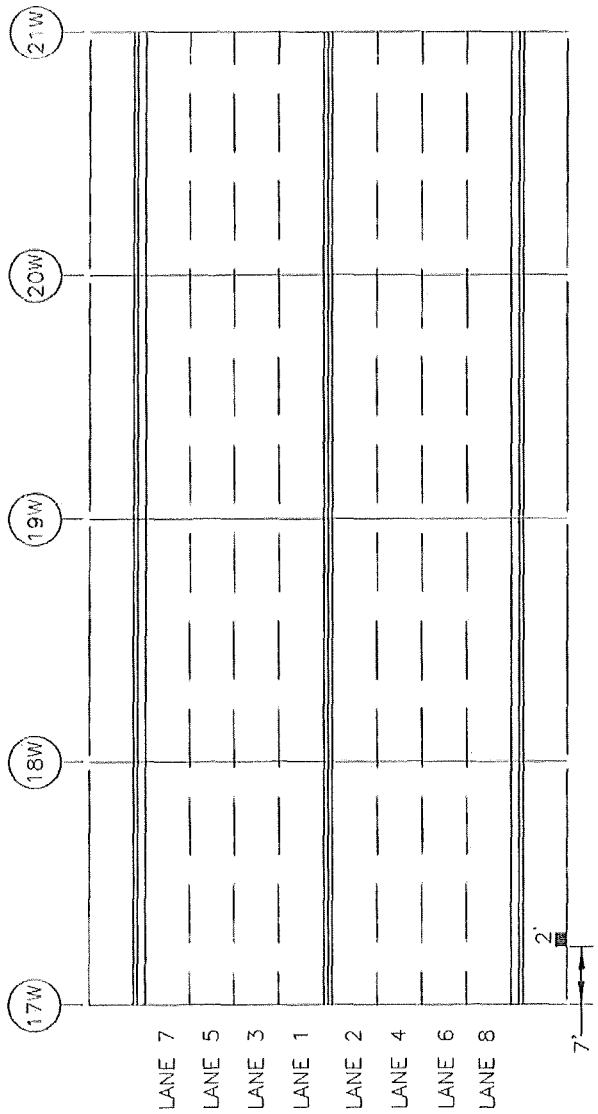

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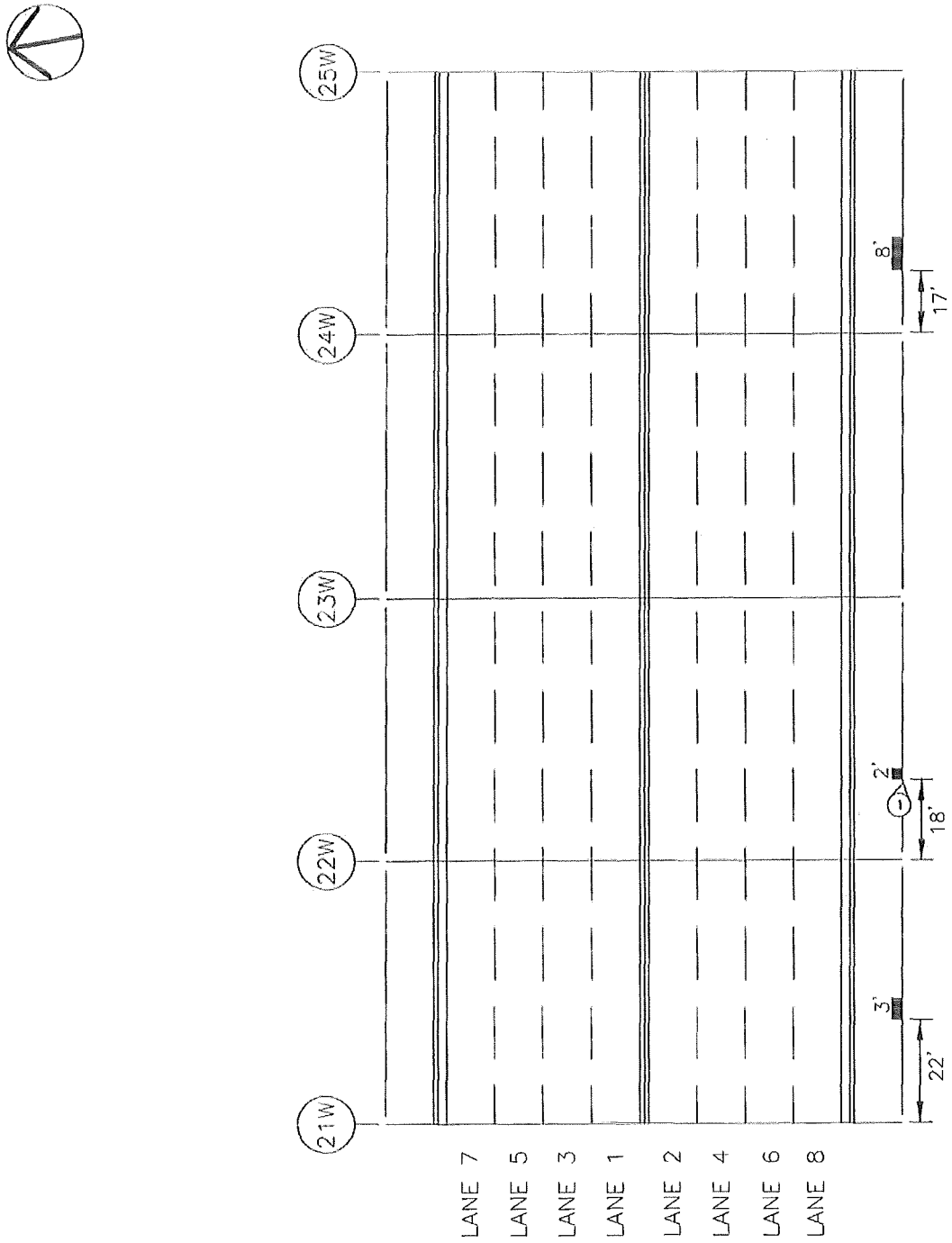

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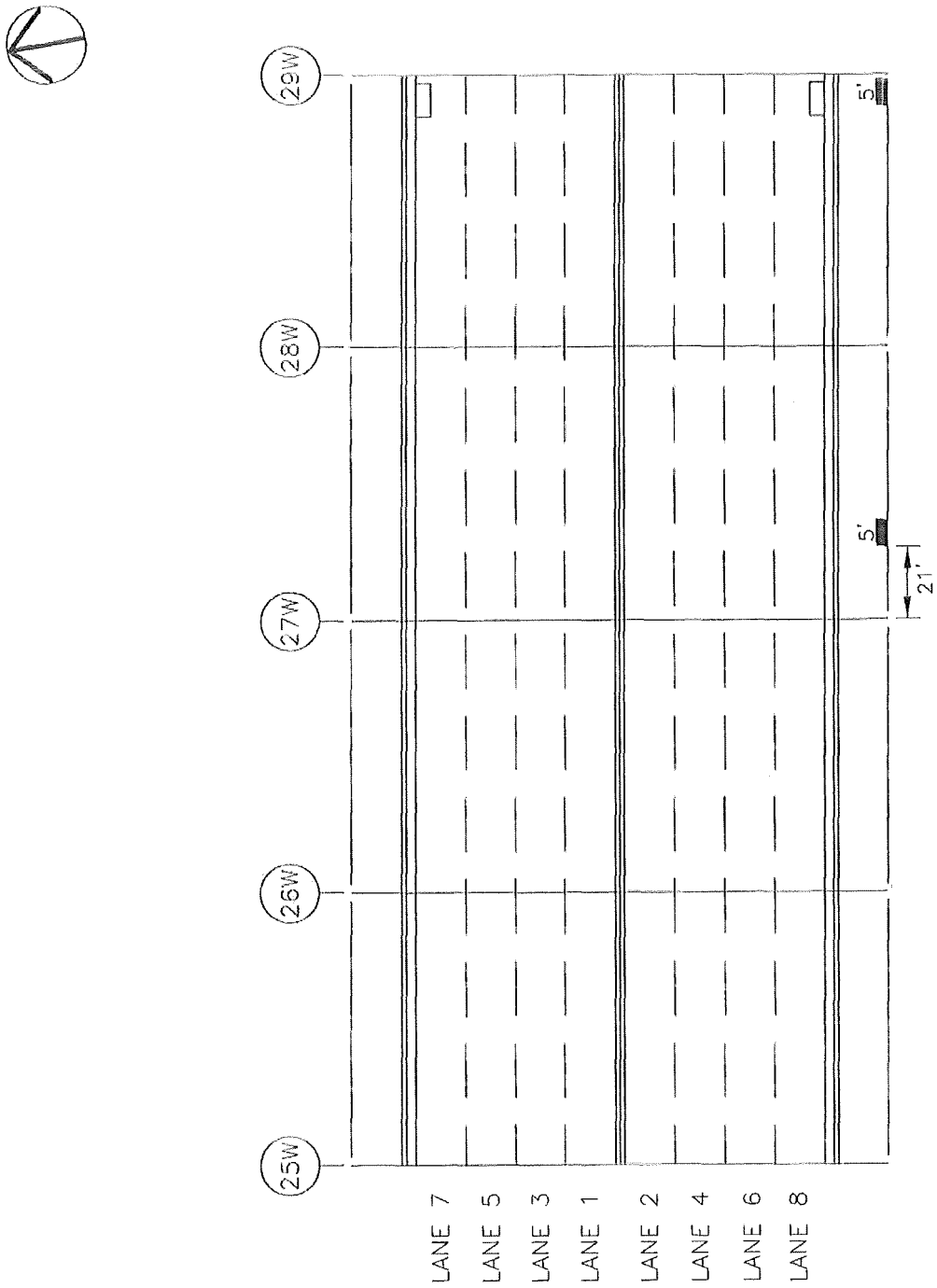

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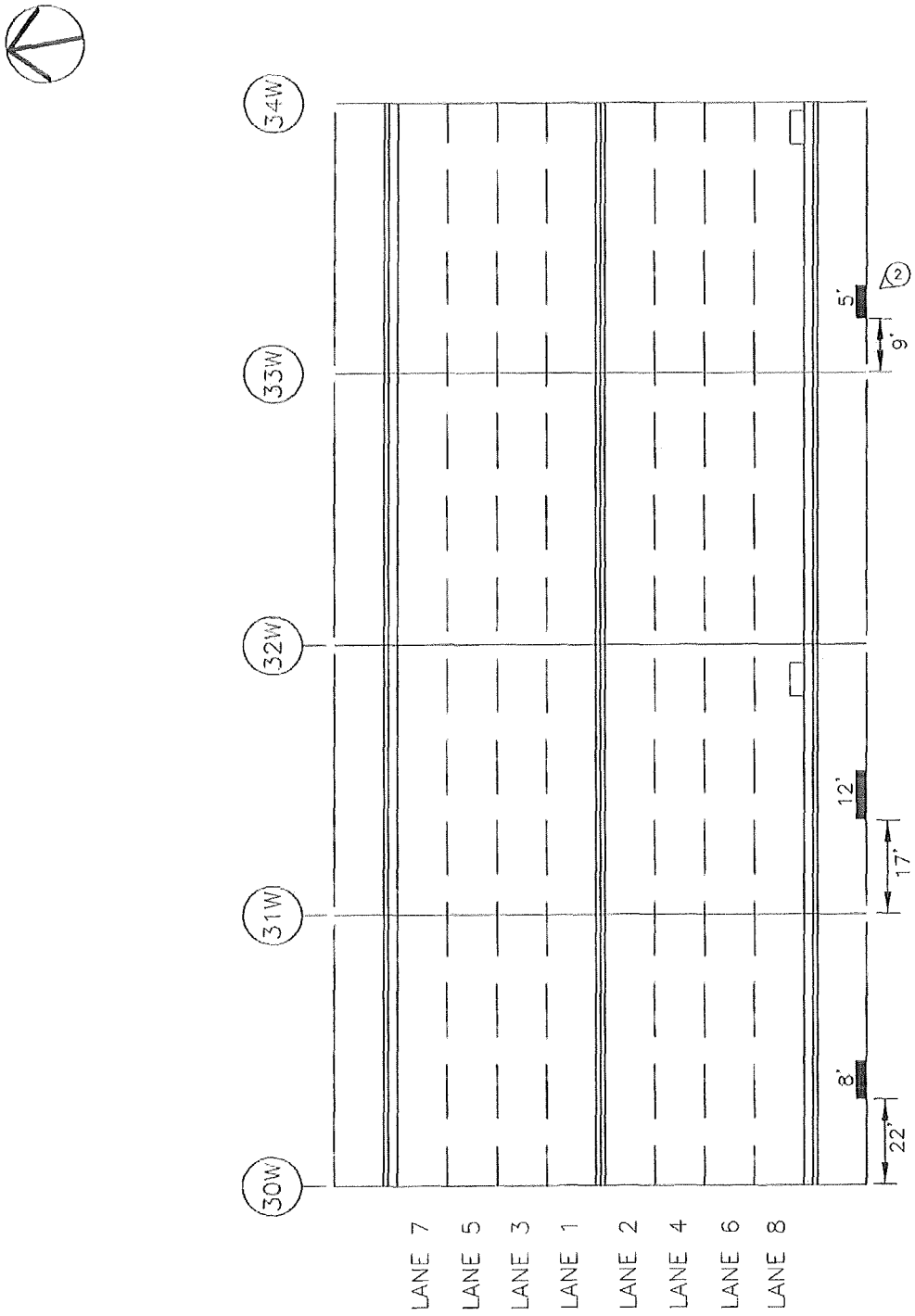
BIN 5522508



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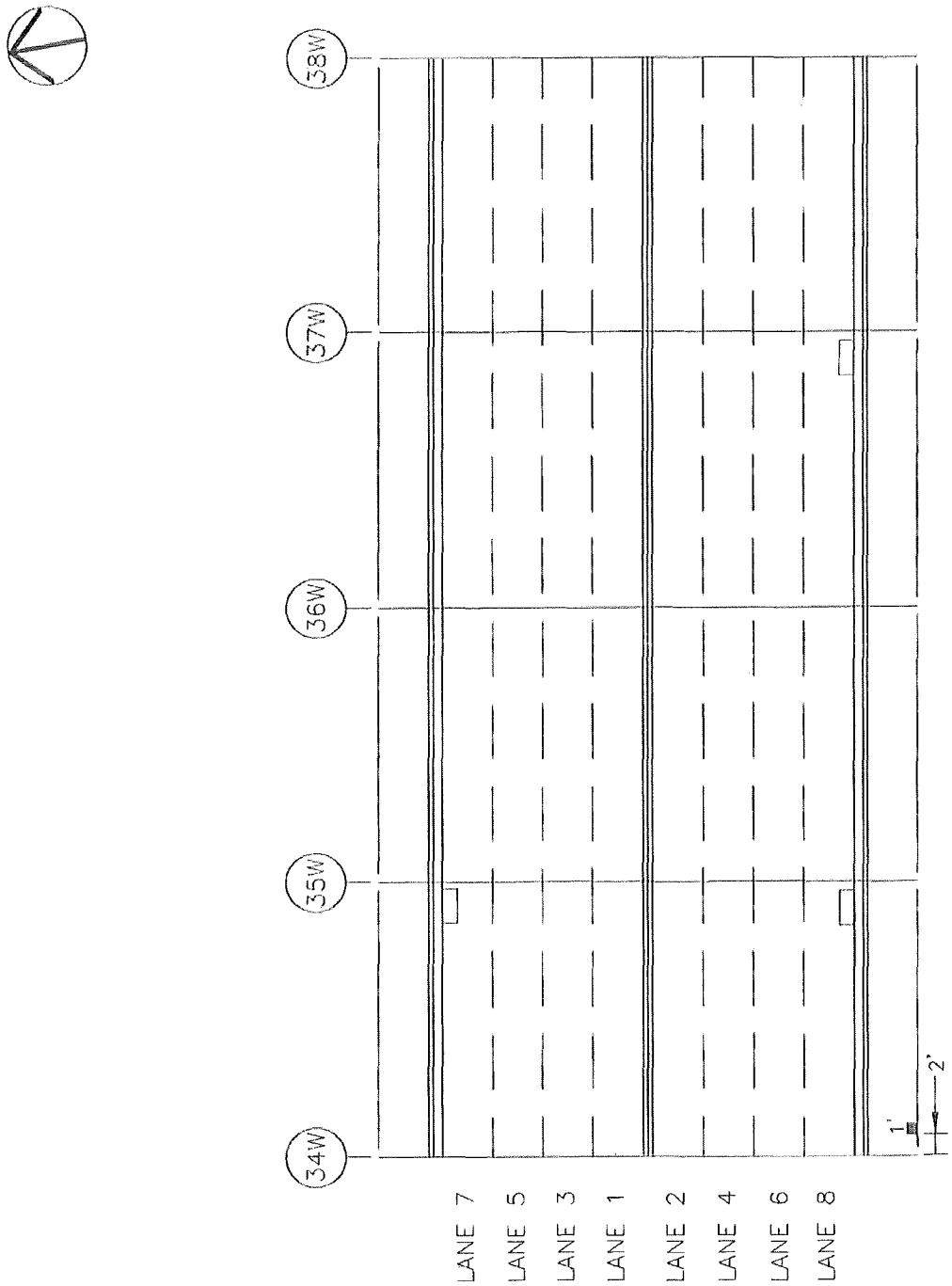
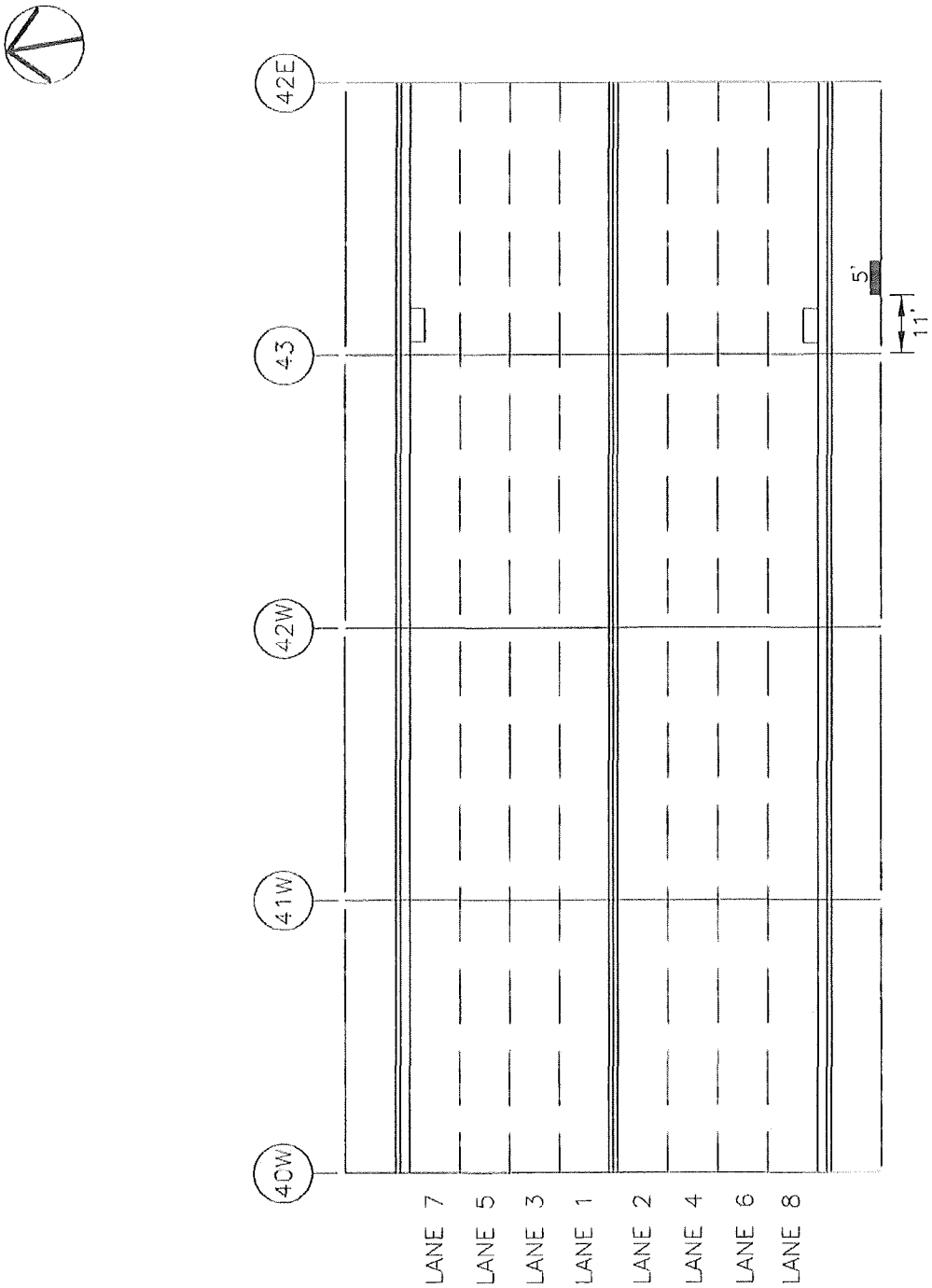
BIN 5522508



2013 BIENNIAL INSPECTION OF THE GEORGE WASHINGTON BRIDGE

LOCATION PLAN FOR CRACKED AND/OR DELAMINATING CONCRETE ALONG SIDEWALK FASCIA

BIN 5522508



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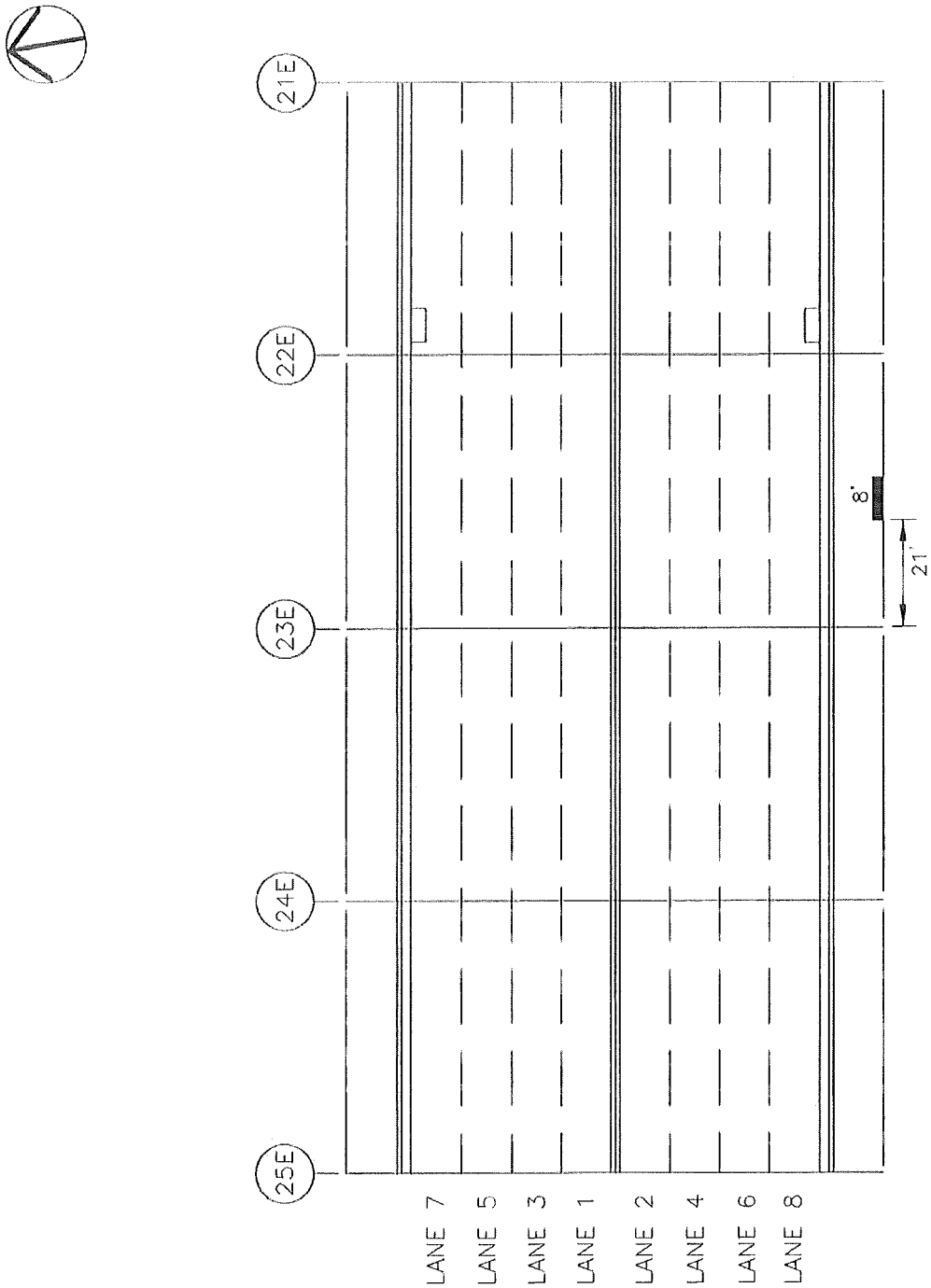

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BIN 5522508

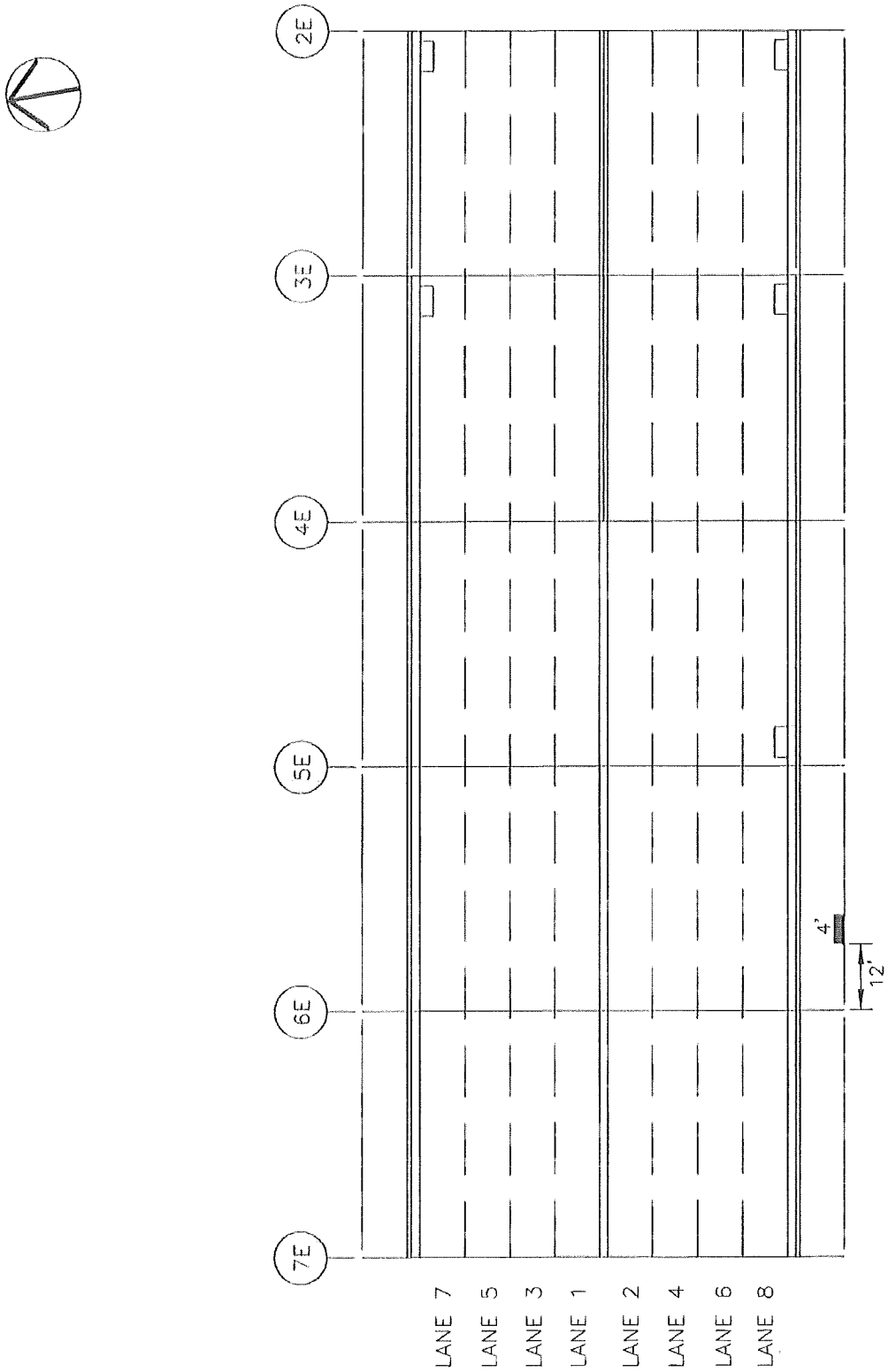
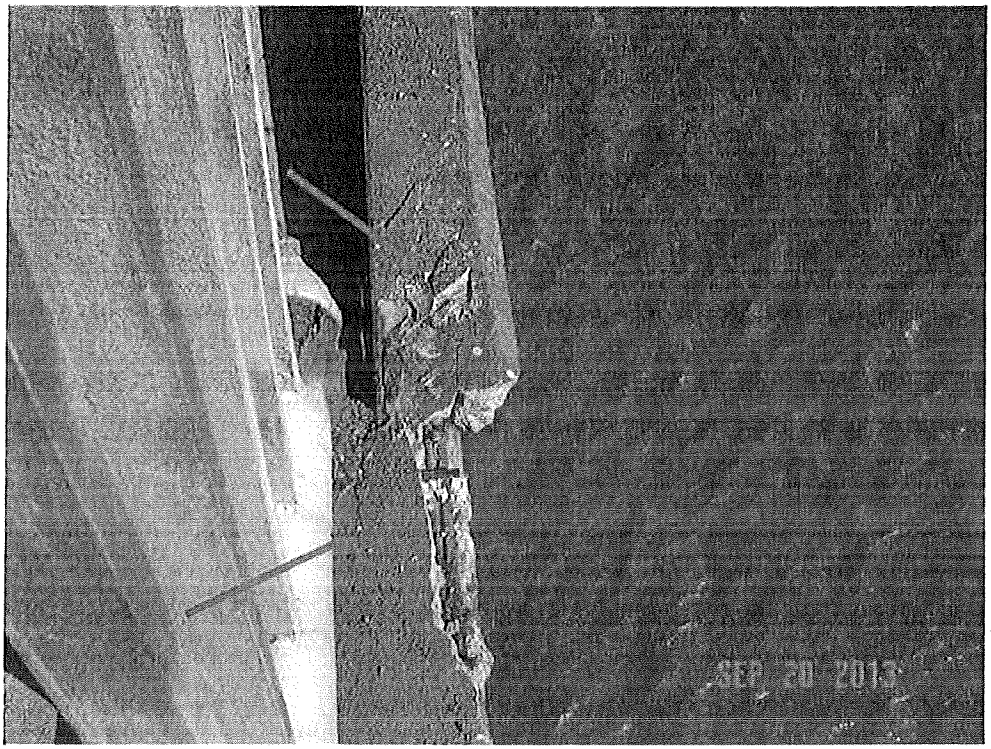
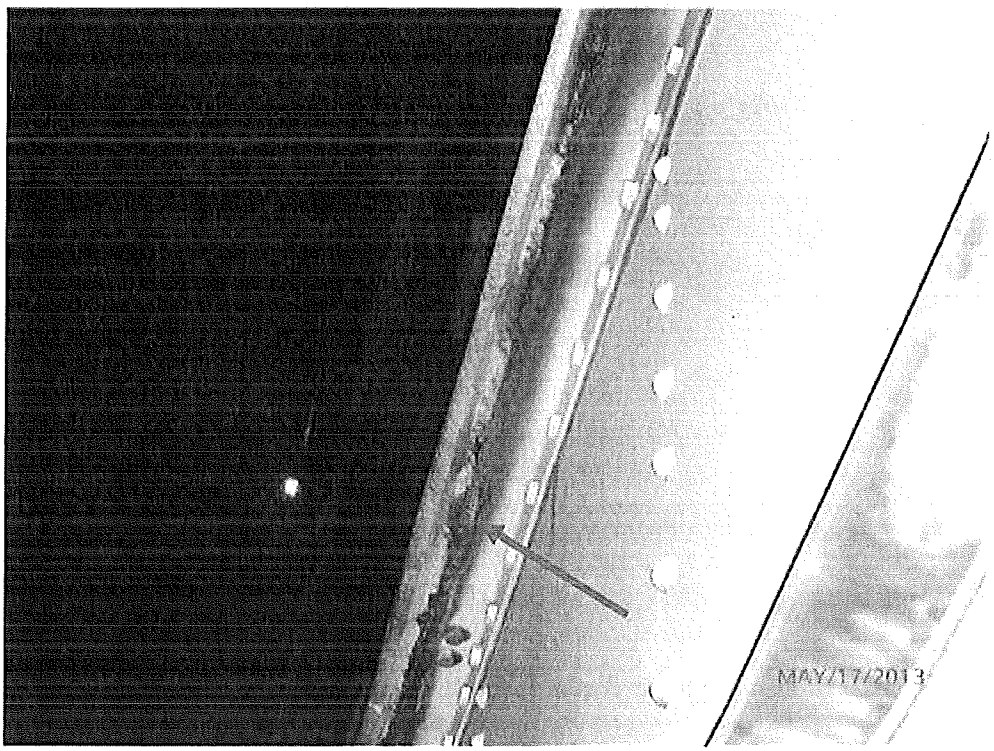


Photo No.: 1 **Location:** South Sidewalk Fascia Between Panel Points 22W & 23W (Looking Down and East) **Description:** Cracked and delaminated concrete.	
Photo No.: 2 **Location:** South Sidewalk Fascia Between Panel Points 33W & 34W (Looking Up and Northwest) **Description:** Cracked and delaminated concrete.	

Appendix C
Ultrasonic Testing of Pins

Lucius Pitkin, Inc. *Consulting Engineers*

Fitness-For-Service
Failure & Materials Evaluation
Nondestructive Engineering

Est. 1885

December 2, 2013

Report No. N13568

Stantec
50 West 23rd Street, 8th Floor
New York, NY 10010-5272

Attention: Mr. Garen G. Spanosian

Subject: **ULTRASONIC EXAMINATION OF PINS**
GEORGE WASHINGTON BRIDGE

Lucius Pitkin, Inc. (LPI) was requested to perform ultrasonic examination of pins located at the George Washington Bridge.

The examination was performed on November 25 and 26, 2013 by LPI technicians certified in accordance with the guidelines of the American Society for Nondestructive Testing as Level II inspectors in ultrasonic testing techniques.

Results of the examination did not reveal the presence of any crack-like indications in any of the 10 pins connecting the stringers to floor beams.

Complete results of the examination are given in the appended report.

Respectfully submitted,

LUCIUS PITKIN

Joseph P. Crosson, P.E.
Principal

JPC/P:Projects/2013/N13568 Report – Stantec-UT-BridgePins-GWB

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FORM 107-2/76

304 Hudson Street, New York, NY 10013-1026 Tel: 212-233-2737 Fax: 212-406-1417 www.lpiny.com

New York, NY Amesbury, MA Richland, WA Sydney, Australia

"Ensuring the integrity of today's structures for tomorrow's world"™

Lucius Pitkin, Inc. *Consulting Engineers*

Fitness-For-Service
Failure & Materials Evaluation
Nondestructive Engineering

Est. 1885

REPORT

ULTRASONIC INSPECTION REPORT

REPORT NO. N13568 Page 1 of 1

CLIENT Stantec

DATE OF INSPECTION November 26, 2013

ADDRESS 50 West 23rd Street, 8th Floor

TIME ON JOB

New York, NY 10010-5272

AUTHORIZED BY Garen G. Apanosian (CLIENT'S REPRESENTATIVE)

JOB LOCATION George Washington Bridge

SPECIFICATION Crack Detection

DESCRIPTION Bridge pins connecting stringer to floor beam

MATERIAL TYPE Carbon Steel

MATERIAL THICKNESS 6 in. x 18.75 long

INSPECTION METHOD Contact – Straight Beam

TECHNICIAN K. Anderson & Y. Kontorovich

UNIT Krautkramer Branson (GE)

MODEL # USK 7D & USK-60

TRANSDUCER ANGLE 0° & 90 FREQUENCY 2.25 MHz DIAMETER 1.0 in COUPLANT Exosen

ADDITIONAL INFORMATION:

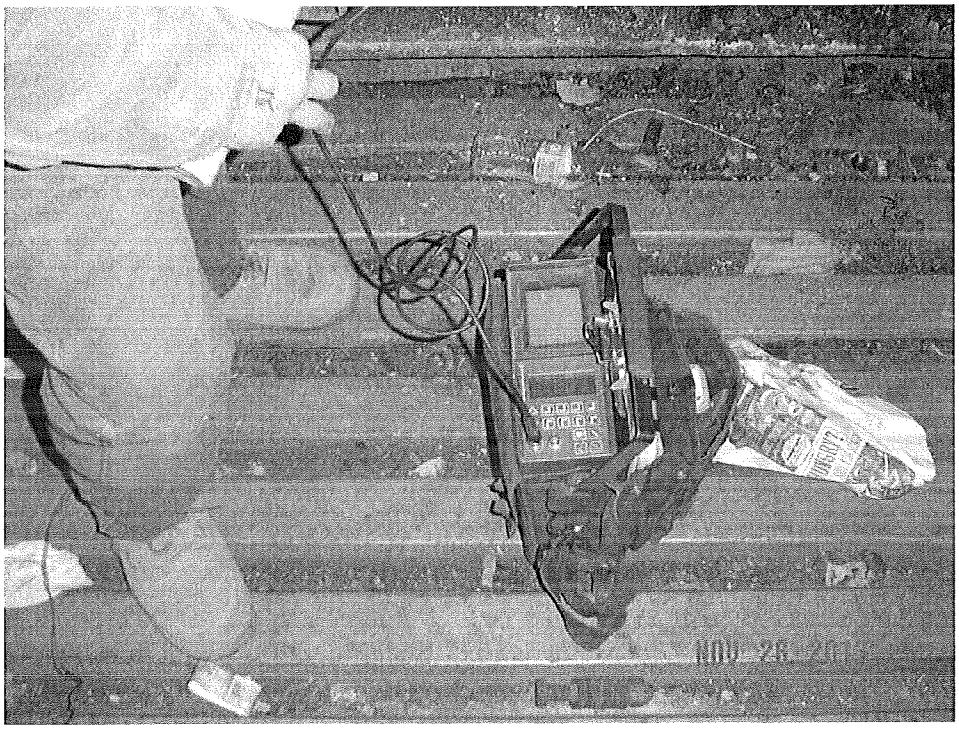
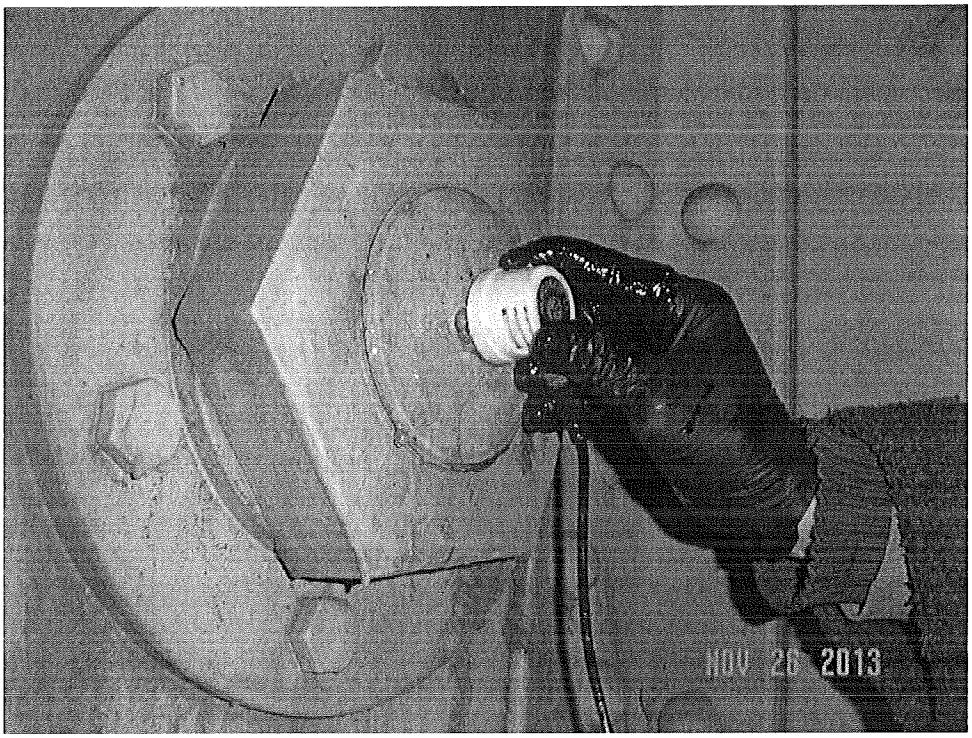
IDENTIFICATION	THICKNESS, IN.	ACCEPT	REJECT	LENGTH	DEPTH	SLAG	POROSITY	LACK OF FUSION	LACK OF PENETRATION	CRACK	UNDERCUT	SURFACE	LAMINATIONS	INDICATION LEVEL A	REFERENCE LEVEL B	ATTENUATION FACTOR C	INDICATIONS RATING D	REMARKS
Stringer S8 at 10W East		A													42			
Stringer S8 at 15W West		A													42			
Stringer S8 at 10E West		A													42			
Stringer S6 at 10E West		A													42			
Stringer S8 at 2E East		A													42			
Stringer S7 at 2E East		A													42			
Stringer S7 at 3W West		A													47			
Stringer S1 at 15W West		A													47			
Stringer S8 at 15E East		A													47			
Stringer S1 at 2E East		A													47			

Respectfully submitted,

Approved by:
Joseph P. Crosson, P.E.
Principal

LUCIUS PITKIN

Keith E. Anderson
Sr. Metallurgical Technician

Photo No.: 1 **Location:** Panel Point 3W, Stringer S8, looking down. **Description:** Ultrasonic testing to determine if there are any cracks in the pin that connects the stringer to the main floorbeam.	
Photo No.: 2 **Location:** Panel Point 10E, Stringer S6, looking northeast. **Description:** Ultrasonic testing to determine if there are any cracks in the pin that connects the stringer to the main floorbeam.	

B.I.N. : **5522507**

Region **11** COUNTY: **NEW YORK**

Feature Carried : **I-95 (GWB LOWER LEVEL)**

Feature Crossed: **ROUTE 9A AND HUDSON RIVER**

General Recommendation: **5**

The bridge has details that should receive special emphasis during each inspection. See TP 349, TP 350 the last section of this binder for location of details.

2011 INSPECTION

CAUTION

NO KNOWN
HIGH VOLTAGE
OVERHEAD

REVIEWED BY : Seth Medwick

SETH MEDWICK, P.E. #065490-1

TITLE : **QUALITY CONTROL ENGINEER**

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 OF 1

BIN 5522507

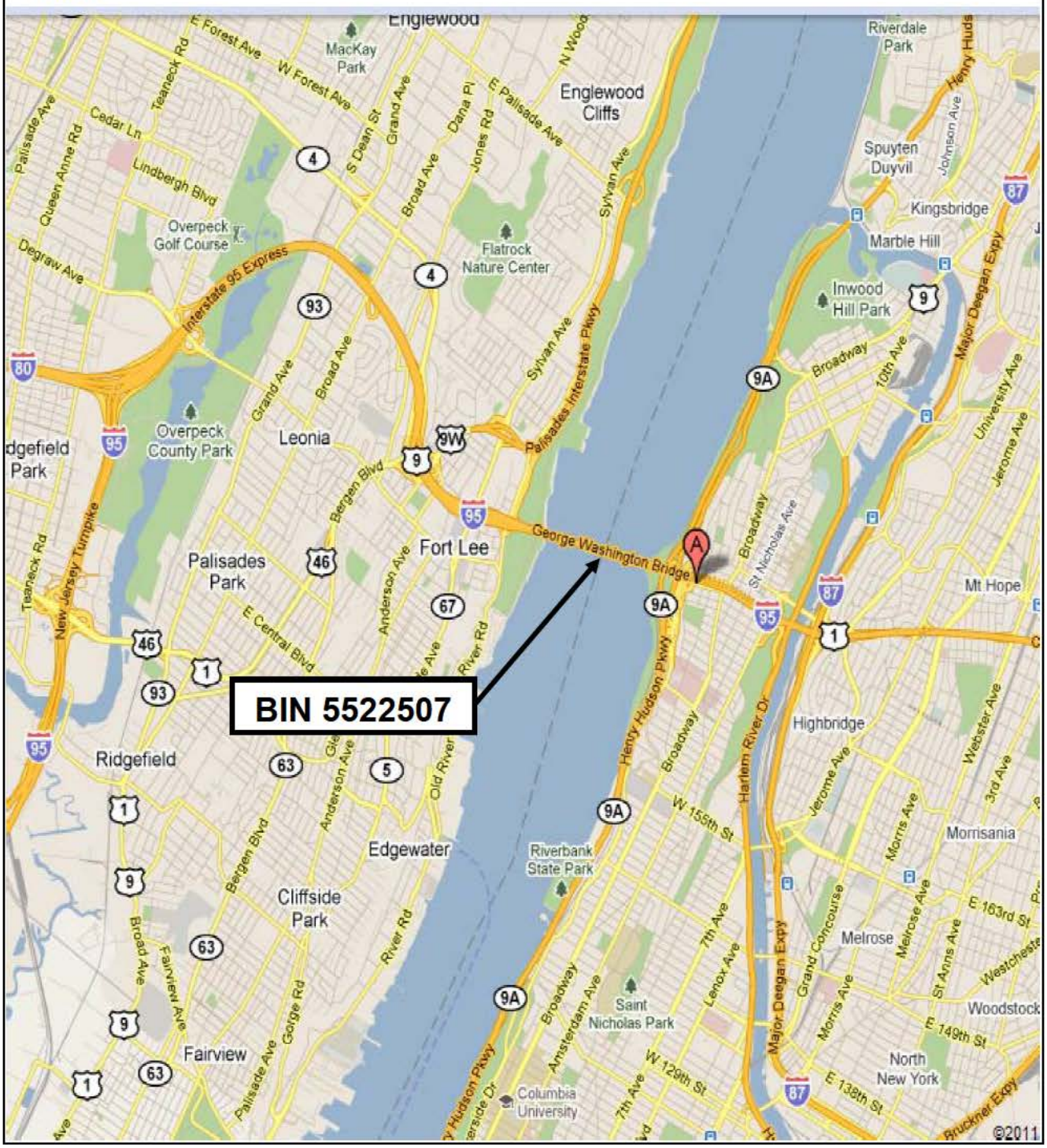
TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

NORTH

LOCATION MAP



INSPECTION

IP349 (12/97)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 **OF** 16

RC - BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

DATE MO 0 9 (13 14) DAY 3 0 (15 16) YEAR 1 1 (17 18)

TEAM LEADER Ray, Gramy, PE
Signature Ray Gramy
P.E. NUMBER 064448 **STATE** NY
ASST TEAM LEADER Derek Lewis
OTHERS Tom Kyle, PE

RAMP BRIDGE ATTACHED TO SPAN _____ BIN _____

INSPECTION AGENCY 1 3 (19 20) TYPE OF INSPECTION 1 (21) 1 - BIENNIAL 3 - IN DEPTH 5 - SPECIAL 2 - INTERIM 4 - NONE(UNDER CONTRACT)

STATE HWY. NO. 000000 MILEPOINT: 0110074 POLIT. UNIT: NEW YORK
FEATURE(S) CARRIED: 95I 95I04011007
FEATURE(S) CROSSED: UNDER 9A 9A04121108 UNDER HUDSON RIVER
TOTAL SPANS: 11 BRIDGE ORIENTED: EAST YEAR BUILT: 1962
BRIDGE TYPE: STEEL SUSPENSION AADT/YR: 280718 / 2010

VERTICAL CLEARANCE AND LOAD POSTINGS

ON: NOT POSTED	UNDER: NOT POSTED	LOADING NONE	
FT (19) IN (21)	FT (23) IN (25)	TONS (27)	0 6 2 (118)

ABUTMENTS:	begin	end
Joint with deck	5 (22)	5 (23)
Bearings, anchor bolts, pads	3 (24)	3 (25)
Bridge seat and pedestals	4 (26)	3 (27)
Backwall	5 (28)	8 (29)
Stem (breastwall)	5 (30)	8 (31)
Erosion or scour	6 (32)	6 (33)
Footings	9 (34)	9 (35)
Piles	9 (36)	9 (37)
Recommendation	5 (38)	5 (39)

WINGWALLS:	begin	end
Walls	8 (40)	8 (41)
Footings	8 (42)	8 (43)
Erosion or Scour	8 (44)	8 (45)
Piles	8 (46)	8 (47)

STREAM CHANNEL:	
Stream alignment	7 (48)
Erosion or Scour	6 (49)
Waterway opening	7 (50)
Bank protection	6 (51)

APPROACHES:	
Drainage	5 (53)
Embankment	8 (54)
Settlement	6 (55)
Erosion	8 (56)
Pavement	5 (57)
Guide railing	6 (58)

GENERAL RECOMMEND 5 (60)

ACCESS CATEGORY:
WALKING
STEP LADDER
EXT. LADDER
>90' LIFT
SCAFFOLDING
LANE CLOSURE W/ SHAD. VECH.
UNDERSIDE TRAVELER

		BRIEF REASON
FLAG ISSUED? None	X (61)	
RED STRUCTURAL	(62)	
YELLOW STRUCTURAL	(63)	
SAFETY	(64)	

[redacted]

REVIEWED BY Seth Mel
P.E. NUMBER #065490-1
DATE 10/26/11

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 OF 16

RC-BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

TEAM LEADER: Ray Gramy, PE

ASST TEAM LEADER: Derek Lewis

OTHERS: Tom Kyle, PE

DATE — MO: 0 9 (13 14) DAY: 3 0 (15 16) YEAR: 1 1 (17 18)

Features Carried: I-95 (GWB LOWER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	0	1	5	4	5	4	5	8	4	8	5	5	5	3	4	5	5	5	5	8	5	6	9	6	8	5	3	4	1
0	0	2	5	3	5	4	5	8	4	8	5	4	5	3	4	5	5	5	5	8	5	6	9	6	8	5	3	4	1
0	0	3	5	4	5	4	5	8	4	8	5	4	5	3	3	5	5	5	5	8	5	6	9	6	8	5	8	4	1
0	0	4	5	5	5	5	8	8	6	8	5	4	5	5	8	5	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	5	5	5	5	5	5	8	6	8	5	5	5	5	8	5	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	6	5	5	5	5	5	8	6	8	5	5	5	5	3	5	5	6	5	8	5	5	9	6	8	5	8	8	5
0	0	7	5	5	5	5	5	8	6	8	5	4	5	5	8	5	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	8	5	5	5	5	4	8	6	8	5	5	5	5	8	5	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	9	5	5	5	5	5	8	6	8	5	4	5	5	3	5	4	3	5	5	8	8	9	6	8	4	8	8	5
0	1	0	4	5	5	5	8	8	6	8	5	5	5	5	8	5	4	3	5	8	5	6	9	6	8	5	8	1	5

DIVING INSPECTION REQUIRED? [ ] YES [X] NO — *If yes, indicate year of last diving inspection* [ ][ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted] [ ] [redacted]

PIN AND HANGER [ ]

FATIGUE-PRONE WELDS(AASHTO D, E, OR E') [X] Spans 1 through 9

NON-CATEGORIZED FATIGUE-PRONE DETAILS [ ]

OTHERS(SPECIFY) _____ [ ]

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

REMARKS: (20) (50)

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
See				See Attached Table
Attached				
Table				

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 OF 16

RC-BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

TEAM LEADER: Ray Gramy, PE

ASST TEAM LEADER: Derek Lewis

OTHERS: Tom Kyle, PE

DATE — MO: 0 9 (13 14) DAY: 3 0 (15 16) YEAR: 1 1 (17 18)

Features Carried: I-95 (GWB LOWER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	1	1	4	5	5	5	8	8	6	8	5	5	5	5	8	5	8	8	8	8	8	8	8	8	8	8	8	8	5

DIVING INSPECTION REQUIRED? YES [ ] NO [X] *If yes, indicate year of last diving inspection* [ ] [ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: YES [X] NO [ ]
If yes, indicate type below.

[redacted] [redacted]

PIN AND HANGER [ ]

FATIGUE-PRONE WELDS(AASHTO D, E, OR E') [X] Spans 1 through 9

NON-CATEGORIZED FATIGUE-PRONE DETAILS [ ]

OTHERS(SPECIFY) _____ [ ]

REMARKS:

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
See				See Attached Table
Attached				
Table				

BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis (Other)Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
06/8/11	06:30a.m.	02:00p.m.	90°	Sunny
06/9/11	07:00a.m.	02:00p.m.	95°	Sunny
06/10/11	07:00a.m.	02:30p.m.	95°	Sunny
06/13/11	07:00a.m.	02:30p.m.	73°	Sunny
06/14/11	07:00a.m.	02:30p.m.	70°	Sunny
06/15/11	07:00a.m.	02:30p.m.	78°	Sunny
06/16/11	07:00a.m.	02:30p.m.	80°	Sunny
06/17/11	07:00a.m.	02:00p.m.	80°	Cloudy
06/21/11	07:00a.m.	02:30p.m.	80°	Cloudy
06/22/11	07:00a.m.	02:30p.m.	75°	Cloudy
06/23/11	07:00a.m	02:30p.m.	75°	Rainy
06/24/11	07:00a.m.	02:30p.m.	75°	Rainy
06/27/11	07:00a.m.	02:00p.m.	80°	Sunny
06/28/11	07:00a.m.	02:30p.m.	83°	Sunny
06/29/11	07:00a.m.	02:30p.m.	80°	Sunny
06/30/11	07:00a.m.	02:30p.m.	80°	Sunny
07/1/11	07:00a.m.	02:30p.m.	85°	Sunny
07/5/11	07:00a.m.	02:30p.m.	85°	Sunny
07/6/11	07:00a.m.	02:30p.m.	85°	Sunny
07/7/11	07:00a.m.	02:00p.m.	98°	Sunny
07/8/11	07:00a.m.	02:30p.m.	85°	Cloudy

BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** (Other)Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
07/11/11	07:00a.m.	02:00p.m.	85°	Sunny
07/12/11	07:00a.m.	02:30p.m.	90°	Sunny
07/13/11	07:00a.m.	02:30p.m	85	Sunny
07/14/11	07:00a.m.	02:30p.m.	80°	Sunny
07/15/11	07:00a.m.	02:00p.m.	84°	Sunny
07/18/11	07:00a.m.	02:30p.m.	90°	Sunny
07/19/11	07:00a.m.	02:30p.m	92°	Sunny
07/20/11	07:00a.m.	02:30p.m.	90°	Sunny
07/21/11	07:00a.m.	02:30p.m.	100°	Sunny
07/22/11	07:00a.m	02:30p.m.	103°	Sunny
07/27/11	07:00.am	02:30p.m.	85°	Sunny
07/28/11	07:00a.m.	02:00p.m.	85°	Sunny
07/29/11	07:00a.m.	02:00p.m.	85°	Sunny
08/1/11	07:00a.m.	02:30p.m.	90°	Sunny
08/2/11	07:30a.m.	02:30p.m.	78°	Sunny
08/3/11	07:00a.m.	02:30p.m.	85°	Sunny
08/4/11	07:00a.m.	02:30p.m.	84°	Sunny
08/5/11	07:00a.m.	02:30p.m.	85°	Sunny
08/8/11	07:00a.m.	02:30p.m.	90°	Sunny
08/10/11	07:30a.m.	02:30p.m.	78°	Sunny
08/11/11	07:00a.m.	02:00p.m.	76°	Sunny

BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** (Other)Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

08/12/11	07:00a.m.	02:30p.m.	84°	Sunny
08/13/11	07:00a.m.	02:30p.m.	85°	Sunny
09/14/11	09:00p.m.	05:00a.m.	74°	Clear (night work)
09/30/11	07:30a.m.	02:30p.m.	78°	Sunny

FEDERAL RATING FORM

NYS DEPT. of TRANSPORTATION

RC-BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

BRIDGE INSPECTION REPORT

TEAM LEADER Ray Gramy, PE

ASST TEAM LEADER Derek Lewis

SHEET 7 OF 16

OTHERS Tom Kyle, PE

DATE

MO	DAY	YEAR
0 9	3 0	1 1
13 14	15 16	17 18

FEATURE CARRIED : I-95 (GWB LOWER LEVEL)

FEATURE CROSSED : ROUTE 9A AND HUDSON RIVER

Description	Deck	Superstructure	Substructure	Channel	Culvert
Fed. Item #	58	59	60	61	62
Rating	6	6	6	8	N
	19	20	21	22	23

Comments:

Notes: 1). See attached explanations for Federal Items Nos. a) 58 ~ Deck, 59 ~ Superstructure, 60 ~ Substructure; b) 61~ Channel and Channel Protection; c) 62 ~ Culverts

2). Items Nos. 58, 59, and 60 shall be coded N for all culverts.

3). A rating or an N must be entered for all Federal Items. Blanks are not acceptable

Revised 6/99

BD 188 (4/95)

BIN	5522507	**N.Y.S. DEPT. OF TRANSPORTATION BRIDGE INSPECTION REPORT**			
		SHEET	8	**OF**	16
TEAM LEADER:	Ray Gramy, PE	**ASST. TEAM LEADER:**	Derek Lewis	**DATE:**	09/30/11
OTHERS:	Tom Kyle, PE				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9 A AND HUDSON RIVER				

REMARKS:

GENERAL NOTES:

1. No BIN plate was found on the bridge.
2. The inspection of the lower level was performed between the months of June and September, 2011.
3. [redacted]
4. Access to the underside of deck of the lower level was obtained by the New Jersey Back Span, New Jersey Main Span, and New York Back Span travelers, scaffolding, extension ladder, step ladder and 120' man lift. Access to the top of deck of the lower level was obtained by walking on the left and right safety walks. Spans 4 through 10 were inspected during night-time lower level closing by others. A shadow truck was utilized during the night-time inspections
5. Inventory, underbridge debris and electrical survey forms have not changed, and therefore, are not included in this report. The access category coding form was updated and is included in this report.

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N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 9 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			TP 349
			ABUTMENTS
5	5	5 & 6	**[22&23] JOINT WITH DECK** The deck finger joint is generally in good condition. Previously reported slightly uplifted joint sliding plate at the right safety walk was repaired. The left safety walk finger joint sliding plate and diamond plate exhibits severe corrosion with holes up to 2" x 6". Both the left and right safety walks are closed to pedestrian traffic, therefore these conditions do not pose a safety hazard to the public.
3	3	7	**[24] BEARING, ANCHOR BOLTS, PADS (BEGIN)** All bearings are frozen and heavily corroded. Most bearings are fully or partially buried in debris from the roadway above.
3	3	8	**[25] BEARING, ANCHOR BOLTS, PADS (END)** The bearing of stringer S16 exhibits (2 of 4) sheared / broken anchor bolts at the end of Span 11. All bearing plates are heavy corroded.
4	4	7 & 9	**[26] BRIDGE SEAT AND PEDESTALS (BEGIN)** The begin bridge seat, under the westbound and eastbound roadways, exhibits extensive debris accumulation. Three water pipes which run through the left end of the abutment backwall under the westbound roadway are broken and continuously leak water onto the bridge seat.
3	3	10	**[27] BRIDGE SEAT AND PEDESTALS (END)** The concrete pedestals at the east end of Span 11 exhibit cracks and spalls with up to 10% undermining below bearing plates at Stringers, S4, S7, S8, S9, S10, S11, S12, S14, S15 and S18. At Stringer S9, there is one anchor bolt which exhibits moderate corrosion and is partially exposed. The bridge seat is wet and covered with dirt and debris.
			APPROACHES
5	1	11	**[53] DRAINAGE** Previously reported 100% clogged drainage inlet at begin approach of the eastbound roadway is now clean and open. Condition rating upgraded from "1" to "5".

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N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 10 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			TP 350
			DECK ELEMENTS
4	3	12	**[19] WEARING SURFACE** Spans 10 & 11 There are several small spalls and cracks, however, several new asphalt patches were added throughout the concrete overly along the westbound roadway. The eastbound asphalt roadway is in good condition. Condition rating upgraded from "3" to "4".
4	4	13	**[20] CURBS** Spans 1 & 3 The steel curb along the Eastbound and Westbound Roadways exhibits severe corrosion and pitted areas with localized holes at various locations.
3	3	14 &15	Span 2 There is a 4 foot section of the steel curb at the right side of the Eastbound Roadway, which is collapsed and severely corroded with holes at the finger joint location at PP 14W. The remaining sections of the steel curb exhibits various areas heavy corrosion, pitting and holes.
4	4	15 16 17	**[22] RAILINGS AND PARAPETS** Span 1 The left and right steel railings and barriers exhibits moderate pitting and corrosion with localized thru-holes throughout. There is a broken weld and disconnected rail at the bottom of the left safety walk stairs near the begin (New Jersey) anchorage. A local section of the safety walk railing is missing at the left safety walk at PP 11W.
4	4	15	Span 2 The left and right steel railings and barriers exhibit moderate pitting and corrosion with localized thru-holes. At the right safety walk near PP 14W, a local section of the bridge railing is disconnected and (1 of 4) handrails is missing at the medium catwalk at PP 27W. At the right safety walk near PP 22W, there is a bridge railing post with impact damage at the base.
4	4	15 17	Span 3 The left and right steel railings and barriers exhibits moderate pitting and corrosion with localized thru-holes throughout. Near the New York tower, a local section of the safety walk railing is missing. The right safetywalk railing is detached from the post at the top of the barrier at PP 1E.

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BRIDGE INSPECTION REPORT

BIN 5522507

SHEET **11** **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
4	4	---	**[23] SCUPPERS** Span 8 At Capbeam 6, the scupper's hopper screen is covered with heavy amounts of debris, and remains bent upward. (No photo available).
4	4	18	**[25] MEDIAN** Spans 1 & 2 The steel curbs and barriers on both sides of the median exhibit moderate corrosion and pitting with localized thru-holes.
4	4	18 19	Span 3 The steel curbs and barriers on both sides of the median exhibit moderate corrosion and pitting with localized thru-holes. There is a section of the left steel median barrier curb at PP 1E which is damaged and settled. The left steel median barrier at PP 3E exhibits impact damage.
			SUPERSTRUCTURE
4	4	20 21 21	**[28] PRIMARY MEMBERS** Span 2 The bottom of the web for Stringer S4 at PP 38E exhibits an area of severe corrosion with a thru-hole up to 1/2" in diameter. A total of 59 fascia stringers, which support the safety walk, exhibits areas of severe section loss with cracks or holes up to 5/8" high x 6" long in the web along the bearing angles at the connection to the floorbeam. There is severe corrosion at the bottom of web of Stringer S1 at the end side of the Floorbeam 26W* with two corrosion holes 3/8" x 5" and 1/8" x 1". Two 3/4" diameter arrestor holes were drilled at this location.

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BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 12 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[28] PRIMARY MEMBERS (cont'd)
			Span 3
4	4	22	There is up to 15% section loss to stringers and thru-holes to web of stringers S6 and S14 between panel point 1E* & 1E over floorbeam 1E.
		23	All previously noted end diaphragms exhibiting severe corrosion with section loss and holes over floorbeam 1E were replaced.
		24	There is heavy pitting and 12 thru-holes up to 6" x 2" along the edges of the right stiffening truss bottom chord at the top plate, between PP 3E and 3E*. There is also water ponding on the top plate of the bottom chord throughout. Temporary caulking was added in pitted areas to prevent water ponding. There is a 1" dia. hole along the right edge of the top plate between PP 9E and 8E*.
		25	Fascia stringers S1 and S18 supporting the safety walk between PP 1E* and 1E exhibit with up to 50% section loss to the top and bottom flanges with large holes in the web near the middle third of the span.
		26	Fascia stringer S1 between PP 7E* and 8E exhibits severe corrosion with a 2"x9" hole along the top flange at the quarter point from Floorbeam 7E*.
		27	There are 4 fascia stringers supporting the safety walk exhibiting severe section loss, cracks, and holes up to 3/4"x 5" in size along the web bearing angles at the floorbeam connections.
			Span 4
4	4	28	The top flange and web of stringers S2, 3, 4, 6, 7 and 10 at floorbeam 1E exhibit severe corrosion and section loss throughout with up to 1"x12" hole at the bearing area of stringers. The stringer S15 web was recently repaired with bolted plates.
			Span 7
4	4	29	The web at the end of stringers S1, S5, and S8 at Capbeam No. 4 exhibits severe corrosion and section loss with holes up to 4"x11" in size at the bearing.
			Span 9
4	4	30	The lower portion of the web at the east end of Stringers S11, S12, and S13 exhibit severe corrosion and section loss with holes up to 1.5"x 4" in size at the bearings. A corrosion crack was also evident at stringer S12.

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N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 13 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
3	3	31 & 32	**[30] PAINT** Spans 1, 2 and 3 Directly below the median and safety walks (open area), the paint system of the floorbeams and stringers S1, S2, S8-S11, S17, and S18 have completely failed. There are areas of severe peeling and blistering paint with moderate to heavy corrosion. The remaining structural steel paint system exhibits areas of spot rusting and flaking throughout.
5	4	33	Span 6 The previously noted areas of missing paint and paint peeling with moderate surface corrosion and minor section loss throughout the bottom flange and web of Capbeam No.4 was cleaned and painted and the deteriorated rivets were replace with bolts along the bottom flange.
4	4	34 35	**[31] JOINTS** Spans 1 and 2 Joint filler material is missing or deteriorated in localized areas at most of the deck joints within both roadways with evidence of water leakage to the steel members below. At the NY and NJ towers, the steel finger joints are in fair condition with moderate vertical differential between the fingers.
3	3	36 34	Span 3 The finger joint plates at the Panel Point 1E remain jammed at an ambient temperature of 85°F restricting movement. Joint filler material is missing or deteriorated in localized areas at most of the deck joints within both roadways with evidence of water leakage to the steel members below.
3	3	37	Span 6 The joint filler material is deteriorated causing water leakage onto the steel members below resulting in heavy corrosion.
3	3	38	Span 9 The joint filler material is missing for the entire width of the roadway. Water is leaking onto the steel members and concrete pier below causing heavy deterioration of the structural elements.

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BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 14 **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			PIERS
4	4	39 8	**[33] BEARING, ANCHOR BOLTS, PADS** Span 9 The bearings of stringers S2 and S3 exhibit (1 of 4) sheared anchor bolts at the begin side of span 10. Span 10 The bearing of stringer S16 exhibits (2 of 4) sheared/broken anchor bolts at the east end of span 11. (This condition is rated under Item 25 on TP349).
3	3	40	**[34] PEDESTALS** Span 9 The concrete pedestal is spalled and the bearing plate is slightly undermined below Stringer S16 at the Span 10 side. The remaining portion of the this pedestal exhibits disintegrated concrete. The pedestal for stringer S15 at the Span 10 side exhibits several cracks and areas of disintegrated and loose concrete.
3	3	41	Spans 10 and 11 The concrete pedestals are spalled and cracked with minor undermining below the bearing plate for Stringers S10, 13, 15 and 16, at the west end of Span 10, and at two interior bearing pedestals below S12 in Span 11. There are also several exposed anchor bolts some of which exhibit severe rust. The remaining concrete is partially disintegrated. (The pedestals at the east end of Span 11 are rated under Item 27 on TP349)
5	4	42	**[35] TOP OF PIER CAP OR BEAM** Spans 9 and 10 The top of the NY Anchorage is rated under this item for Spans 9 & 10. The top of the NY Anchorage exhibits extensive debris accumulation throughout and water ponding water at localized areas. (Condition rating upgraded from "4" to "5" based on actual condition of Item 35).
5	4	33 & 43	**[37] CAP BEAM** Span 6 Both flanges and base of vertical web stiffeners of Capbeam No. 4 were recently repainted and exhibit arrested pitting with moderate section loss. The verticle stiffener angles exhibit up to 50% section loss at the bottom 6" of the oustanding legs and were recently cleaned and painted. The rivet heads along the bottom flange were replaced with bolts. (The condition rating was upgraded from "4" to "5" based on the arrested metal loss and installation of new bolts).

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BIN 5522507

SHEET **15** **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			UTILITIES
3	3	44	**[43] LIGHTING STANDARDS AND FIXTURES** Spans 1 & 2 There are no lighting standards or fixtures throughout these spans, There are a number of blue emergency lights with broken or missing bulbs, some of wihch exhibit exposed electrical wires and are rated under this item.
4	4		**[44] SIGN STRUCTURE** Spans 1, 2 and 3 The traffic signs within these spans are in generally good condition. Several sign panels exhibit loose or missing screws and bolts and few signs exhibit minor damage.
1	1	45	Span 10 There is a disconnected sign at the median indicating "NO MERGE AHEAD" at the beginning of span 10.
1	1	46	**[45] UTILITIES AND UTILITIES SUPPORT** Spans 1, 2 and 3 -*Top of Deck* The junction boxes attached to the back side of the left and right parapets exhibit missing or loose cover plates with exposed electrical wires. (These areas are typically considered accessible to the public/stranded motorists).
		44	The outlets attached to the stiffening truss members exhibit missing or loose covers with exposed electrical wires.
		47	The conduits attached to the back side of the left and right parapets exhibit missing or loose access covers with exposed electrical wires.
		48	The conduit couplings attached to the back side of the left and right parapets are broken and partially disconnected some of which exhibit exposed electrical wires.
		51	At PP 27E there is a broken conduit with exposed electrical wiring. At PP 31E, there is an abandoned junction box along the right stiffening truss which is severely corroded and exhibits exposed electrical wiring.
		52	At PP 18W, there are 3 of 4 anchor bolts missing on the left safety walk near the base plate of the downspout support.

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BIN 5522507

SHEET **16** **OF** 16

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis **DATE:** 09/30/11

OTHERS: Tom Kyle, PE

Feature(s) Carried: I-95 (GWB LOWER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[45] UTILITIES AND UTILITIES SUPPORT (cont'd)
			Span 1 and Span 2 - *Underside of Deck*
		9	Three utility pipes along the begin abutment under the left side safety walk remain broken and are discharging water onto the bridge seat. The supports for these utility pipes are also disconnected.
		49	At the begin abutment, between Stringers S1 and S2, there are 3 utility conduits which are broken with exposing electrical wiring.
		50	At the begin face of Floorbeam 3W, under Stringer S2, the conduit support exhibits severe corrosion with up to 90% section loss and one of the conduits is severely corroded.
		53	The junction box attached to the bottom chord of left stiffening truss at Panel Point 19E exhibits a missing cover with exposed electrical wires. Also, the conduit above the junction box exhibits a corrosion hole with exposed electrical wires.
		54	At the end face of Floorbeam 17E under Stringer S18, the conduit support is broken and the conduit is loose.
		55	Along the end face of Floorbeam 29E, there are loose and exposed elecrical wires.

PHOTOGRAPHS

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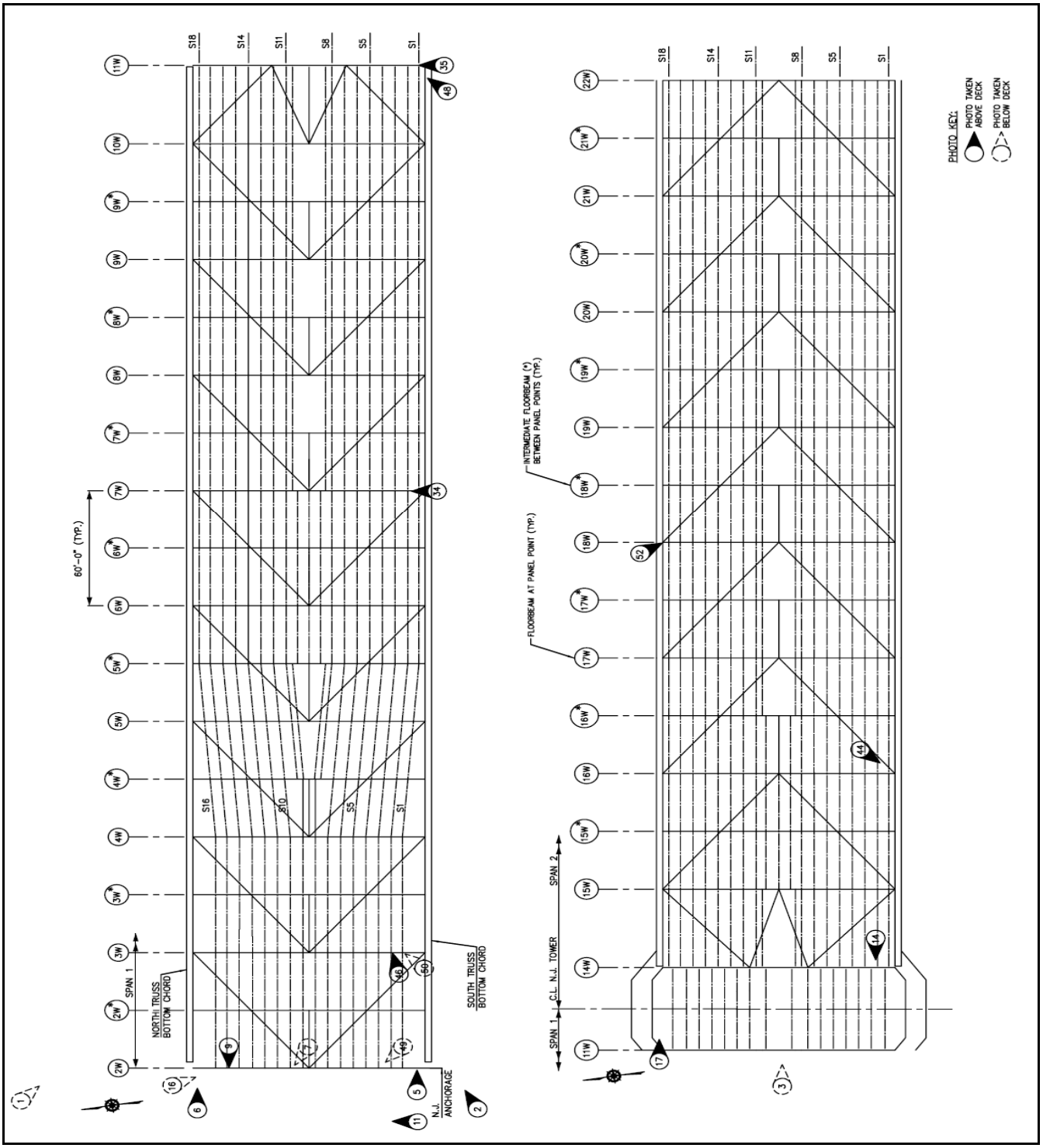
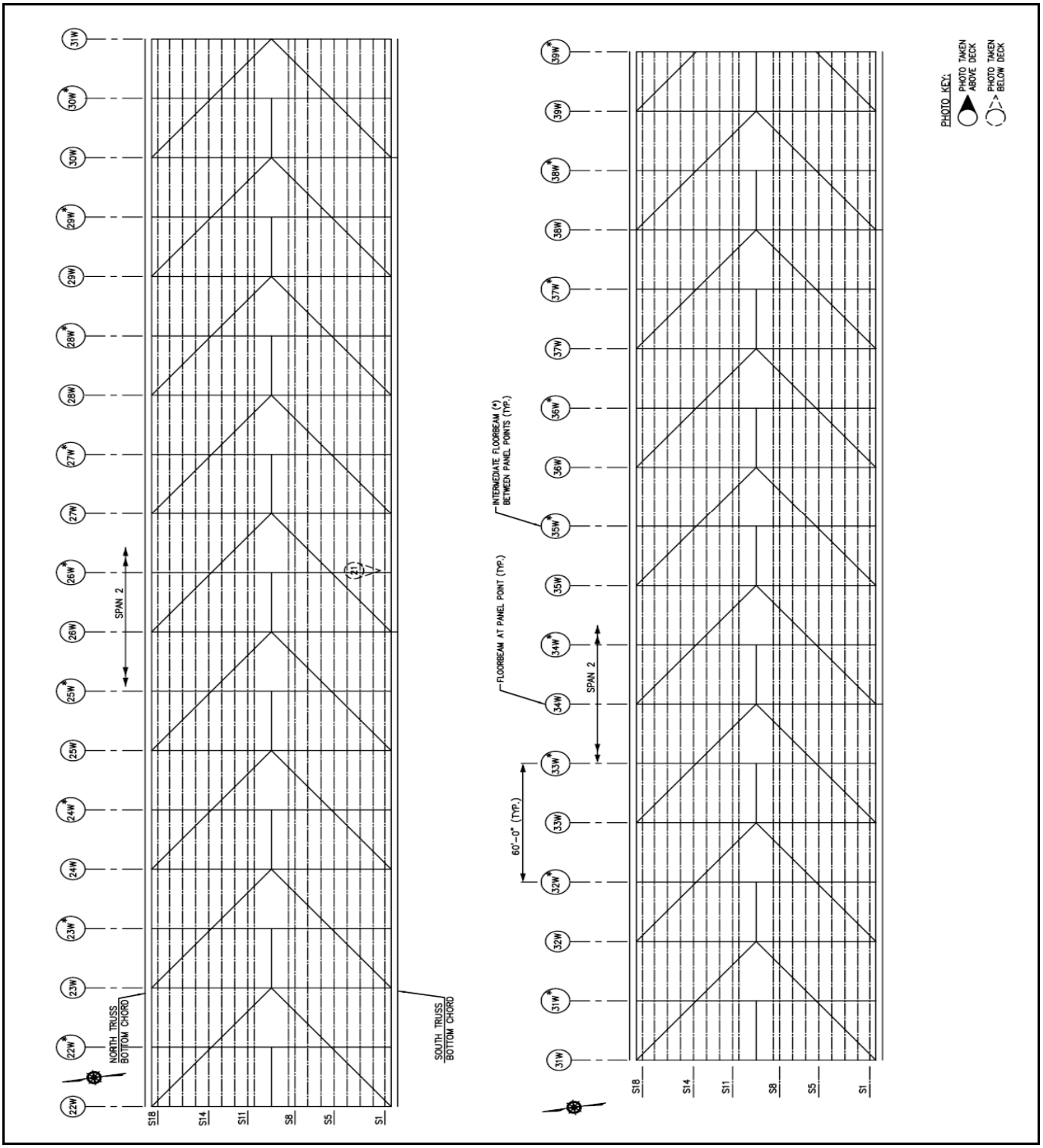
BIN	5522507	**SHEET**	1	**OF**	33
TEAM LEADER:	Ray Gramy, PE	**ASST. TEAM LEADER:**	Derek Lewis	**DATE:**	09/30/11
OTHERS:	Tom Kyle, PE				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

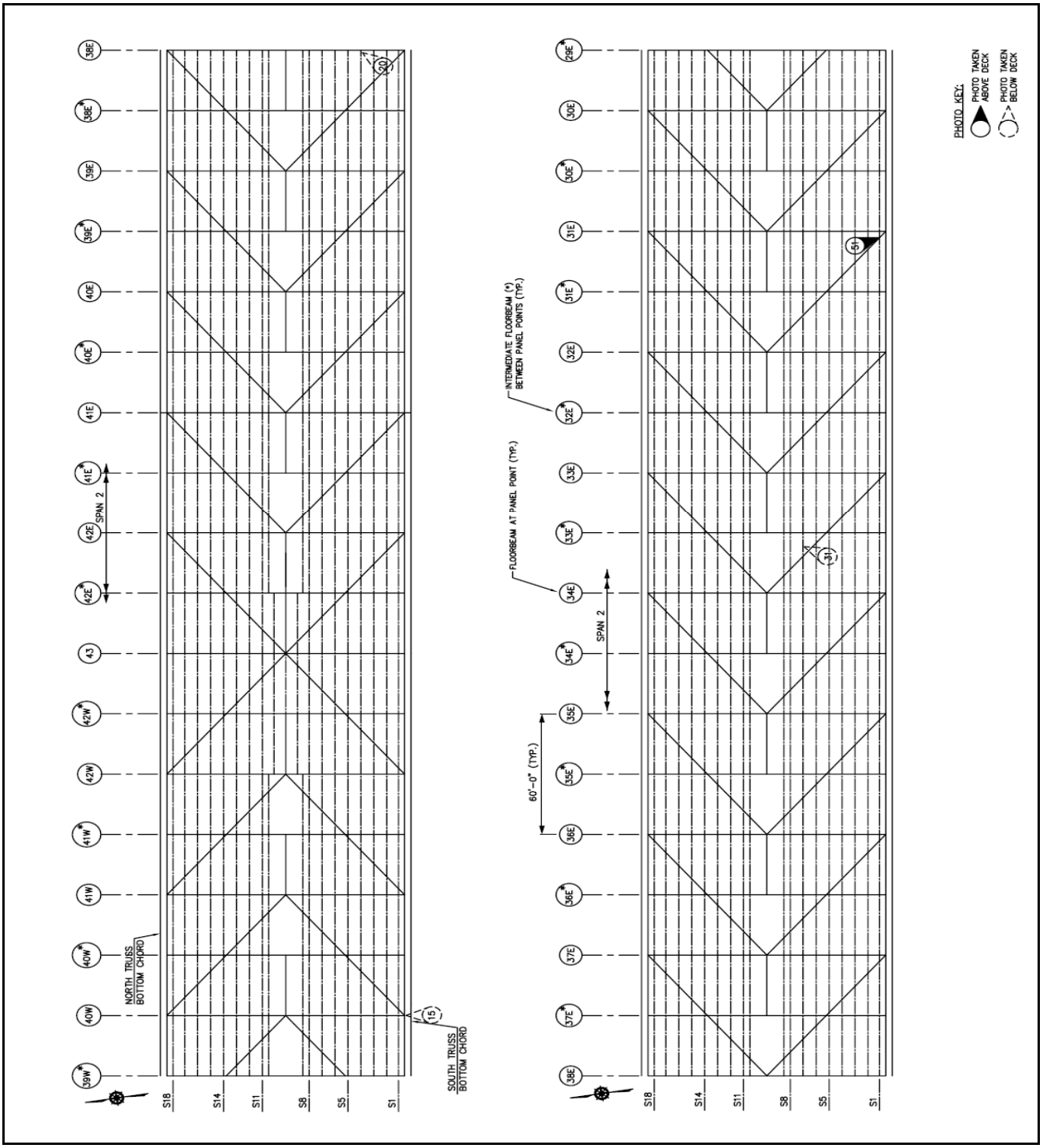
BIN	5522507	**SHEET**	2	**OF**	33
TEAM LEADER:	Ray Gramy, PE	**ASST. TEAM LEADER:**	Derek Lewis	**DATE:**	09/30/11
OTHERS:	Tom Kyle, PE				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



BD 188 (4/95)

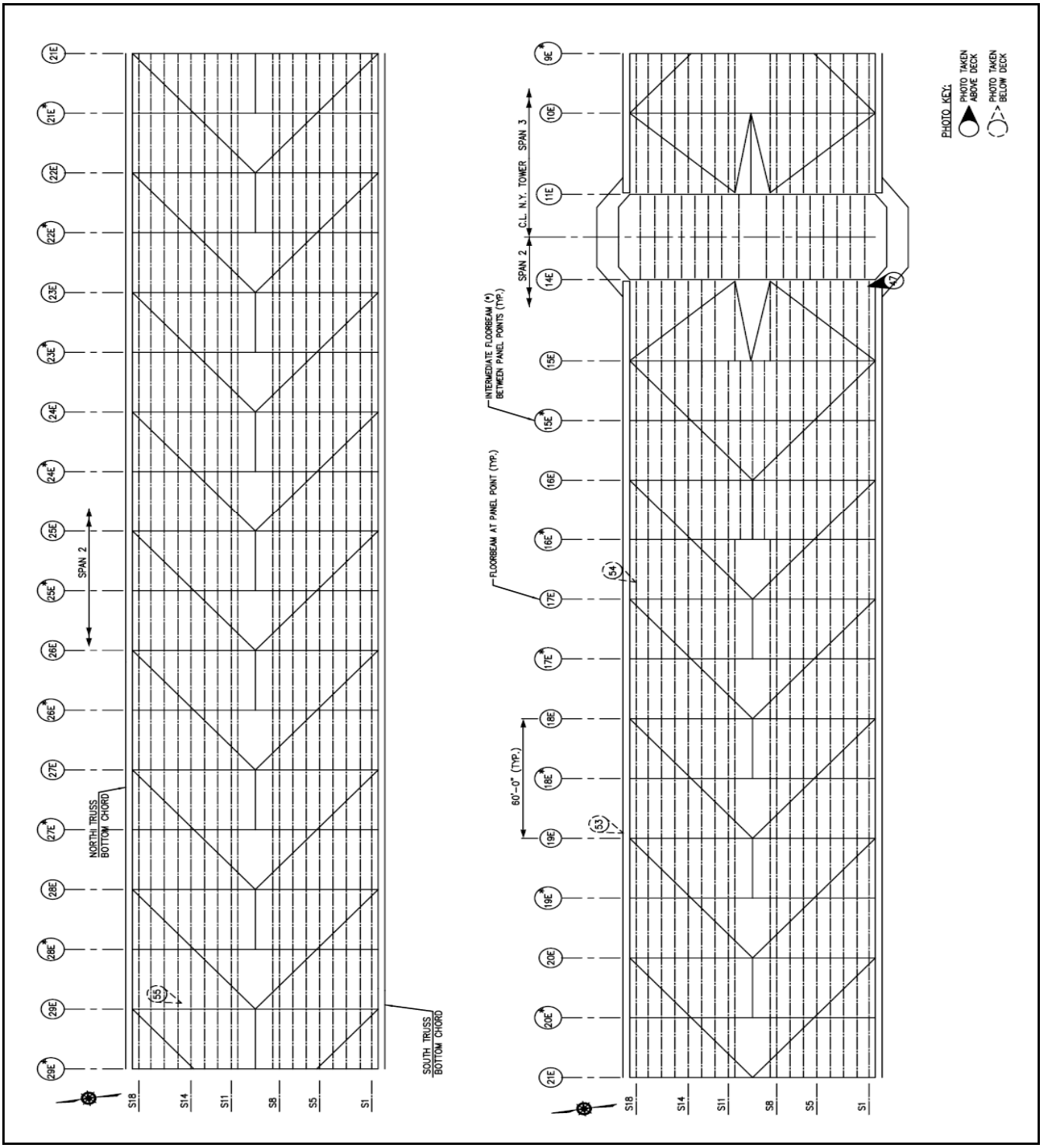
N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN	5522507	**SHEET**	3	**OF**	33
TEAM LEADER:	Ray Gramy, PE	**ASST. TEAM LEADER:**	Derek Lewis	**DATE:**	09/30/11
OTHERS:	Tom Kyle, PE				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



BD 188 (4/95)

BIN	5522507	**N.Y.S. DEPT. OF TRANSPORTATION BRIDGE INSPECTION REPORT**			
		SHEET	4	**OF**	33
TEAM LEADER:	Ray Gramy, PE	**ASST. TEAM LEADER:**	Derek Lewis	**DATE:**	09/30/11
OTHERS:	Tom Kyle, PE				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN	5522507	**SHEET**	5	**OF**	33
TEAM LEADER:	Ray Gramy, PE	**ASST. TEAM LEADER:**	Derek Lewis	**DATE:**	09/30/11
OTHERS:	Tom Kyle, PE				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				

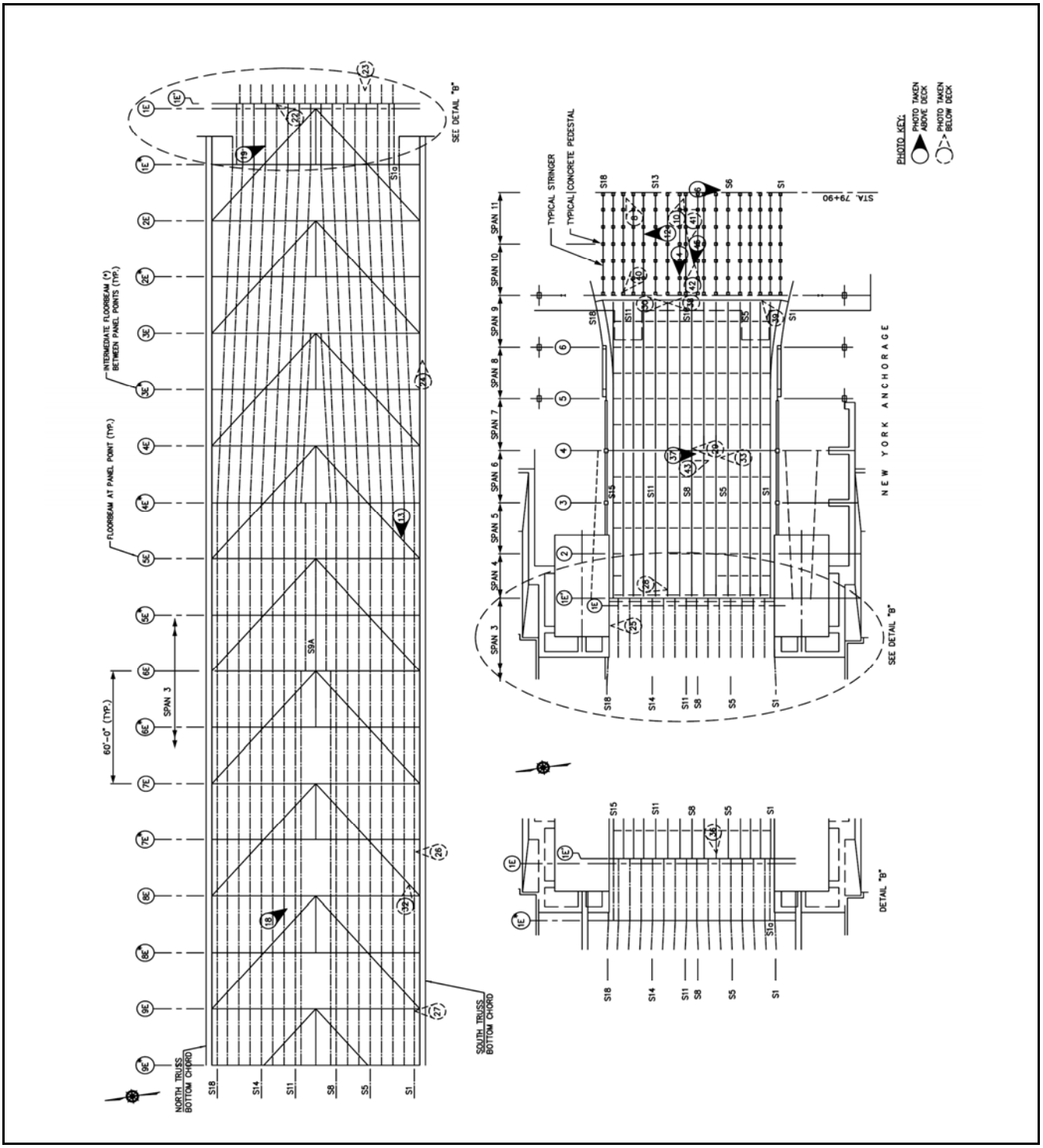


Photo No.: 1

Location:
Left elevation, Spans 1-3, looking ahead & right.

Description:
General view of main suspended span 2 and end spans 1 & 3.

Reference:
N/A

Photo No.: 2

Location:
Right fascia elevation, looking ahead & left.

Description:
General view of begin span 1 & main suspended span 2.

Reference:
N/A

Photo No.: 3

Location:
Underside of deck and superstructure, looking up & ahead from NJ tower.

Description:
General view of Span 2, main suspended span framing.

Reference:
N/A

Photo No.: 4

Location:
Top of deck,
looking back from NY Anchorage span 11.

Description:
General View.

Reference:
N/A

Photo No.: 5

Location:
Span 1, begin abutment finger joint at right safety walk, looking ahead.

Description:
The expansion joint sliding plate was repaired.

Reference:
TP 349, Item 22 [Joint with Deck - Begin],
Rated 5

Photo No.: 6

Location:
NJ abutment, left safetywalk, looking ahead.

Description:
Severe corrosion and holes up to 2" x 6" in diamond plate near expansion joint. The left and right safety walks are closed to pedestrians, therefore, these conditions do not pose a public safety hazard.

Reference:
TP 349, Item 23 [Joint With Deck],
Rated 5

Photo No.: 7

Location:
Begin abutment,
stringer S9 bearing,
looking back & left.

Description:
The bearing is corroded, frozen and buried under extensive roadway debris.

Reference:
TP 349, Item 24 [Bearings, Anchor Bolts, Pads], Rated 3
TP 349, Item 26 [Bridge Seat and Pedestals], Rated 4

Photo No.: 8

Location:
End abutment,
stringer S16 bearing plate,
looking ahead & left.

Description:
One out of two anchor bolts is sheared off on the right side of stringer. One out of two anchor bolts is also sheared off on the left side of stringer (not shown).

Reference:
TP 349, Item 25 [Bearings, Anchor Bolts, Pads],
Rated 3

Photo No.: 9

Location:
Begin abutment,
backwall between stringer S17 & S18, looking back.

Description:
Three water pipes are broken and discharging water onto bridge seat below the left safetywa k.

Reference:
TP 349, Item 26 [Bridge Seat and Pedestals], Rated 4;
TP 350, Item 45 [Utilities and Utilities Supports], Rated 1

Photo No.: 10

Location:
End abutment,
concrete pedestal for stringer S10, looking ahead.

Description:
The concrete pedestal under stringer S10 exhibits spalls and cracks and 10% undermining below the bearing plate. One anchor bolt is partially exposed and exhibits corrosion.

Reference:
TP 349, Item 27 [Bridge Seat and Pedestals], Rated 3

Photo No.: 11

Location:
Begin approach,
right curb of Eastbound
Roadway, looking left.

Description:
Previously clogged drainage inlet was cleaned and is open.

Reference:
TP 349, Item 53 [Drainage],
Rated 5

Photo No.: 12

Location:
Westbound Roadway
span 11, looking left.

Description:
Concrete overlay exh bits
several new large asphalt
patches in spans 10 and 11.
Several spalls and cracks
remain.

Reference:
TP 350, Item 19 [Wearing
Surface],
Rated 4 for Spans 10 & 11

Photo No.: 13

Location:
Span 3, right curb of Eastbound Roadway at Panel Point 5E, looking back.

Description:
Steel curb plate is severely pitted with heavy surface corrosion and small corrosion holes.

Reference:
TP 350, Item 20 [Curbs], Rated 4 for Spans 1 & 3

Photo No.: 14

Location:
Span 2, right curb of Eastbound Roadway at panel point 14W finger joint, looking back.

Description:
A four feet section of steel curb had collapsed and is severely corroded with large holes.

Reference:
TP 350, Item 20 [Curbs], Rated 3 for Span 2

Photo No.: 15

Location:
Span 2 at panel point 40W, bottom of steel curb & barrier below right safety wa k, looking up from underdeck.

Description:
Large corrosion holes in the steel curb plate and vertical face of the steel barrier.

Reference:
TP 350, Item 20 [Curbs], Rated 3 for Span 2;
TP 350, Item 22 [Railings and Parapets], Rated 4 Spans 1, 2, & 3

Photo No.: 16

Location:
Span 1, bottom of safety wa k stair near New Jersey abutment, looking right.

Description:
The rail post base plate weld is broken and disconnected at bottom.

Reference:
TP 350, Item 22 [Railings and Parapets], Rated 4 for Span 1

Photo No.: 17

Location:
New Jersey Tower,
left safety wa k, looking ahead.

Description:
The safety wa k railing is missing behind the chain-link fence.

Reference:
TP 350, Item 22 [Railings and Parapets],
Rated 4 for Spans 1 & 3

Photo No.: 18

Location:
Span 3, left side of steel median barrier,near panel point 8E, looking right & ahead.

Description:
Steel curb and barrier exhibit moderate pitting and surface corrosion throughout.

Reference:
TP 350, Item 25 [Median],
Rated 4 for Spans 1, 2, & 3

Photo No.: 19

Location:
Span 3, left side of median at Panel Point 1E, looking ahead & right.

Description:
End section of steel curb is damaged and settled.

Reference:
TP 350, Item 25 [Median], Rated 4 for Span 3

Photo No.: 20

Location:
Span 2, stringer S4 at the begin side of floorbeam 38E, looking ahead & left.

Description:
The bottom of web exhibits severe corrosion with a 1/2" diameter hole at the connection to the floorbeam.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2

Photo No.: 21

Location:
Span 2, fascia stringer S1 at end side of floorbeam 26W*, looking right.

Description:
The stringer web exh bits severe section loss with holes around the web bearing angles at the floorbeam connection. Two 3/4" diameter holes were drilled at this location since the previous inspection.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2

Photo No.: 22

Location:
Span 3, end face at end of stringer S14 between floorbeam 1E* & 1E, looking ahead & left.

Description:
The web at the end of stringer exhibits severe corrosion and a up to 3" x 1" holes at the top of web.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 23

Location:
Span 3, end diaphragm between stringers S3 & S4 at floorbeam 1E, looking back.

Description:
Previously reported severely corroded end diaphragms were replace with new steel members.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 24

Location:
Span 3, the top surface of bottom chord of right stiffening truss between Panel Points 3E and 3E*, looking ahead.

Description:
The top plate of the bottom chord exhibits twelve (12) thru-holes up to 6" x 2" with water ponding throughout.
Temporary caulking was added to fill areas of pitting and minimize water ponding.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 25

Location:
Span 3, stringer S18 between panel point 1E* & 1E, looking left.

Description:
Fasica stringer S18 exhibits 50% section loss to both flanges and a large corrosion hole to lower web near mid-span.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 26

Location:
Span 3, stringer S1 between panel point 8E and 7E*, looking left.

Description:
The top flange of the fascia stringer is severely corroded with a 2" x 9" hole near the quarter point from floorbeam 7E*.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 27

Location:
Span 3, stringer S1 at the back side of floorbeam 9E, looking left.

Description:
The stringer web exh bits severe section loss with a 3/4" x 5" hole along the web bearing angles at the floorbeam connection.

Reference:
TP 350, Item 28 [Primary members],
Rated 4 for Span 3

Photo No.: 28

Location:
Span 4, end of stringer S10 over floorbeam 1E,
looking right.

Description:
The web and top flange exhibit severe corrosion with large 1" x 6" hole in the top of web (arrow) and a 4" x 4" hole in top flange on opposite side (not shown).

Reference:
TP 350, Item 28 [Primary Members], Rated 4 for Span 4

Photo No.: 29

Location:
Span 7, stringer S8 at capbeam No.4, looking left.

Description:
The end of stringer exhibits severe corrosion with 4" x 11" hole in the web above the bearing.

Reference:
TP 350, Item 28 [Primary members],
Rated 4 for Span 7

Photo No.: 30

Location:
Span 9, east end of stringer S12 at Span 10, looking right.

Description:
The bottom of web exhibits severe corrosion with a 1.5" x 4" hole and a 5" long corrosion crack above the bearing.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 9

Photo No.: 31

Location:
Span 2, begin face of floorbeam 33E*, looking ahead & left.

Description:
The floorbeam & stringers exhibit areas of peeling/blistering paint and minor to moderate corrosion. (Typical of all stringers & section of floorbeams below safety walks and median).

Reference:
TP 350, Item 30 [Paint], Rated 3 for Spans 1, 2, & 3

Photo No.: 32

Location:
Span 3, left side of stringer S1 between panel point 8E & 7E*, looking ahead & right.

Description:
The stringer exh bits areas of peeling/blistering paint and minor to moderate corrosion. (Typical of all stringers below safety walks and median).

Reference:
TP 350, Item 30 [Paint], Rated 3 for Spans 1, 2, & 3

Photo No.: 33

Location:
Span 6, bottom flange of capbeam No. 4, looking up & left.

Description:
Previously reported heavily corroded rivet heads along the bottom flange were replaced with new bolts. The bottom flange exhibits moderate pitting throughout. The capbeam flange areas were recently painted.

Reference:
TP 350, item 30 [Paint], Rated 5 for Span 6;
TP 350, Item 37 [Capbeam], Rated 5 for Span 6

Photo No.: 34

Location:
Span 1, deck joint in Eastbound Roadway at Panel Point 7W, looking left.

Description:
Sections of deck joint exhibit missing or deteriorated joint filler material allowing water leakage below.
(Typical for Spans 1, 2, & 3)

Reference:
TP 350, Item 31 [Joints], Rated 4 for Spans 1 & 2; Rated 3 for Span 3

Photo No.: 35

Location:
Span 1, finger joint in Eastbound Roadway at Panel Point 11W (NJ Tower), looking left.

Description:
The finger joint exhibits moderate vertical differential between the fingers. (Typical for finger joints at both towers).

Reference:
TP 350, Item 31 [Joints], Rated 4 for Spans 1 & 2

Photo No.: 36

Location:
Span 3, underside of finger joint below Eastbound Roadway at panel point 1E, looking up & ahead.

Description:
The finger joint plates are jammed against each other restricting movement.

Reference:
TP 350, Item 31 [Joints], Rated 3 for Span 3

Photo No.: 37

Location:
Span 6, deck expansion joint in the Eastbound Roadway, looking right.

Description:
The joint filler material is partially missing and deteriorated allowing water leakage below.
(Westbound roadway joint similar)

Reference:
TP 350, Item 31 [Joints], Rated 3 for Span 6

Photo No.: 38

Location:
Span 9, underside of expansion joint in Westbound Roadway, looking up & left.

Description:
The joint filler material is missing for the entire width of the roadway.
(Eastbound roadway similar)

Reference:
TP 350, Item 31 [Joints], Rated 3 for Span 9

Photo No.: 39

Location:
Span 10, stringer S3 at begin side of span 10, looking ahead & left.

Description:
One of four anchor bolts remains sheared off and the other three are in good condition.

Reference:
TP 350, Item 33 [Bearings, Anchor Bolts, Pads], Rated 4 for Span 9

Photo No.: 40

Location:
Span 9, pedestal at stringer S16 of Span 10, looking back & left.

Description:
the concrete pedestal is spalled and cracked and the bearing plate is slightly undermined. The remaining concrete is disintegrated.

Reference:
TP 350, Item 34 [Pedestals], Rated 3 for Span 9

Photo No.: 41

Location:
Span 10, pedestal at stringer S10, looking back.

Description:
The concrete pedestal is spalled and the bearing plate is slightly undermined with one exposed anchor bolt. The remaining concrete is disintegrated.

Reference:
Tp 350, Item 34 [Pedestals], Rated 3 for Spans 10 and 11

Photo No.: 42

Location:
Spans 9 &10, top of NY Anchorage between stringers S9 & S10, looking ahead.

Description:
Large amount of debris remains on the top of the NY Anchorage partially restricting inspection and maintenance access.

Reference:
TP 350, Item 35 [Top of Pier Cap or Beam], Rated 5 for Spans 9 & 10

Photo No.: 43

Location:
Span 6, capbeam No.4 at begin face, looking right.

Description:
The vertical stiffener angles exhibit up to 50% section loss at the bottom 6" of the outstanding legs and were recently cleaned and painted.

Reference:
Tp 350, Item 37 [Capbeam], Rated 5 for Span 6

Photo No.: 44

Location:
Span 2, blue emergency light and outlet at panel point 16W, looking back & right.

Description:
The blue emergency light and outlet are missing covers with exposed wires.

Reference:
TP 350, Item 43 [Lighting Standards and Fixtures], Rated 3 for Spans 1 & 2 ;
TP 350, Item 45 [Utilities and Utilities Supports], Rated 1 for Spans 1, 2, & 3

Photo No.: 45

Location:
Span 10, median, looking back.

Location:
The sign indicating "NO MERGE AHEAD" is disconnected from post and droped to median.

Reference:
TP 350, Item 44 [Sign Structure],
Rated 1 for Span 10

Photo No.: 46

Location:
Span 1, junction box at the back side of right parapet near panel point 3W, looking ahead.

Description:
The junction box exhibits a missing cover plate with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 47

Location:
Span 2, electrical conduits at the back side of right parapet at panel point 14E, looking back & left.

Description:
The conduit elbows exhibit missing access covers with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 48

Location:
Span 2, conduits at the back side of right parapet at panel point 11W, looking ahead & left.

Description:
The conduit couplings are broken and partially disconnected with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 49

Location:
Span 1, begin abutment between stringers S1 and S2, looking back & left.

Description:
Three conduits are broken with exposed wires below right safety walk.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 50

Location:
Span 1, begin face of floorbeam 3W under stringer S2, looking up & left.

Description:
The conduit support exh bits severe corrosion with up to 90% section loss and one of the conduits is severely corroded.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 51

Location:
Span 2, right stiffening truss at panel point 31E, looking ahead & right.

Description:
Abandoned junction box is severely corroded with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 52

Location:
Span 2, downspout at left safety walk at panel point 18W, looking down.

Description:
The base plate exhibits 3 of 4 missing anchor bolts and a large corrosion hole.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 53

Location:
Span 2, bottom chord of left stiffening truss at panel point 19E, looking back & right.

Description:
The junction box exhibits a missing cover with exposed electrical wires and the conduit above the junction box exhibits corrosion holes with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

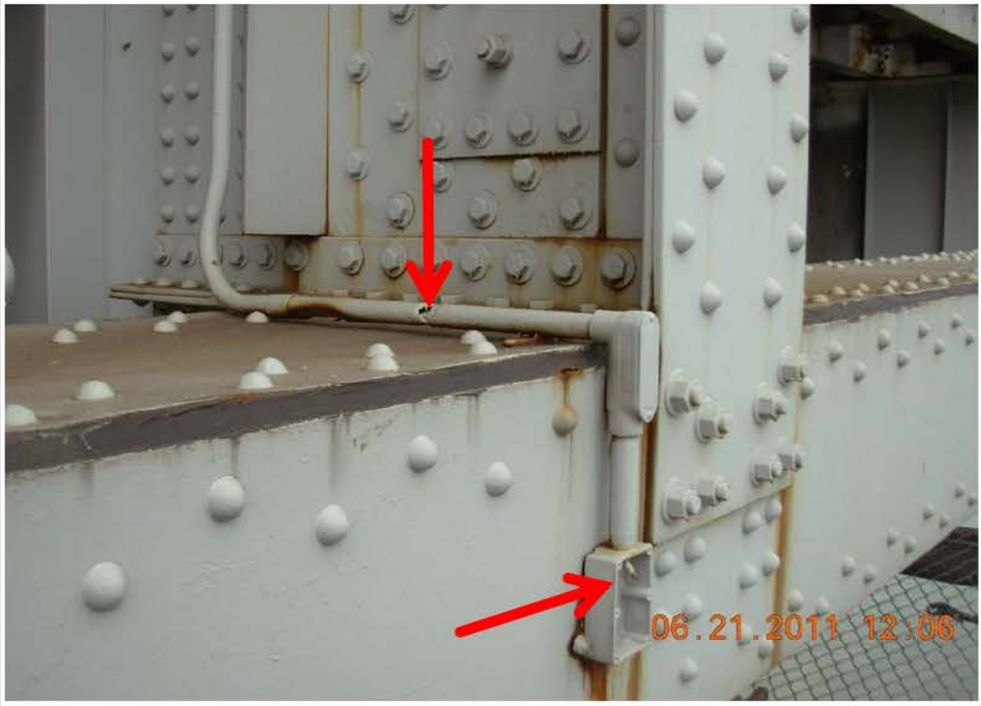


Photo No.: 54

Location:
Span 2, end face of floorbeam 17E under stringer S18, looking back & right

Description:
The conduit support is broken and the conduit is loose.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

BRIDGE INSPECTION REPORT

SHEET 33 OF 33
BIN: 5522507

Photo No.: 55

Location:
Span 2, end face of floorbeam 29E, looking back & right.

Description:
There are loose and exposed electrical wires along the end side of the floorbeam.

Reference:
TP 350, Item 45 [Utilities and Utilities Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.:

Location:

ASST. TEAM LEADER: Derek Lewis
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Ray Gramy, PE
FEATURE CARRIED: I-95 (GWB LOWER LEVEL)

INVENTORY

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	7

DATE 09/30/11

PREPARED BY Ray Gramy, PE

SPAN NO.			Wa king	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/ Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	**R**	**I**	X	X	X						X						X		X	X		9	9	1	7	2
0	0	1	X	X	X												X			X		9	9	1	7	2
0	0	2	X	X													X			X		9	9	1	7	2
0	0	3	X	X													X			X		9	9	1	7	2
0	0	4	X								X								X			9	9	1	7	2
0	0	5	X								X								X			9	9	1	7	2
0	0	6	X								X								X			9	9	1	7	2
0	0	7	X								X								X			9	9	1	7	2
0	0	8	X								X								X			9	9	1	7	2
0	0	9	X								X								X			9	9	1	7	2
0	1	0	X																X			9	9	1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	7

DATE 09/30/11

PREPARED BY Ray Gramy, PE

SPAN NO.			Wa king	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	**R**	**I**																				9	9	1	7	2
0	1	1	X															X	X			9	9	1	7	2
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																								1	7	2
																								1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

DETAILS OR SITUATIONS REQUIRING SPECIAL EMPHASIS DURING INSPECTION

BD 186

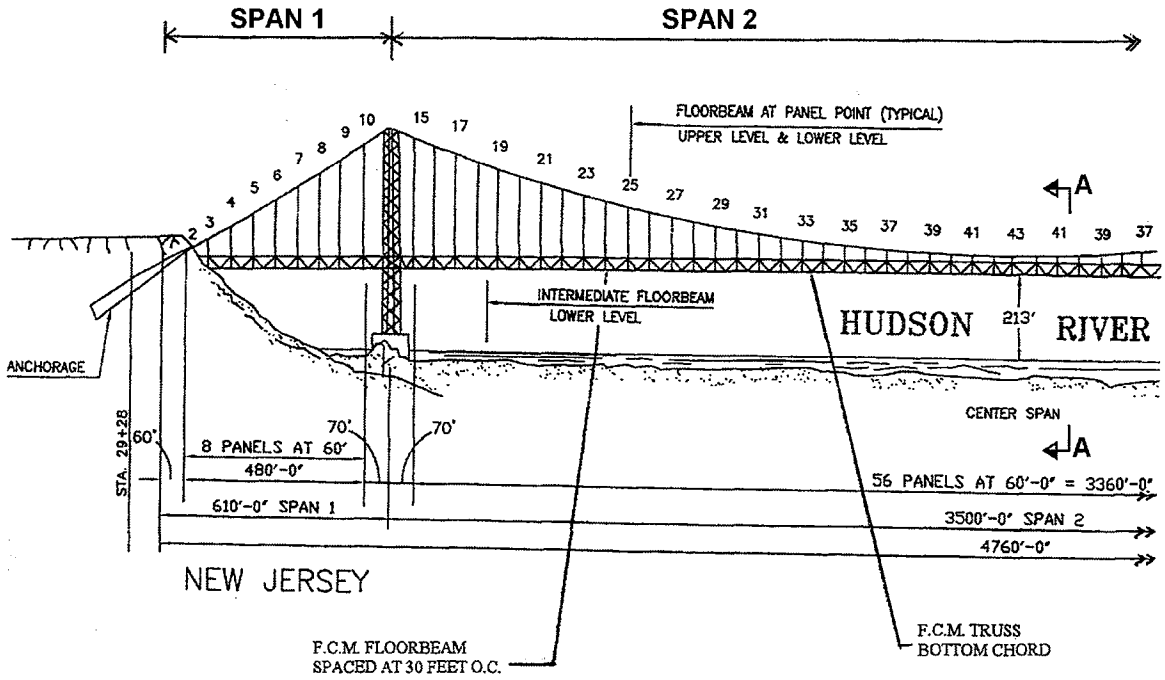
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
LOOKING NORTH

NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON THE LOWER LEVEL NON-REDUNDANT AND FRACTURE-CRITICAL BOTTOB CHORD OF THE STIFFENING TRUSS, FLOORBEAMS (SPACED AT 30 FEET O.C.) AND THEIR CONNECTION TO THE BOTTOM CHORD OF STIFFENING TRUSSES.

FOR TYPICAL SECTION A-A, SEE SHEET 3 OF 9

ASC
10/1/09

Ray Gramy 9/30/11

BD 186

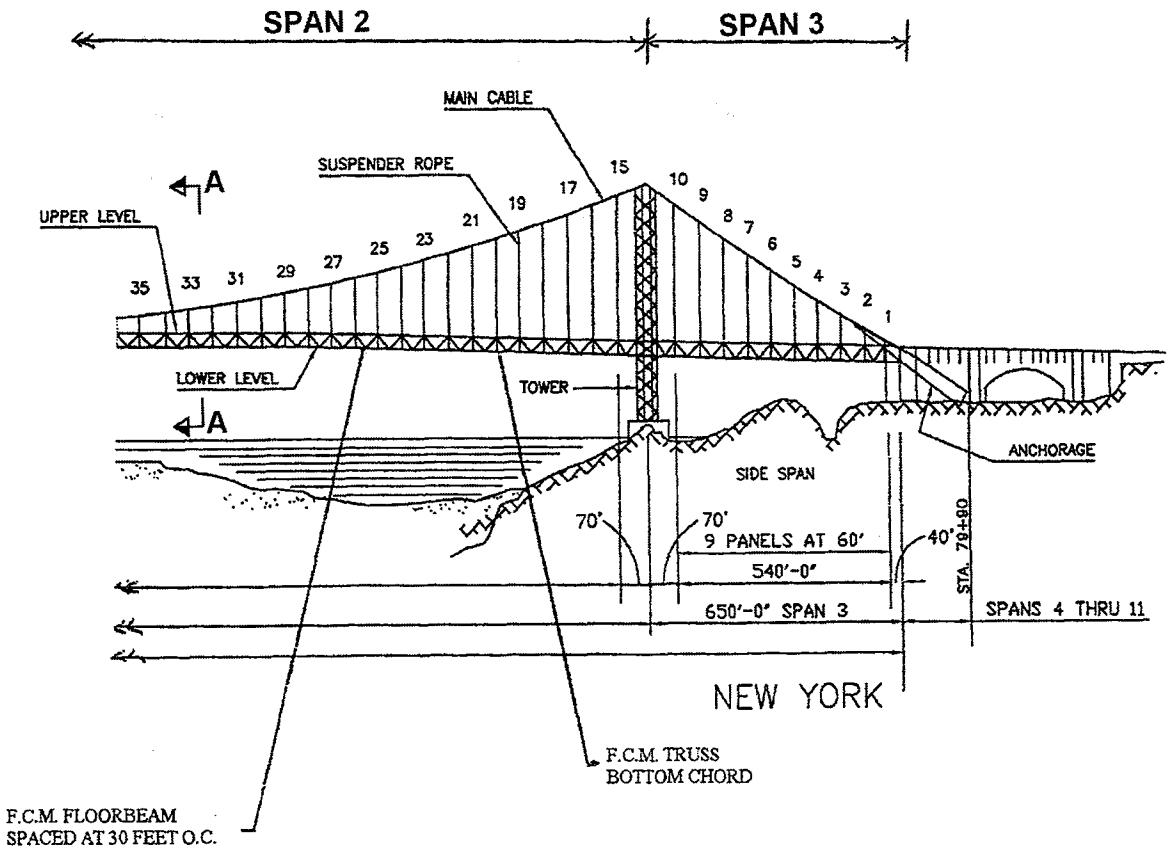
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
LOOKING NORTH

NOTE:
100% "HAND ON" INSPECTION WAS PERFORMED ON THE LOWER LEVEL NON-REDUNDANT AND FRACTURE-CRITICAL BOTTOB CHORD OF THE STIFFENING TRUSS, FLOORBEAMS (SPACED AT 30 FEET O.C.) AND THEIR CONNECTION TO THE BOTTOM CHORD OF STIFFENING TRUSSES.

FOR TYPICAL SECTION A-A, SEE SHEET 3 OF 9

ASC
10/1/09

Ray Gramy 9/30/11

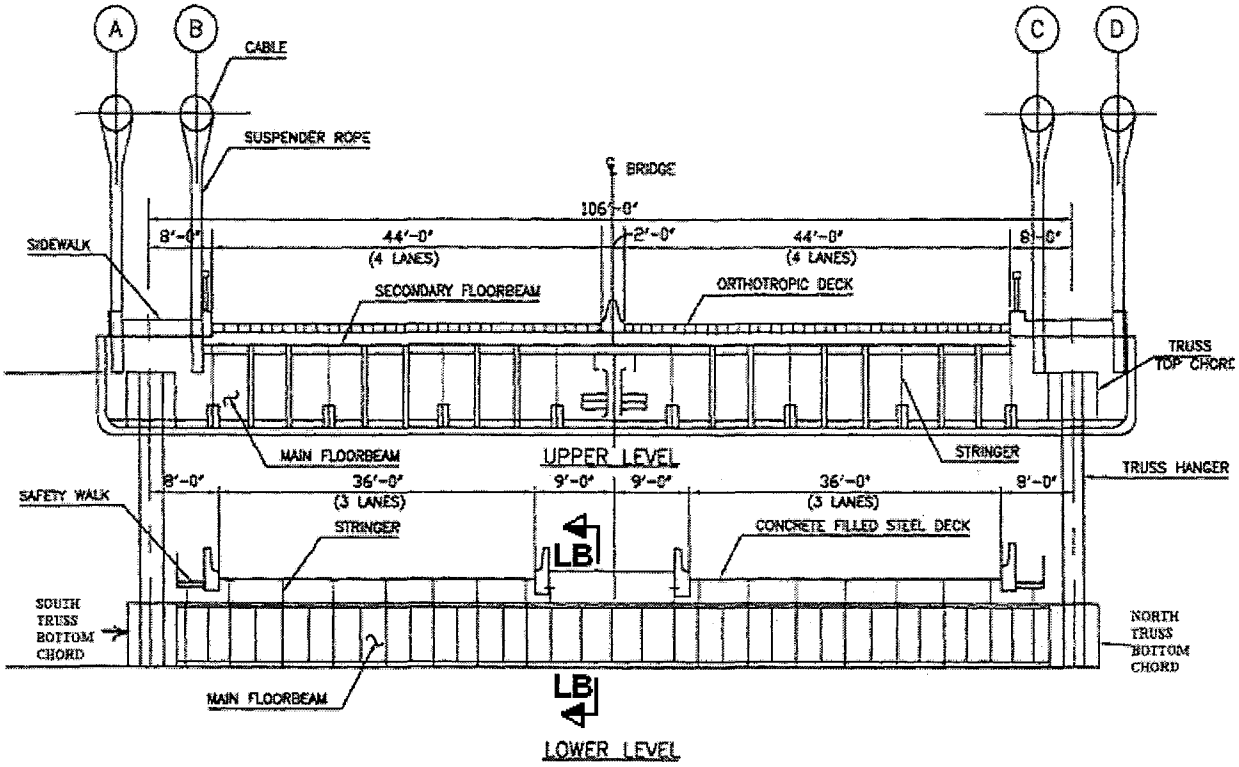
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL CROSS-SECTION A-A
LOOKING WEST

NOTE:
100% "HAND ON" INSPECTION WAS PERFORMED ON THE FLOORBEAMS (SPACED AT 30 FEET O.C.) IN SPANS 1, 2, AND 3.

SEE SHEET 4 OF 9 FOR SECTION LB-LB

ASC
10/1/09

Ray Gramy
9/30/11

BD 186

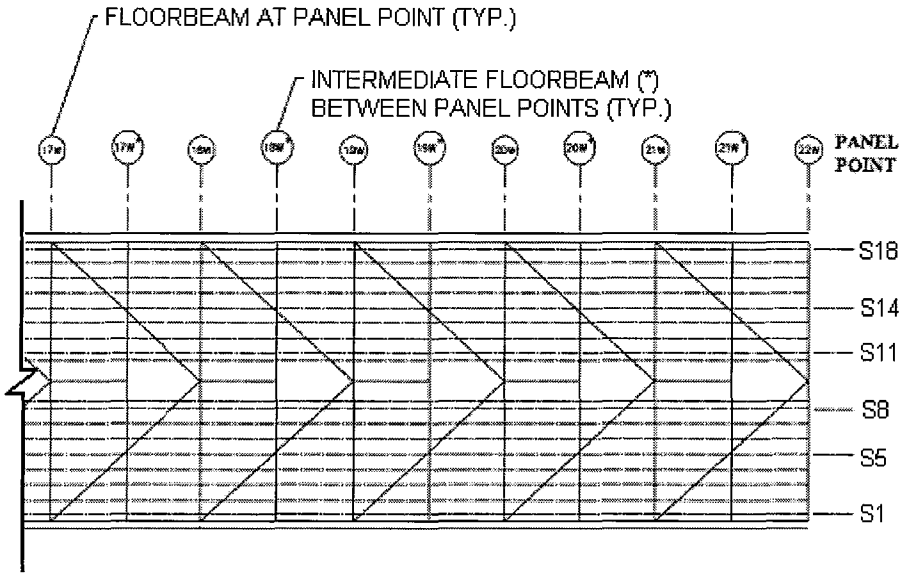
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 **OF** 10

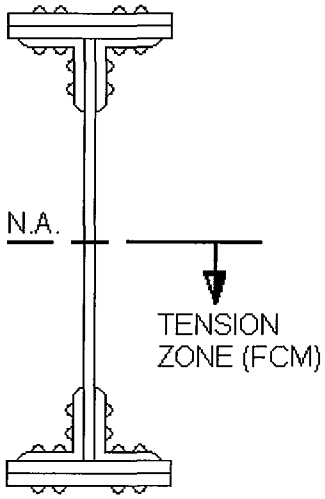
TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL LOWER LEVEL FRAMING PLAN



SECTION LB-LB

NOTE:

100% "HANDS-ON" INSPECTION WAS PERFORMED ON THE FLOORBEAMS (SPACED AT 30 FEET O.C.) AND THE LOWER LEVEL CHORD OF THE STIFFENING TRUSSES IN SPANS 1, 2 AND 3.

Ray Gramy 9/30/11

ASC 10/1/09

BD 186

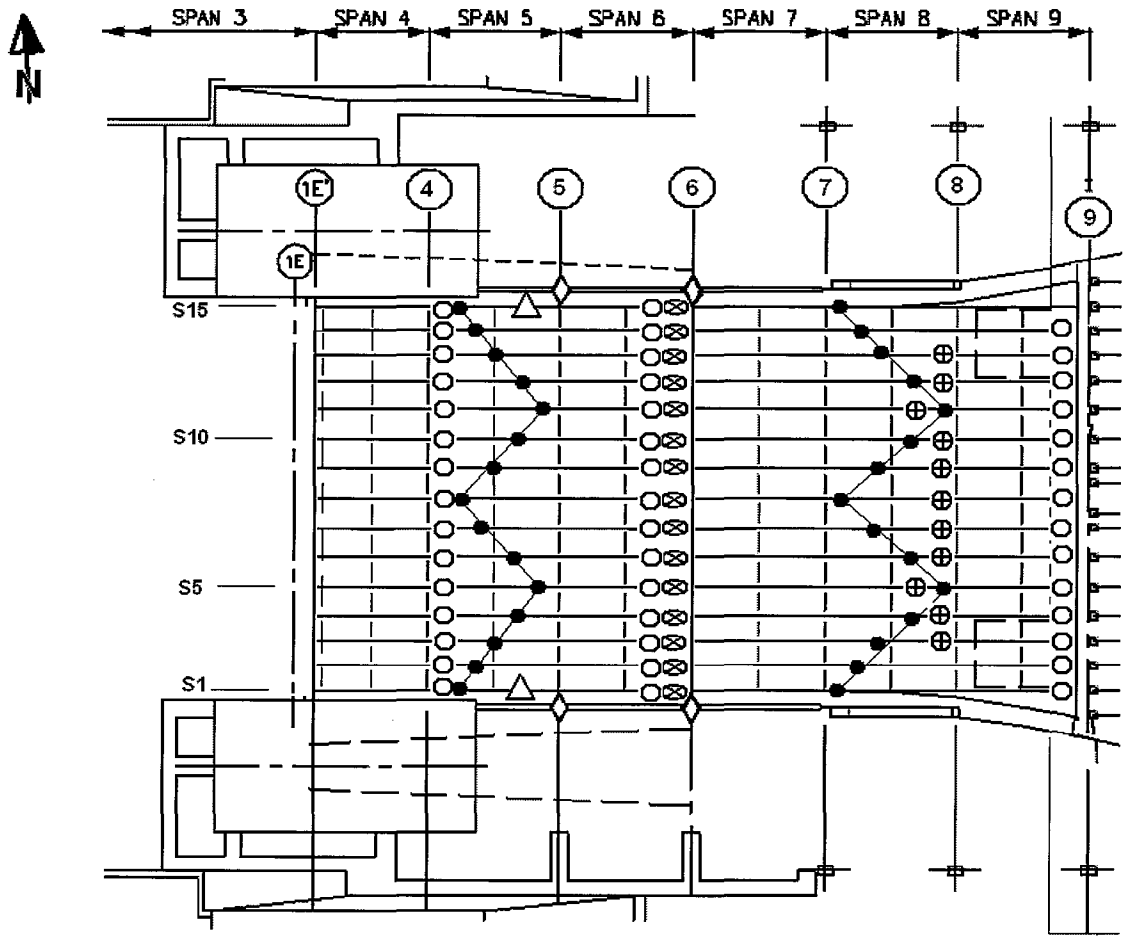
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



LOWER LEVEL

NEW YORK ANCHORAGE - FRAMING PLAN

LEGEND:

- ○ END OF COVER PLATE WELD, SPANS 5, 6 & 9. SEE SHEET 6.
- ⊗ COPING DETAIL AT GIRDER ENDS. CATEGORY 'E' WELD, SPAN 6. SEE SHEET 7.
- ⊕ FIELD WELDED MOMENT SPLICE CONNECTION. CATEGORY 'D' & 'E', SPAN 8. SEE SHEET 8.
- ● FIELD WELDED LATERAL BRACING TO GIRDER BOTTOM FLANGE 5" +/-. CATEGORY 'E', SPANS 5 & 8.
- △ FIELD WELDED STEEL ANGLE TO BOTTOM FLANGE OF GIRDER 8". CATEGORY 'E', SPAN 5.
- ◊ NON-REDUNDANT LOAD PATH COLUMNS.

Ray Gramy 9/30/11

ASC 10/1/09

BD 186

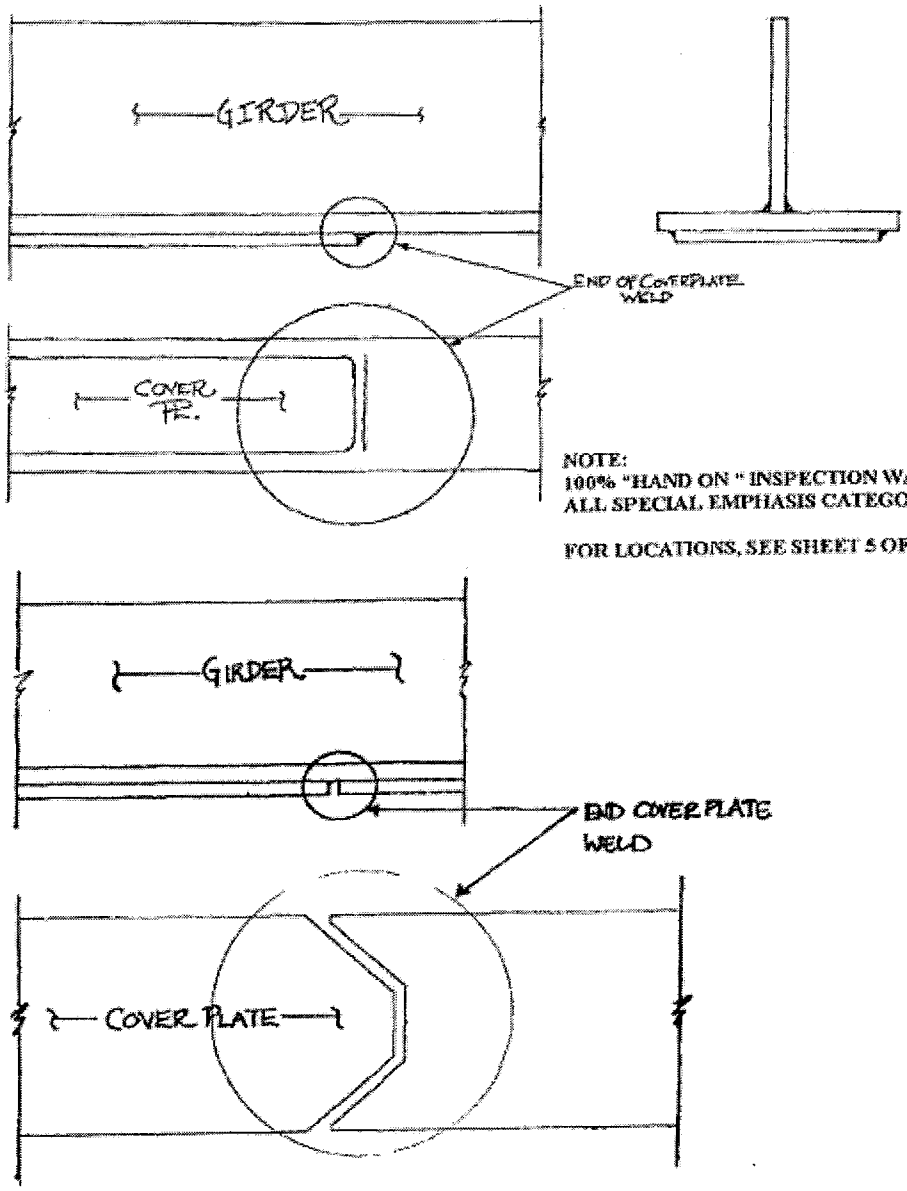
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON ALL SPECIAL EMPHASIS CATEGORY E' WELDS.

FOR LOCATIONS, SEE SHEET 5 OF 9.

END OF COVER PLATE WELD DETAILS
SPANS 5, 6, & 9; LEGEND O

Ray Gramy 9/30/11

ASC 10/1/09

BD 186

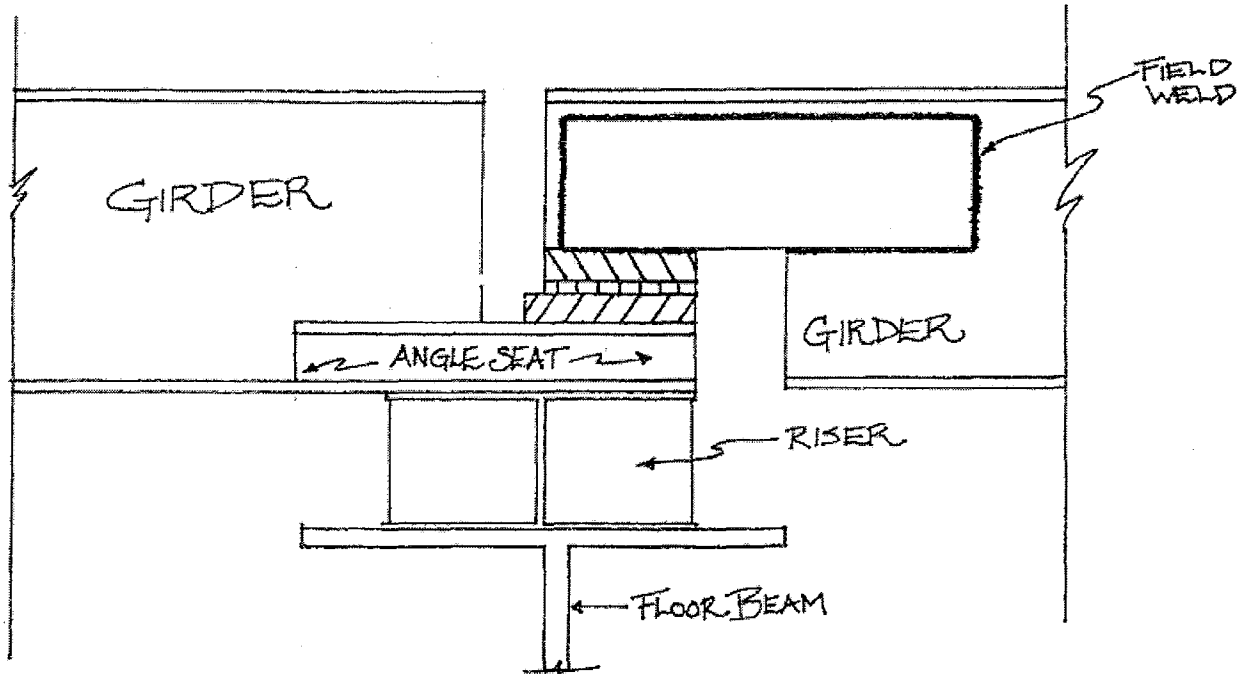
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 7 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



COPING DETAILS
LEGEND ⊗, SPAN 6

NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON ALL COPING DETAILS CATEGORY E' WELDS.

FOR LOCATIONS, SEE SHEET 5 OF 9.

ASC
10/1/09

Ray Gramy
9/30/11

BD 186

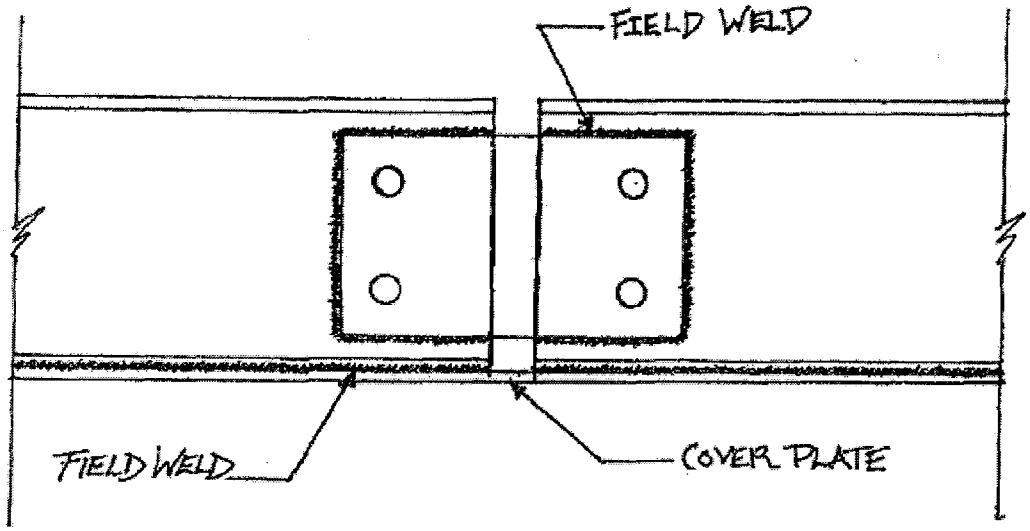
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 8 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



MOMENT SPLICE CONNECTIONS

LEGEND ⊕ - SPAN 8

NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON ALL SPECIAL EMPHASIS CATEGORY D AND E' WELDS.

FOR LOCATIONS, SEE SHEET 5 OF 9.

ASC
10/1/09

Ray Gramy
9/30/11

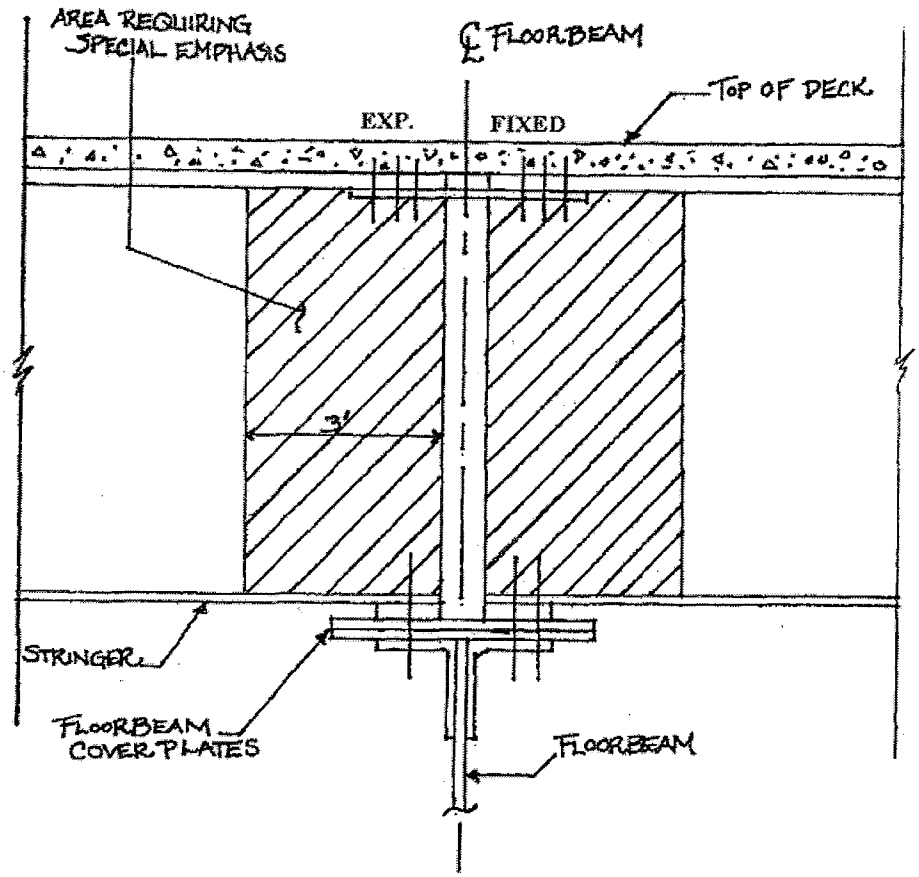
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 9 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



SECTION C-C

STRINGER CONNECTION TO FLOORBEAM

(BOTTOM FLANGE OF STRINGER IS BEARED AND BOLTED DIRECTLY TO THE TOP FLANGE OF FLOORBEAM. REF: T.A. #94-004)

NOTE:
SPECIAL EMPHASIS AREA (SHADED AREA) RECEIVED 100% "HAND ON " INSPECTION PER T.A. 94-004.

FOR LOCATIONS, SEE SHEET 3 OF 9.

ASC/10/01/09

Ray Gramy 9/30/11

BD 186

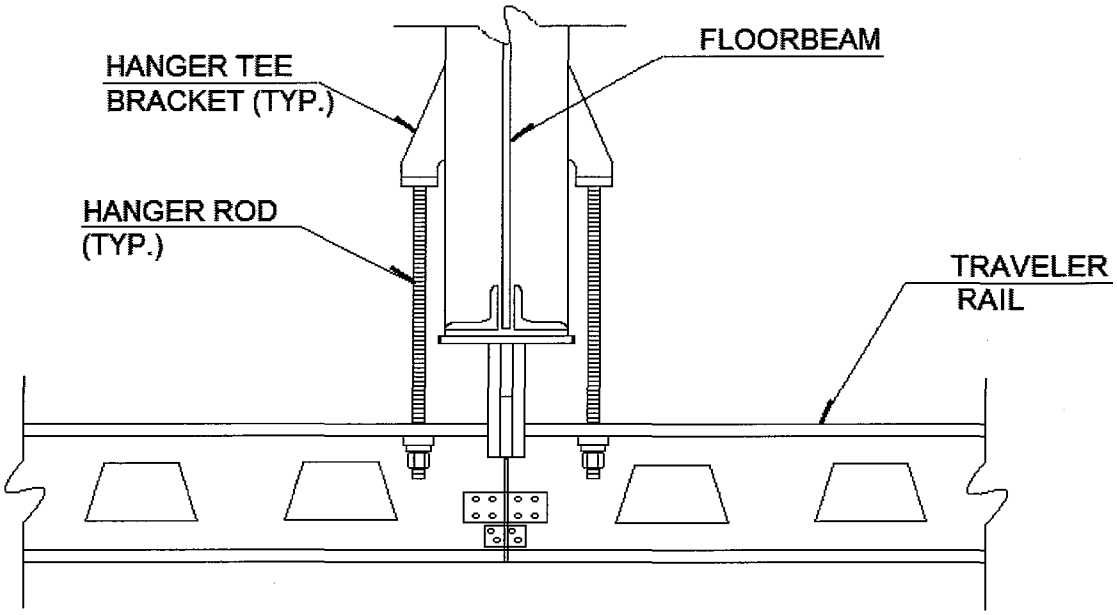
BIN 5522507

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 10 **OF** 10

TEAM LEADER: Ray Gramy, PE **ASST. TEAM LEADER:** Derek Lewis, Tom Kyle, PE **DATE:** 09/30/11

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



ELEVATION

LOWER LEVEL TRAVELER

100% HANDS-ON INSPECTION WAS PERFORMED ON BOTH LEFT AND RIGHT TRAVELER RAILS, ALL HANGER RODS AND HANGER TEE BRACKETS.

Ray Gramy
9/30/11

B.I.N. : **5522507**

Region **11** COUNTY: **NEW YORK**

Feature Carried : **I-95 (GWB LOWER LEVEL)**

Feature Crossed: **ROUTE 9A AND HUDSON RIVER**

General Recommendation: **5**

The bridge has details that should receive special emphasis during each inspection. See the last section of this binder for location of details.

2013 INSPECTION

CAUTION

NO KNOWN
HIGH VOLTAGE
OVERHEAD

REVIEWED BY :

GAREN APANOSIAN, P.E. # 077794

TITLE : QUALITY CONTROL ENGINEER
FOR STANTEC CONSULTING

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 OF 4

BIN 5522507

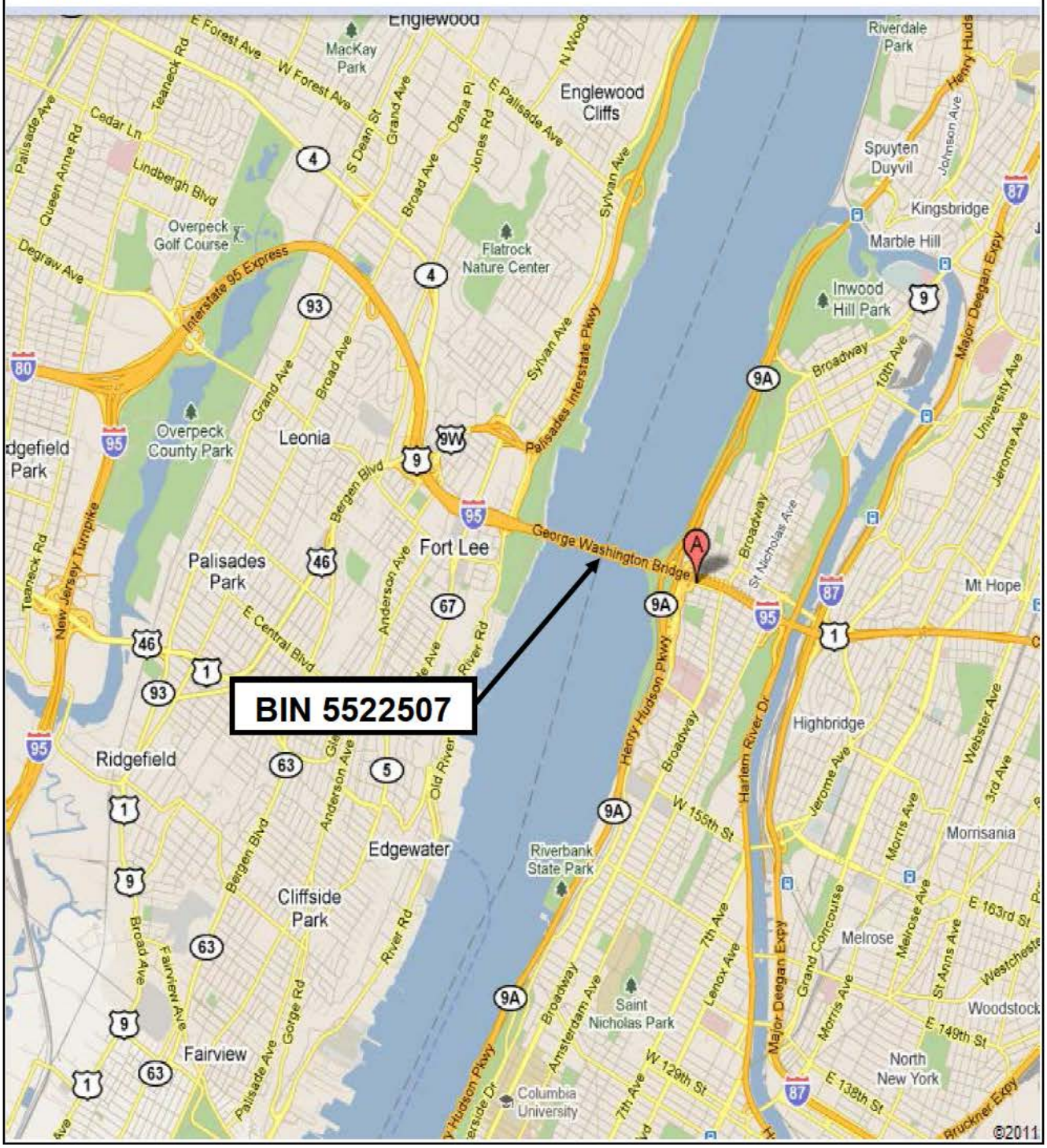
TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

NORTH

LOCATION MAP



BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

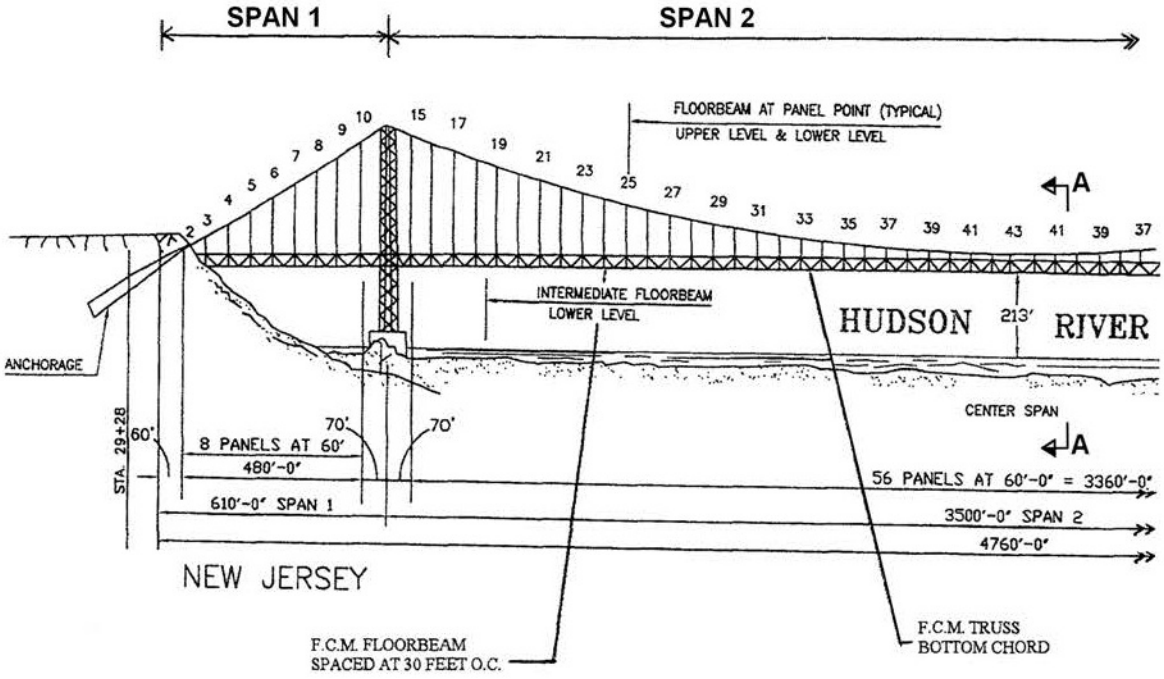
BIN 5522507

SHEET 2 OF 4

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
LOOKING NORTH

BD 188 (1/96)

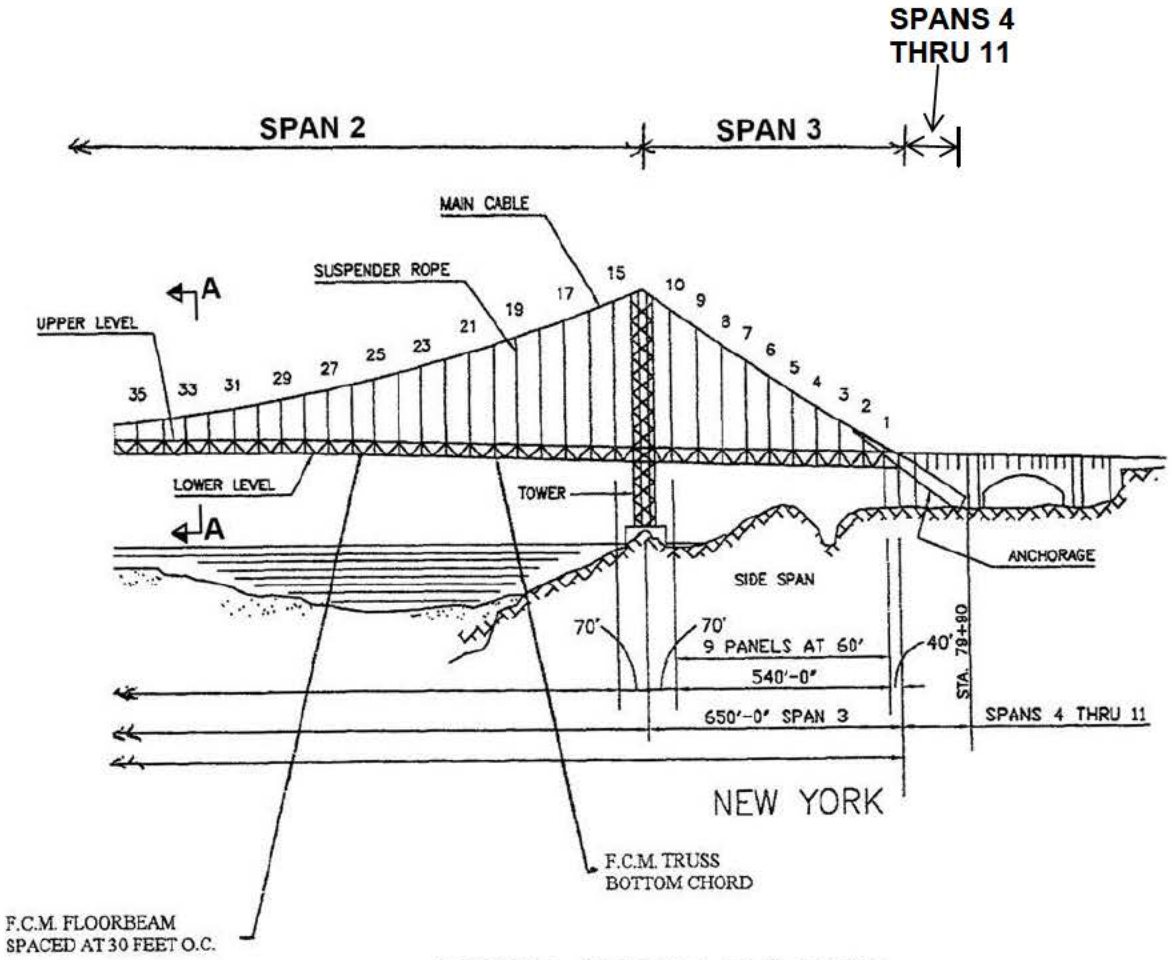
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 OF 4

BIN 5522507

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
LOOKING NORTH

BD 188 (1/96)

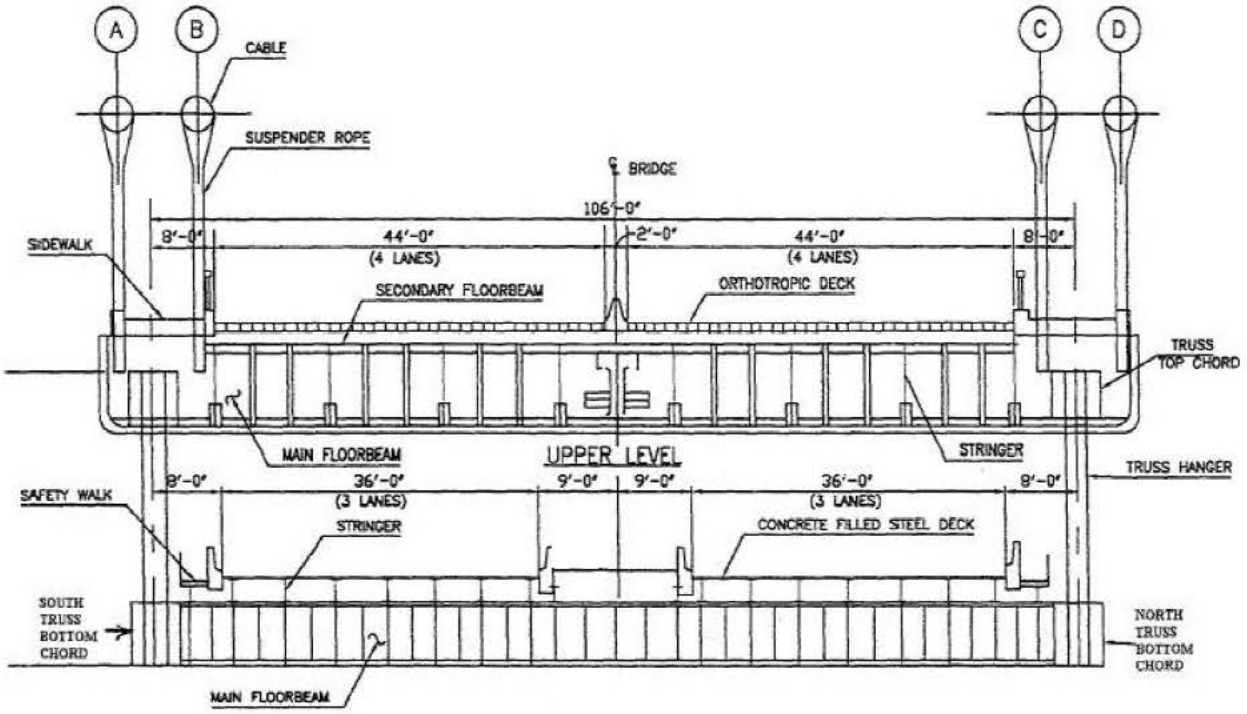
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 OF 4

BIN 5522507

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



LOWER LEVEL

TYPICAL CROSS-SECTION A-A
LOOKING WEST

INSPECTION

TP349 (12/97)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 OF 16

DATE MO 09 (13 14) DAY 20 (15 16) YEAR 13 (17 18)

RC - BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

TEAM LEADER Dino Sedycias, PE
Signature [signature]
P.E. NUMBER 086433 **STATE** NY
ASST TEAM LEADER David Grinberg
OTHERS Robert Quinn

RAMP BRIDGE ATTACHED TO SPAN _____ BIN _____

INSPECTION AGENCY 13 (19 20) TYPE OF INSPECTION 1 (21) 1 - BIENNIAL 3 - IN DEPTH 5 - SPECIAL 2 - INTERIM 4 - NONE(UNDER CONTRACT)

STATE HWY. NO. 000000 MILEPOINT: 0.74 POLITICAL UNIT: NEW YORK
FEATURE(S) CARRIED: 95I 95I04011007
FEATURE(S) CROSSED: 9A 9A04121108
TOTAL SPANS: 11 DIRECTION OF ORIENTATION: 3 EAST YEAR BUILT: 1962
BRIDGE TYPE: 313 STEEL SUSPENSION AADT/YR: 297700 / 2000

VERTICAL CLEARANCE AND LOAD POSTINGS
ON: NOT POSTED — FT (19) IN (21)
UNDER: NOT POSTED — FT (23) IN (25)
LOADING NONE — TONS (27)
062 (118)

ABUTMENTS:	begin	end
Joint with deck	5 (22)	5 (23)
Bearings, anchor bolts, pads	3 (24)	3 (25)
Bridge seat and pedestals	3 (26)	3 (27)
Backwall	5 (28)	8 (29)
Stem (breastwall)	5 (30)	8 (31)
Erosion or scour	6 (32)	6 (33)
Footings	9 (34)	9 (35)
Piles	9 (36)	9 (37)
Recommendation	5 (38)	5 (39)

WINGWALLS:	begin	end
Walls	8 (40)	8 (41)
Footings	8 (42)	8 (43)
Erosion or Scour	8 (44)	8 (45)
Piles	8 (46)	8 (47)

STREAM CHANNEL:	
Stream alignment	7 (48)
Erosion or Scour	6 (49)
Waterway opening	7 (50)
Bank protection	6 (51)

APPROACHES:	
Drainage	3 (53)
Embankment	8 (54)
Settlement	6 (55)
Erosion	8 (56)
Pavement	5 (57)
Guide railing	6 (58)

GENERAL RECOMMEND 5 (60)

ACCESS CATEGORY:
WALKING
STEP LADDER
EXTENSION LADDER
>90' LIFT
SCAFFOLDING
LANE CLOSURE W/ SHAD. VEHICLE
UNDERSIDE TRAVELER

FLAG ISSUED? None X (61) — BRIEF REASON
RED STRUCTURAL ☐ (62)
YELLOW STRUCTURAL ☐ (63)
SAFETY ☐ (64)

[redacted]

REVIEWED BY Garen Aponosian
P.E. NUMBER 077794
DATE 10/18/2013

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 OF 16

RC-BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

TEAM LEADER: Dino Sedycias, PE

ASST TEAM LEADER: David Grinberg

OTHERS: Robert Quinn

DATE — MO: 0 9 (13 14) DAY: 2 0 (15 16) YEAR: 1 3 (17 18)

Features Carried: I-95 (GWB LOWER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	0	1	5	4	5	4	5	8	4	8	5	5	5	3	4	5	5	5	5	8	5	6	9	6	8	5	8	4	1
0	0	2	5	3	5	4	5	8	4	8	5	4	5	3	4	4	5	5	5	8	5	6	9	6	8	5	8	4	1
0	0	3	5	4	5	4	5	8	4	8	5	4	5	3	3	4	5	5	5	8	5	6	9	6	8	5	8	4	1
0	0	4	5	5	5	5	8	8	6	8	5	4	5	5	8	4	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	5	5	5	5	5	5	8	6	8	5	5	5	5	8	5	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	6	5	5	5	5	5	8	6	8	5	5	5	5	3	5	5	6	5	8	5	5	9	6	8	5	8	8	5
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0	0	8	5	5	5	5	1	8	6	8	5	5	5	5	8	5	5	5	5	8	5	6	9	6	8	5	8	8	5
0	0	9	5	5	5	5	5	8	6	8	5	4	5	4	3	4	4	3	5	5	8	8	9	6	8	4	8	8	5
0	1	0	4	5	5	5	8	8	6	8	5	5	5	5	8	5	4	3	5	8	5	6	9	6	8	4	8	1	5

DIVING INSPECTION REQUIRED? [ ] YES [X] NO — *If yes, indicate year of last diving inspection* [ ][ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted]	[redacted]	[redacted]
PIN AND HANGER	[ ]	
FATIGUE-PRONE WELDS(AASHTO D, E, OR E')	[X]	Spans 1 through 9
NON-CATEGORIZED FATIGUE-PRONE DETAILS	[ ]	
OTHERS(SPECIFY)	[ ]	

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

REMARKS: (20) (50)

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
				See Attached Table

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 OF 16

RC-BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

TEAM LEADER: Dino Sedycias, PE

ASST TEAM LEADER: David Grinberg

OTHERS: Robert Quinn

DATE — MO: 0 9 (13 14) DAY: 2 0 (15 16) YEAR: 1 3 (17 18)

Features Carried: I-95 (GWB LOWER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	1	1	4	5	5	5	8	8	6	8	5	5	5	5	8	5	8	8	8	8	8	8	8	8	8	8	8	8	5

DIVING INSPECTION REQUIRED? YES [ ] NO [X] *If yes, indicate year of last diving inspection* [ ][ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: YES [X] NO [ ]
If yes, indicate type below.

[redacted]	[redacted]	[redacted]
PIN AND HANGER		
FATIGUE-PRONE WELDS(AASHTO D, E, OR E')	X	Spans 1 through 9
NON-CATEGORIZED FATIGUE-PRONE DETAILS		
OTHERS(SPECIFY)		

REMARKS:

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

20

50

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
				See Attached Table

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 4 OF 16

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (^oF)	WEATHER
05/06/13	6:00 a.m.	12:00 a.m.	71	Cloudy
05/07/13	6:00 a.m.	12:00 a.m.	75	Sunny
05/08/13	6:00 a.m.	3:00 p.m.	66	Cloudy/Rainy
05/10/13	6:00 a.m.	12:00 a.m.	81	Sunny
05/13/13	6:00 a.m.	12:00 a.m.	44	Partly Cloudy
05/20/13	6:00 a.m.	12:00 a.m.	81	Partly Cloudy
05/21/13	6:00 a.m.	12:00 a.m.	90	Partly Cloudy
05/23/13	6:00 a.m.	12:00 a.m.	78	Cloudy
05/24/13	6:00 a.m.	12:00 a.m.	82	Cloudy
05/28/13	6:00 a.m.	12:00 a.m.	59	Cloudy
06/03/13	6:00 a.m.	3:00 p.m.	79	Cloudy/Rainy
06/10/13	6:00 a.m.	2:00 p.m.	68	Cloudy/Rainy
06/11/13	6:00 a.m.	2:00 p.m.	82	Cloudy
06/17/13	6:00 a.m.	2:00 p.m.	85	Partly Cloudy
06/26/13	6:00 a.m.	12:00 a.m.	88	Sunny
06/27/13	6:00 a.m.	12:00 a.m.	89	Cloudy
06/28/13	6:00 a.m.	12:00 a.m.	84	Cloudy
07/01/13	6:00 a.m.	12:00 a.m.	76	Cloudy/Rainy
07/02/13	6:00 a.m.	12:00 a.m.	79	Cloudy
07/03/13	6:00 a.m.	12:00 a.m.	81	Cloudy
07/08/13	6:00 a.m.	12:00 a.m.	79	Partly Cloudy
07/09/13	6:00 a.m.	12:00 a.m.	95	Sunny

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522507

SHEET 5 OF 16

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (^oF)	WEATHER
07/03/13	6:00 a.m.	12:00 a.m.	81	Cloudy
07/08/13	6:00 a.m.	12:00 a.m.	79	Partly Cloudy
07/09/13	6:00 a.m.	12:00 a.m.	95	Sunny
07/10/13	6:00 a.m.	12:00 a.m.	82	Cloudy
07/11/13	6:00 a.m.	2:00 p.m.	83	Cloudy/Rainy
07/12/13	6:00 a.m.	3:00 p.m.	78	Cloudy
07/15/13	6:00 a.m.	12:00 a.m.	103	Sunny
07/16/13	6:00 a.m.	12:00 a.m.	97	Sunny
07/17/13	6:00 a.m.	12:00 a.m.	98	Sunny
07/18/13	6:00 a.m.	12:00 a.m.	105	Sunny
07/29/13	6:00 a.m.	2:00 p.m.	89	Cloudy
07/30/13	6:00 a.m.	2:00 p.m.	83	Sunny
07/31/13	6:00 a.m.	2:00 p.m.	83	Sunny
09/20/13	6:00 a.m.	12:00 a.m.	81	Sunny

FEDERAL RATING FORM

NYS DEPT. of TRANSPORTATION

RC-BIN N 3 (1 2) 5 5 2 2 5 0 7 (3 4 5 6 7 8 9)

BRIDGE INSPECTION REPORT

TEAM LEADER Dino Sedycias, PE

ASST TEAM LEADER David Grinberg

SHEET 6 OF 16

OTHERS Robert Quinn

DATE MO 0 9 (13 14) DAY 2 0 (15 16) YEAR 1 3 (17 18)

FEATURE CARRIED : I-95 (GWB LOWER LEVEL)

FEATURE CROSSED : ROUTE 9A AND HUDSON RIVER

Description	Deck	Superstructure	Substructure	Channel	Culvert
Fed. Item #	58	59	60	61	62
Rating	6	5	5	8	N
	19	20	21	22	23

Comments:

Notes: 1). See attached explanations for Federal Items Nos. a) 58 ~ Deck, 59 ~ Superstructure, 60 ~ Substructure; b) 61~ Channel and Channel Protection; c) 62 ~ Culverts

2). Items Nos. 58, 59, and 60 shall be coded N for all culverts.

3). A rating or an N must be entered for all Federal Items. Blanks are not acceptable

Revised 6/99

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN	5522507		**SHEET** 7	**OF**	16
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9 A AND HUDSON RIVER				

REMARKS:

GENERAL NOTES:

1. No BIN plate was found on the bridge.

2. The inspection of the lower level was performed between the months of May and September, 2013.

[redacted]

4. Access to the underside of deck of the lower level was obtained by the New Jersey Back Span, New Jersey Main Span, and New York Back Span travelers, scaffolding, extension ladder, step ladder and 135' man lift. Access to the top of deck of the lower level was obtained by walking on the left and right safety walks. Spans 4 through 10 were inspected during night-time lower level closing by others utilizing a shadow vehicle.

5. Inventory (other than access forms), underbridge debris and electrical survey forms have not changed, and therefore, are not included in this report.

6. The bearings and pedestals between bent 9 and bent 11 are rated under Span 10. Both rows of bearings and pedestals at bent 9 (begin side of Span 10), are rated under Span 9. The bearings and pedestals at bent 11 are rated under TP349, Items 25 and 27, end abutment.

BIN 5522507

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BRIDGE INSPECTION REPORT
SHEET 8 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 349 - ABUTMENTS
5	5	5	[22&23] JOINT WITH DECK • The deck finger joint system is generally in good condition. The previously reported severely corroded with holes on left safety walk finger joint sliding diamond plate has been repaired.
3	3	6	[24] BEARINGS, ANCHOR BOLTS, PADS (BEGIN) • Extensive debris accumulation is present at most bearings. All bearings are frozen and exhibit heavy corrosion. Rating is based on visible condition of bearings.
3	3	7	[25] BEARING, ANCHOR BOLTS, PADS (END) • Stringer 16 bearing exhibits (2 of 4) sheared/broken anchor bolts. Remaining bearing assembly exhibit moderate to severe corrosion.
3	4	6 & 8	[26] BRIDGE SEAT AND PEDESTALS (BEGIN) • There is extensive debris accumulation at the bridge seat throughout. Three water pipes running through the left end of the abutment backwall under the westbound roadway are broken and are leaking water onto the bridge seat. Rating downgraded from “4” to “3”.
3	3	9	[27] BRIDGE SEAT AND PEDESTALS (END) • The concrete pedestals at the East end of Span 11 exhibits cracks, spalls and up to 10% undermining at Stringers S4, S7, S8, S9, S10, S11, S12 and S18. Stringers S9 and S10 also shows one partially exposed anchor bolt with moderate corrosion. Previously noted spalled concrete pedestals at Stringers S14 and S15 have been repaired since the last inspection.
			TP 349 – APPROACHES
3	5	10	[53] DRAINAGE • The drainage inlet at the begin approach of the Eastbound roadway is 100% clogged. Rating is downgraded from "5" to "3". Remaining drainage inlets are in good condition.
			TP 350 – DECK ELEMENTS
4	4	11	[19] WEARING SURFACE Spans 10 & 11 • The concrete wearing surface exhibits several cracked and spalled areas adjacent to large asphalt patches. The ride is slightly bumpy along the Westbound roadway. The Eastbound wearing surface is in good condition.

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SHEET 9 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 350 – DECK ELEMENTS (Cont'd)
			[20] CURBS
4	4		Span 1
		14 (Typ.)	• Steel curbs exhibit severe corrosion and pitted areas with localized holes at various locations at both the Eastbound and Westbound roadways.
3	3		Span 2
		12 & 13	• The steel curb at PP14W, Eastbound roadway, exhibits severely corroded and hole thru 4-foot long section causing the deteriorated section to collapse. The steel curb and barrier at PP40W, below right safety walk, exhibits severe corrosion and large holes. The remaining areas of the steel curb exhibit localized severe corrosion, pitting and small holes.
4	4		Span 3
		14 15	• Severe corrosion and pitted areas with localized holes at various locations along the curb at both the Eastbound and Westbound roadways. A section of steel curb plate has been partially detached along the median barrier in Span 3, Westbound roadway between Panel Points 7E and 6E*.
			[22] RAILINGS AND PARAPETS
4	4		Span 1
		13 (Typ.) 16 17	• The steel railings, both on the left and right sides, and the barriers exhibit moderate pitting with localized holes along the entire length. Also, the safety walk railing behind the chain link fence at PP11W is missing. Since the last inspection, disconnected rail at the bottom of the left safety walk stairs near the New Jersey Anchorage has been repaired.
4	4		Span 2
		13 & 18	• The steel railings, both on the left and right sides, and the barriers exhibit moderate pitting with localized holes along the entire length. A local section of the bridge railing is disconnected at the right safety walk near PP14W. The median catwalk at PP27W exhibits (1 of 4) missing handrails. The bridge railing post at the base exhibits impact damaged at the right safety walk near PP22W.

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SHEET 10 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 350 – DECK ELEMENTS (Cont'd)
4	4		[22] RAILINGS AND PARAPETS (Cont'd) Span 3
		13 (Typ.) 19	• There is moderate pitting and corrosion with localized holes throughout the left and right steel railings and barriers. Also, there is a missing section of the safety walk railing near the NY tower. In addition, the right safety walk railing is detached from the post at the top of barrier at PP1E.
1	4		[23] SCUPPERS Span 8
		20	• The hopper screen at both scuppers at Capbeam 6 is 100% clogged with heavy accumulation of debris. Rating downgraded from "4" to "1".
4	4		[25] MEDIAN Spans 1 & 2
		21 (Typ.)	• There is moderate corrosion and pitting with localized thru holes on both sides of the steel curbs and barriers.
4	4		Span 3
		21 & 22	• There is moderate corrosion and pitting with localized thru holes on both sides of the steel curbs and barriers. The left steel median barrier curb exhibits a damaged section and settled at PP1E. There is also an area impact damaged at the left steel median barrier at PP3E.
			TP 350 – SUPERSTRUCTURE
5	5		[28] PRIMARY MEMBERS Span 1
		23	• Generally, all primary members in this span are in good condition and functioning as per design. However, several interior stringer web exhibit minor to moderate corrosion and section loss with cracks above the splice plates. The deteriorated areas are over the bearing at the floorbeam connections (with or without arresting drill holes).

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SHEET 11 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP 350 – SUPERSTRUCTURE (Cont'd)
4	4		[28] PRIMARY MEMBERS (Cont'd) Span 2
		24 26 (Typ.) 25 26 27 28	• Several fascia stringers, which support the safety walk, exhibit areas of severe section loss with cracks and/or holes at the web along the bearing angles at the floorbeam connection. • Stringer S1 at the end side of Floorbeam 26W* exhibits severe corrosion with two corrosion holes 3/8" x 5" and 1/8" x 1". Two 3/4" dia. arresting holes were drilled at this location. • Top of several interior stringer web exhibit severe corrosion and section loss with cracks above the splice plates. The deteriorated areas are over the bearing at the floorbeam connections (with or without arrested drill holes). • Stringer S18 exhibits severely corroded web, with holes around the bearing stiffening angles at the west side of panel point 36E, also with two 3/4" arrestor drill holes. • The bottom of the stringer S10 web over the bearing area, at the west side of Floorbeam 15E, exhibits severe corrosion with section loss with 4"x1" and 2"x1" holes and a 3" crack in between. • The bottom of Stringer S4 web at PP38E has been repaired since the last inspection.
4	4		Span 3
		29 30 31 & 32 33	• Stringers S2, S6 and S14 exhibit up to 20% section loss with several thru holes at the web, between panel point 1E* and 1E over Floorbeam 1E. • Stringers S1 and S18 between PP1E* and PP1E, supporting the safety walk, exhibit up to 50% section loss to the top and bottom flanges with large web holes near the bottom at the middle third of the span. • Stringer S1, between PP7E* and PP8E, supporting the sidewalk, exhibits severe corrosion to the top and bottom flanges as well as to the web. The top flange, near midspan, exhibits a 2"x9" hole. At the same location the web exhibits a 39"x5" hole and the bottom flange exhibits a 45"x3" area with severe corrosion and holes. Overall section loss of member at midspan is approximately 60%. • Several fascia stringers supporting the safety walk exhibiting moderate corrosion, cracks and holes along the web bearing angles at the floorbeam connections.

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BRIDGE INSPECTION REPORT
SHEET 12 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 350 – SUPERSTRUCTURE (Cont'd)
4	4		[28] PRIMARY MEMBERS (Cont'd) Span 3 (Cont'd)
		34	• The top plate of the bottom chord of the right stiffening truss, between PP3E and PP3E*, exhibits heavy pitting with 12 holes up to 6"x2" along the edges. Water ponding over bottom chord in this area was noted. Temporary caulking was added to prevent water infiltration thru holes. In addition, between PP9E and PP8E*, there is a 1" dia. hole along the right edge of the bottom chord top plate.
4	4		Span 4
		35	• Top flange and web of Stringers S2, S3, S4, S6, S7, S10, and S11 at East side of Floorbeam 1E connection exhibit severe corrosion and section loss throughout with holes up to 12"x1".
4	4		Span 7
		36	• Web of Stringers S1, S5, and S8 exhibit severe corrosion and section loss with holes up to 4"(W)x11"(H) at the bearing area. Remaining primary members are in good condition.
4	4		Span 9
		37	• The lower portion of web at Stringers S11, S12, S13 and S14 exhibit severe corrosion and section loss with holes up to 2"(H)x4"(W) at the east end of Span 9. In addition, Stringer S12 web also exhibits a 5" long crack above the bearing emanating from a corrosion hole.
3	3		[30] PAINT Spans 1, 2 & 3
		38	• The stringers at the safety walk area, (S1 & S18), and immediately below the median, (S8 and S9), show deterioration to the paint system. There are areas of severe peeling, blistering paint and moderate to heavy corrosion with section loss.
		39	• All floorbeams exhibit areas of peeling/blistering paint and minor to moderate corrosion throughout the length. Mostly near the ends and at the center under median area. The remaining structural steel members exhibit minor paint peeling and spot rusting.

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SHEET 13 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 350 – SUPERSTRUCTURE (Cont'd)
4	5		[30] PAINT (Cont'd) Spans 7 & 9
		36 45	• The ends of stringers and diaphragms below the deck joints exhibit localized areas of peeling/blistering paint and minor to moderate corrosion due to water leakage from above. Rating downgraded from "5" to "4".
4	4		[31] JOINTS Spans 1 & 2
		39 & 40 41	• Most of deck joints filler material exhibits either missing sections, torn or pulled back from armoring angles in both roadways allowing water leakage below. • The finger joints at the NY and NJ towers exhibit moderate vertical differential up to 3/4" between the fingers. Also, the troughs under the finger joints are fully clogged with heavy debris accumulation.
3	3		Span 3
		42 43	• The finger joint plates at Panel Point 1E are jammed at an ambient temperature of 89°F restricting movement. The condition has not changed since the previous inspection. Also, the trough under the finger joint is fully clogged with heavy debris accumulation. The remaining joints exhibit missing or deteriorated filler material throughout in both roadways. The leakage thru joints is causing member deterioration below. • There is a bent and broken end plate at the end of the north safety walk in Span 3, at Panel Point 1E. However, the right safety walk is closed to pedestrian traffic and therefore above condition do not pose a safety hazard.
3	3		Span 6
		36 44 (Typ.)	• The joint filler material is deteriorated for the entire length in the westbound roadway as evidence from leakage below which is causing member deterioration (eastbound roadway similar).
3	3		Span 9
		44 45	• Since the last inspection, missing portions of joint filler material has been replaced. However, the filler material at several areas has pulled back from armoring angles in both roadways allowing water leakage below. The leakage is causing member deterioration.

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SHEET 14 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 350 – PIER
4	4		[33] BEARINGS, ANCHOR BOLTS, PADS Span 9
		46 47	• At Span 10 side, Stringers S2 and S3 bearings exhibit (1 of 4) sheared anchor bolts. Remaining bearings and anchor bolts are in good condition. • At Span 10 side, cracked and spalled concrete pedestals below Stringers S13, S15 and S16 causing undermining of the bearings and exposing anchor bolts. Total maximum bearing area loss approximately 10%.
4	4		Span 10
		47 (Typ.)	• Spalled and cracked concrete pedestals causing approximately 10% undermining of the bearing under Stringers S9 and S15.
3	3		[34] PEDESTALS Span 9
		47	• Cracked and spalled concrete pedestals causing undermining of the bearing plate and exposing anchor bolts under stringers S13, S15 and S16.
3	3		Span 10
		47 (Typ.) 48	• Spalled and cracked concrete pedestals, with or without exposed anchor bolts and/or rebar, causing minor undermining of the bearing under Stringers S9 and S15 of Span 10 and Stringer S12 of Span 11. • The pedestal at Stringer S10 that was previously spalled has been repaired.
5	5		[35] TOP OF PIER CAP OR BEAM Spans 9 & 10
		49	• The top of the NY Anchorage is rated under this item for Spans 9 and 10. This area was recently cleaned. The top of the pier cap is in good condition and free of debris.

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TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP 350 – UTILITIES
8	3		[43] LIGHTING STANDARDS AND FIXTURES Spans 1 & 2
		50	• The blue emergency lights with broken or missing bulbs attached to the stiffening truss members, with some exhibiting exposed electrical wires, have been removed since the last inspection. No other light fixture or standard throughout the span. Rating revised from “3” to “8”.
4	4		[44] SIGN STRUCTURE Spans 1, 2, & 3
		51	• There are 2 sign panels, located at PP5W-PP6W and PP22W-PP23W, exhibiting loose or missing screws and bolts, with localized areas of minor impact damage. The sign panels are still intact.
1	1		Span 10
		52	• The sign at the median "No Merge Ahead" at the begin of Span 10 is disconnected and missing from the post.
1	1		[45] UTILITIES AND UTITILITIES SUPPORT Spans 1, 2, & 3 – *Top of Deck*
		53	• Some of the junction boxes attached to the back side of the left and right parapets exhibit missing or loose cover plates with exposed electrical wires. (These areas are typically accessible to the public/stranded motorists).
		54	• Several conduits attached to the back side of the left and right parapets exhibit missing or loose access covers with exposed electrical wires.
		55	• The conduit couplings attached to the back side of the left and right parapets are broken and partially disconnected some of which exhibit exposed electrical wires.
		56	• At PP 27E there is a broken conduit with exposed electrical wiring. At PP 31E, the abandoned junction box along the right stiffening truss which was severely corroded and had exposed electrical wiring has been removed.
		57	• At PP 18W, the downspout and its base plate at the left safety walk that had missing anchor bolts has been removed.

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SHEET 16 **OF** 16

TEAM LEADER: Dino Sedycias, P.E. **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
1	1		**TP 350 – UTILITIES (Cont'd)** [45] UTILITIES AND UTITILITIES SUPPORT (Cont'd) Spans 1 & 2 – *Underside of Deck*
		8 & 58	• The begin abutment, at the left side safety walk, exhibits three utility pipes that are broken and discharging water onto the bridge seat. Also, at the begin abutment between Stringers S1 and S2, there are three broken utility conduits with exposed wires.
		59	• At the begin face of Floorbeam 3W, under Stringer S2, the conduit support exhibits severe corrosion with up to 90% section loss. In addition, one of the conduits is severely corroded.
		60	• The junction box attached to the bottom chord of left stiffening truss at Panel Point 19E has been removed. The conduit above the junction box has also been removed since the previous inspection.
		61	• At the end face of Floorbeam 17E under Stringer S18, the broken conduit support and the loose conduit have been removed since the previous inspection.
		62	• All loose and exposed electrical wires along the end side of Floorbeam 29E have been removed since the previous inspection.

PHOTOGRAPHS

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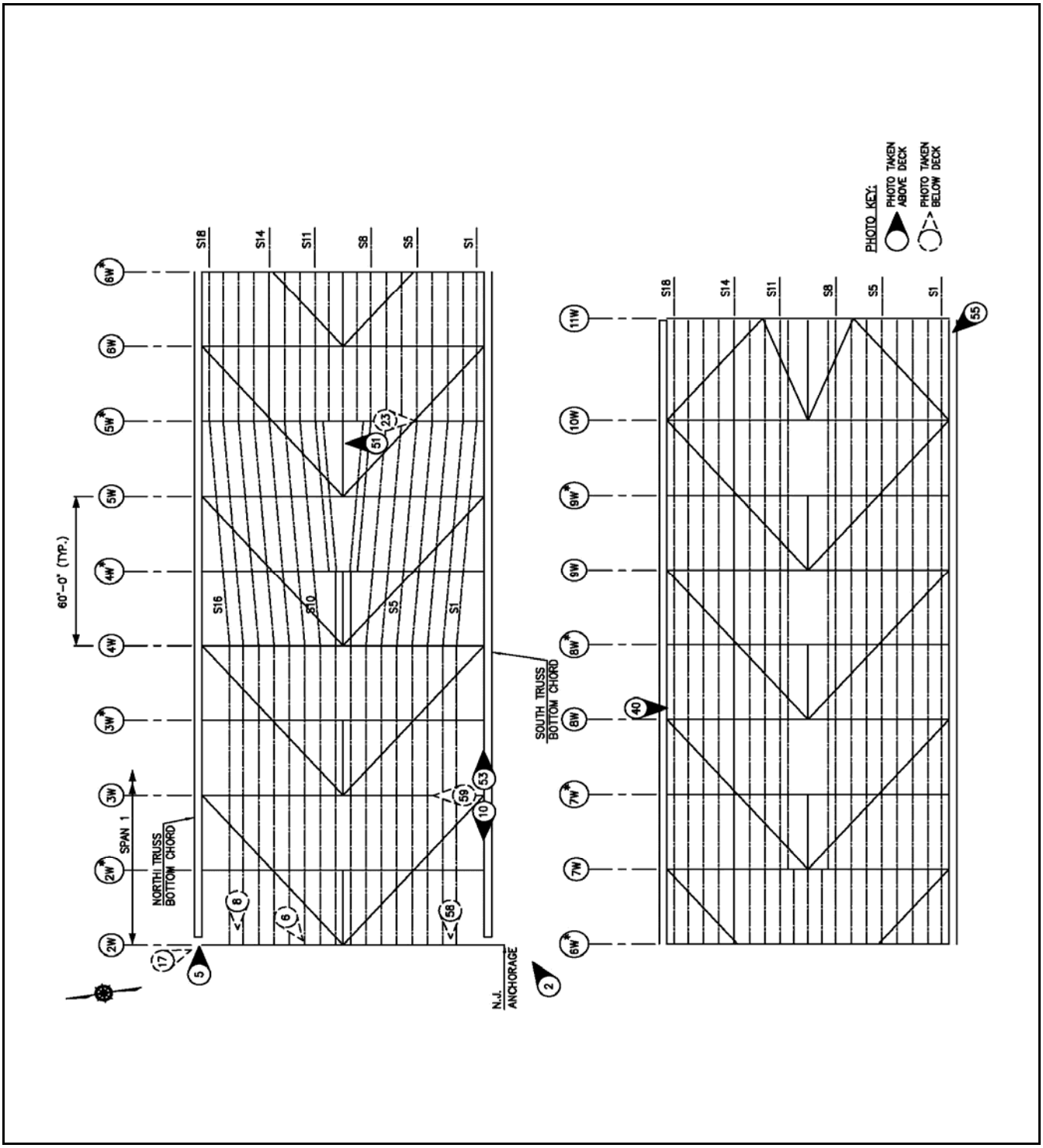
BIN	5522507	**SHEET**	1	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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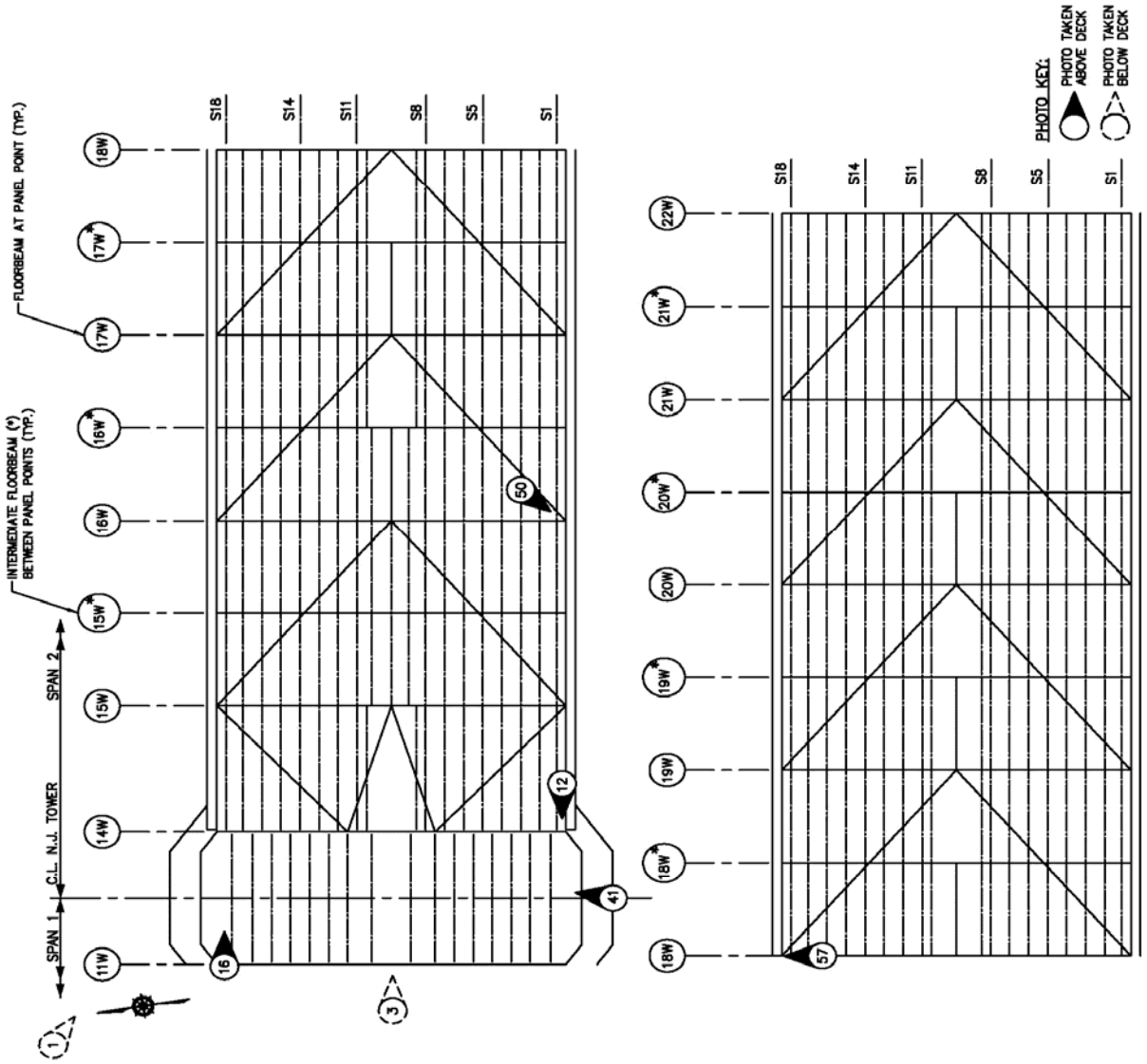
BIN	5522507	**N.Y.S. DEPT. OF TRANSPORTATION BRIDGE INSPECTION REPORT**			
		SHEET	2	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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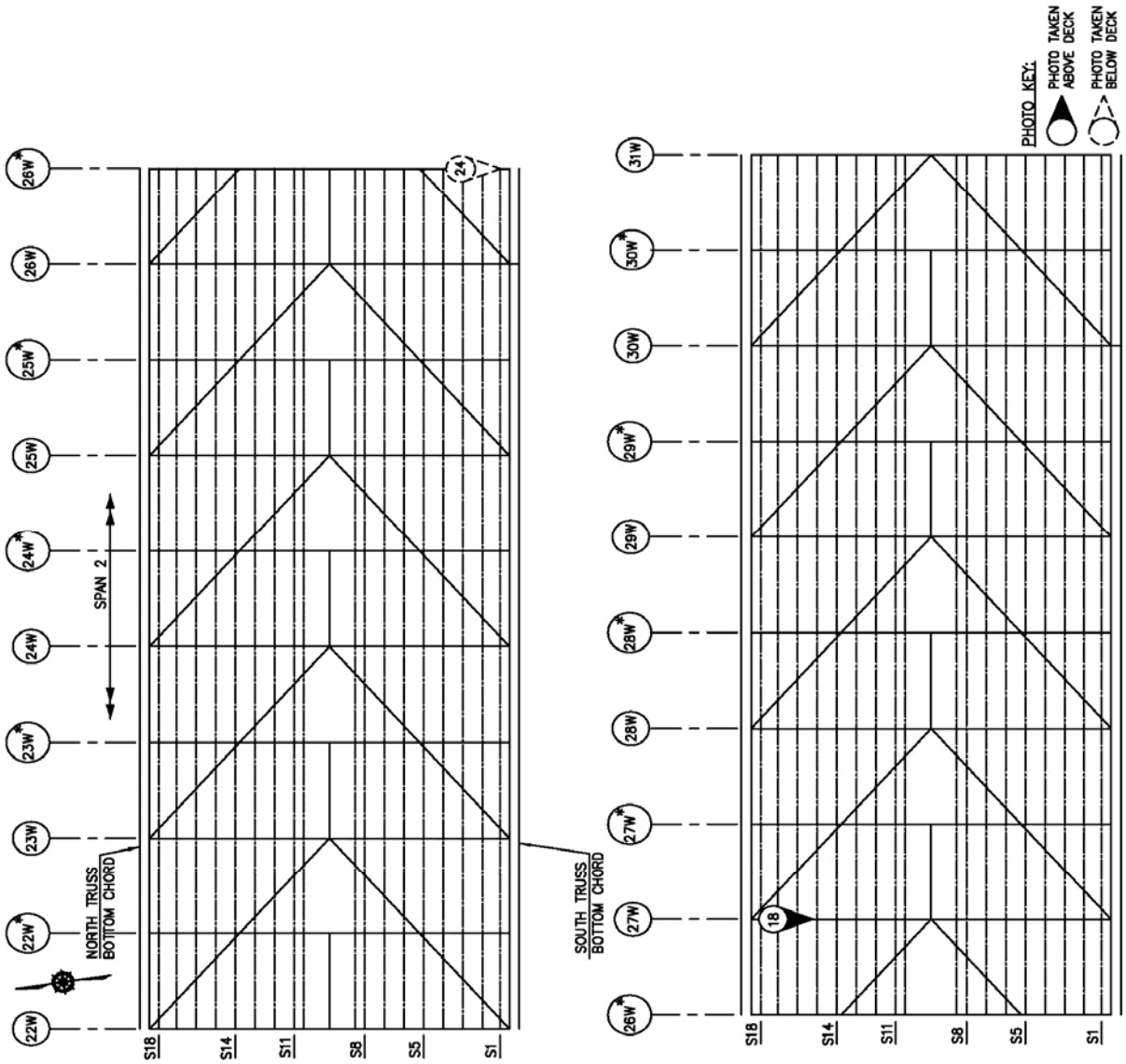
BIN	5522507	**SHEET**	3	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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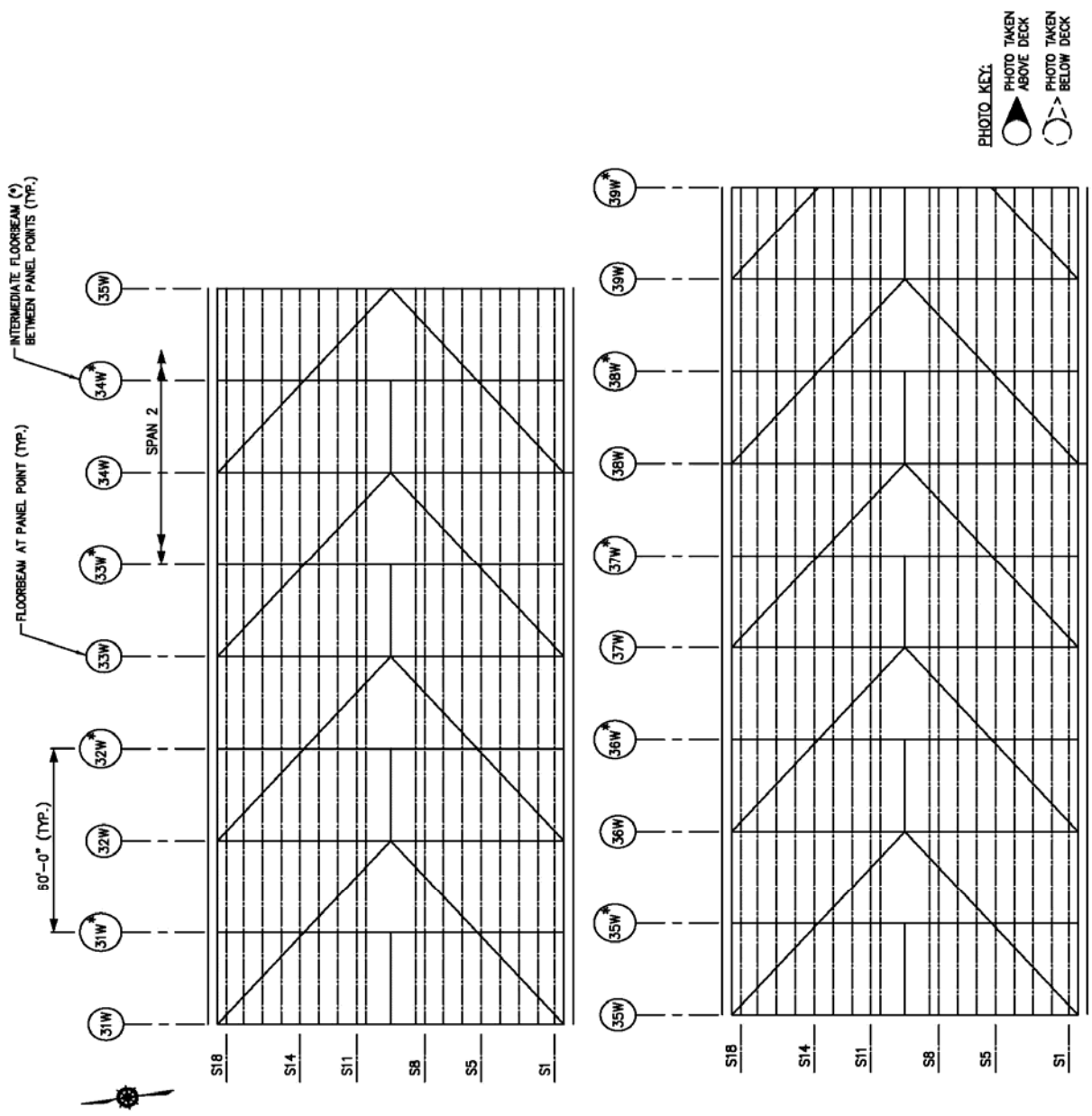
BIN	5522507	**N.Y.S. DEPT. OF TRANSPORTATION BRIDGE INSPECTION REPORT**			
		SHEET	4	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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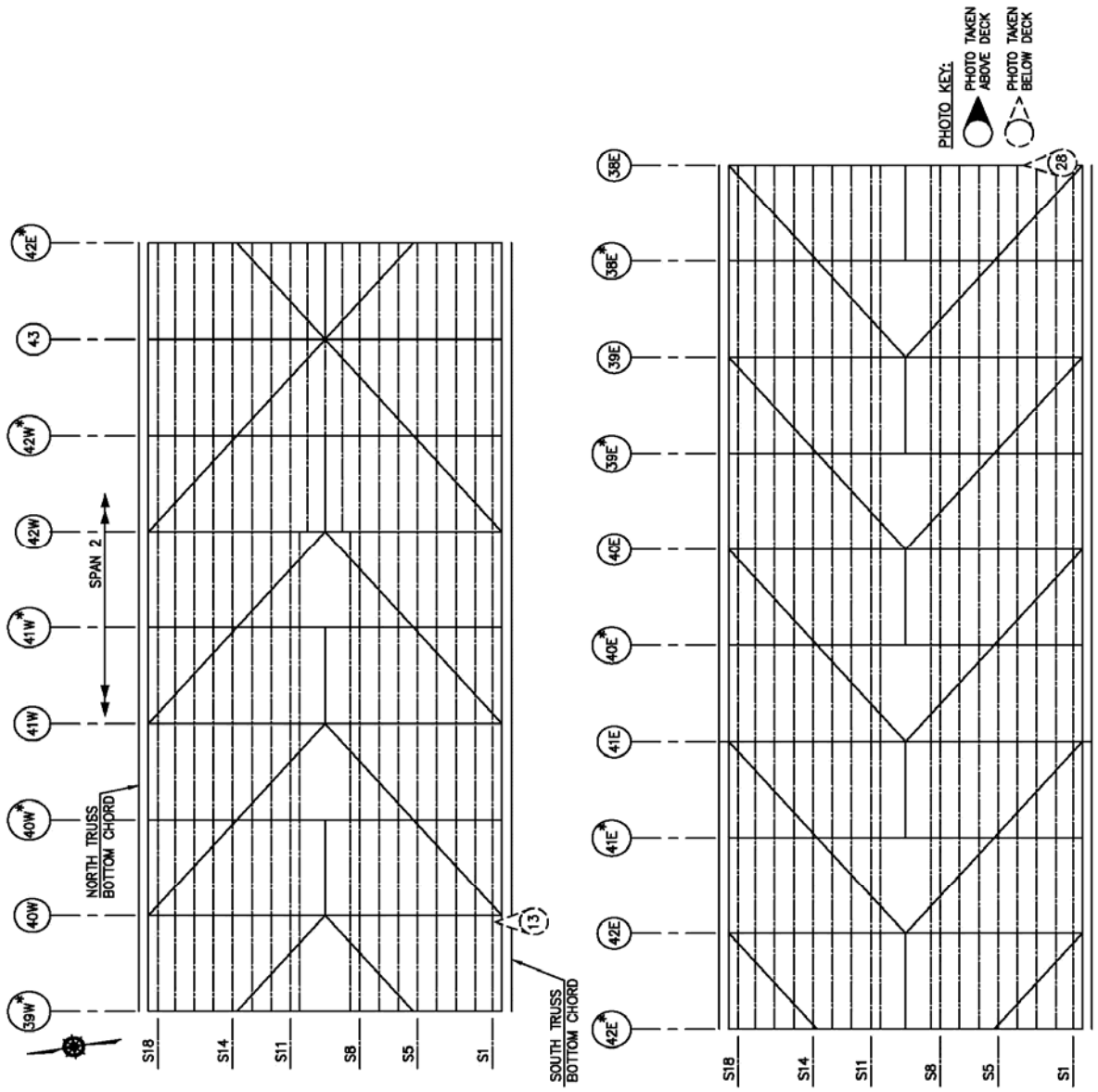
BIN	5522507	**SHEET**	5	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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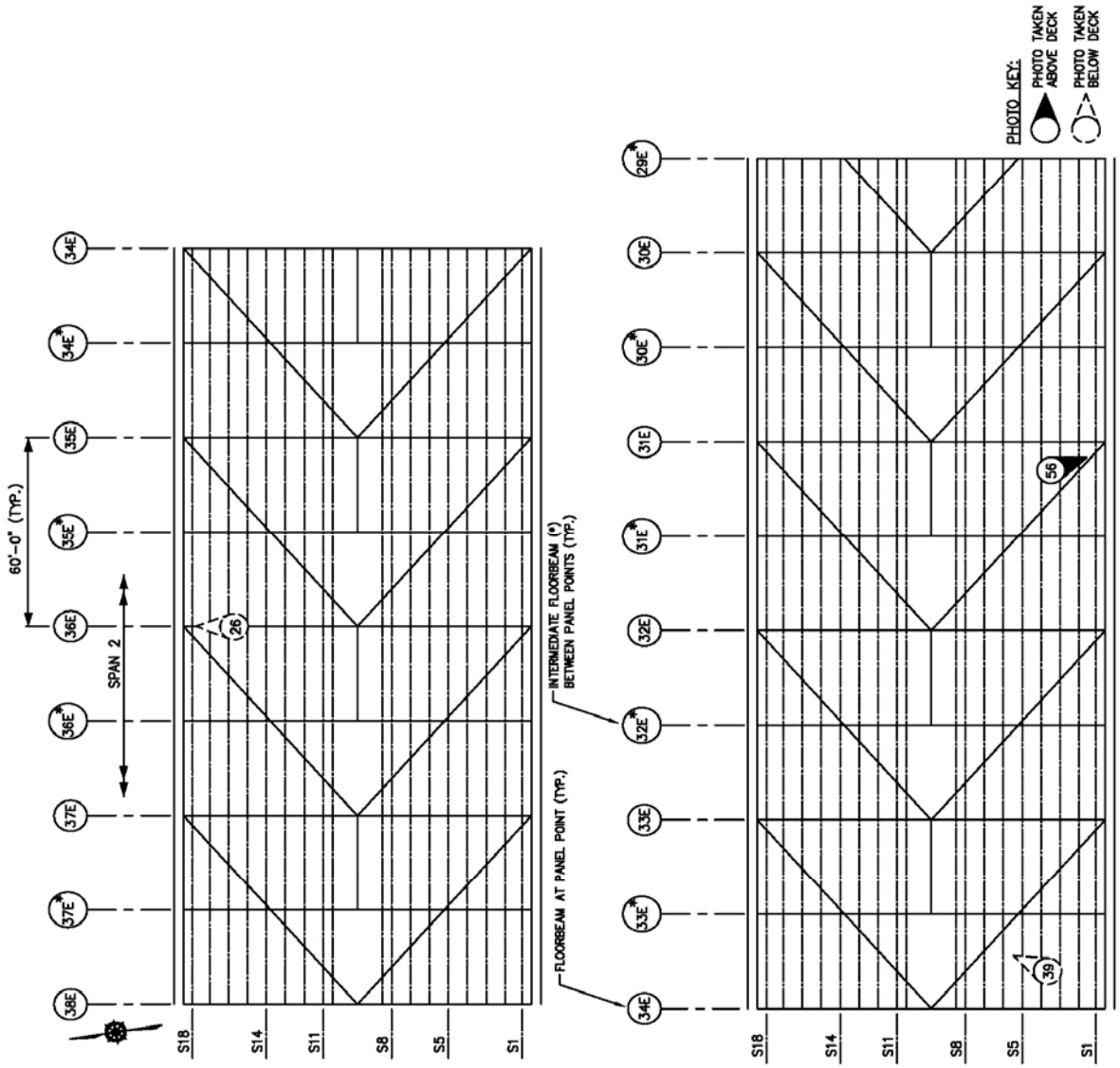
BIN	5522507	**SHEET**	6	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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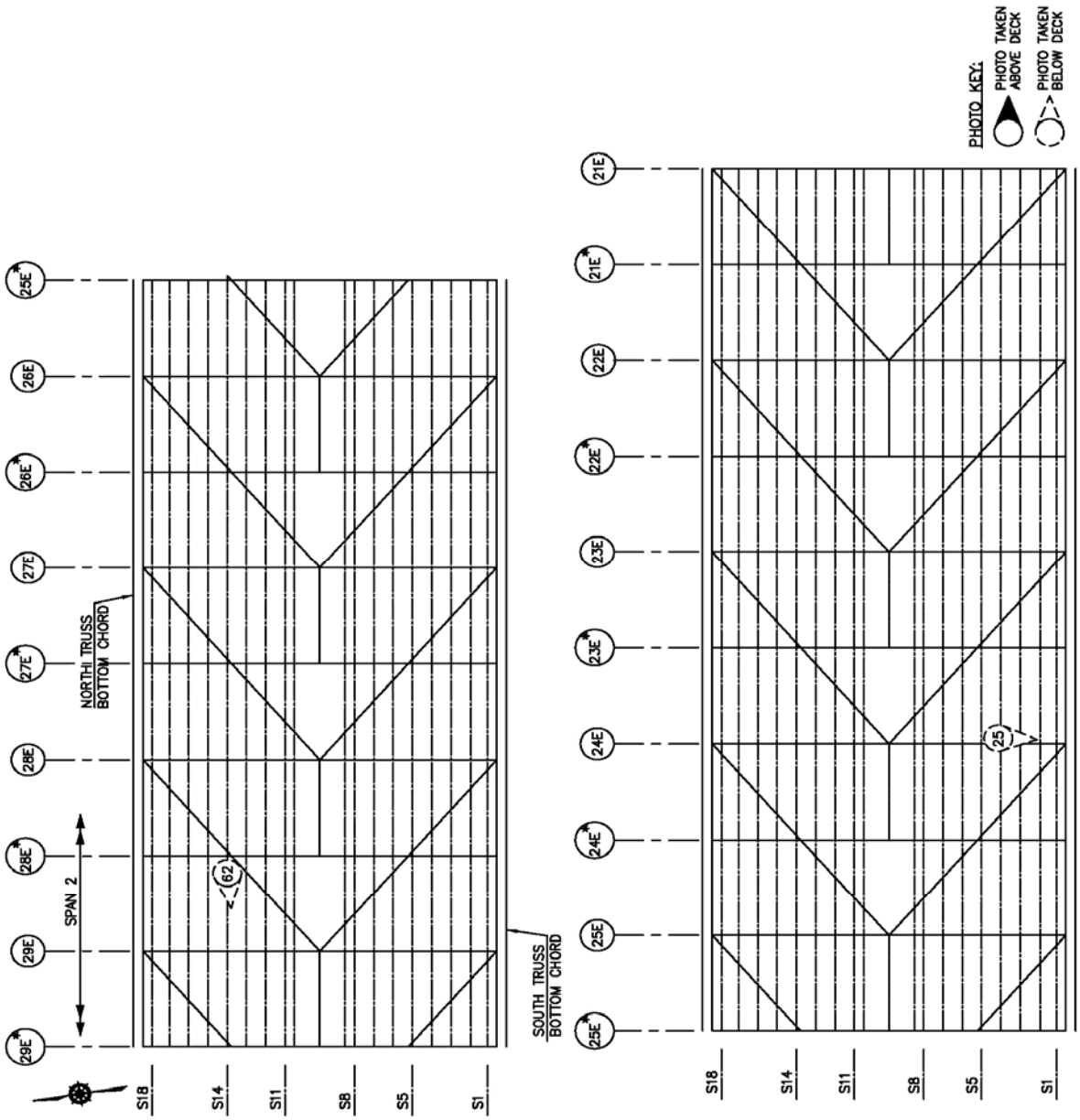
BIN	5522507	**SHEET**	7	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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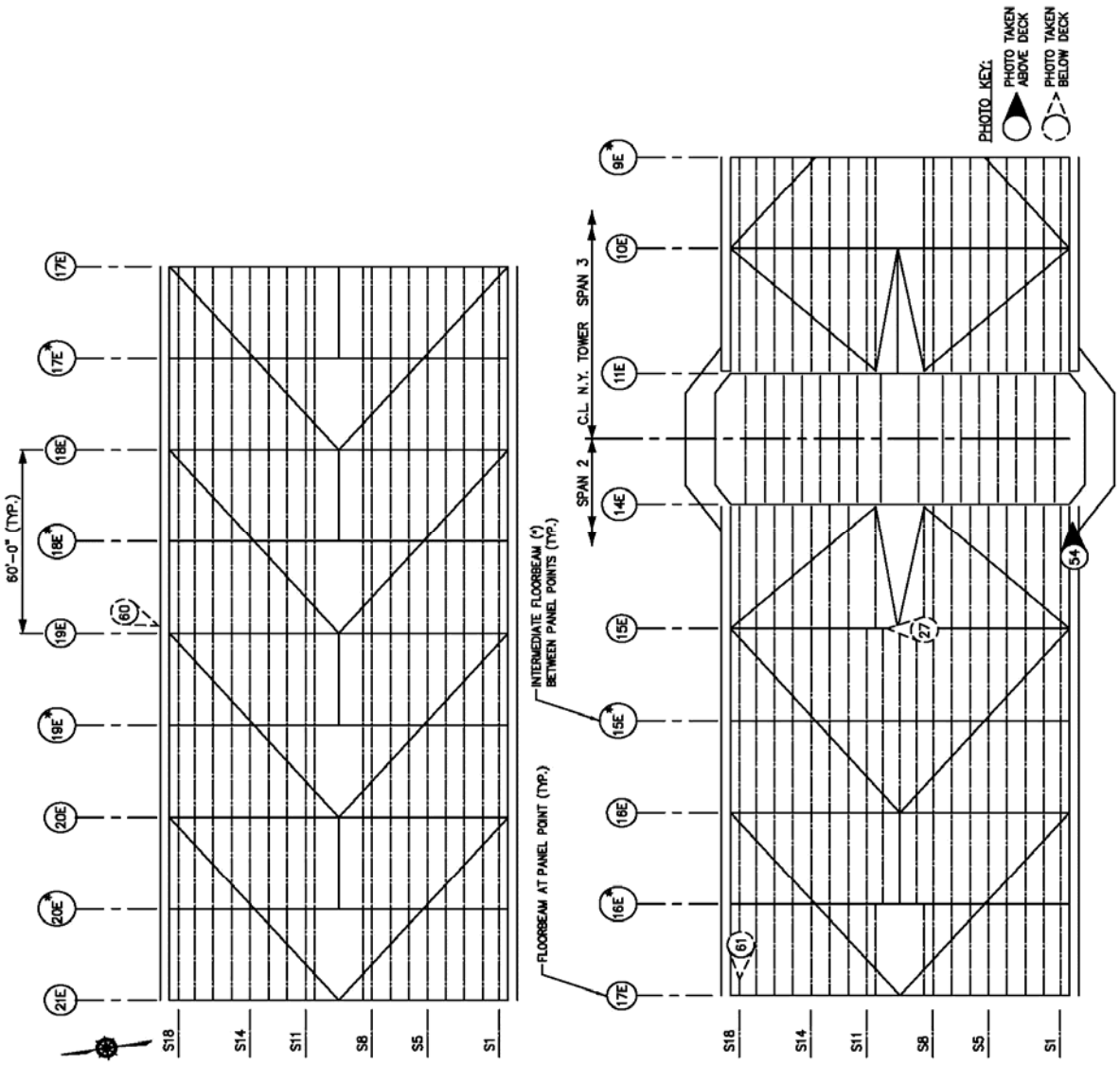
BIN	5522507	**SHEET**	8	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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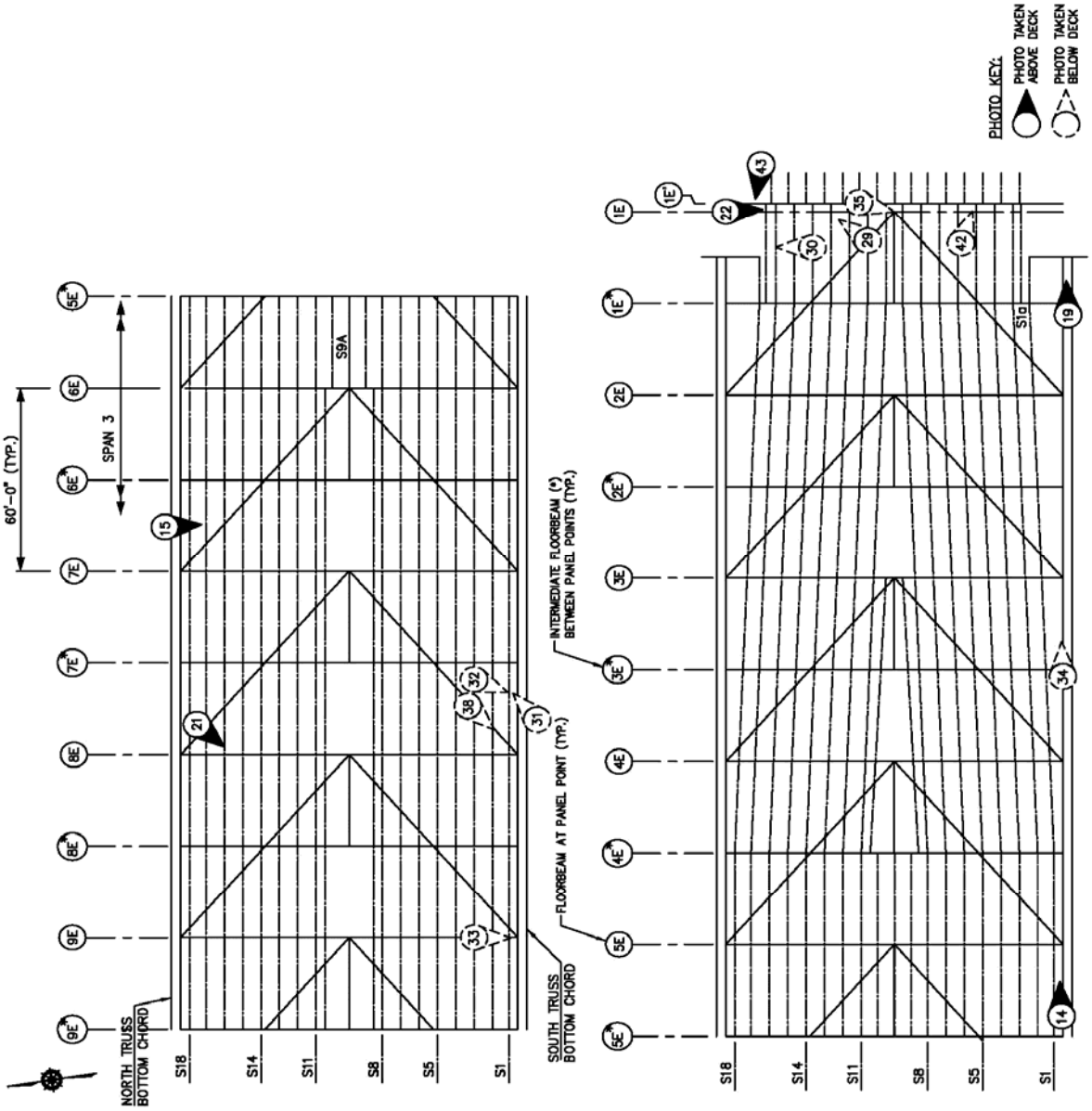
BIN	5522507	**N.Y.S. DEPT. OF TRANSPORTATION BRIDGE INSPECTION REPORT**			
		SHEET	9	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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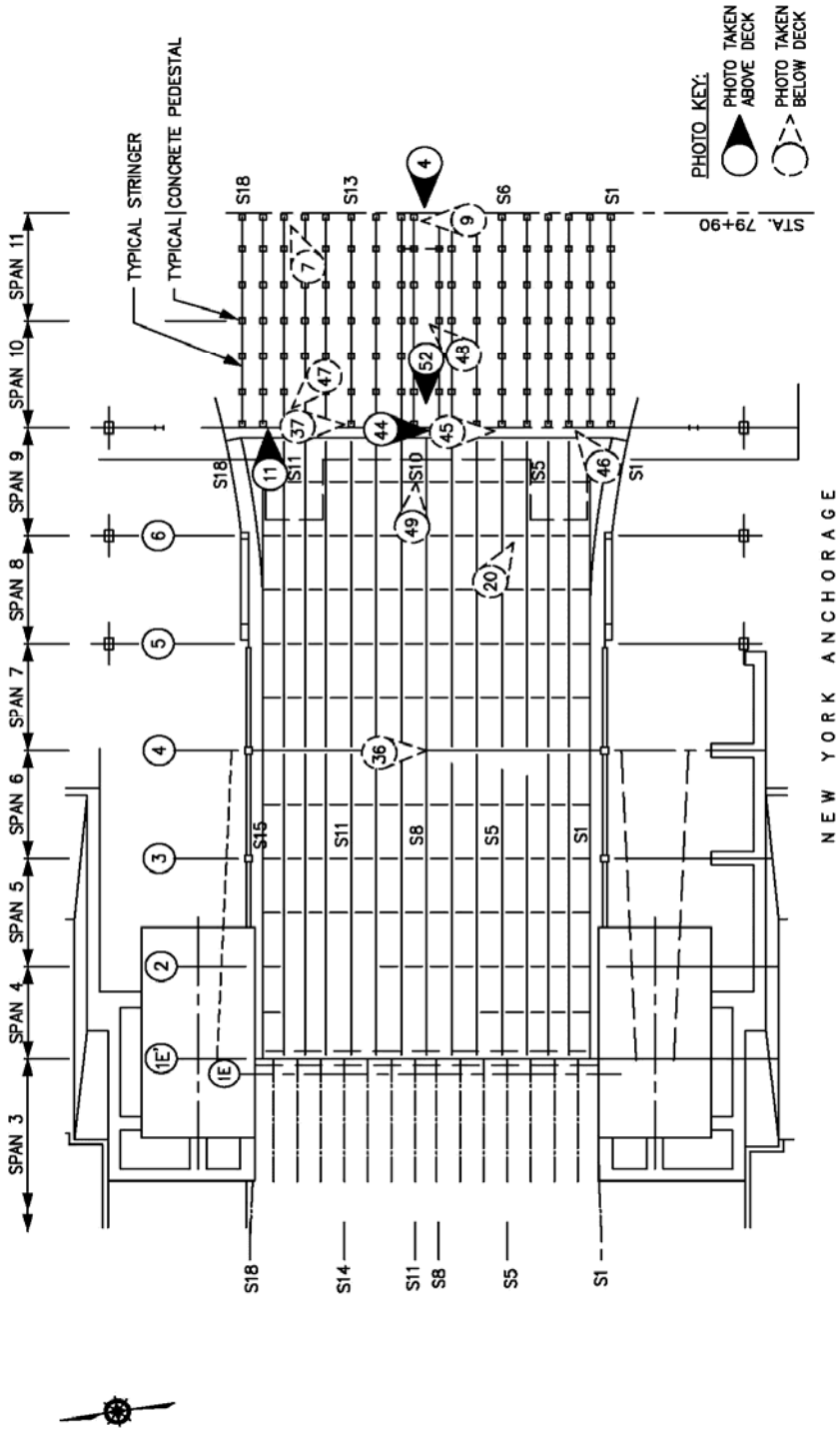
BRIDGE INSPECTION REPORT

BIN	5522507	**SHEET**	10	**OF**	41
TEAM LEADER:	Dino Sedycias, PE	**ASST. TEAM LEADER:**	David Grinberg	**DATE:**	09/20/13
OTHERS:	Robert Quinn				
Feature(s) Carried:	I-95 (GWB-LOWER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				



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SHEET 11 OF 41
BIN: 5522507

Photo No.: 1

Location:
Left elevation,
looking ahead & right.

Description:
General view of main
suspended spans 2 & 3.

Reference:
None

Photo No.: 2

Location:
Right elevation,
looking ahead & left.

Description:
General view of main
suspended spans 1, 2 & 3.

Reference:
None

ASST. TEAM LEADER: David Grinberg
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Dino Sedycias, PE
FEATURE CARRIED: I-95 (GWB LOWER LEVEL)

Photo No.: 3

Location:
Underside of deck and superstructure, looking up & ahead towards NJ tower.

Description:
General view of New Jersey Back Span.

Reference:
None

Photo No.: 4

Location:
Top of deck,
looking back from NY Anchorage span 11.

Description:
General View.

Reference:
None

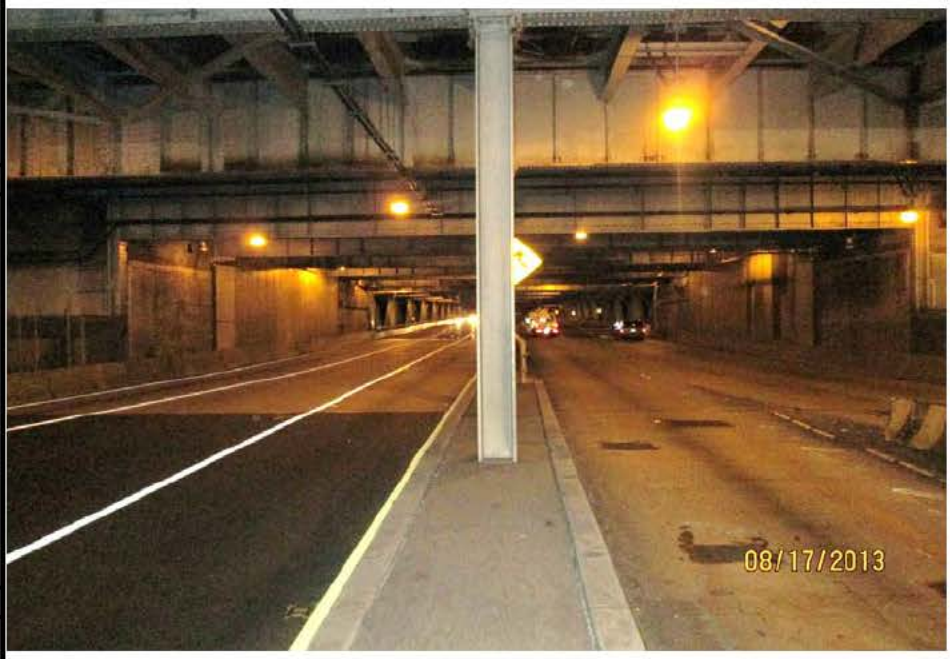

Photo No.: 5

Location:
NJ abutment, left safetywalk, looking ahead.

Description:
The diamond plate near he expansion joint has been replaced.

Reference:
TP 349, Item 22 [Joint With Deck], Rated 5

Photo No.: 6

Location:
Begin abutment, stringer S9 bearing, looking back & right.

Description:
The bearing is corroded, frozen and buried under extensive dirt and debris.

Reference:
TP 349, Item 24 [Bearings, Anchor Bolts, Pads], Rated 3
TP 349, Item 26 [Bridge Seat and Pedestals], Rated 3

Photo No.: 7

Location:
End abutment,
stringer S16 bearing plate,
looking ahead & left.

Description:
2 out of 4 anchor bolts are sheared off.

Reference:
TP 349, Item 25 [Bearings, Anchor Bolts, Pads], Rated 3

Photo No.: 8

Location:
Begin abutment,
backwall between stringer S17 & S18, looking back.

Description:
Three water pipes are broken and discharging water onto bridge seat below the left safetywalk.

Reference:
TP 349, Item 26 [Bridge Seat and Pedestals], Rated 3;
TP 350, Item 45 [Utilities and Utilities Supports], Rated 1 for Spans 1 to 3.

Photo No.: 9

Location:
End abutment,
concrete pedestal for stringer S10, looking left.

Description:
The concrete pedestal under stringer S10 exhibits spalls and cracks and 10% undermining below the bearing plate. One anchor bolt is partially exposed.
(Typical condi ion)

Reference:
TP 349, Item 27 [Bridge Seat and Pedestals], Rated 3

Photo No.: 10

Location:
Begin approach,
right curb of Eastbound Roadway, looking back.

Description:
Draingage inlet is 100% clogged.

Reference:
TP 349, Item 53 [Drainage], Rated 3.

Photo No.: 11

Location:
Westbound Roadway
Spans 10 and 11, looking ahead.

Description:
Concrete overlay exhibits several spalled and cracked areas adjacent to large asphalt patches in Spans 10 and 11.

Reference:
TP 350, Item 19 [Wearing Surface],
Rated 4 for Spans 10 & 11

Photo No.: 12

Location:
Span 2, right curb of Eastbound Roadway at panel point 14W finger joint, looking back and down.

Description:
A four feet section of steel curb had collapsed and is severely corroded wi h large holes.

Reference:
TP 350, Item 20 [Curbs],
Rated 3 for Span 2

Photo No.: 13

Location:
Span 2 at panel point 40W, bottom of steel curb & barrier below right safety walk, looking up and left.

Description:
Large corrosion holes in the steel curb plate and vertical face of the steel barrier.
(Typical condi ion)

Reference:
TP 350, Item 20 [Curbs], Rated 3 for Span 2;
TP 350, Item 22 [Railings and Parapets], Rated 4 Spans 1, 2, & 3

Photo No.: 14

Location:
Span 3, right curb of Eastbound Roadway at Panel Point 5E, looking ahead.

Description:
Steel curb plate is severely pitted with severe surface corrosion and small corrosion holes.
(Typical condi ion)

Reference:
TP 350, Item 20 [Curbs], Rated 4 for Spans 1 & 3

Photo No.: 15

Location:
Span 3, north median curb, along west bound roadway between Panel Points 7E and 6E*, looking right.

Description:
Section of steel curb plate has been partially detached along the median barrier.

Reference:
TP 350, Item 20 [Curbs], Rated 4 for Span 3

Photo No.: 16

Location:
New Jersey Tower, left safety walk, looking ahead.

Description:
The safety walk railing is missing behind the chain-link fence.

Reference:
TP 350, Item 22 [Railings and Parapets], Rated 4 for Spans 1 & 3

Photo No.: 17

Location:
Span 1, bottom of safety walk stair near New Jersey abutment, looking right.

Description:
The weld for post base plate has been repaired.

Reference:
TP 350, Item 22 [Railings and Parapets, Rated 4 for Span 1. (Locally rated 5).

Photo No.: 18

Location:
Span 2, crossover walkway at Panel Point 27W, looking right.

Description:
The southwest handrail (one of four) is missing at the stairs from the median barrier to the access catwalk.

Reference:
TP 350, Item 22 [Railings and Parapets],
Rated 4 for Span 2

Photo No.: 19

Location:
Span 3, bridge railing of right safety walk at Panel Point 1E, looking ahead.

Description:
Top rail is detached from the post along the top of the roadway barrier.

Reference:
TP 350, Item 22 [Railings and Parapets],
Rated 4 Spans 3

Photo No.: 20

Location:
Span 8, right side at Capbeam 6, looking ahead and right.

Description:
The scupper's hopper screen exhibits heavy accumulation of debris.

Reference:
TP 350, Item 23 [Scuppers],
Rated 1 for Span 8

Photo No.: 21

Location:
Span 3, left side of steel median barrier,near panel point 8E, looking right & back.

Description:
Steel curb and barrier exhibit moderate pitting and surface corrosion throughout.
(Typical condi ion)

Reference:
TP 350, Item 25 [Median], Rated 4 for Spans 1, 2, & 3

Photo No.: 22

Location:
Span 3, left side of median at Panel Point 1E, looking right.

Description:
End section of steel curb is damaged and settled.

Reference:
TP 350, Item 25 [Median], Rated 4 for Span 3

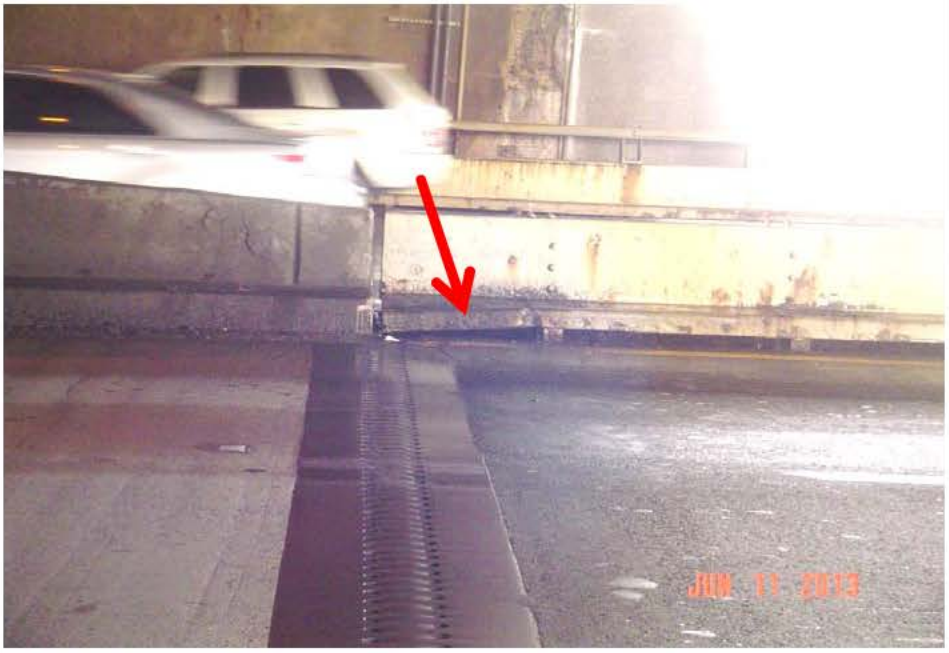

Photo No.: 23

Location:
Span 1, Stringer S5 at PP5W*, top of web, looking right.

Description:
Stringer S5 exhibits a crack at top of the web. An arresting hole was drilled at the end of the crack.
(Similar at other locations)

Reference:
TP 350, Item 28 [Primary Members],
Rated 5 for Span 1

Photo No.: 24

Location:
Span 2, fascia stringer S1 at end side of floorbeam 26W*, looking right.

Description:
The stringer web exhibits severe section loss with holes around the web bearing angles at he floorbeam connection. Two 3/4" diameter holes were drilled at this location since the previous inspection.
(Similar at other locations)

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2

Photo No.: 25

Location:
Span 2, Stringer S2 at the west side of Floorbeam 24E, looking right.

Description:
The top of the stringer web exhibits severe corrosion and section loss with a 1-1/2" crack above the splice plate over the bearing area at the floorbeam connection.
(Similar at other locations)

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2

Photo No.: 26

Location:
Span 2, fascia Stringer S18 at the west side of Floorbeam 36E, looking left.

Description:
The stringer web exhibits severe corrosion with section loss with holes along the bearing stiffening angle at the floorbeam connection. Two 3/4" crack arrestor holes were drilled at this location

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2

Photo No.: 27

Location:
Span 2, Stringer S10 at the west side of Floorbeam 15E, looking left.

Description:
The bottom of the stringer web over the bearing exhibits severe corrosion and sec ion loss with 4"x1" and 2"x1" holes and a 3" crack in between.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2

Photo No.: 28

Location:
Span 2, stringer S4 at the begin side of floorbeam 38E, looking left.

Description:
The bottom of web at the connection to the floorbeam has been repaired.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 2 (Locally rated 5)

Photo No.: 29

Location:
Span 3, end face at end of stringer S14 between floorbeam 1E* & 1E, looking ahead & left.

Description:
The web at the end of stringer exhibits severe corrosion and several thru holes with section loss.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 30

Location:
Span 3, stringer S18 between panel point 1E* & 1E, looking left.

Description:
Fascia stringer S18 exhibits 50% section loss to both flanges and a large corrosion hole to lower web near mid-span.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 31

Location:
Span 3, stringer S1 between panel point 8E and 7E*, looking ahead and left.

Description:
The right top flange, bottom of the web, and the left bottom flange of the fascia stringer exhibits severe corrosion with thru holes and section loss.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 32

Location:
Span 3, stringer S1 between panel point 8E and 7E*, looking back and right.

Description:
The web and the left bottom flange of the fascia stringer exhibits severe corrosion with thru holes and section loss.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 33

Location:
Span 3, stringer S1 at the back side of floorbeam 9E, looking right.

Description:
The stringer web exhibits severe section loss with a 3/4" x 5" hole along the web bearing angles at the floorbeam connection.

Reference:
TP 350, Item 28 [Primary members],
Rated 4 for Span 3

Photo No.: 34

Location:
Span 3, the top surface of bottom chord of right stiffening truss between Panel Points 3E and 3E*, looking ahead.

Description:
The top plate of the bottom chord exhibits twelve (12) thru-holes up to 6" x 2" with evidence of water ponding on top plate. Temporary caulking was added to fill areas of pitting and minimize water infiltration.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 3

Photo No.: 35

Location:
Span 4, end of stringer S10 over floorbeam 1E, looking right.

Description:
The web and top flange exhibit severe corrosion with large 1" x 12" hole in the top of web.

Reference:
TP 350, Item 28 [Primary Members], Rated 4 for Span 4

Photo No.: 36

Location:
Span 7, stringer S8 at capbeam No.4, looking right.

Description:
The end of stringer exhibits severe corrosion with 4" x 11" hole in he web above the bearing due to water leakage from the deteriorated joint above.

Reference:
TP 350, Item 28 [Primary Members], Rated 4 for Span 7
TP 350, Item 30 [Paint], Rated 4 for Span 7
TP 350, Item 31 [Joints], Rated 3 for Span 6

Photo No.: 37

Location:
Span 9, east end of stringer S13, looking right.

Description:
The bottom of web exhibits severe corrosion with a 2" x 4" hole and a 5" long crack above the bearing.

Reference:
TP 350, Item 28 [Primary Members],
Rated 4 for Span 9

Photo No.: 38

Location:
Span 3, left side of stringer S1 between panel point 8E & 7E*, looking back & right.

Description:
The stringer exhibits areas of peeling/blistering paint and moderate to heavy corrosion with section loss.
(Typical condi ion)

Reference:
TP 350, Item 30 [Paint],
Rated 3 for Spans 1, 2, & 3

Photo No.: 39

Location:
Span 2, begin face of floorbeam 33E*, looking ahead & left.

Description:
The floorbeam & stringers exhibit areas of peeling/blistering paint and minor to moderate corrosion. (Typical condi ion)

Reference:
TP 350, Item 30 [Paint], Rated 3 for Spans 1, 2, & 3
TP 350, Item 31 [Joints], Rated 4 for Span 2

Photo No.: 40

Location:
Span 1, deck joint in Westbound Roadway at Panel Point 8W, looking right.

Description:
Sections of deck joint exhibit missing or deteriorated joint filler material allowing water leakage below. (Typical condi ion)

Reference:
TP 350, Item 31 [Joints], Rated 4 for Spans 1 & 2

Photo No.: 41

Location:
Span 1, finger expansion joint, Westbound roadway, at the NJ tower, looking left.

Description:
The finger joint exhibits moderate vertical differential up to 3/4" between the fingers. (Typical condi ion)

Reference:
TP 350, Item 31 [Joints], Rated 4 for Spans 1 and 2

Photo No.: 42

Location:
Span 3, underside of finger joint below Eastbound Roadway at panel point 1E, looking up.

Description:
The finger joint plates are jammed against each other restricting movement. (Typical condi ion)

Reference:
TP 350, Item 31 [Joints], Rated 3 for Span 3

Photo No.: 43

Location:
Span 3, left safety walk Panel Point 1E, looking back.

Description:
There is a bent and broken end plate at the end of the safety walk

Reference:
TP 350, Item 31 [Joints], Rated 3 for Span 3

Photo No.: 44

Location:
Span 9, expansion joint in Eastbound Roadway, looking right.

Description:
The joint filler material is deteriorated for the entire width of the roadway.
(Westbound roadway similar)
(Typical Condition)

Reference:
TP 350, Item 31 [Joints], Rated 3 for Spans 6 & 9

Photo No.: 45

Location:
Span 9, expansion joint in Eastbound Roadway, looking right.

Description:
The joint filler material at localized areas is pulled back from armoring angles allowing water leakage below. The leakage is causing member deterioration.
(Westbound roadway similar)

Reference:
TP 350, Item 31 [Joints], Rated 3 for Span 9
TP 350, Item 30 [Paint], Rated 4 for Span 9

Photo No.: 46

Location:
Span 10, stringer S3 at begin side of span 10, looking ahead & left.

Description:
One of four anchor bolts is sheared off.

Reference:
TP 350, Item 33 [Bearings, Anchor Bolts, Pads], Rated 4 for Span 9

Photo No.: 47

Location:
Pedestal at stringer S16 of Span 9 (west end of Span 10), looking back & left.

Description:
The concrete pedestal is spalled and cracked exposing anchor bolts and undermining bearing plate.
(Typical condi ion)

Reference:
TP 350, Item 34 [Pedestals], Rated 3 for Spans 9 & 10
TP 350, Item 33 [Bearings, Anchor Bolts, Pads], Rated 4 for Spans 9 & 10

Photo No.: 48

Location:
Span 10, pedestal at stringer S10, looking ahead and left.

Description:
Concrete pedestals have been repaired.

Reference:
Tp 350, Item 34 [Pedestals], Rated 3 for Spans 10 and 11 (Locally rated 5)

Photo No.: 49

Location:
Spans 9 &10, top of NY Anchorage between stringers S9 & S10, looking ahead.

Description:
Large amounts of debris has been removed from the top of the NY Anchorage.

Reference:
TP 350, Item 35 [Top of Pier Cap or Beam],
Rated 5 for Spans 9 & 10

Photo No.: 50

Location:
Span 2, blue emergency light and outlet at panel point 16W, looking back & right.

Description:
The blue emergency light and outlet have been removed along with all of heir electrical components.

Reference:
TP 350, Item 43 [Lighting Standards and Fixtures], Rated 8 for Spans 1 & 2

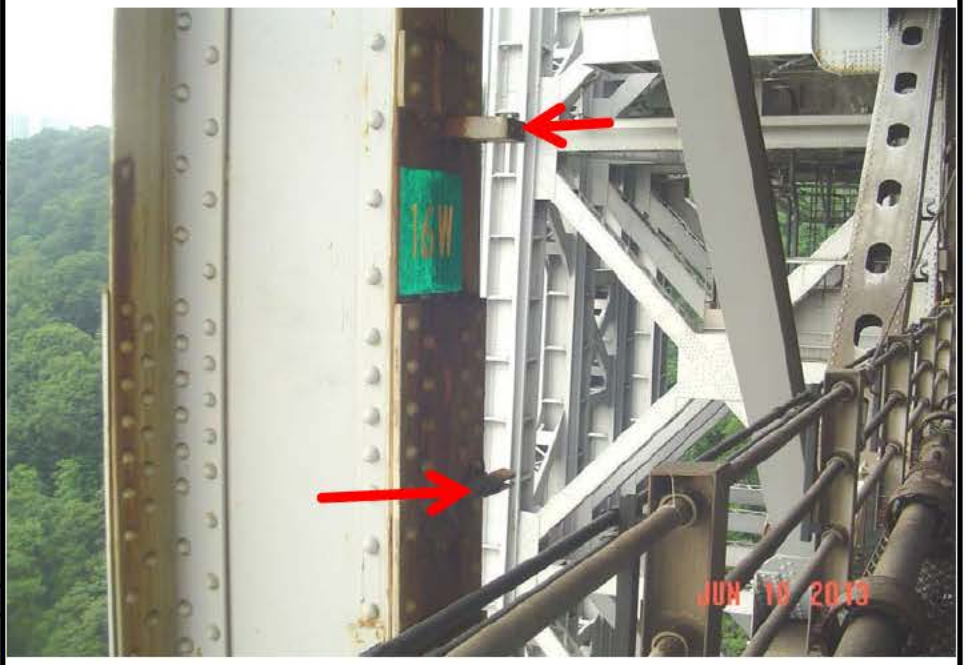

Photo No.: 51

Location:
Span 1, Panel Point 5W-6W, sign at median, looking left.

Description:
Minor impact damage to sign panel and broken U-bolt at the connection to the sign structure.

Reference:
TP 350, Item 44 [Sign Structure], Rated 4 for Spans 1, 2 and 3.

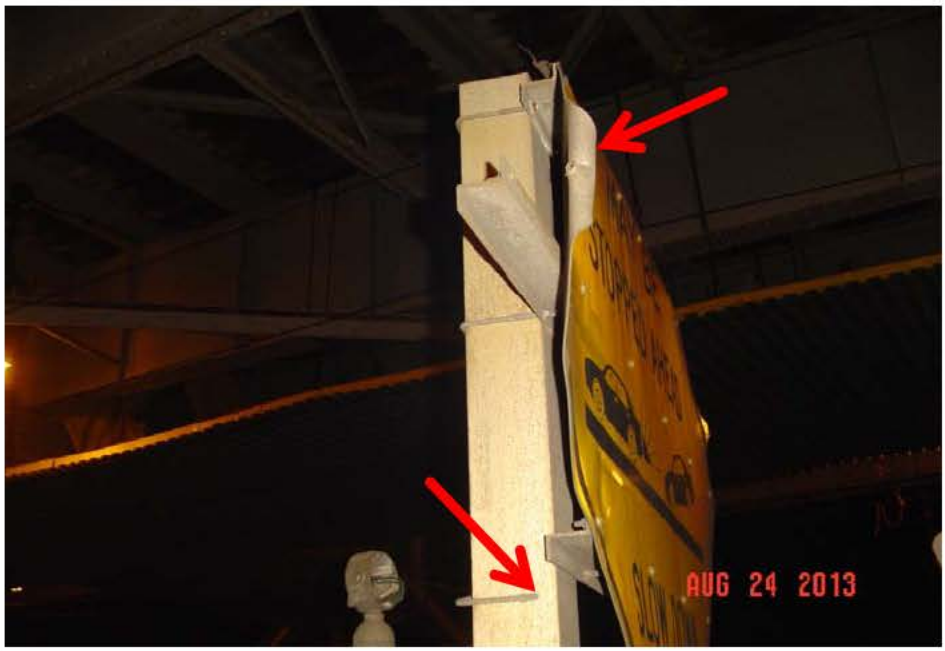

Photo No.: 52

Location:
Span 10, median, looking back.

Description:
The sign indica ing "NO MERGE AHEAD" is missing.

Reference:
TP 350, Item 44 [Sign Structure],
Rated 1 for Span 10

Photo No.: 53

Location:
Span 1, junction box at he back side of right parapet near panel point 3W, looking down & ahead.

Description:
The junction box exhibits a missing cover plate with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 54

Location:
Span 2, electrical conduits at the back side of right parapet at panel point 14E, looking ahead.

Description:
The conduit elbows exhibit missing access covers with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 55

Location:
Span 2, conduits at the back side of right parapet at panel point 11W, looking back and left.

Description:
The conduit couplings are broken and partially disconnected with exposed electrical wires.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 56

Location:
Span 2, right stiffening truss at panel point 31E, looking ahead & right.

Description:
The junction box has been removed along wi h all of its electrical components.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 57

Location:
Span 2, downspout at left safety walk at panel point 18W, looking down.

Description:
Downspout base plate has been removed and the grating has been replaced.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

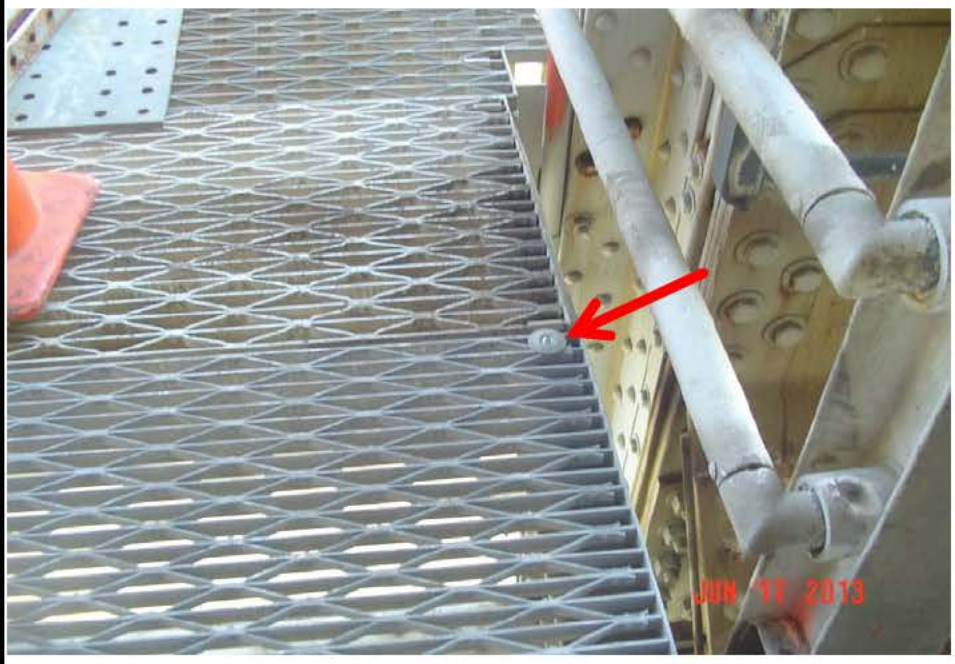

Photo No.: 58

Location:
Span 1, begin abutment between stringers S1 and S2, looking back.

Description:
Three conduits are broken with exposed wires below right safety walk.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 59

Location:
Span 1, begin face of floorbeam 3W under stringer S2, looking up & left.

Description:
The conduit support exhibits severe corrosion with up to 90% section loss. One of the conduits is severely corroded.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 60

Location:
Span 2, bottom chord of left stiffening truss at panel point 19E, looking back & right.

Description:
The junction box and the conduits have been removed.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

Photo No.: 61

Location:
Span 2, end face of floorbeam 17E under stringer S18, looking back.

Description:
The conduit and its support have been removed.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

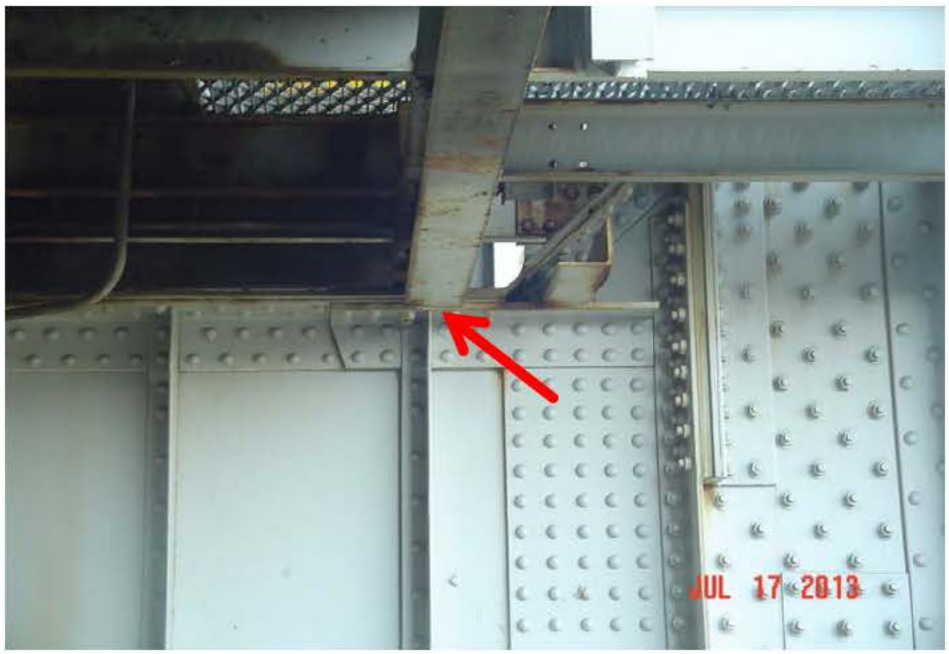

Photo No.: 62

Location:
Span 2, end face of floorbeam 29E, looking back.

Description:
All loose and exposed electrical wires along the end side of the floorbeam have been removed.

Reference:
TP 350, Item 45 [Utilities and Utili ies Supports],
Rated 1 for Spans 1, 2, & 3

LOAD RATING

2013 LEVEL 1 LOAD RATING SUMMARY
(LOWEST HS CONTROLLING ELEMENTS)

RC – BIN	N3 – 5522507
Featured(s) Carried	I-95 (GWB Lower Level)
Feature(s) Crossed	Route 9A and Hudson River
Load Rating Unit (Spans)	Steel Spans (Spans 1-11)
Analysis Method	Load Factor (Stringer) Working Stress (Stringer)
Controlling Element	**Typical Interior Stringers** **At Spans 2W*-10W, 15W-15E*, 10E-1E*, NYSDOT Spans 1-3**
Calculated By (Date)	K.K. (12/1997 – PANYNJ)
Checked By (Date)	P.P. (12/1997 – PANYNJ)
Component	Typical Interior Stringers At Spans 2W*-10W, 15W-15E*, 10E-1E*, NYSDOT Spans 1-3
H Inventory and Operating (Tons)	---
HS Inventory and Operating (Tons)	L.F.: Inventory – HS-20 (42.0T), Operating – HS-20 (70.0T) **W.S.: Inventory – HS-20 (39.0T), Operating – HS-20 (58.0T)**
Component	---
H Inventory and Operating (Tons)	---
HS Inventory and Operating (Tons)	---
Component	---
H Inventory and Operating (Tons)	---
HS Inventory and Operating (Tons)	---

Notes:
During this 2013 Biennial Inspection, there were no significant losses in section of bridge members in comparison to the conditions found in the 2011 Biennial Inspection to warrant load rating updates.

Load Rating Engineer	Pak So, P.E.
P.E. Number	081576
Date	10/14/2013

INVENTORY

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	7

DATE 09/20/13

PREPARED BY Dino Sedycias, PE

SPAN NO. 10 11 12	Wa king 13	Step Ladder 14	Ext. Ladder 15	40' UBIU 16	60' UBIU 17	LGWT-UBIU 18	<= 30' Lift 19	30-90" Lift 20	> 90" Lift 21	Row Boat 22	Barge 23	Diving 24	RR Flagging 25	Electric RR 26	Scaffolding 27	Lane Closure 28	W/ Shad Veh 29	Other 30	Contractor Code 116	Record Code 118	TX Code 120
B R I	X	X	X						X								X	X	9 9	1 7	2
0 0 1	X	X	X															X	9 9	1 7	2
0 0 2	X	X																X	9 9	1 7	2
0 0 3	X	X																X	9 9	1 7	2
0 0 4	X								X								X		9 9	1 7	2
0 0 5	X								X								X		9 9	1 7	2
0 0 6	X								X								X		9 9	1 7	2
0 0 7	X								X								X		9 9	1 7	2
0 0 8	X								X								X		9 9	1 7	2
0 0 9	X								X								X		9 9	1 7	2
0 1 0	X																X		9 9	1 7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	7

DATE 09/20/13

PREPARED BY Dino Sedycias, PE

SPAN NO.			Wa king	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	R	I																				9	9	1	7	2
0	1	1	X															X	X			9	9	1	7	2
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d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

DETAILS OR SITUATIONS REQUIRING SPECIAL EMPHASIS DURING INSPECTION

BD 186

BIN 5522507

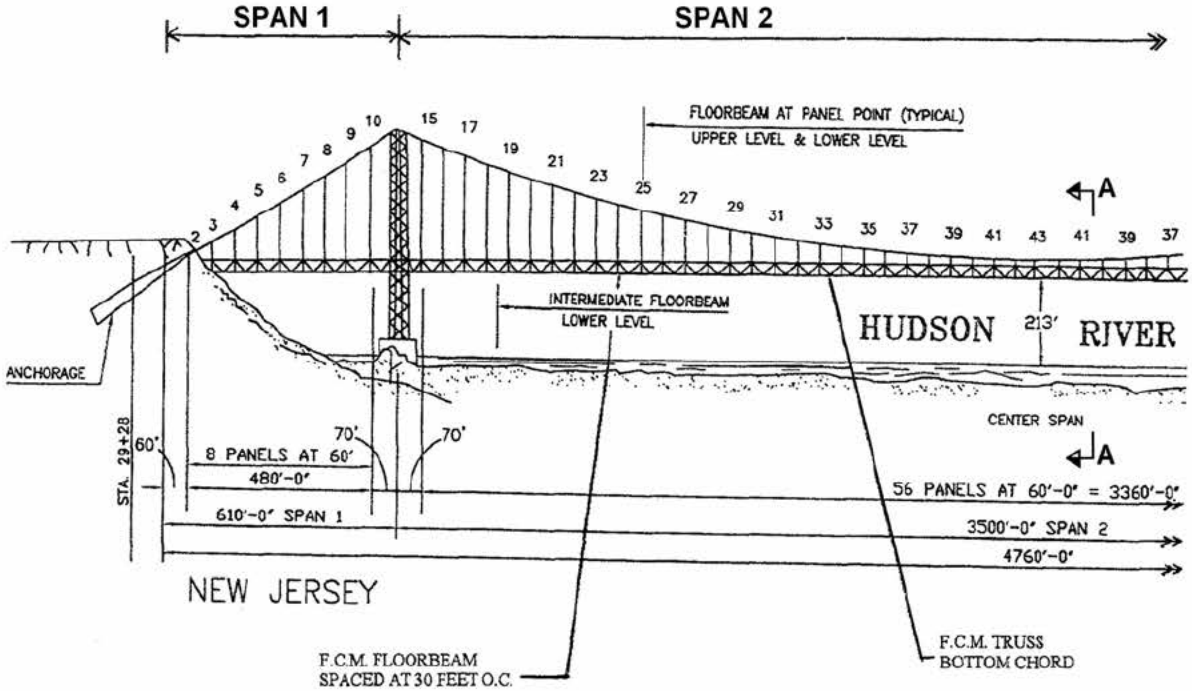
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 1 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
LOOKING NORTH

NOTE:
100% "HAND ON" INSPECTION WAS PERFORMED ON THE LOWER LEVEL NON-REDUNDANT AND FRACTURE-CRITICAL BOTTOB CHORD OF THE STIFFENING TRUSS, FLOORBEAMS (SPACED AT 30 FEET O.C.) AND THEIR CONNECTION TO THE BOTTOM CHORD OF STIFFENING TRUSSES.

FOR TYPICAL SECTION A-A, SEE SHEET 3 OF 10

ASC
10/1/09

09/20/13

Ray Gray
9/30/11

BD 186

BIN 5522507

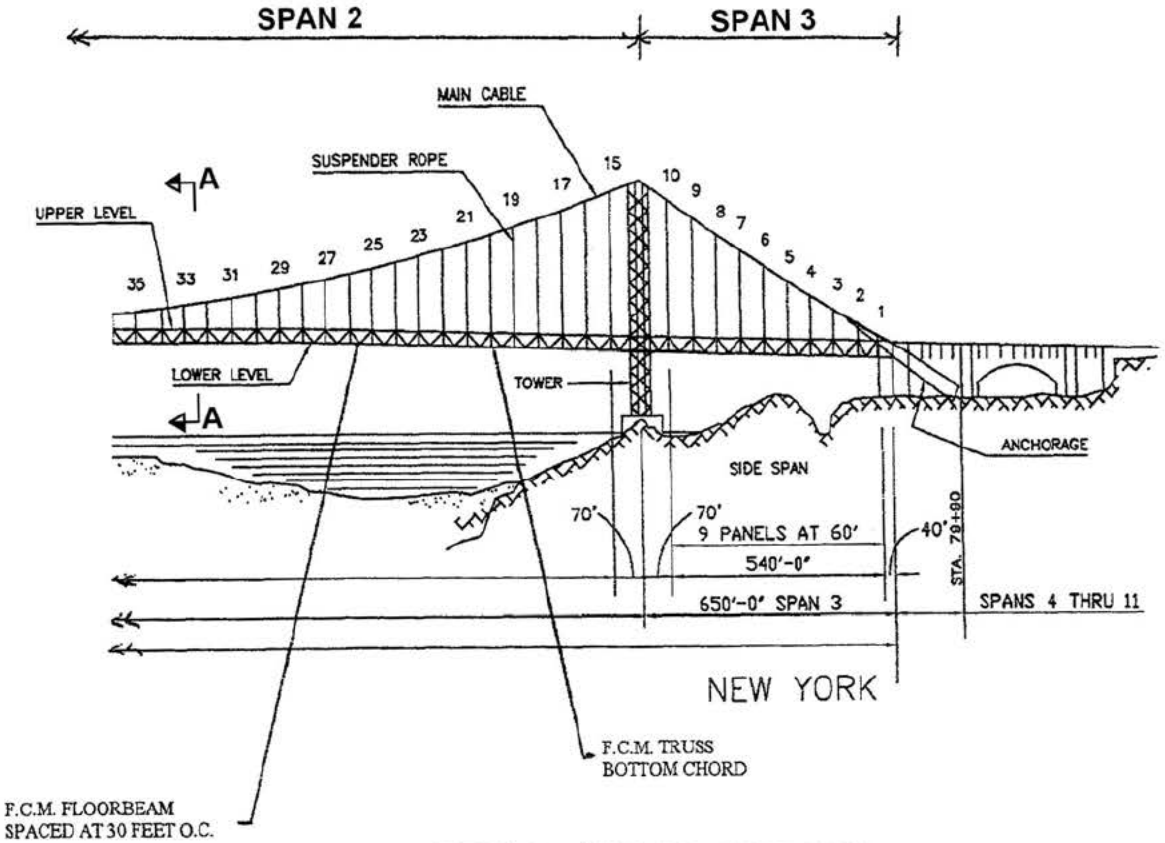
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 2 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
LOOKING NORTH

NOTE:
100% "HAND ON" INSPECTION WAS PERFORMED ON THE LOWER LEVEL NON-REDUNDANT AND FRACTURE-CRITICAL BOTTOB CHORD OF THE STIFFENING TRUSS, FLOORBEAMS (SPACED AT 30 FEET O.C.) AND THEIR CONNECTION TO THE BOTTOM CHORD OF STIFFENING TRUSSES.

FOR TYPICAL SECTION A-A, SEE SHEET 3 OF 10

ASC
10/1/09

09/20/13

Ray Gray
9/30/11

BD 186

BIN 5522507

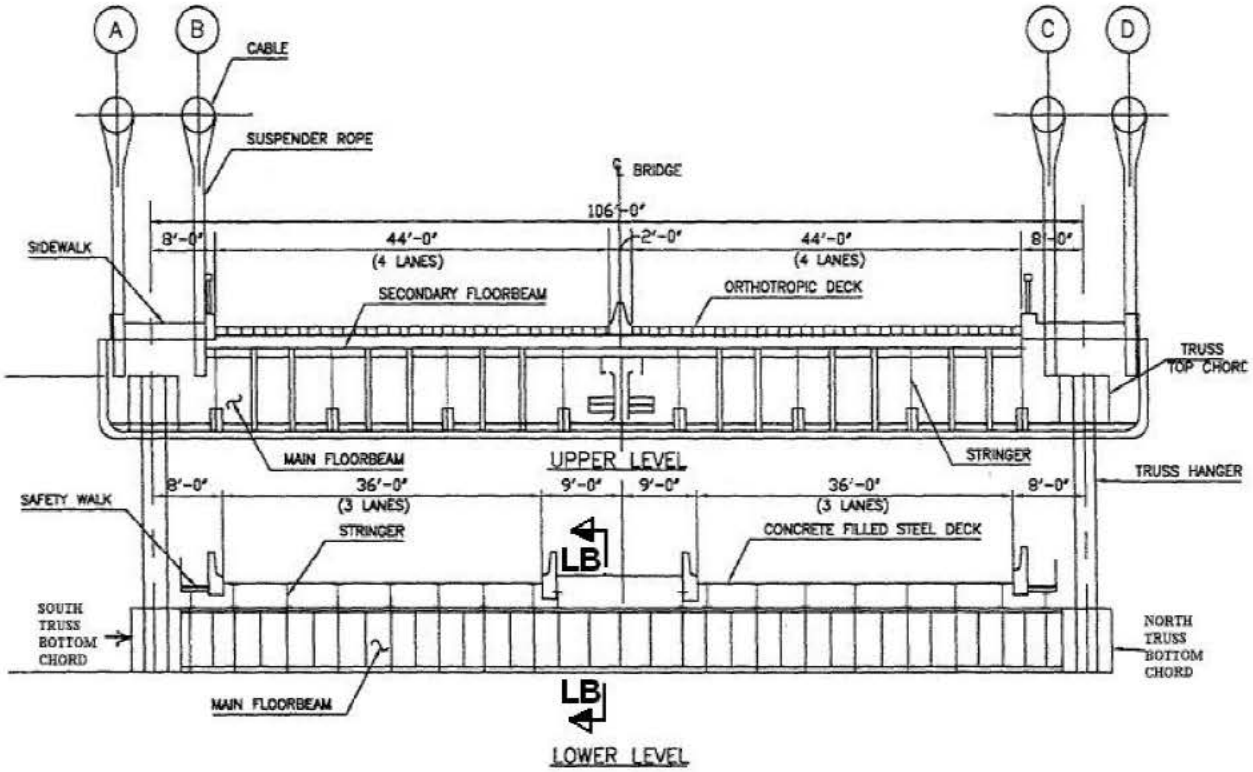
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 3 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL CROSS-SECTION A-A
LOOKING WEST

NOTE:
100% "HAND ON" INSPECTION WAS PERFORMED ON THE FLOORBEAMS (SPACED AT 30 FEET O.C.) IN SPANS 1, 2, AND 3.

SEE SHEET 4 OF 10 FOR SECTION LB-LB

ASC
10/1/09

09/20/13

Ray Gray
9/30/11

BD 186

BIN 5522507

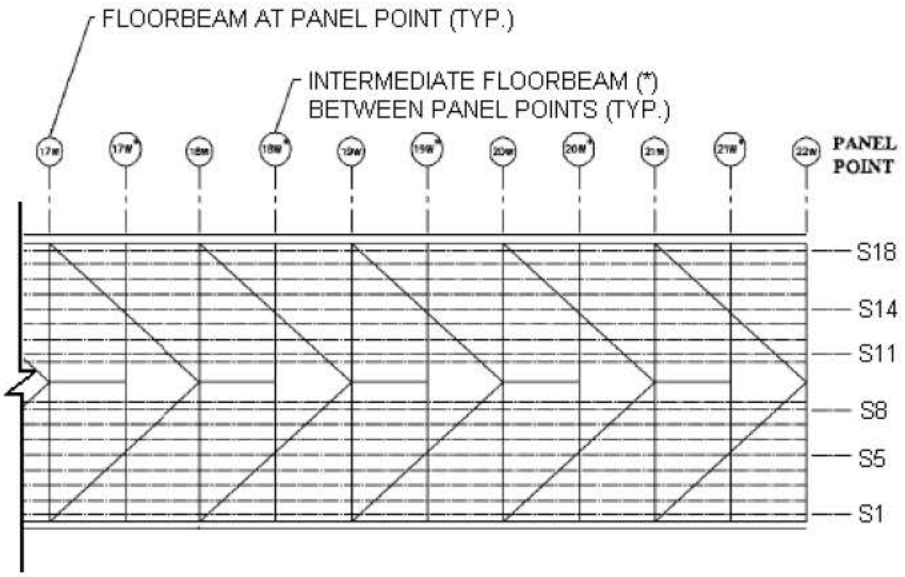
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 4 **OF** 10

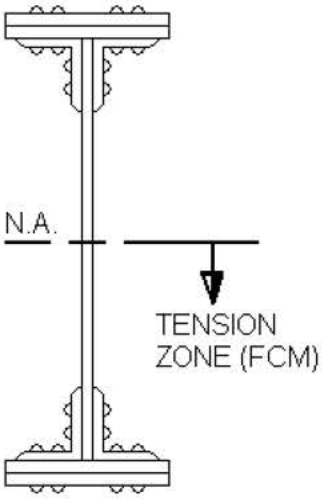
TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL LOWER LEVEL FRAMING PLAN



SECTION LB-LB

NOTE:

100% "HANDS-ON" INSPECTION WAS PERFORMED ON THE FLOORBEAMS (SPACED AT 30 FEET O.C.) AND THE LOWER LEVEL CHORD OF THE STIFFENING TRUSSES IN SPANS 1, 2 AND 3.

09/20/13

Ray Gray 9/30/11

ASC 10/1/09

BD 186

BIN 5522507

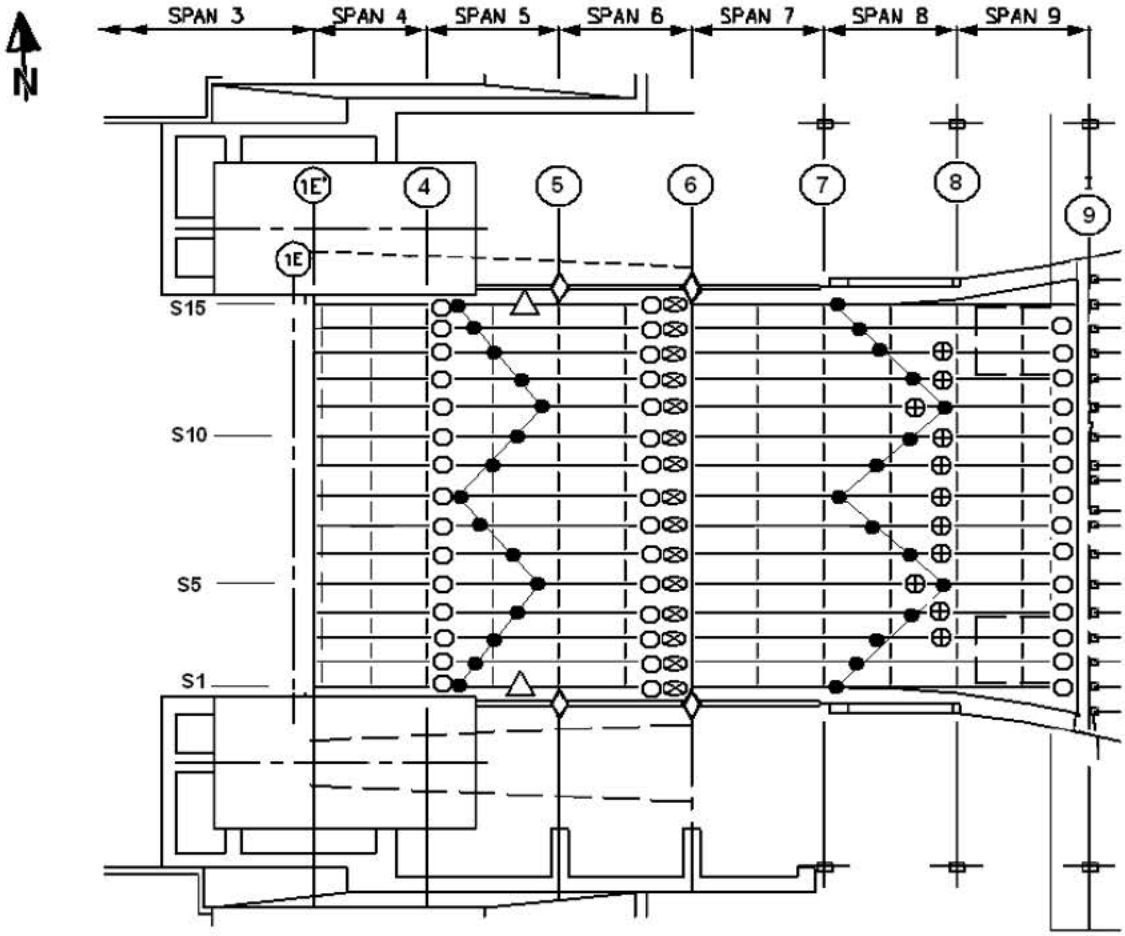
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 5 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



LOWER LEVEL

NEW YORK ANCHORAGE - FRAMING PLAN

LEGEND:

- ○ END OF COVER PLATE WELD, SPANS 5, 6 & 9. SEE SHEET 6.
- ⊗ COPING DETAIL AT GIRDER ENDS, CATEGORY 'E' WELD, SPAN 6. SEE SHEET 7.
- ⊕ FIELD WELDED MOMENT SPLICE CONNECTION. CATEGORY 'D' & 'E', SPAN 8. SEE SHEET 8.
- ● FIELD WELDED LATERAL BRACING TO GIRDER BOTTOM FLANGE 5'' +/-. CATEGORY 'E', SPANS 5 & 8.
- △ FIELD WELDED STEEL ANGLE TO BOTTOM FLANGE OF GIRDER 8''. CATEGORY 'E', SPAN 5.
- ◊ NON-REDUNDANT LOAD PATH COLUMNS.

09/20/13

Ray Gray 9/30/11

ASC 10/1/09

BD 186

BIN 5522507

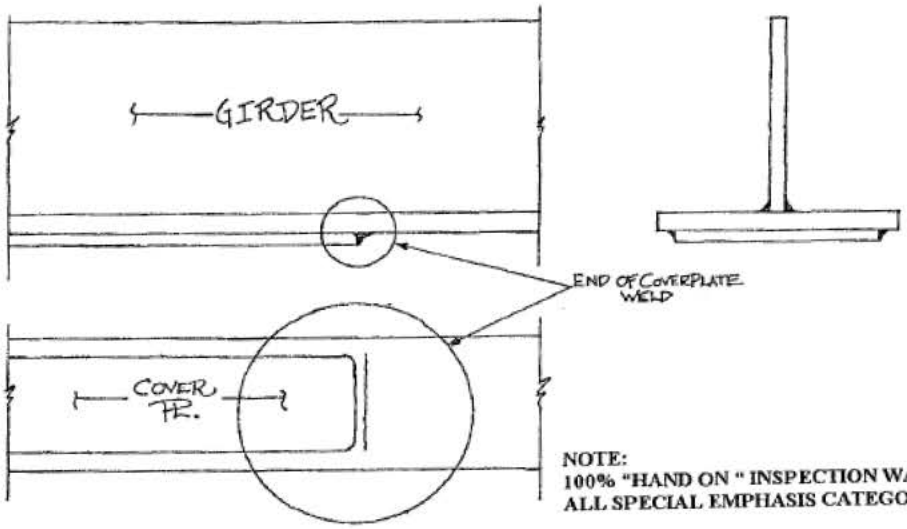
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 6 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

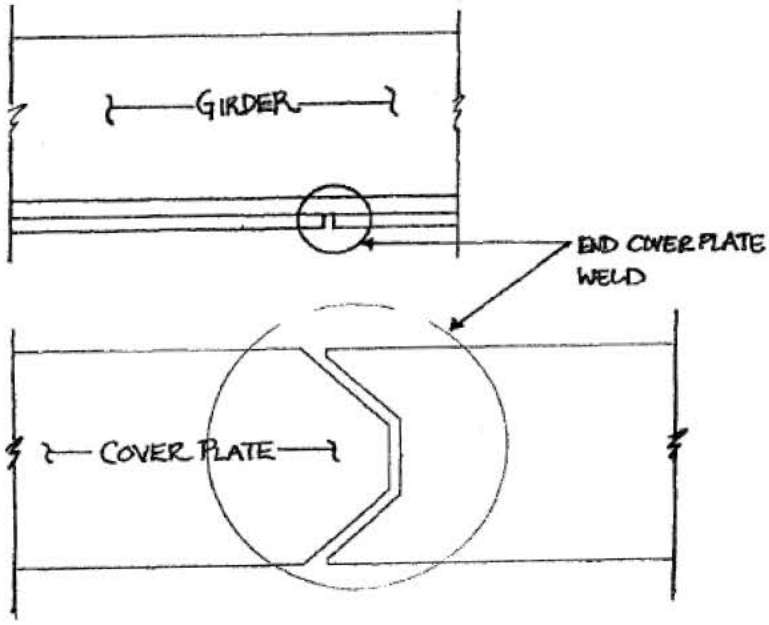
Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON ALL SPECIAL EMPHASIS CATEGORY E' WELDS.

FOR LOCATIONS, SEE SHEET 5 OF 9.



09/20/13

ASC
10/1/09

END OF COVER PLATE WELD DETAILS
SPANS 5, 6, & 9; LEGEND O

KGY Gray
9/30/11

BD 186

BIN 5522507

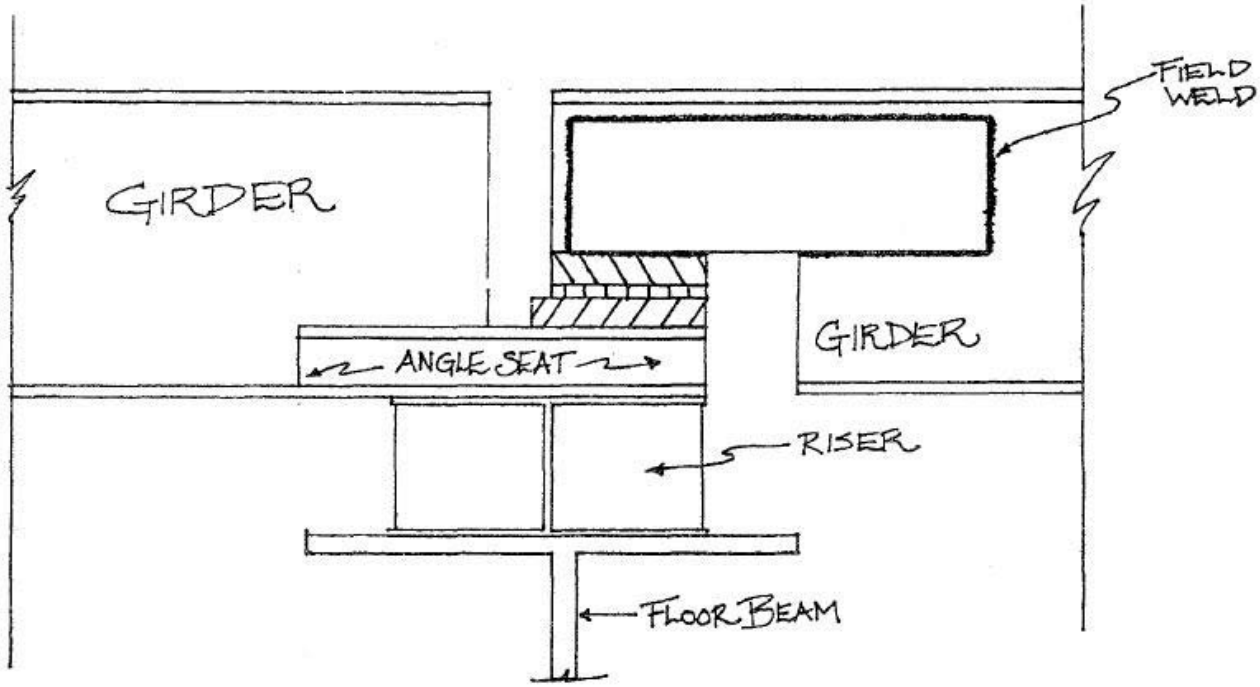
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 7 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



COPING DETAILS
LEGEND ⊗, SPAN 6

NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON ALL COPING DETAILS CATEGORY E' WELDS.

FOR LOCATIONS, SEE SHEET 5 OF 10.

ASC
10/1/09

09/20/13

Ray Gray
9/30/11

BD 186

BIN 5522507

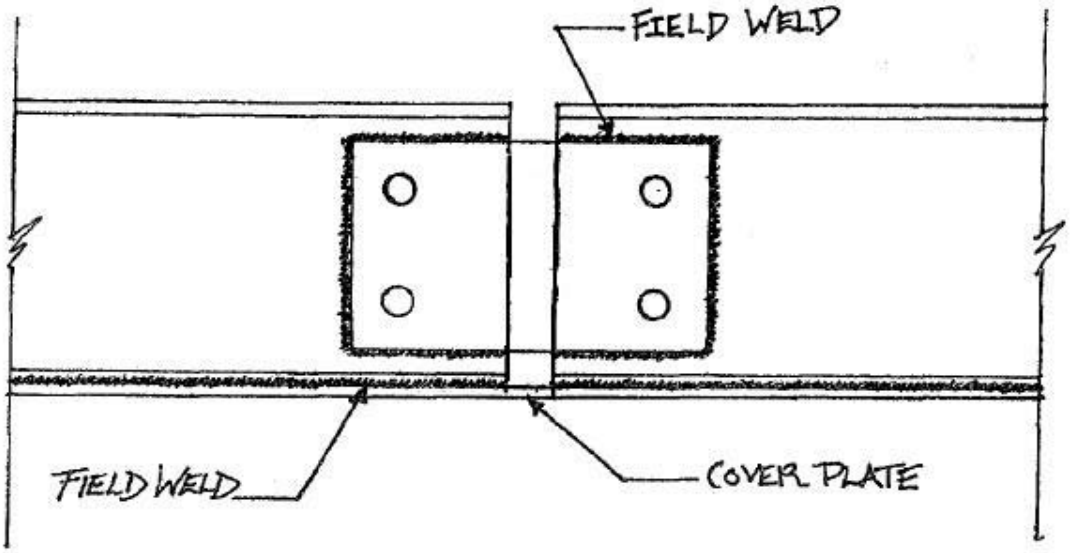
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 8 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



MOMENT SPLICE CONNECTIONS

LEGEND ⊕ - SPAN 8

NOTE:
100% "HAND ON " INSPECTION WAS PERFORMED ON ALL SPECIAL EMPHASIS CATEGORY D AND E' WELDS.

FOR LOCATIONS, SEE SHEET 5 OF 10.

ASC
10/1/09

09/20/13

Ray Gray
9/30/11

BD 186

BIN 5522507

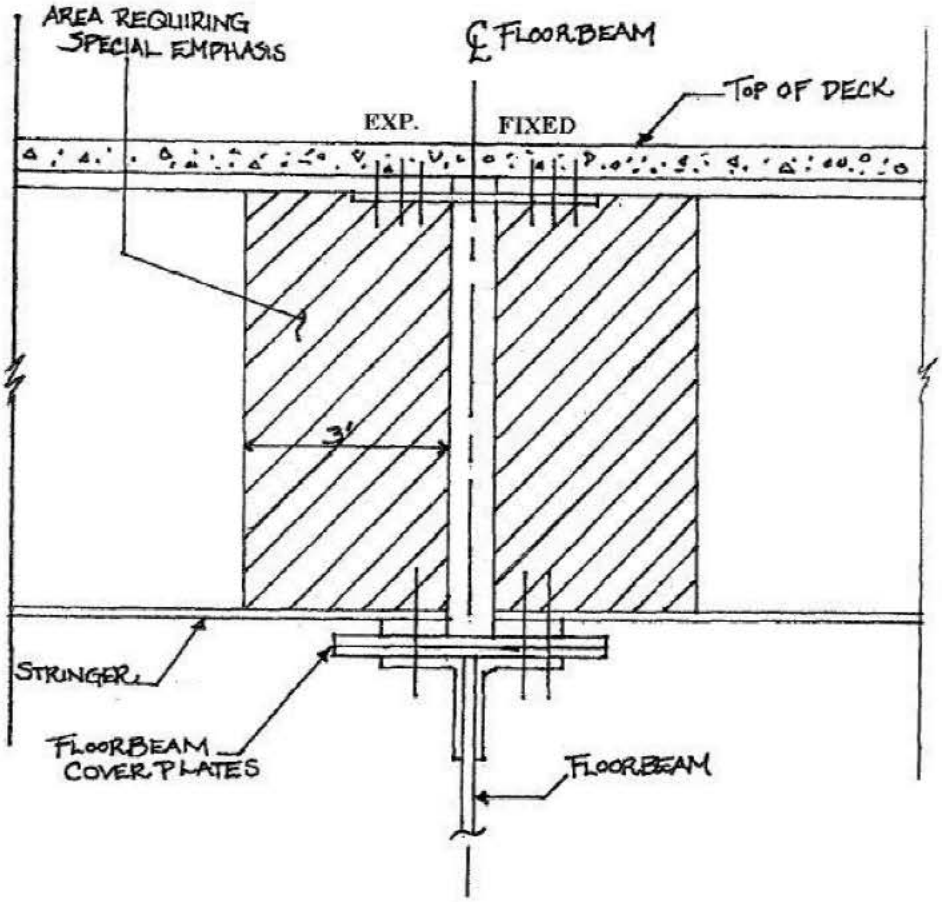
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 9 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



SECTION C-C

STRINGER CONNECTION TO FLOORBEAM

(BOTTOM FLANGE OF STRINGER IS BEARED AND BOLTED DIRECTLY TO THE TOP FLANGE OF FLOORBEAM. REF: T.A. #94-004)

NOTE:
SPECIAL EMPHASIS AREA (SHADED AREA) RECEIVED 100% "HAND ON " INSPECTION PER T.A. 94-004.

FOR LOCATIONS, SEE SHEET 3 OF 10.

09/20/13

ASC/10/01/09

Ray Gray 9/30/11

BD 186

BIN 5522507

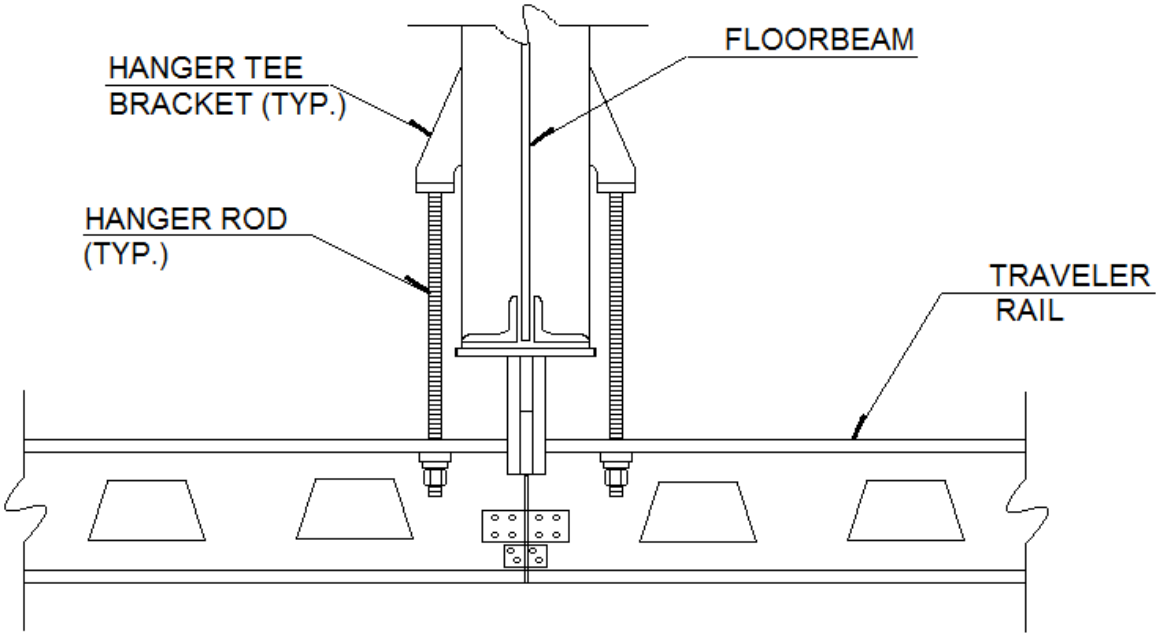
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 10 **OF** 10

TEAM LEADER: Dino Sedycias, PE **ASST. TEAM LEADER:** David Grinberg **DATE:** 09/20/13

Feature Carried: I-95 (GWB LOWER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



ELEVATION

LOWER LEVEL TRAVELER

100% HANDS-ON INSPECTION WAS PERFORMED ON BOTH LEFT AND RIGHT TRAVELER RAILS, ALL HANGER RODS AND HANGER TEE BRACKETS.

09/20/13

Ray Gray
9/30/11

B.I.N. : **5522508**

Region **11** COUNTY: **NEW YORK**

Feature Carried : **I-95 (GWB UPPER LEVEL)**

Feature Crossed: **ROUTE 9A AND HUDSON RIVER**

General Recommendation: **5**

The bridge has details that should receive special emphasis during each inspection. See the last section of this binder for location of details.

2011 INSPECTION

CAUTION

NO KNOWN
HIGH VOLTAGE
OVERHEAD

REVIEWED BY : **SETH MEDWICK, P.E. #065490-1**

TITLE : **QUALITY CONTROL ENGINEER**

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 OF 1

BIN 5522508

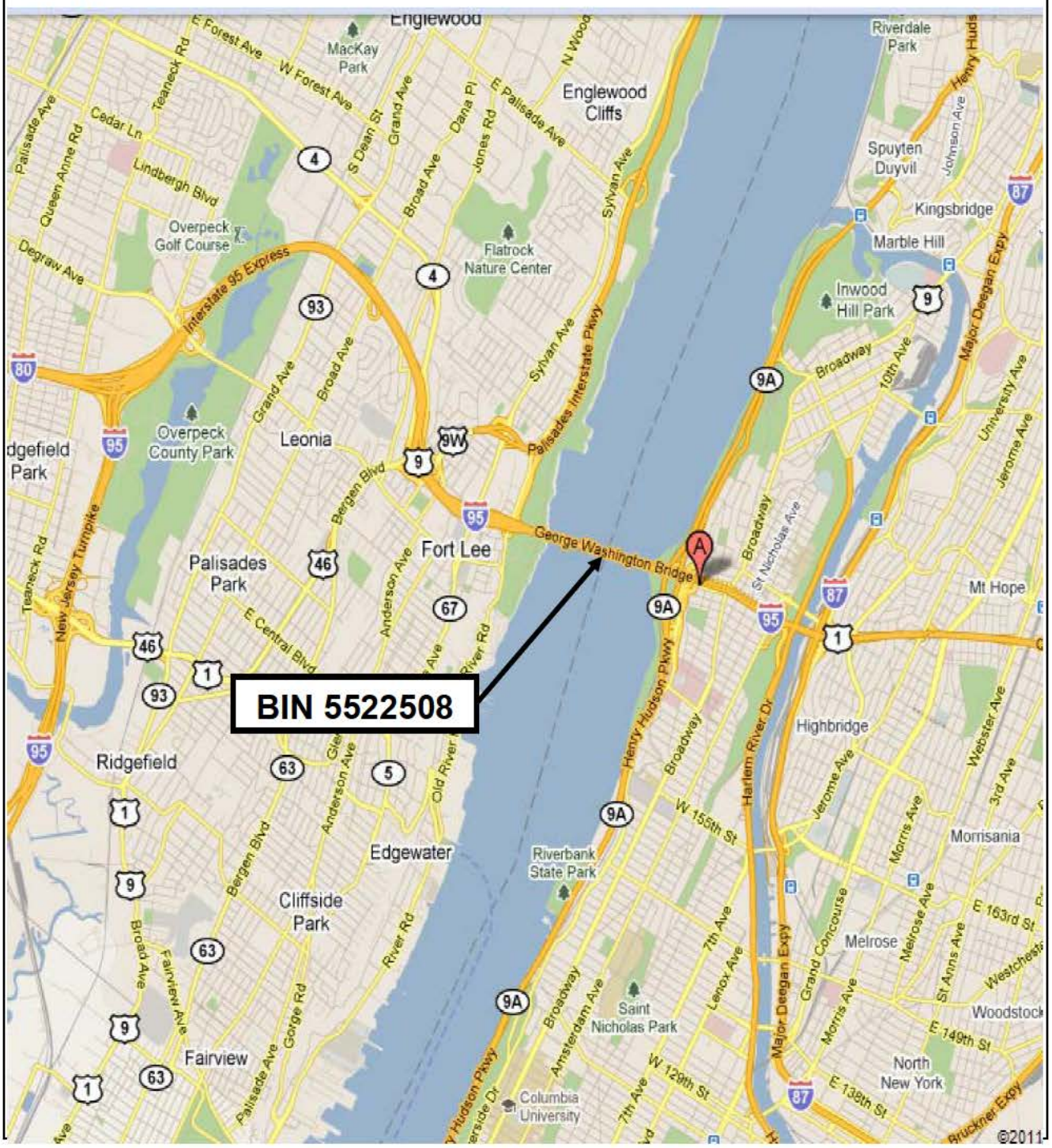
TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

NORTH

LOCATION MAP



INSPECTION

TP349 (12/97)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 **OF** 26

RC - BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

TEAM LEADER Joel Bautista, P.E.
Signature
P.E. NUMBER 085931 **STATE** NY
ASST TEAM LEADER Michael DeStefano

DATE MO 1 0 (13 14) DAY 2 6 (15 16) YEAR 1 1 (17 18)

RAMP BRIDGE ATTACHED TO SPAN _____ BIN _____

INSPECTION AGENCY 1 3 (19 20) TYPE OF INSPECTION 1 (21)
1 - BIENNIAL 3 - IN DEPTH 5 - SPECIAL
2 - INTERIM 4 - NONE(UNDER CONTRACT)

STATE HWY. NO. 000000 MILEPOINT: 0110074 POLIT. UNIT: NEW YORK
FEATURE(S) CARRIED: 95I 95I04011007
FEATURE(S) CROSSED: UNDER 9A 9A04021108, UNDER HUDSON RIVER
TOTAL SPANS: 23 BRIDGE ORIENTED: EAST YEAR BUILT: 1931
BRIDGE TYPE: STEEL SUSPENSION AADT/YR: 280718 / 2010

VERTICAL CLEARANCE AND LOAD POSTINGS
ON: NOT POSTED ___ FT (19) ___ IN (21)
UNDER: NOT POSTED ___ FT (23) ___ IN (25)
LOADING NONE ___ TONS (27)
0 6 2 (118)

ABUTMENTS:	begin	end
Joint with deck	3 (22)	8 (23)
Bearings, anchor bolts, pads	5 (24)	8 (25)
Bridge seat and pedestals	5 (26)	8 (27)
Backwall	4 (28)	8 (29)
Stem (breastwall)	8 (30)	8 (31)
Erosion or scour	6 (32)	8 (33)
Footings	9 (34)	8 (35)
Piles	8 (36)	8 (37)
Recommendation	5 (38)	8 (39)

WINGWALLS:	begin	end
Walls	8 (40)	8 (41)
Footings	8 (42)	8 (43)
Erosion or Scour	8 (44)	8 (45)
Piles	8 (46)	8 (47)

STREAM CHANNEL:	
Stream alignment	7 (48)
Erosion or Scour	6 (49)
Waterway opening	6 (50)
Bank protection	6 (51)

APPROACHES:	
Drainage	8 (53)
Embankment	8 (54)
Settlement	8 (55)
Erosion	8 (56)
Pavement	8 (57)
Guide railing	8 (58)

GENERAL RECOMMEND 5 (60)

ACCESS CATEGORY:
WALKING
STEP LADDER
EXT. LADDER
<=30' LIFT
30'-90' LIFT
>90' LIFT
DIVING
SCAFFOLDING
LC w/ SHADOW VEHICLE

FLAG ISSUED? None X (61) — BRIEF REASON
RED STRUCTURAL ☐ (62)
YELLOW STRUCTURAL ☐ (63)
SAFETY ☐ (64)

[redacted]

REVIEWED BY
P.E. NUMBER #065490-1
DATE 11/21/11

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 OF 26

RC-BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

TEAM LEADER: Joel Bautista, P.E.

ASST TEAM LEADER: Michael DeStefano

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

DATE — MO: 1 0 (13 14) DAY: 2 6 (15 16) YEAR: 1 1 (17 18)

Features Carried: I-95 (GWB UPPER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	0	1	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	8	8	5
0	0	2	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	6	8	5
0	0	3	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	1	8	5
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0	0	5	5	5	5	5	5	8	6	8	5	5	5	7	4	5	5	5	8	8	5	5	9	8	8	5	8	8	5
0	0	6	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	1	8	1
0	0	7	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	8	8	5
0	0	8	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	8	8	5
0	0	9	5	5	5	5	3	8	5	8	4	5	5	7	5	5	5	5	8	8	5	5	9	8	8	5	8	8	1
0	1	0	5	4	4	4	2	8	5	8	5	5	5	5	3	5	5	5	4	5	5	5	9	6	8	5	1	5	1

DIVING INSPECTION REQUIRED? [ ] YES [X] NO — *If yes, indicate year of last diving inspection* [ ][ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted]	[redacted]	[redacted]
PIN AND HANGER		
FATIGUE-PRONE WELDS(AASHTO D, E, OR E')	X	Span 5
NON-CATEGORIZED FATIGUE-PRONE DETAILS		
OTHERS(SPECIFY) CABLES AND SUSPENDERS	X	Span 10

REMARKS:

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

20

50

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
See				See Attached Table
Attached				
Table				

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 OF 26

RC-BIN N 3 (1, 2) 5 5 2 2 5 0 8 (3, 4, 5, 6, 7, 8, 9)

TEAM LEADER: Joel Bautista, P.E.

ASST TEAM LEADER: Michael DeStefano

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

DATE — MO: 1 0 (13, 14) DAY: 2 6 (15, 16) YEAR: 1 1 (17, 18)

Features Carried: I-95 (GWB UPPER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	1	1	5	4	5	4	8	8	4	8	5	5	5	5	4	5	4	5	4	5	5	5	9	6	8	5	1	5	1
0	1	2	5	4	4	4	2	8	4	8	5	5	5	5	3	5	4	5	4	5	5	5	9	6	8	5	1	5	1
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0	2	0	5	5	5	4	8	8	5	8	5	5	5	5	2	5	3	3	5	8	5	5	9	8	8	4	1	5	5

DIVING INSPECTION REQUIRED? [ ] YES [X] NO — *If yes, indicate year of last diving inspection* [ ][ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted]	[redacted]	[redacted]
PIN AND HANGER		
FATIGUE-PRONE WELDS(AASHTO (D) (E) OR E')	X	Spans 14 and 16 through 19
NON-CATEGORIZED FATIGUE-PRONE DETAILS		
OTHERS(SPECIFY) CABLES AND SUSPENDERS	X	Spans 11, 12, 13 and 14

REMARKS:

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

20

50

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
See				See Attached Table
Attached				
Table				

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 OF 26

RC-BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

TEAM LEADER: Joel Bautista, P.E.

ASST TEAM LEADER: Michael DeStefano

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

DATE — MO: 1 0 (13 14) DAY: 2 6 (15 16) YEAR: 1 1 (17 18)

Features Carried: I-95 (GWB UPPER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	2	1	5	5	5	4	2	8	5	8	5	4	5	5	8	5	5	5	5	8	5	5	9	8	8	5	5	8	5
0	2	2	5	5	5	4	2	8	5	8	5	5	5	5	8	5	5	5	5	8	5	5	9	8	8	5	4	4	1
0	2	3	5	5	5	3	8	8	5	8	5	5	5	5	3	5	8	8	5	8	5	4	9	8	8	5	5	8	1

DIVING INSPECTION REQUIRED? [ ] YES [X] NO — *If yes, indicate year of last diving inspection* [ ][ ]

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted] [redacted]

PIN AND HANGER [ ]

FATIGUE-PRONE WELDS(AASHTO D, E, OR E') [ ]

NON-CATEGORIZED FATIGUE-PRONE DETAILS [ ]

OTHERS(SPECIFY) _____ [ ]

REMARKS:

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

(20)

(50)

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
See				See Attached Table
Attached				
Table				

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
05/25/11	07:00a.m.	02:30p.m.	68°	Sunny
05/26/11	07:00a.m.	02:30p.m.	74°	Sunny
05/27/11	07:00a.m.	02:30p.m.	74°	Sunny
05/31/11	07:00a.m.	02:30p.m.	82°	Sunny
06/01/11	07:00a.m.	02:30p.m.	88°	Sunny
06/02/11	07:00a.m.	02:30p.m.	80°	Sunny
06/03/11	07:00a.m.	02:30p.m.	77°	Sunny
06/06/11	07:00a.m.	02:30p.m.	82°	Sunny
06/21/11-06/22/11	09:00p.m.	04:30a.m.	78°	Clear
06/22/11-06/23/11	09:30p.m.	04:00a.m.	75°	Cloudy
06/23/11-06/24/11	09:30p.m.	04:30a.m.	75°	Cloudy
06/27/11-06/28/11	09:30p.m.	04:30a.m.	78°	Clear
06/28/11-06/29/11	09:30p.m.	03:00a.m.	80°	Cloudy/Light Rain
06/29/11-06/30/11	09:30p.m.	04:30a.m.	80°	Clear
06/30/11-07/01/11	09:30p.m.	04:30a.m.	78°	Clear
07/05/11-07/06/11	09:30p.m.	04:00a.m.	76°	Clear
07/06/11-07/07/11	09:30p.m.	04:30a.m.	75°	Clear
07/07/11-07/08/11	09:30p.m.	04:00a.m.	80°	Cloudy
07/11/11-07/12/11	09:30p.m.	04:30a.m.	85°	Clear
07/12/11-07/13/11	09:30p.m.	04:00a.m.	82°	Clear
07/13/11-07/14/11	09:30p.m.	04:00a.m.	75°	Clear

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
07/14/11-07/15/11	10:00p.m.	05:00a.m.	80°	Clear
07/18/11-07/19/11	09:30p.m.	04:30a.m.	90°	Cloudy
07/19/11-07/20/11	10:00p.m.	05:00a.m.	87°	Clear
07/20/11-07/21/11	09:30p.m.	04:00a.m.	90°	Clear
07/21/11-07/22/11	09:30p.m.	04:30a.m.	82°	Clear
07/25/11-07/26/11	09:30p.m.	04:30a.m.	80°	Cloudy
07/26/11-07/27/11	09:30p.m.	04:30a.m.	79°	Cloudy
07/27/11-07/28/11	09:30p.m.	04:30a.m.	75°	Clear
07/28/11-07/29/11	09:30p.m.	04:30a.m.	77°	Cloudy
07/29/11-07/30/11	10:00p.m.	05:00a.m.	80°	Scattered Showers
08/01/11-08/02/11	09:30p.m.	04:30a.m.	77°	Cloudy
08/02/11-08/03/11	09:30p.m.	04:00a.m.	76°	Clear
08/03/11-08/04/11	09:30p.m.	03:00a.m.	75°	Scattered Showers
08/04/11-08/05/11	09:30p.m.	04:30a.m.	73°	Clear
08/05/11-08/06/11	09:30p.m.	04:30a.m.	78°	Clear
08/08/11-08/09/11	09:30p.m.	04:30a.m.	77°	Cloudy
08/09/11-08/10/11	09:30p.m.	04:00a.m.	73°	Cloudy
08/10/11-08/11/11	09:30p.m.	04:00a.m.	72°	Clear
08/11/11-08/12/11	09:30p.m.	04:30a.m.	72°	Clear
08/15/11-08/16/11	10:00p.m.	04:30a.m.	70°	Clear
08/16/11-08/17/11	10:00p.m.	04:30a.m.	75°	Clear

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 7 OF 26

TEAM LEADER: Joel Bautista, P.E.
ASST. TEAM LEADER: Michael DeStefano
DATE: 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
08/17/11-08/18/11	10:00p.m.	04:30a.m.	70°	Clear
08/18/11-08/19/11	10:00p.m.	04:30a.m.	65°	Cloudy
08/22/11-08/23/11	09:30p.m.	04:30a.m.	68°	Clear
08/23/11-08/24/11	09:30p.m.	04:30a.m.	65°	Clear
08/24/11-08/25/11	09:30p.m.	03:30a.m.	57°	Clear
08/25/11-08/26/11	10:00p.m.	04:30a.m.	65°	Scattered Showers
08/29/11-08/30/11	09:30p.m.	04:30a.m.	70°	Clear
08/30/11-08/31/11	09:30p.m.	04:30a.m.	72°	Clear
08/31/11-09/01/11	10:00p.m.	04:00a.m.	70°	Clear
09/01/11-09/02/11	10:00p.m.	04:00a.m.	73°	Clear
09/02/11-09/08/11	10:00p.m.	01:00a.m.	65°	Rain
09/08/11-09/09/11	09:30p.m.	04:30a.m.	75°	Cloudy
09/12/11	07:00a.m.	03:30p.m.	75°	Sunny
09/12/11-09/13/11	09:30p.m.	04:30a.m.	76°	Clear
09/13/11-09/14/11	09:30p.m.	04:30a.m.	74°	Clear
09/14/11-09/15/11	10:00p.m.	04:00a.m.	72°	Clear
09/16/11-09/17/11	11:00p.m.	05:00a.m.	60°	Cloudy
09/19/11	07:00a.m.	03:00p.m.	71°	Sunny
09/20/11	06:00a.m.	01:30p.m.	68°	Cloudy
09/21/11	08:00a.m.	02:30p.m.	75°	Cloudy
09/22/11	07:00a.m.	02:00p.m.	80°	P. Sunny

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 8 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
09/23/11	07:00a.m.	02:30p.m.	75°	Scattered Showers
09/26/11	07:00a.m.	02:30p.m.	80°	Sunny
09/27/11	07:00a.m.	02:00p.m.	80°	Sunny
09/28/11	08:00a.m.	02:30p.m.	76°	Sunny
09/29/11	07:00a.m.	02:30p.m.	73°	Cloudy
09/30/11	07:00a.m.	02:30p.m.	73°	P. Sunny
10/01/11-10/02/11	11:30p.m.	04:30a.m.	55°	Cloudy
10/03/11	07:00a.m.	02:30p.m.	63°	P. Sunny
10/04/11	07:00a.m.	02:00p.m.	62°	Sunny
10/05/11	07:00a.m.	02:00p.m.	70°	Sunny
10/06/11	07:00a.m.	03:00p.m.	72°	Sunny
10/11/11	07:00a.m.	02:30p.m.	70°	Sunny
10/12/11	07:00a.m.	02:00p.m.	55°	Cloudy
10/13/11	07:00a.m.	02:00p.m.	60°	Cloudy
10/14/11	07:00a.m.	02:00p.m.	65°	Scattered Showers
10/17/11	08:00a.m.	02:30p.m.	67°	Sunny
10/18/11	08:00a.m.	02:30p.m.	70°	P. Sunny
10/26/11	06:30a.m.	01:30p.m.	65°	Cloudy

FEDERAL RATING FORM

NYS DEPT. of TRANSPORTATION

RC-BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

BRIDGE INSPECTION REPORT

TEAM LEADER Joel Bautista, P.E.

ASST TEAM LEADER Michael DeStefano

SHEET 9 OF 26

OTHERS M. Cahill, P.E., J. Cascone, P.E., T. Kyle, P.E., D. Grinberg

DATE MO 1 0 (13 14) DAY 2 6 (15 16) YEAR 1 1 (17 18)

FEATURE CARRIED : 95I 95I04011007

FEATURE CROSSED : ROUTE 9A & HUDSON RIVER

Description	Deck	Superstructure	Substructure	Channel	Culvert
Fed. Item #	58	59	60	61	62
Rating	5	5	6	8	N
	19	20	21	22	23

Comments: Items 58 (Deck) and 59 (Superstructure) were downgraded from 6 (Satisfactory) to 5 (Fair) due to numerous cracks in the orthotropic deck ribs, riser beams and numerous secondary floorbeams. Contract GWB-244.022 is currently underway and is scheduled to address many of these deficiencies and will include replacement of the deck and elimination of the riser beams and secondary floorbeams below all suspension span joint areas.

Notes: 1). See attached explanations for Federal Items Nos. a) 58 ~ Deck, 59 ~ Superstructure, 60 ~ Substructure; b) 61~ Channel and Channel Protection; c) 62 ~ Culverts

2). Items Nos. 58, 59, and 60 shall be coded N for all culverts.

3). A rating or an N must be entered for all Federal Items. Blanks are not acceptable

BD 188 (4/95)

BIN	5522508	**N.Y.S. DEPT. OF TRANSPORTATION BRIDGE INSPECTION REPORT**			
		SHEET	10	**OF**	26
TEAM LEADER:	Joel Bautista, P.E.	**ASST. TEAM LEADER:**	Michael DeStefano	**DATE:**	10/26/11
OTHERS:	Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.				
Feature(s) Carried:	I-95 (GWB UPPER LEVEL)				
Feature(s) Crossed:	ROUTE 9A AND HUDSON RIVER				

REMARKS:

GENERAL NOTES:

1. There is no BIN plate attached to the bridge.
2. The inspection of the upper level was performed during the months of May through October, 2011.
3. Spans 1 to 9 consists of the 9 panels within the New Jersey Anchorage. Spans 10 to 14 are the Main Suspension Spans, comprised of the New Jersey Side Span, New Jersey Tower, Main Span, New York Tower, and New York Side Span, respectively. Spans 15 to 23 consists of the 9 panels within the New York Anchorage. (For additional information, refer to the Sketches in Lieu of Plans included at the end of this report).
4. Span 1 of this bridge is attached to BIN 3800018 (New Jersey Approach Ramp structure) and Span 23 is attached to BINs 552250C, 552250G and 552250K (New York Approach Ramp structures). Therefore, the approach items on TP 349 are rated 8.
5. [redacted]
6. Contract GWB-244.022 was underway at the time of this inspection. This rehabilitation project is scheduled to include the replacement of short sections of the steel orthotropic deck and the transverse joint systems at each panel point along the Upper Level roadway of the Main Suspension Spans. The new short deck system will eliminate all existing riser beams over the main floorbeams and span from end Secondary Floorbeams B1 & B12 (or B13) that will be replaced. The deck adjacent to the deck joints will be replaced for an approximate overall length of 6 feet on both sides of the main floorbeams, and all drainage scuppers and downspouts will also be replaced. In addition, numerous priority and routine structural steel repairs will be performed at main floorbeams, stringers, secondary floorbeams, bearing and finger joint elements recommended for repair during previous biennial inspections.

   As part of this ongoing contract, 15' wide temporary scaffoldings were installed spanning full length below each main floorbeam between Panel Points 3W to 10W, 15W to 15E and 10E to 2E (see Photo 3). Inspection of several floorbeams and the ends of several panels were performed from the scaffolds, using extension and step ladders. Elsewhere in the Main Suspension Spans, access for inspection was obtained by means of 30'-50' lifts in conjunction with complete roadway and/or lane closures with shadow vehicles. A 120' manlift was used to inspect both interior and exterior faces of the New York Anchorage walls.
7. The concrete fascias along the Main Suspension Spans and the concrete deck over the New Jersey Anchorage and sections of the New York Anchorage were sounded with a hammer in suspected delaminated or spalled areas. All loose concrete areas were removed.
8. A diving inspection was performed at the New Jersey Tower pedestals and pier protection system and a separate Diving Report was submitted for this structure.
9. [redacted]
10. The Access and Debris/Land Use forms were updated during this inspection. No change was noted on the Inventory and Overhead Electrical forms. All forms are included in this report.
11. As per NYSDOT Bridge Inspection Manual, stringer numbering should be from left to right in the direction of bridge orientation. Stringer numbering in the Main Suspension Spans 10 through 14 and in the New York Anchorage Spans 15 through 23 were renumbered in this report to be consistent with NYSDOT requirements.

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522508 **SHEET** 11 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			TP 349
			ABUTMENTS
3	3	7, 8, 9	**[22] JOINT WITH DECK (BEGIN)** Above both roadways, the armored elastomeric deck joint is covered with dirt and exhibits small localized tears and holes in the sealer. The previously spalled concrete header in the westbound roadway was patched with asphalt. Below the joint, the drainage trough attached to the begin abutment is clogged, misaligned at few locations and has corrosion holes at several locations.
5	5	10	**[26] BRIDGE SEAT AND PEDESTALS (BEGIN)** The begin bridge seat between Stringers S10 and S11 exhibits heavy accumulation of dirt and debris. Elsewhere, the bridge seat exhibits minor dirt and debris accumulation.
4	4	11, 12	**[28] BACKWALL (BEGIN)** The begin backwall exhibits scattered fine cracks, efflorescence and rust staining, and small shallow spalls. There is a large spalled and delaminated area behind Stringer S19 measuring 15SF x up to 6" Dp. Also, between Stringers S2-S3, the backwall is spalled with exposed rebar approximately 4SF x 3"Dp.

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522508 **SHEET** 12 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			TP 350
			DECK ELEMENTS
4	4	13	**[20] CURBS** Spans 10, 11, 12 & 14 The steel curbs along both roadways exhibit localized moderated corrosion with section loss and corrosion holes up to 8" diameter on the vertical and horizontal faces, typically near the joints. These holes result in water leakage onto the steel members below.
5	4	14	**[21] SIDEWALKS AND FASCIAS** Span 1 The previously cracked, broken and raised concrete patch over the right sidewalk joint has been repaired. New concrete sections have been placed along the sidewalk joint. The left sidewalk is in good condition. The concrete enclosure walls of the anchorage at both sidewalks are rated as fascias and both are in good condition. Rating was therefore upgraded to 5.
4	4	15	Spans 10, 12 & 14 The right sidewalk fascia exhibits numerous areas of spalled concrete with and without exposed rebar ranging from 1' to 30' long x up to 1' wide. All loose concrete was removed during the inspection. The left sidewalk fascia is generally in good condition with small isolated spalls. The top of both sidewalks are in good condition with only minor shallow spalling typically noted along the joints.
			[22] RAILINGS AND PARAPETS
4	5		Span 13
4	4		Spans 10, 11, 12, 14 & 15
4	3		Spans 16, 20, 21 & 22
		16	The steel bridge railings and parapets along both sidewalks exhibit minor to moderate section loss and localized corrosion holes in the railing posts and horizontal rails. The railings also exhibit several disconnected horizontal rails, broken or cracked collar plates, missing bolts connecting the horizontal rails to the posts and/or broken rail post caps. The built-up steel parapets in Spans 10-14 exhibit numerous missing, sheared off or deteriorated connection bolts throughout the outside faces. In Spans 16, 20, 21 & 22, few locations of disconnected horizontal rails were noted, however the previously reported disconnected rail posts at the base were not found. Therefore rating for these spans was upgraded to 4.
3	3		Spans 17, 18, 19
3	4		Span 23
		17, 18 19	The steel bridge railings on both sidewalks exhibit moderate to severe section loss with localized corrosion holes in the railing posts and horizontal rails. In Spans 18, 19 & 23, one rail post at the left railing is either disconnected or loose at the base due to missing anchor bolt nuts. Similar condition exists in Span 17 on the right railing with a 4' long completely deteriorated section on the top horizontal rail. In addition, the left concrete parapet in Spans 17, 18 & 19 exhibits few large spalls up to 5" deep with exposed corroded rebar.

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522508 **SHEET** 13 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[23] SCUPPERS
3	3	20	Span 9 The concrete encasement around the catch basin below the right curb line exhibits cracking, spalling with exposed rebar and efflorescence staining. The drainage pipe is moderately corroded at the interface with the concrete. There is evidence of water leakage from both the catch basin and the drainage pipe. Both scuppers on the eastbound and westbound roadways are free of debris.
2	2	21, 22, 23	Spans 10, 12 & 14 Several scuppers within the Main Suspension Spans are partially or fully clogged along the eastbound and westbound roadways. The downspouts below the roadway are clogged and leaking, and exhibit moderate to severe corrosion with corrosion holes at several locations. Few downspouts exhibit missing or disconnected support brackets, missing cleanout covers and/or missing bolts for the cleanout covers. Ongoing Contract GWB-244.022 is scheduled to replace all scuppers and downspouts within the Main Suspension Spans.
2	2	22 (typ)	Span 17 Both scuppers along the eastbound and westbound roadways are fully clogged.
2	2	22 (typ)	Span 21 The scupper along the eastbound roadway is fully clogged. There is no scupper along the westbound roadway.
2	2	24, 92	Span 22 The scupper along the westbound roadway is fully clogged. There is no scupper along the eastbound roadway. Also, the drainage downspout attached to the end face of Pier 22 (Capbeam 9) exhibits localized corrosion holes and a missing section of pipe.
			[25] MEDIAN
4	4	25, 26	Spans 11, 12, 13 & 14 The steel median barrier within the Main Suspension Spans exhibits areas of pitting up to 1/4" deep, scrape marks and localized corrosion holes up to 3" diameter between Panel Points 11W-14W, 14W-15W, 20W-21W, 36W-37W, 15E-14E, 14E-11E and 11E-10E. In addition, the median barrier is misaligned at Panel Point 11W.
5	4	27	Span 17 The previously missing (6 of 6) connection bolts at the expansion plate of the steel median barrier were replaced. Rating is therefore upgraded to 5.

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522508 **SHEET** 14 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			SUPERSTRUCTURE
			[27] DECK STRUCTURAL
4	4		Spans 1, 2, 6, 7 & 9
4	5	28	Spans 3, 4 & 8 The underside of deck inside the New Jersey Anchorage generally exhibits scattered areas of light to moderate scaling, fine mapcracking and transverse cracks with efflorescence. Medium to large spalls with exposed rusted rebar up to 4' x 5' x 3" deep and hollow sounding areas were noted at localized areas. Refer to the condition sketches on pages 24 to 26 for the underside of deck conditions.
5	5		Span 5 The underside of deck exhibits areas of light scaling, fine cracks and one shallow spall. Refer to the condition sketch on page 25 for the underside of deck condition.
5	5	29, 30, 31	Spans 10 to 14 The orthotropic deck in the Main Suspension Spans consists of a steel deck plate welded on inverted T-shaped deck ribs topped with a 2" thick asphalt wearing surface. The steel plate and deck ribs are in generally good condition with the exception of few deck ribs exhibiting cracks or corrosion holes in the web or bottom flanges. Numerous cracks were noted in the welds that connect the deck ribs to the strap plates located at the top of the secondary floorbeams or riser beams (above the floorbeams). Several missing tie down bolts and tie down plates connecting the deck to the secondary floorbeams were also noted. The majority of the conditions mentioned above occur near the joint areas and as such are scheduled to be repaired under ongoing Contract GWB-244.022.
5	5	32	Spans 15 to 23 The deck of the upper level roadway in the area over the New York Anchorage is also an open orthotropic deck system. The orthotropic deck is in generally good condition with scattered areas of surface rust due to water leakage through few small corrosion holes noted in the deck plate at isolated locations. Along the longitudinal joints between the orthotropic deck segments, localized moderate corrosion with few missing connection bolts were noted.

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BIN 5522508 **SHEET** 15 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[28] PRIMARY MEMBERS
5	5	44, 45	Spans 1 to 9 The floorbeams and stringers within the New Jersey Anchorage are in generally good condition with localized areas of moderate section loss mainly below leaking deck joints. All structural steel was cleaned and repainted since the previous inspection and few minor steel repairs have been performed at several locations.
5	5		Spans 10 to 14 The main floorbeams, stringers, upper truss chords, upper portions of truss verticals, diagonals, secondary floorbeams and riser beams are in generally good condition. Localized moderate to heavy corrosion was noted below the deck joints. The following isolated deficiencies are locally rated 4, but do not affect the overall rating of the entire primary member system:
		33	The webs of several main floorbeams exhibit areas of localized heavy pitting and up to 1/4" section loss mostly below the joints, median and curblines with occasional small corrosion holes. Isolated rivet heads along the bottom flanges exhibit up to 50% head loss.
		34, 46	The webs of several stringers exhibit localized moderate section loss with isolated moderate corrosion and small web holes above the seated bearing connections to the floorbeams. In addition, between Panel Points 9W & 10W, 30E & 31E, 25E & 26E and 20E & 21E, the lateral bracing connection to Stringer S7 has gouged the stringer bottom flange up to 1/8" deep. The outboard leg of the riveted connection angles between the main floorbeams and the upper chord of the truss are partially cracked and exhibit localized section loss at Panel Points 22E, 16E and 15E. The cracks occur just above the upper chord location and do not significantly affect the overall shear capacity of the floorbeam connections.
		35	Several begin and end secondary floorbeams in Spans 10, 12 and 14 and one interior secondary floorbeam in Spans 11 and 14 exhibit web cracks, with or without corrosion holes, mostly occuring at the ends of Secondary Floorbeams SFB1 & SFB12 (or SFB13) and typically extending horizontally along the base of the web left and/or right of the longitudinal stringer bearing location. Numerous crack arrestor holes varying in size from 1/4” to 3/4” diameter were previously drilled at the ends of the web cracks, however, the cracks have continued to propagate beyond the drill holes at 29 locations. In addition, web cracks without arrestor holes were also noted at the ends of secondary floorbeams at 31 locations. Few cracks have propagated into the bottom flange at two locations and were recommended for immediate repair involving drilling of arrestor holes and installation of bolted repair angles. Drilling of crack arrestor holes in the web of 60 secondary floorbeams was also recommended for immediate repair during this inspection. Ongoing Contract GWB244.022 is scheduled to replace all end Secondary Floorbeams SFB1 & SFB12
		36	(and SFB13). Several secondary floorbeams exhibit missing connection rivets or bolts between their bottom flanges and the top flanges of stringers. Few secondary floorbeams were found with (4 of 4) missing rivets/bolts and were loose with noticeable movement evident under live load. These locations were recommended for immediate repair during this inspection.

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BIN 5522508 **SHEET** 16 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[28] PRIMARY MEMBERS (Cont'd)
		37	Several riser beams located over the main floorbeams which support the steel orthotropic deck ribs exhibit fully cracked web plates with movement evident during passage of large trucks. Riser beams exhibiting three or more consecutively cracked riser beam web plates were reported to the Authority and recommended for immediate repair. The new deck joint system under ongoing Contract GWB244.022 will eliminate all riser beams over the floorbeams.
		38	Main Cables and Suspender Ropes The main cables, suspender ropes, saddles, eyebars and strand shoes within the anchorages are in generally good condition. At the time of this inspection, all four main cables were in the process of being repainted. There are several broken wire strands found on the main cables, mostly in the New York Anchorage. Inside the New York Anchorage, water leakage from the roadway curblines and leakage from drainage pipes has resulted in localized corrosion of several wire strands. A total of 0.67% of the overall number of wire strands were found broken inside the New York Anchorage. Inside the New Jersey Anchorage, a total of 0.03% of the overall number of wire strands were found broken and the steel bracing members for the eyebars of Cables C and D exhibit severe corrosion with localized corrosion holes evident at the base.
		39	[redacted]
5	5		Spans 15, 16, 18, 19, 20, 22 & 23 The capbeams and stringers over the New York Anchorage are in generally good condition with areas of moderate to heavy corrosion and localized areas of moderate section loss mainly below leaking deck joints. Several stringers exhibit small cracks in the web copes, however, arrestor holes have been previously drilled at the ends of the cracks.
4	4	40	Spans 17 & 21 The webs of several consecutive stringers in Spans 17 and 21 at their connection to the capbeams at Piers 17 and 20 exhibit section losses up to 3/16" most notably at Stringers 11 & 12 at the begin face of Pier 17 and Stringers 14-17 at the end face of Pier 20. Stringer 14 in Span 21 also exhibits a 2-1/2" long crack in the web cope near the bottom flange with an arrestor hole previously drilled at the end of the crack.

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BIN 5522508 **SHEET** 17 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
5	5	11, 41	**[29] SECONDARY MEMBERS** Spans 1 to 23 All secondary members are in generally good condition with isolated areas of localized heavy corrosion with small corrosion holes and pack rust mostly below the deck joints and below the median. In Span 1, below the begin abutment joint, the end diaphragm between S18-S19 exhibits a 5'L x 1'H corrosion hole. All other diaphragms at this location are in good condition. Localized medium pitting with corrosion and heavy dirt and debris was typically noted on the horizontal gusset plates for the main lateral bracings below the median. At numerous locations, where the main lateral bracing angles connect to the bottom flanges of the stringers, there is heavy pack rust build-up with heavy corrosion to both the lateral bracing member and the bottom flange of the stringer.
		42	In Span 12 between Panel Point 21W-22W, the lateral bracing connection plate is severely corroded and cracked at the Stringer S6 to Secondary Floorbeam SFB1 connection. This condition was reported to the Authority and recommended for immediate repair during the inspection.
		43	In Span 14 between Panel Point 1E-2E, the previously cracked gusset plate connection for the lateral bracing between the right fascia stringer and Stringer S8 was replaced since the previous inspection.
			[30] PAINT
7	3	44	Spans 1, 5 & 6
7	5	45	Spans 2, 3, 4, 7, 8 & 9 All structural steel inside the New Jersey Anchorage was cleaned and repainted since the previous inspection.
5	5	46	Spans 10 to 23 The paint system in these spans is in generally good condition with isolated areas of peeling paint and surface corrosion at scattered locations occurring mostly below the deck joints and at lower suspender rope sockets. At the time of this inspection, all four main cables were in the process of being repainted.
			[31] JOINTS
4	4	47, 48	Span 5 The joint exhibits minor dirt accumulation and is slightly torn within both roadways. In addition, the trough below the joint is fully clogged with dirt and debris.
3	3	49, 50	Spans 10, 12 & 14 The intermediate deck joints within the Main Suspension Spans at most panel points exhibit segments of debonded, depressed, torn or missing sealers. The active water leakage through these joints has resulted in moderate to heavy corrosion of the riser beams over the floorbeams and the end secondary floorbeams. The joints on the sidewalks typically exhibit slightly torn and depressed sealers.

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BIN 5522508 **SHEET** 18 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[31] JOINTS (Cont'd)
4	3	51, 52, 53	Spans 11 & 13 The finger joints at the New Jersey and New York Towers at Panel Points 11W, 14W, 14E & 11E have been properly seated significantly reducing the banging under the passage of large trucks. During the inspection, a section of the finger joint at Panel Point 11W was replaced and new tie down bolts were installed. The joint troughs remain completely clogged and are overflowing with dirt and debris. New drainage systems have since been installed below each finger joint to prevent future build-up of debris onto the joint troughs. Rating is therefore upgraded to 4.
3	3	49 (typ), 54	Span 17 The joint exhibits moderate dirt accumulation at the top of deck and has a missing section of joint sealer. The drainage trough below the joint is clogged and has sagged below the eastbound roadway due to a missing support bracket.
2	2	55, 56	Span 20 The joint above the roadway is partially paved over and exhibits broken and cracked asphalt and sections of deteriorated, torn or missing joint sealer. The previously noted broken section of armored joint angle on the eastbound roadway was not found. Below westbound roadway, the joint trough is missing along the entire left half.
3	3	49 (typ), 57	Span 23 The joint exhibits moderate dirt accumulation at the top of deck and has a missing section of joint sealer. The drainage trough below the joint exhibits a 4" diameter corrosion hole below the westbound roadway.
			PIER
			[33] BEARINGS, ANCHOR BOLTS & PADS
5	4	58	Span 3 The (2 of 2) deteriorated anchor bolts and nuts at the right bearing for the capbeam at Pier 3 were replaced since the previous inspection. The left bearing only exhibits moderate corrosion with minor section losses to the anchor bolts. The rating is therefore upgraded to 5.
5	4	59, 60	Span 9 The left bearing for the capbeam at Pier 9 exhibits (1 of 2) unseated anchor bolt nuts. In addition, the left fascia stringer bearing at Pier 9 exhibits (2 of 2) missing anchor bolt nuts. Since the left fascia stringer bearing is a fixed bearing and is subjected to minimal longitudinal movement and uplift forces, and bearings of the interior stringers are in good condition, the rating is therefore upgraded to 5.

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BIN 5522508 **SHEET** 19 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[33] BEARINGS, ANCHOR BOLTS & PADS (Cont'd)
4	4	61, 62	Spans 11 & 12 The bearings of several stringers at Panel Points 14W and 14E exhibit severe corrosion with section loss over 50% to the anchor bolt nuts. In Span 12, several tie down bolts/rivets connecting the stringer bottom flanges to the seated angles at the main floorbeams are sheared or exhibit up to 100% section loss. At the begin side of the main floorbeam at Panel Point 26W, the seated connection of Stringer S3 exhibits (4 of 4) missing/sheared rivets and the stringer and sole plate have shifted 1/2" left and 1/4" back relative to the bearing plate and there is a 1/8" gap between the sole plate and bearing plate. This condition was reported to the Authority and was recommended for immediate repair. At the begin side of Panel Points 25W and 27W, the sliding plate bearings at Stringers S6 and S8, respectively, are frozen due to heavy pack rust.
4	4	63	Span 14 Several tie down bolts/rivets connecting the stringer bottom flanges to the seated angles at the main floorbeams are sheared or exhibit up to 100% section loss. At Panel Point 1E, the sliding plate bearings for all roadway stringers are frozen due to heavy pack rust and the anchor bolt nuts of both sidewalk fascia stringers exhibit over 50% section loss.
4	4	64	Span 16 Inside the New York Anchorage, the intermediate bearing below the right sidewalk Stringer S18 exhibits heavy pack rust between the masonry plate and concrete pedestal. (See Item [34] for condition of concrete pedestal).
4	4	65	Span 17 The right bearing below the capbeam at Pier 17 exhibits severe corrosion with approximately 50% section loss to the anchor bolt nuts. The previously noted stringers exhibiting loose or missing tie down bolts and a bent bearing angle at Pier 17 were repaired since the previous inspection.
3	3	66, 67	Span 20 The seated angle for the Stringer S18 bearing at Pier 20 exhibits severe corrosion with heavy pack rust and (2 of 2) sheared tie down bolts. Several stringers at Pier 20 exhibit severe corrosion and missing or loose tie down bolts at the seated bearing connection angles to the capbeams. In addition, the bearing angles for Stringers S16 & S17 are bent due to heavy pack rust.

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BIN 5522508 **SHEET** 20 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[34] PEDESTALS
4	4	64(typ)	Span 15 The right bearing pedestal below the floorbeam at Panel Point 1E inside the New York Anchorage is spalled resulting in approximately 10% undermining below the masonry plate.
4	4	64	Span 16 Inside the New York Anchorage, the intermediate bearing pedestal below the right sidewalk Stringer S18 is spalled resulting in approximately 10% undermining below the masonry plate. (See Item [33] for condition of bearing).
3	3	66, 67	Span 20 The seated angles at the stringer bearings at Pier 20 are rated as pedestals. (See Item [33] for comments).
			[35] TOP OF PIER CAP OR BEAM
4	4	68	Spans 10 to 13 The top of the tower struts at the New Jersey and New York Towers located below the finger joints support the stringers and are rated under this item. An extensive accumulation of dirt and debris was noted on these members for full length as a result of the overflow from the joint troughs.
			[38] PIER COLUMN
5	4	69	Span 6 Since the previous inspection, the base of the right column at Pier 6 was repaired by installing bolted steel reinforcement plates and new anchor bolts. The left pier column also has new anchor bolts, but no steel reinforcement plates were added at the base since the section loss is only minor on the flanges. Rating is therefore upgraded to 5.
5	4	70	Span 17 Since the previous inspection, new anchor bolts were installed at the base of the right and left interior columns. The base angles remain corroded with minor section loss of up to 1/8". Rating is therefore upgraded to 5.
5	4	71	Span 20 Since the previous inspection, new anchor bolts were installed at the base of the right and left interior columns. Localized 1/8" pitting was noted on the web and flanges near the base. Rating is therefore upgraded to 5.
5	4	72	Span 22
4	4	73	Span 23 Since the previous inspection, the base of the left box columns at Piers 22 & 23 were repaired by installing bolted steel reinforcement plates and adding a mortar cap inside the column at the base. Span 22 rating is therefore upgraded to 5. At Pier 23, the center column and both left interior columns remain corroded at the base with up to 3/16" section loss and up to 100% section loss to the anchor bolt nuts.

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BIN 5522508 **SHEET** 21 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			UTILITIES
			[43] LIGHTING STANDARDS & FIXTURES All conditions with exposed wiring and accessible to the general public have been reported to the Authority for safety repairs.
1	1	74	Spans 3 & 6 All underdeck lighting fixtures are disconnected and/or broken with exposed wiring.
1	1	75 79	Spans 10 to 14 -*Top of Deck* Span 10 - At the right sidewalk between Panel Points 5W-6W, the base of the light standard exhibits a disconnected conduit exposing electrical wiring. The previously noted cracks in the welds located at the base of several lighting standards were rewelded in Spans 10, 12 and 14 since the previous inspection.
1	1		Span 11 - Both left and right light standards are in good condition. Rating is based on conditions noted at underside of deck. (See below for details).
1	1	76	Span 12 - At the right sidewalk between Panel Points 27W-28W, the light standard remains missing with no exposed wiring noted. Also, at the right sidewalk between Panel Points 40E-39E, the base of the light standard exhibits a disconnected electrical outlet exposing electrical wiring. The electrical outlet was temporarily secured with duct tape. At the left sidewalk between Panel Points 29E-28E, the light standard exhibits an unsecured handhole cover near the base due to (1 of 2) missing screws.
1	1	77	Span 13 - At the left curbline of the New York Tower, the light standard remains missing with no exposed wiring noted.
1	4	78	Span 14 - The lens covers at the left and right light standards between Panel Points 3E-2E are missing and cracked, respectively. In addition, the arm of the right light standard is twisted due to impact damage. Rating was downgraded to 1 based on conditions above and below the deck.
		80, 81	Spans 10 to 14 - *Underside of Deck* At the underside of deck, there are several random broken, non-functional or missing lighting fixtures and bulbs. The supports for some underdeck lighting fixtures are also broken or partially disconnected.

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BIN 5522508 **SHEET** 22 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[43] LIGHTING STANDARDS & FIXTURES (Cont'd)
1	1	82	Span 17 At the left sidewalk, the lighting standard remains missing and exposed electrical wiring remains at the sidewalk. The lighting standard at the right sidewalk is missing an end cap.
4	4	80 (typ)	Spans 18 & 19 The underdeck lighting fixtures exhibit missing or non-functional light bulbs over the westbound roadway.
1	4	83	Span 20 At the left sidewalk, the light standard is missing an arm and fixture and the base cover is unsecured with exposed electrical wiring. The lighting standard at the right sidewalk is missing an end cap.
4	4	80 (typ)	Span 22 The underdeck lighting fixtures exhibit missing or non-functional light bulbs over the westbound roadway. The lighting standard at the left sidewalk is also missing its end cap.
			[44] SIGN STRUCTURES
4	4	84	Span 22 The overhead sign structure attached to the capbeam at Pier 22 exhibits (1 of 4) missing bolts at the right arm connection to the bottom flange of the capbeam.

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BIN 5522508 **SHEET** 23 **OF** 26

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

RATINGS		PHOTO NUMBER	
NEW	**PREVIOUS**		**REMARKS**
			[45] UTILITIES AND UTILITIES SUPPORTS All conditions with exposed wiring and accessible to the general public have been reported to the Authority for safety repairs.
1	1	85	Spans 6 & 9 At the underside of deck near the center of Span 6 and at the left side of Span 9, the electrical outlet boxes are broken exposing the electrical wiring. In addition, at the right side of Span 6, a junction box exhibits a detached cover exposing the electrical wiring.
1	1	86, 87, 88	Spans 10 to 14 At the underside of deck within the Main Suspension Spans, several deficiencies were noted involving missing or deteriorated junction box covers with exposed wiring, improperly supported conduits and electrical wiring, disconnected conduits, union couplings and utility supports and corroded junction boxes. Other specific deficiencies noted in these spans are as follows: In Span 10 between Panel Points 10W-11W, the grating for the maintenance platform below the right sidewalk exhibits a severely deteriorated section. At Panel Point 11W, the maintenance platform below the finger joint exhibits severely deteriorated supports. Also, near Panel Point 11W, an electrical wire was found hanging below right main Cable A.
		89	In Span 11, the maintenance catwalk utilized for access to utilities at Levels 3 and 3M within the right leg of the New Jersey Tower exhibits two severely deteriorated support members.
		90	In Span 12, at the left sidewalk between Panel Points 28W-29W, the emergency blue light remains missing from the post with exposed wiring noted.
		91 94	In Spans 10, 12 & 14, the safety ropes along the main cables utilized for access to utilities are rated under this item. Several bolts connecting the stanchions to the cable bands are not fully engaged. One of two stanchions was found completely broken on left main Cable D, in Span 14 at Panel Point 8E. In addition, between Panel Points 2E-1E on the left main Cable D, the fan-type security fence is slightly loose due to (4 of 4) loose nuts at the circumferential clamping angles and has slipped approximately 1' down the cable. The neoprene pad is exposed and is slightly torn. The other fan-type security fences located between Panel Points 1W-2W and 2E-1E and at Panel Points 41W and 41E are in good condition with isolated loose nuts at the circumferential clamping angles noted. The broken stanchion and loose security fence are recommended for safety repairs.
1 **1**	1 4	92 93	Span 22 Span 23 At the underside of deck, few areas of improperly supported conduits, loose electrical wiring, disconnected conduits with/without exposed wiring and missing covers at electrical junction boxes were noted.

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BRIDGE INSPECTION REPORT
SHEET 24 of 26

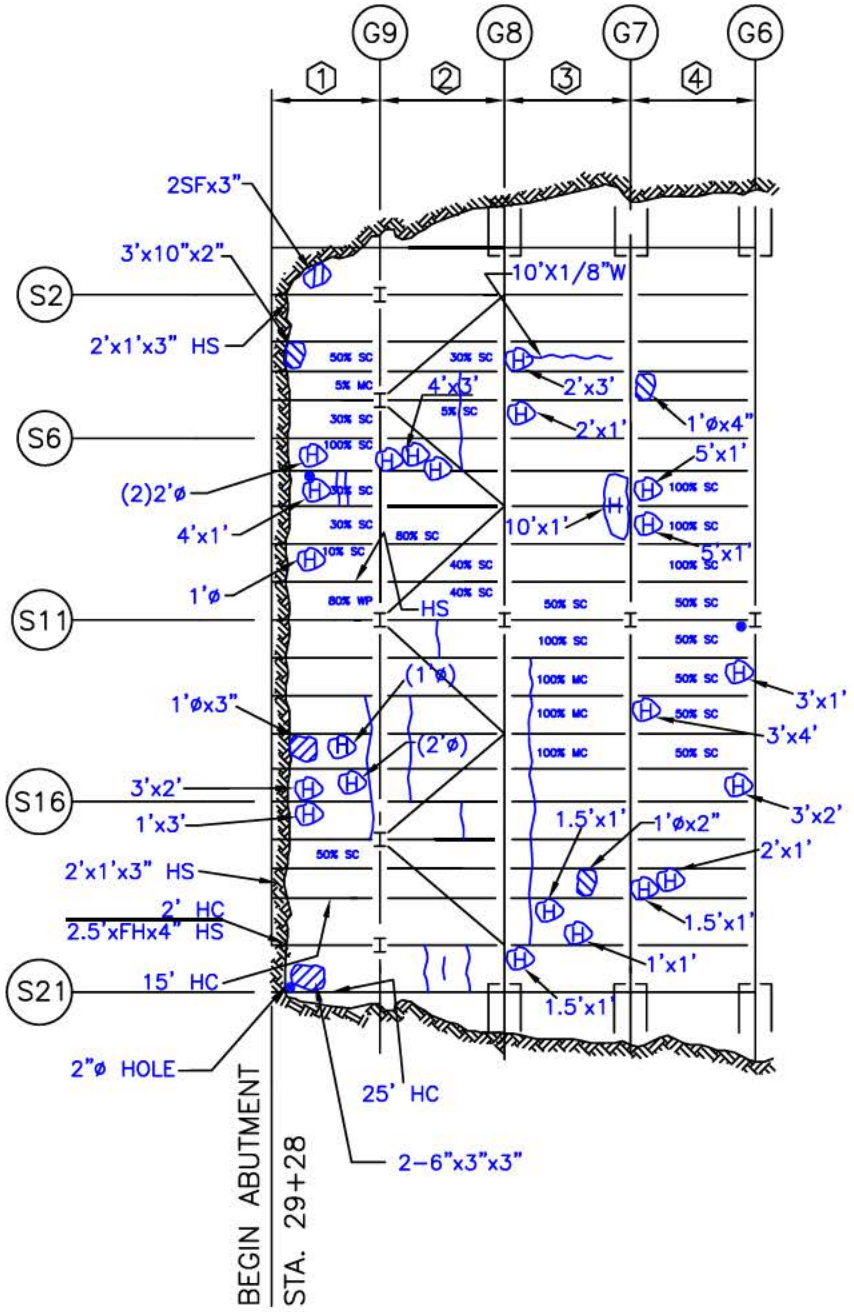
BIN 5522508

TEAM LEADER: Joel Bautista, P.E. ASST.TEAM LEADER: Michael DeStefano DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



LEGEND

- G1 — CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- 1 — SPAN NUMBER (AS PER NYSDOT SYSTEM)
- XX — DELAMINATED/SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL)
- XX — HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE)
- HOLE IN DECK
- TRANSVERSE CRACK

FH – FULL HEIGHT
HS – HAUNCH SPALL
HC – HAUNCH CRACK
MC – MAP CRACKING
SC – SCALING
WP – WOODEN PLANK

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BRIDGE INSPECTION REPORT
SHEET 25 of 26

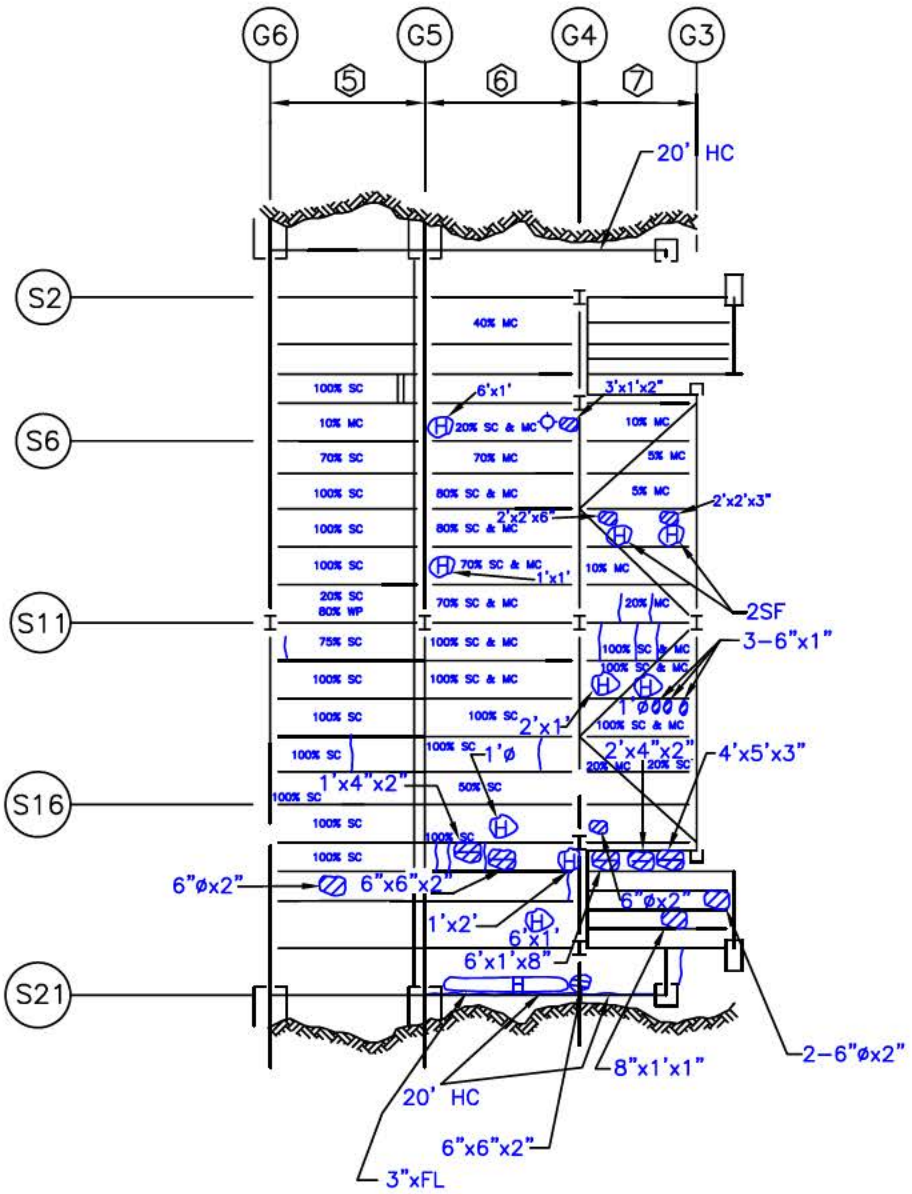
BIN 5522508

TEAM LEADER: Joel Bautista, P.E. ASST.TEAM LEADER: Michael DeStefano DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



LEGEND

- (G1) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- (1) SPAN NUMBER (AS PER NYSDOT SYSTEM)
- XX DELAMINATED/SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL)
- XX HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE)
- HOLE IN DECK
- TRANSVERSE CRACK

FL – FULL LENGTH
HS – HAUNCH SPALL
HC – HAUNCH CRACK
MC – MAP CRACKING
SC – SCALING
WP – WOODEN PLANK

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 26 of 26

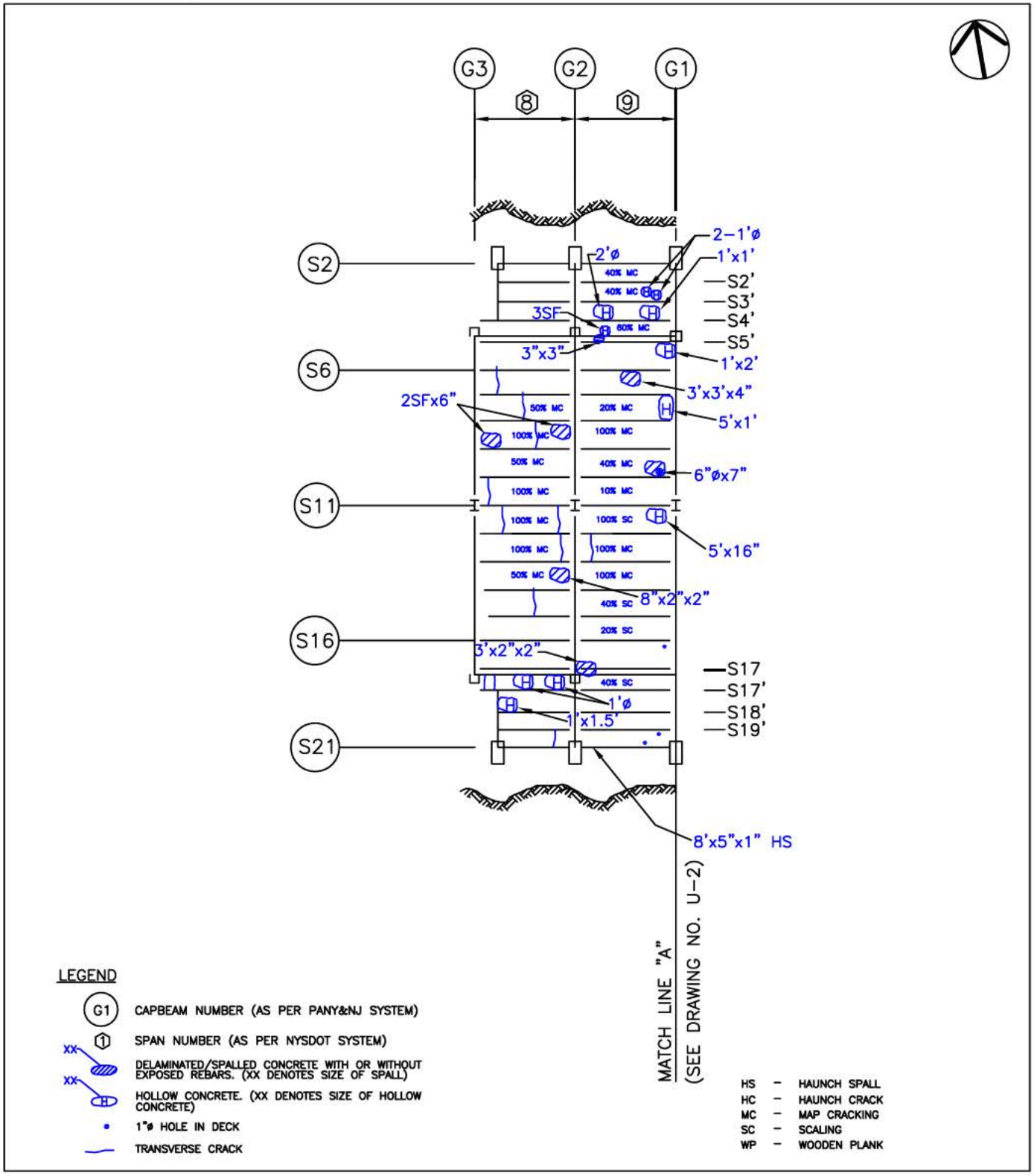
BIN 5522508

TEAM LEADER: Joel Bautista, P.E. ASST.TEAM LEADER: Michael DeStefano DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



PHOTOGRAPHS

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BRIDGE INSPECTION REPORT
SHEET 1 of 55

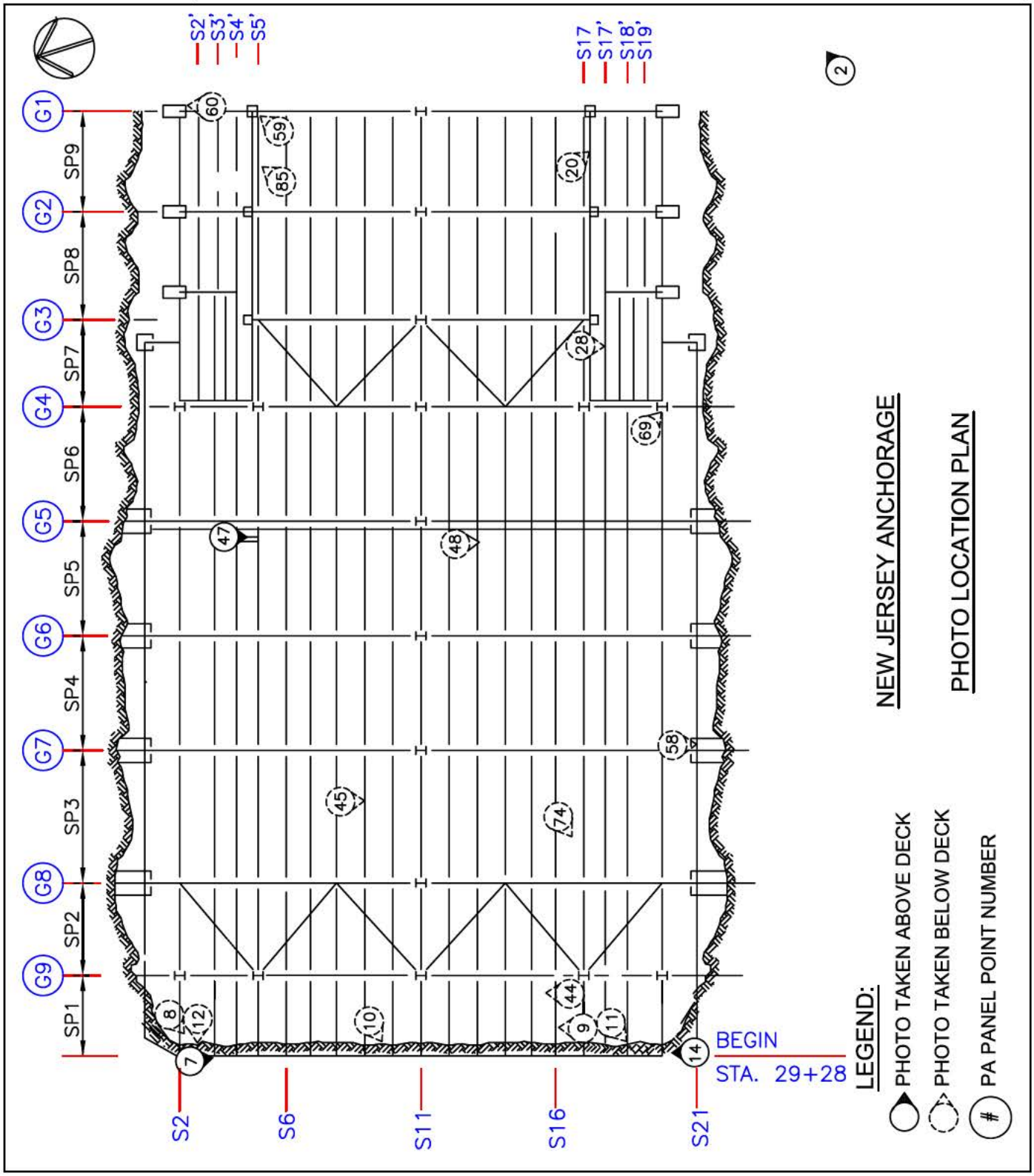
BIN 5522508

TEAM LEADER: Joel Bautista, P.E.
ASST.TEAM LEADER: Michael DeStefano
DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 of 55

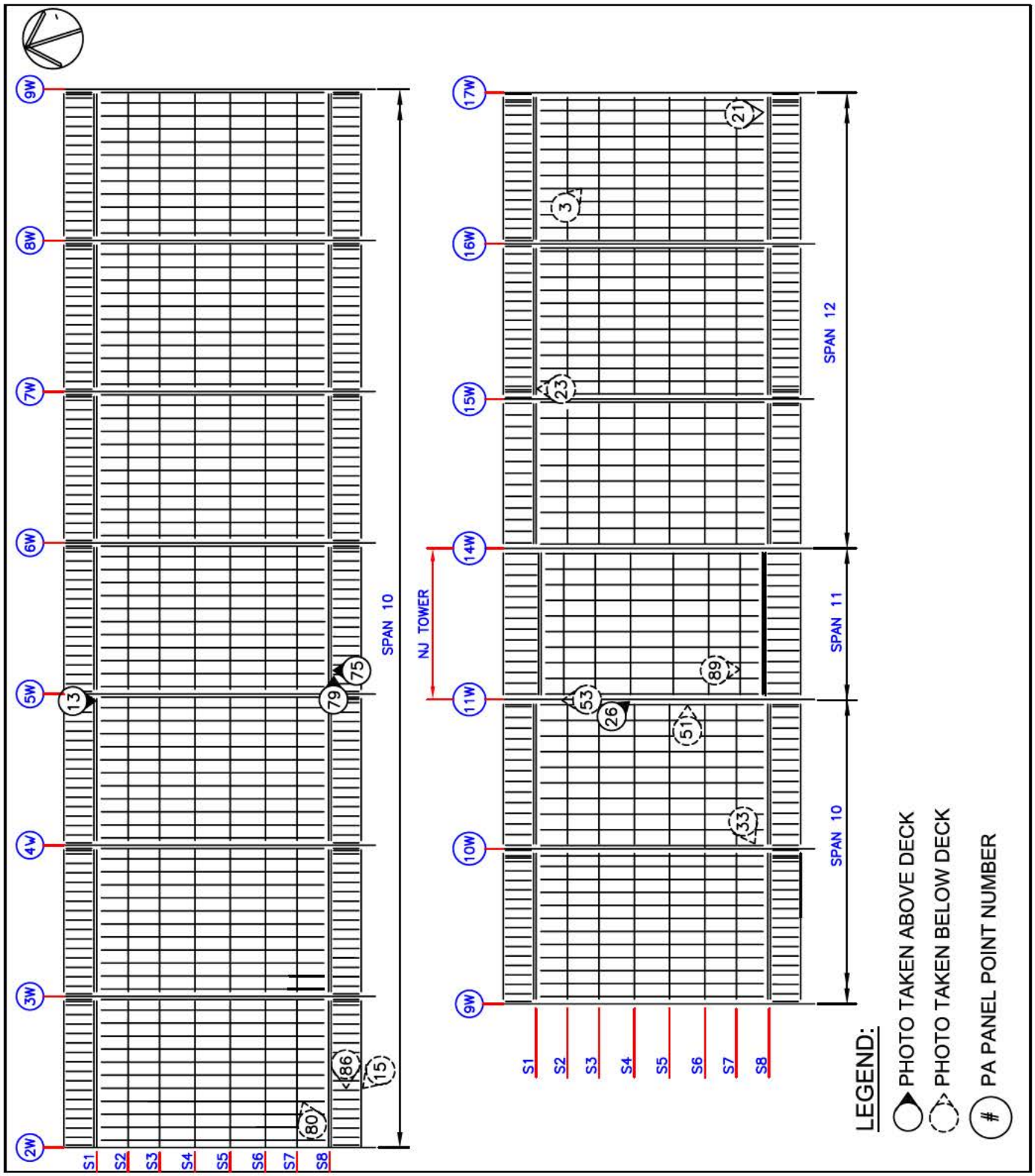
BIN 5522508

TEAM LEADER: Joel Bautista, P.E.
ASST.TEAM LEADER: Michael DeStefano
DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 of 55

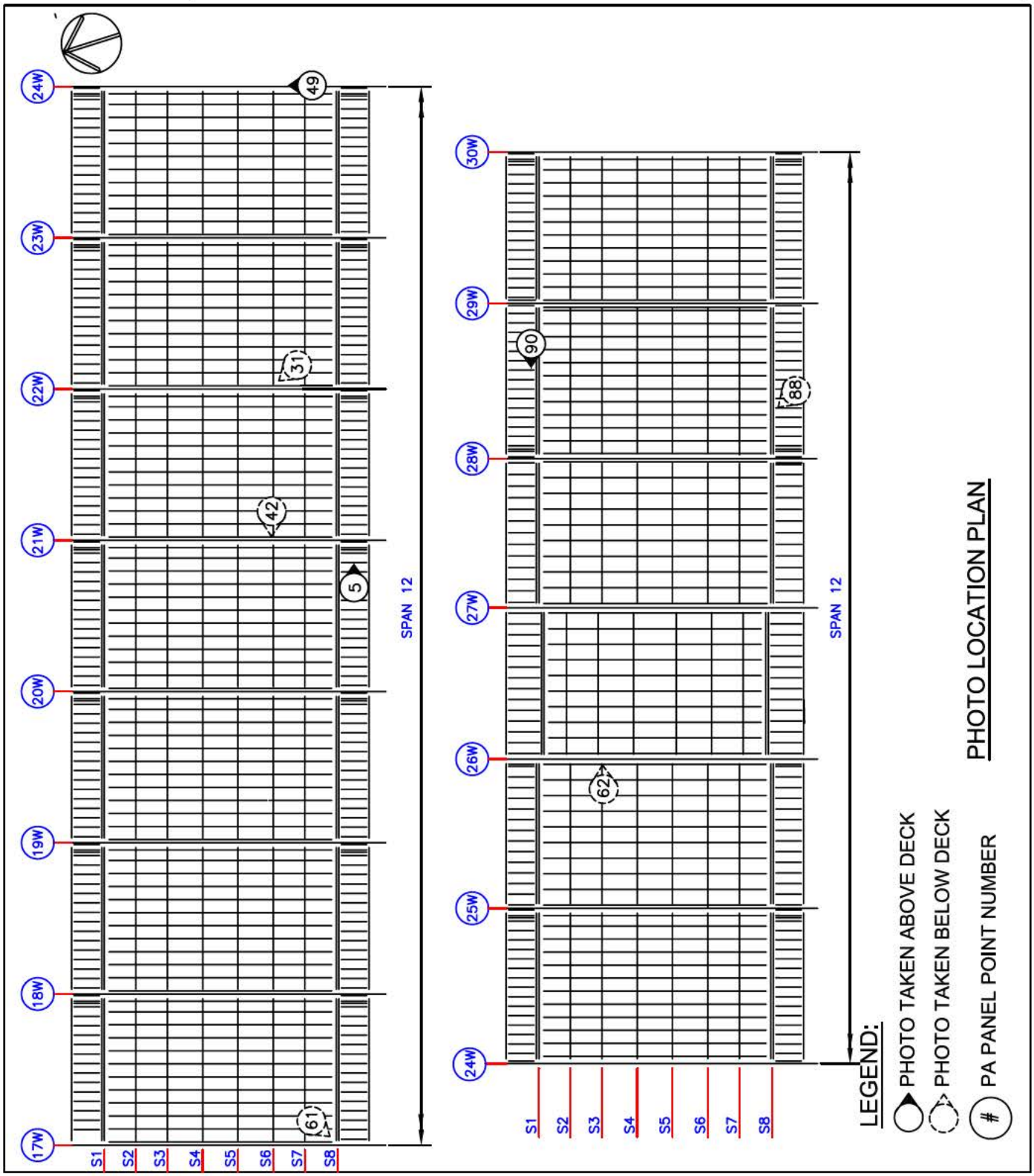
BIN 5522508

TEAM LEADER: Joel Bautista, P.E.
ASST.TEAM LEADER: Michael DeStefano
DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 of 55

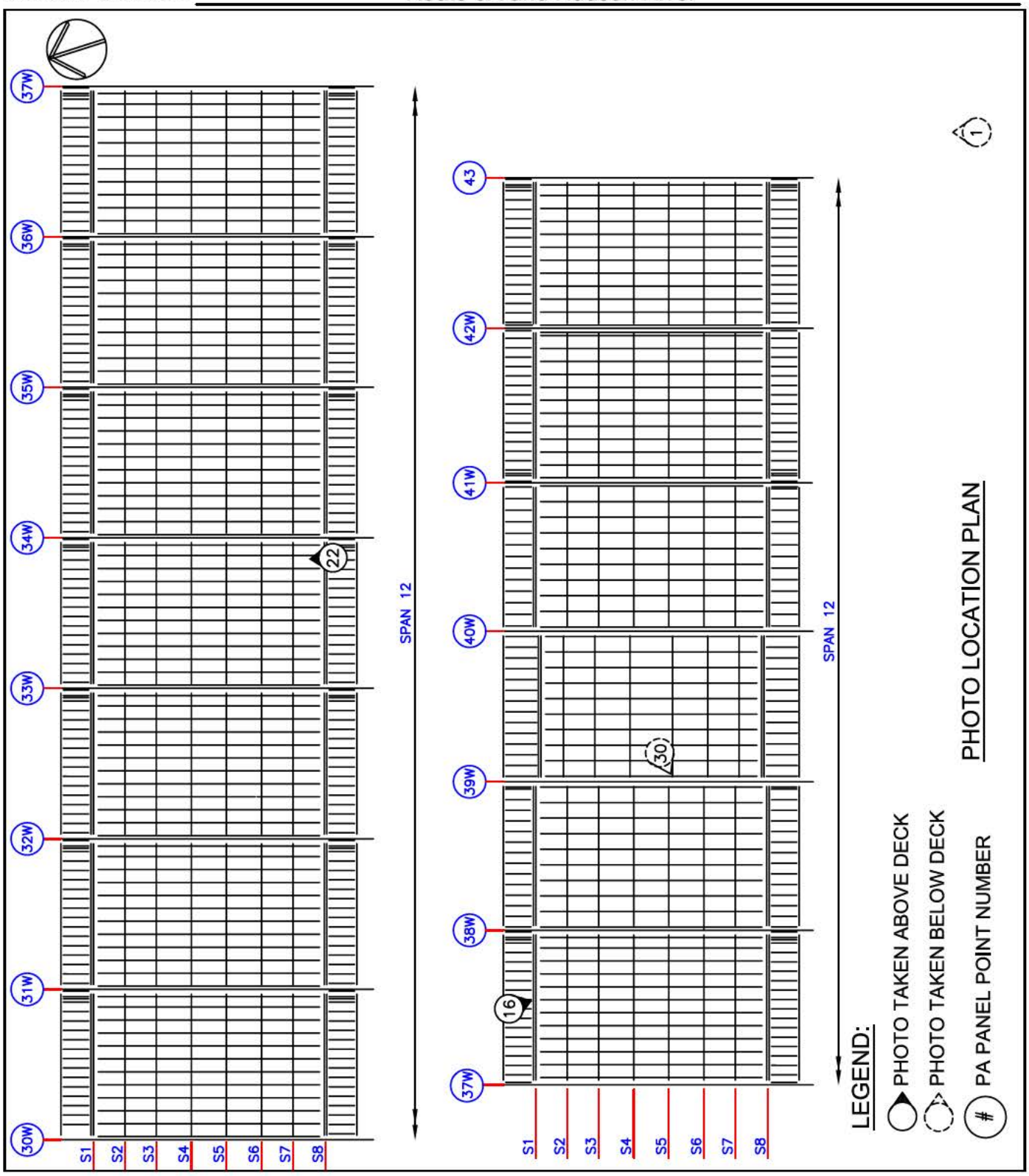
BIN 5522508

TEAM LEADER: Joel Bautista, P.E.
ASST.TEAM LEADER: Michael DeStefano
DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 of 55

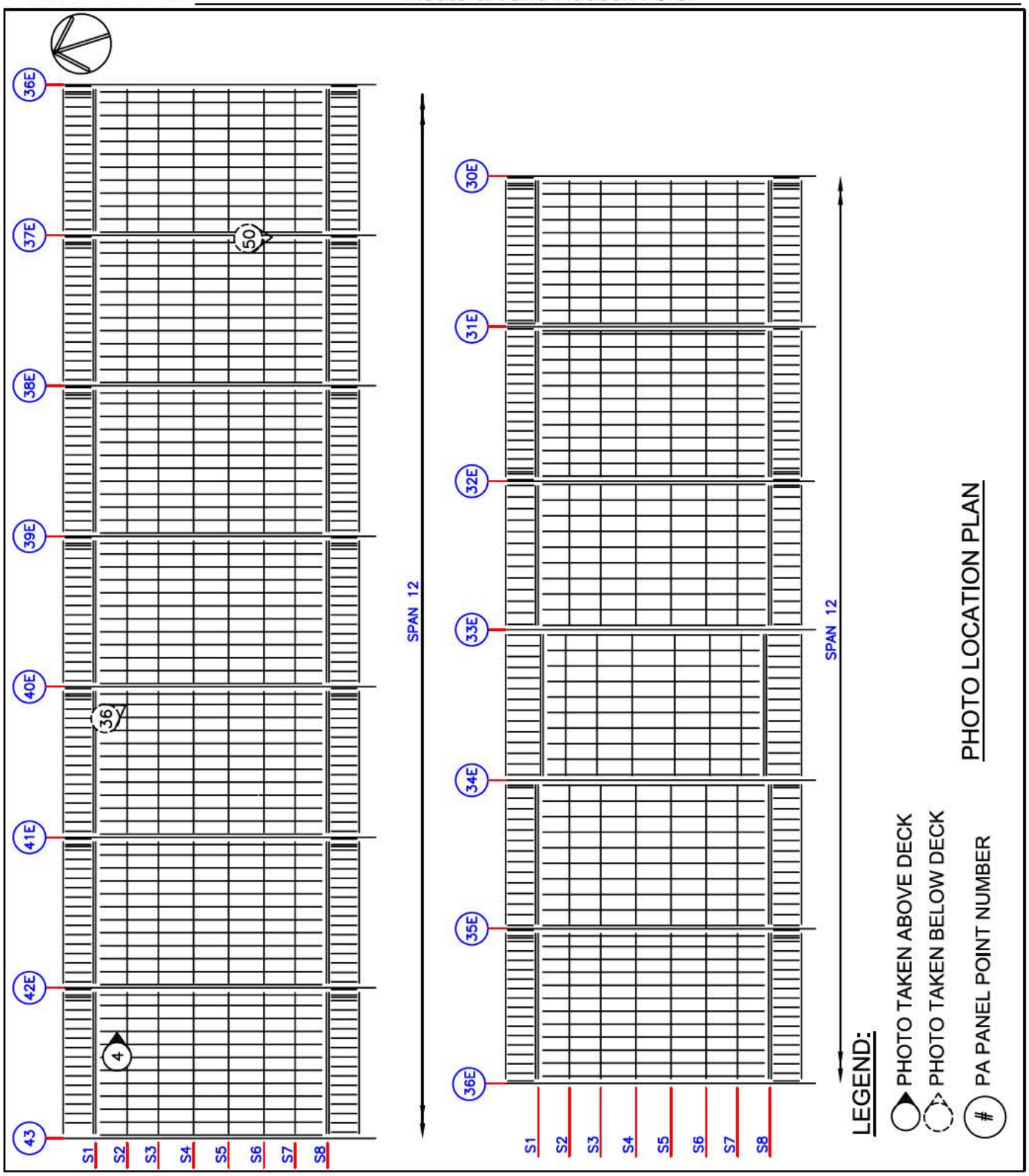
BIN 5522508

TEAM LEADER: Joel Bautista, P.E. ASST.TEAM LEADER: Michael DeStefano DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 of 55

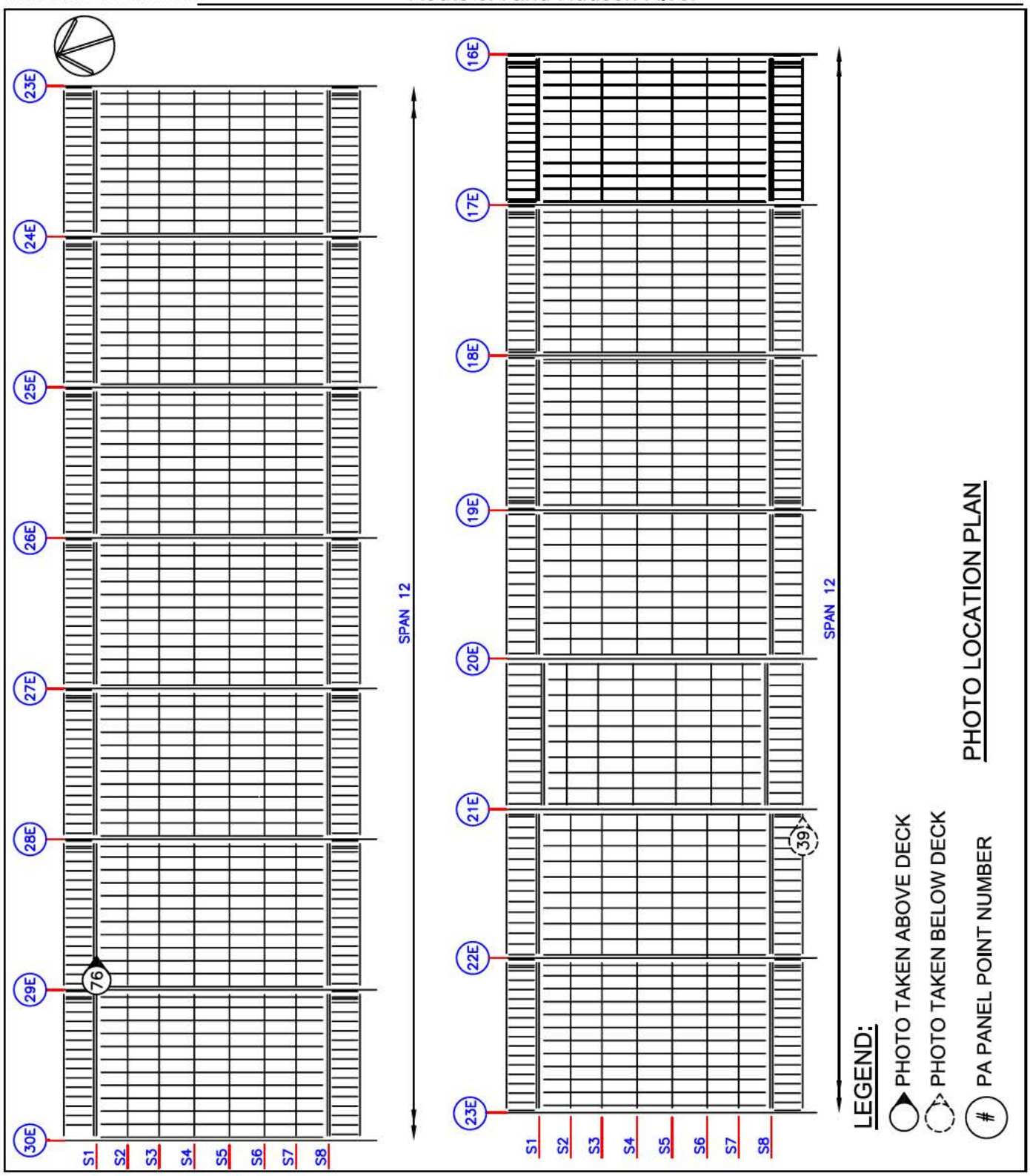
BIN 5522508

TEAM LEADER: Joel Bautista, P.E. ASST.TEAM LEADER: Michael DeStefano DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 7 of 55

BIN 522508

TEAM LEADER: Joel Bautista, P.E. ASST.TEAM LEADER: Michael DeStefano DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River

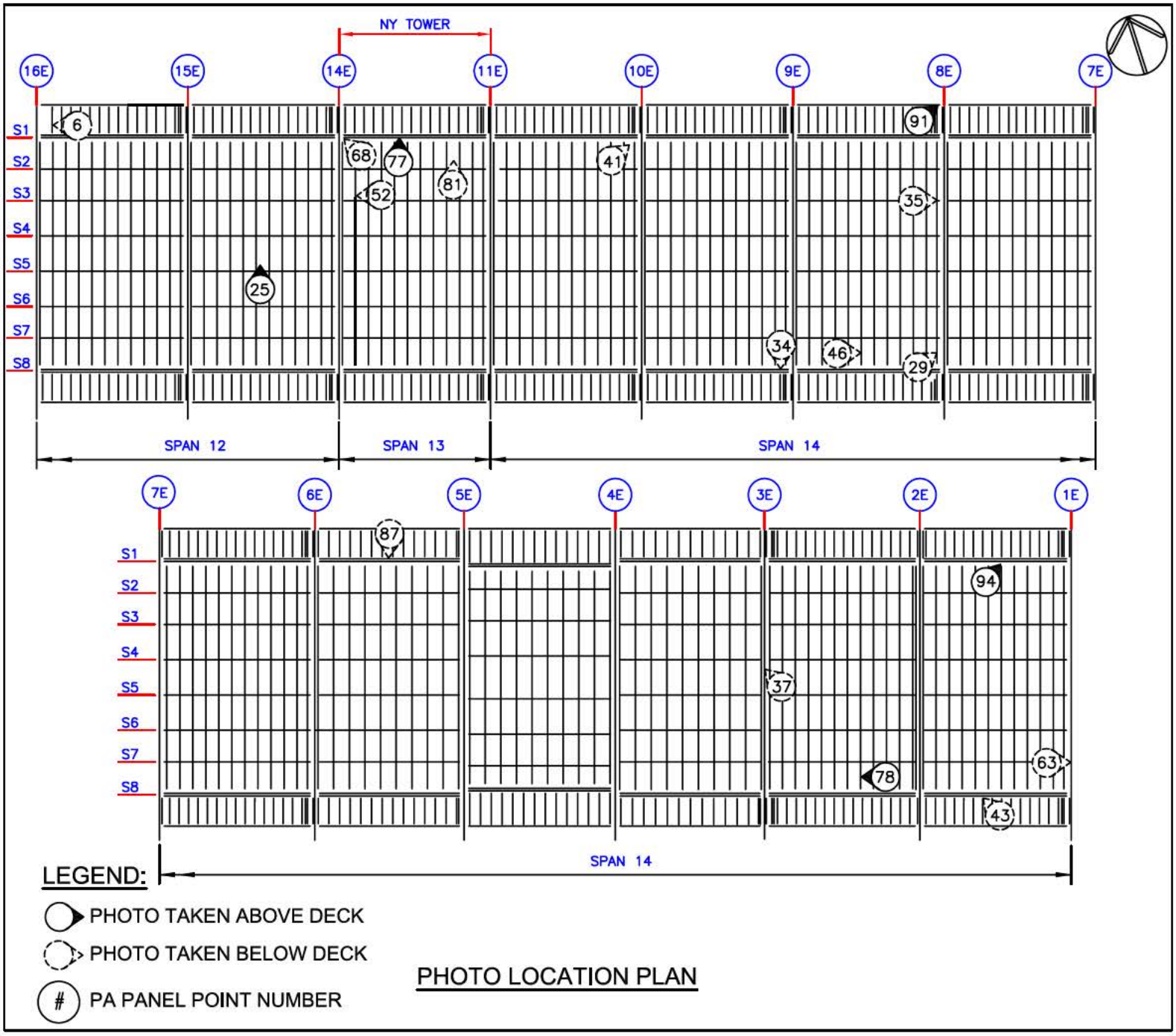


PHOTO LOCATION PLAN

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 8 of 55

BIN 5522508

TEAM LEADER: Joel Bautista, P.E.
ASST.TEAM LEADER: Michael DeStefano
DATE: 10/26/11

OTHERS: Michael Cahill, P.E., John Cascone, P.E., Tom Kyle, P.E.

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River

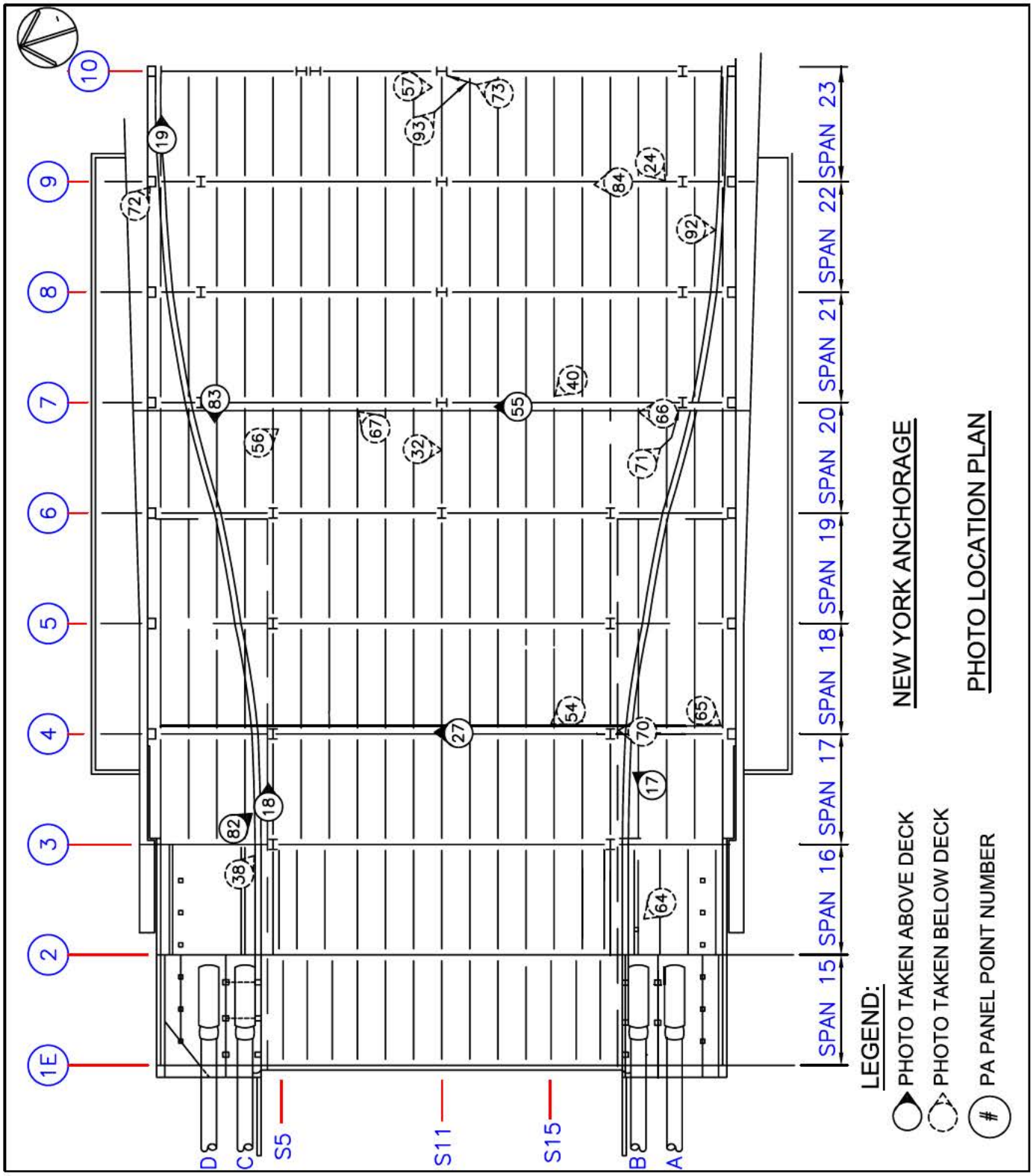


Photo No.: 1

Location:
Right elevation,
looking left.

Description:
General view of Main Suspension Spans 10 to 14.

Reference:
N/A

Photo No.: 2

Location:
Right fascia elevation,
looking ahead & left.

Description:
General view of suspension Spans 10 to 14 from Span 10.

Reference:
N/A

Photo No.: 3

Location:
Span 12, underside of deck and superstructure between Panel Points 16W-17W, looking ahead & right.

Description:
General view of main suspended span superstructure framing. Note: installation of temporary scaffolding due to ongoing Contract GWB244.022.

Reference:
N/A

Photo No.: 4

Location:
Span 12, top of deck, looking ahead from midspan.

Description:
General view of top of deck.

Reference:
N/A

BRIDGE INSPECTION REPORT

SHEET 11 OF 55
BIN: 5522508

Photo No.: 5

Location:

[redacted]

Description:

[redacted]

Reference:

N/A

Photo No.: 6

Location:

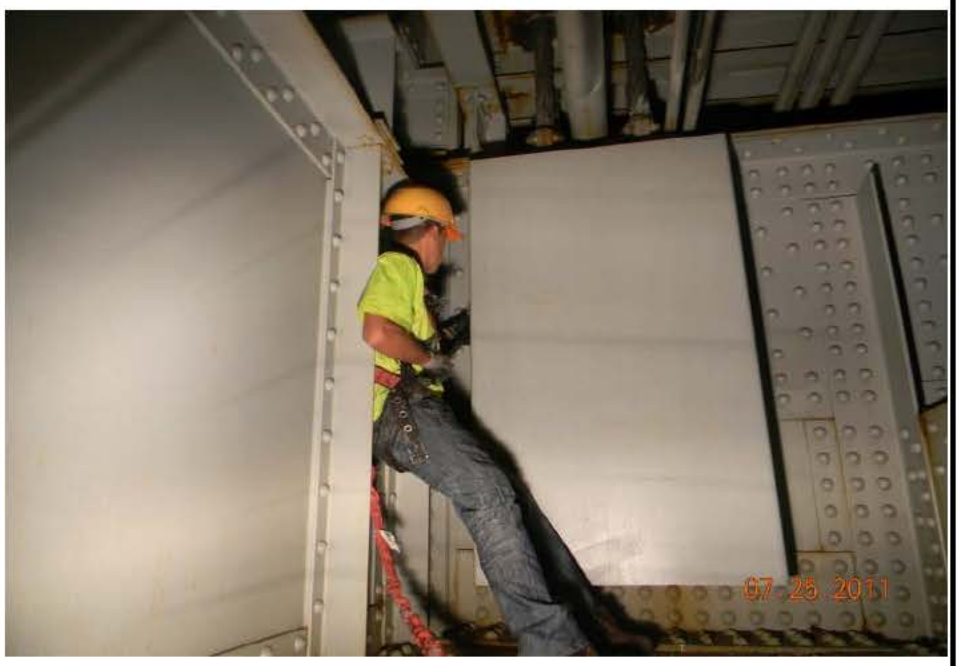
[redacted]

Description:

[redacted]

Reference:

[redacted]A



ASST. TEAM LEADER: Michael DeStefano
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Joel Bautista, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 7

Location:
Begin abutment deck joint, looking right.

Description:
Previously spalled area of concrete joint header was patched with asphalt. The joint sealer is par ially covered with dirt and exhibits localized tears and holes.

Reference:
TP 349 - _22_ Joint With Deck, Rated 3

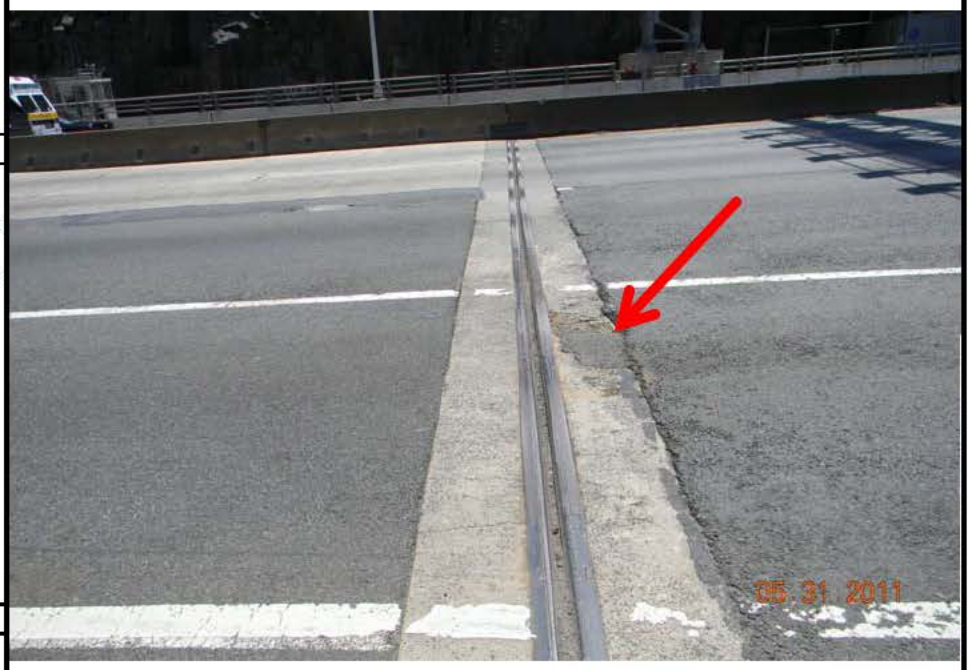


Photo No.: 8

Location:
Underside of begin abutment deck joint between S2-S3, looking back & right.

Description:
Corrosion holes hrough drainage trough attached to the begin abutment. Trough is also misaligned at few locations.

Reference:
TP 349 - [22] Joint With Deck, Rated 3

Photo No.: 9

Location:
Underside of begin abutment deck joint between S15-S17, looking left.

Description:
Drainage trough attached to begin abutment is fully clogged.

Reference:
TP 349 - _22_ Be_in Joint With Deck, Rated 3

Photo No.: 10

Location:
Begin abutment bridge seat between S10-S11, looking back & right.

Description:
Localized area of heavy accumulation of dirt and debris on bridge seat. Other areas of bridge seat are in good condition.

Reference:
TP 349 - [26] Begin Bridge Seat and Pedestals, Rated 5

Photo No.: 11

Location:
Begin abutment backwall behind S19, looking back & right.

Description:
Large spalled and delaminated area in backwall behind S19, measuring 15SF x up to 6" Deep. Note large corrosion hole in diaphragm. Remaining diaphragms at begin abutment are in good condition.

Reference:
TP 349 - _28_ Be_in Backwall, Rated 4;
TP 350 - [29] Secondary Members, Rated 5

Photo No.: 12

Location:
Begin abutment backwall between S2-S3, looking back.

Description:
Spalled with exposed rebar in backwall approximately 4SF x 3" Deep.

Reference:
TP 349 - [28] Begin Backwall, Rated 4

Photo No.: 13

Location:
Span 10, left curb at Panel Point 5W, looking down & right.

Description:
Localized corrosion hole through steel curb up to 8" diameter.

Reference:
TP 350 - _20_ Curbs, Rated 4

Photo No.: 14

Location:
Right sidewalk at begin abutment joint, looking left.

Description:
The previously cracked, broken and raised concrete patch over the sidewalk joint was repaired since the previous inspection.

Reference:
TP 350 - [21] Sidewalks and Fascias, Rated 5

Photo No.: 15

Location:
Span 10, right fascia between Panel Points 2W-3W, looking back & left.

Description:
Sidewalk fascias exhibits numerous areas of spalled concrete with and without exposed rebar. Several areas of delaminated concrete were removed along both fascias during the inspection.

Reference:
TP 350 - _21_ Sidewalks and Fascias, Rated 4

Photo No.: 16

Location:
Span 12, left parapet between Panel Points 37W-38W, looking ahead & right.

Description:
Missing connection bolts on outside face of parapet.

Reference:
TP 350, [22] Railings and Parapets, Rated 4

Photo No.: 17

Location:
Span 17, right bridge railing, looking ahead & left.

Description:
Disconnected post and 4' long section of severely deteriorated top horizontal bridge rail.

Reference:
TP 350, _22_ Railin_s and Parapets, Rated 3

Photo No.: 18

Location:
Span 17, left parapet, looking ahead.

Description:
Large spalls with exposed rusted rebar along the right and top faces of he concrete parapet.

Reference:
TP 350, [22] Railings and Parapets, Rated 3

ASST. TEAM LEADER: Michael DeStefano
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Joel Bautista, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 19

Location:
Span 23, left bridge railing, looking ahead.

Description:
Loose railing post due to loose and missing anchor bolt nuts.

Reference:
TP 350, _22_ Railin_s and Parapets, Rated 3

Photo No.: 20

Location:
Span 9, below right curbline, looking ahead & right near end of span.

Description:
Concrete encasement around catch basin exhibits cracking, spalling wi h exposed rebar and water leakage with efflorescence. The drainage pipe is moderately corroded at the interface wi h the concrete.

Reference:
TP 350 - [23] Scuppers, Rated 3

Photo No.: 21

Location:
Span 12, right scupper downspout between Panel Points 16W-17W, looking right.

Description:
Clogged downspout pipe and missing cleanout cover.

Reference:
TP 350 - _23_ Scu_ _ ers, Rated 2

Photo No.: 22

Location:
Span 12, right scupper near Panel Point 34W, looking down & left.

Description:
Typical fully clogged scupper along curbline.

Reference:
TP 350 - [23] Scuppers, Rated 2

Photo No.: 23

Location:
Span 12, left scupper downspout between Panel Points 15W-16W, looking left.

Description:
Scupper downspout is fully clogged and is missing he cleanout cover.

Reference:
TP 350 - _23_ Scu_ _ ers, Rated 2

Photo No.: 24

Location:
Span 22, end face of Capbeam 9 near right side, looking back & right.

Description:
Missing section of downspout pipe.

Reference:
TP 350 - [23] Scuppers, Rated 2

Photo No.: 25

Location:
Span 12, median barrier between Panel Points 15E-14E, looking left.

Description:
Typical localized pitting, corrosion holes and scrape marks on the median barrier.

Reference:
TP 350 - _25_ Median, Rated 4

Photo No.: 26

Location:
Span 11, median barrier at Panel Point 11W, looking ahead & right.

Description:
Misaligned median barrier.

Reference:
TP 350 - [25] Median, Rated 4

Photo No.: 27

Location:
Span 17, median barrier at end joint, looking left.

Description:
Previously noted missing (6 of 6) bolts at the expansion joint for the median barrier were replaced since the previous inspection.

Reference:
TP 350 - _25_ Median, Rated 5

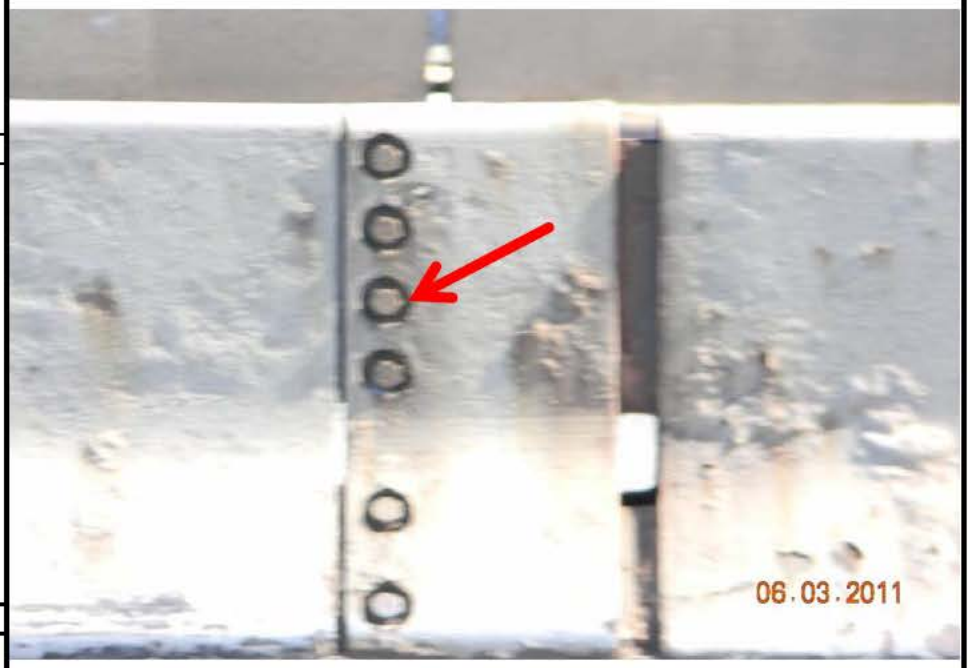


Photo No.: 28

Location:
Span 7, underside of deck between S17-S17', looking right.

Description:
Large spall 4' x 5' x 3" deep with exposed rusted rebar in deck.

Reference:
TP 350 - [27] Deck structural, Rated 4

Photo No.: 29

Location:
Span 14, orthotropic deck ribs over end Secondary Floorbeam SFB 12, between S7-S8 and Panel Points 9E-8E, looking ahead & left.

Description:
Typical cracked welds between the orthotropic deck ribs and the deck strap plate.

Reference:
TP 350 - _27_ Deck structural, Rated 5

Photo No.: 30

Location:
Span 12, begin Secondary Floorbeam SFB 1, between S4-S5 and Panel Points 39W-40W, looking back & right.

Description:
Typical missing tie down bolt connecting the deck strap plate to he top flange of the secondary floorbeam.

Reference:
TP 350 - [27] Deck structural, Rated 5

ASST. TEAM LEADER: Michael DeStefano
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Joel Bautista, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 31

Location:
Span 12, orthotropic deck Rib 19 (PA numbering) over begin Secondary Floorbeam SFB 1, between S6-S7 and Panel Points 22W-23W, looking back & left.

Description:
Crack along the upper web of the orthotropic deck rib.

Reference:
TP 350 - _27_ Deck structural, Rated 5

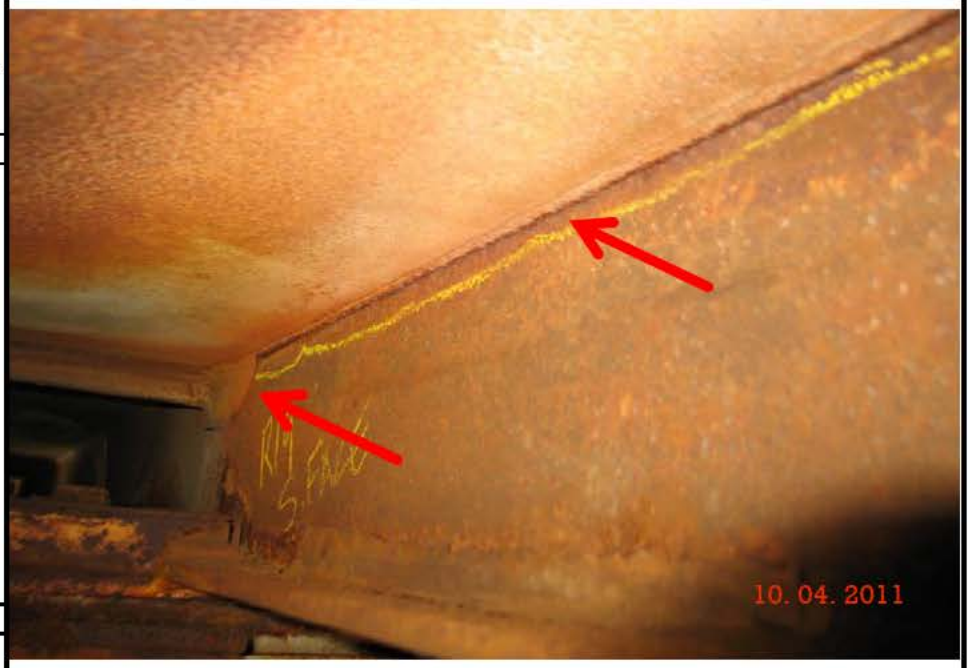


Photo No.: 32

Location:
Span 20, orthotropic deck between S10-S11, looking right.

Description:
The orthotropic deck over the New York Anchorage is in generally good condition with localized small corrosion holes in the deck plate.

Reference:
TP 350 - [27] Deck structural, Rated 5

Photo No.: 33

Location:
Span 10, end face of floorbeam near S8 at Panel Point 10W, looking back & right.

Description:
Localized heavy pitting and section loss up to 1/4" in web of floorbeam below the roadway curbline area.

Reference:
TP 350 - _28_ Primar_ Members, Rated 5

Photo No.: 34

Location:
Span 14, Stringer S8, at begin side of Panel Point 9E, looking right.

Description:
Localized moderate corrosion with corrosion hole and pitting in stringer web above the seated bearing area.

Reference:
TP 350 - [28] Primary Members, Rated 5

Photo No.: 35

Location:
Span 14, Secondary Floorbeam SFB 12 over Stringer S3, between Panel Points 9E-8E, looking ahead.

Description:
Previous web cracks along the base of the web have propagated beyond the drilled arrestor holes. Note areas of severe corrosion, pitting and corosion hole in the base of web. Drilling of crack arrestor holes was recommended for immediate repair during the inspection.

Reference:
TP 350 - [28] Primary Members, Rated 5

Photo No.: 36

Location:
Span 12, Secondary Floorbeam SFB 11 over Stringer S2 between Panel Points 41E-40E, looking ahead & right.

Description:
Missing (2 of 4) connection rivets/bolts between bottom flange of secondary floorbeam and top flange of stringer.

Reference:
TP 350 - [28] Primary Members, Rated 5

Photo No.: 37

Location:
Span 14, riser beam over floorbeam at Panel Point 3E between S4-S5, looking back & left.

Description:
Fully cracked web plates of riser beam over main floorbeam.

Reference:
TP 350 - [28] Primary Members, Rated 5

Photo No.: 38

Location:
Main suspension Cable C, Strand 12, inside the New York Anchorage, looking ahead & right below Span 16.

Description:
Several broken/corroded wire strands at the strand shoe location for the main cable.

Reference:
TP 350 - [28] Primary Members, Rated 5

Photo No.: 39

Location:

[redacted]

Description:

[redacted]

Reference:

TP 350 - 28 Primar Members, Rated 5

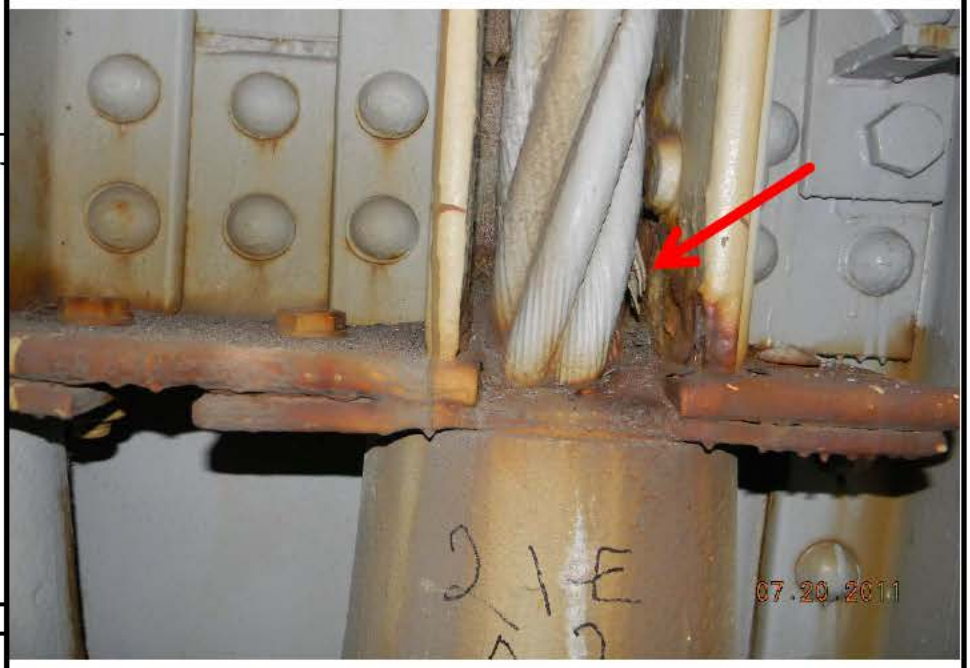


Photo No.: 40

Location:

Span 21, Stringer S15 at the begin connection to capbeam at Pier 20, looking back & left.

Description:

Pitting with section loss up to 3/16" along the base of the stringer web at the connection to he capbeam.

Reference:

TP 350 - [28] Primary Members, Rated 4

Photo No.: 41

Location:
Span 14, end diaphragm between S1-S2, at begin side of Panel Point 10E, looking ahead & left.

Description:
Localized severe corrosion with corrosion holes and pack rust between the lower angles of the end diaphragm cross frame.

Reference:
TP 350 - _29_ Secondar_ Members, Rated 5

Photo No.: 42

Location:
Span 12, lateral bracing connection plate at S6 to begin Secondary Floorbeam SFB1 connection, between Panel Points 21W-22W, looking back.

Description:
Cracked lateral bracing connection plate. This location was recommended for immeiate repair during the inspection.

Reference:
TP 350 - [29] Secondary Members, Rated 5

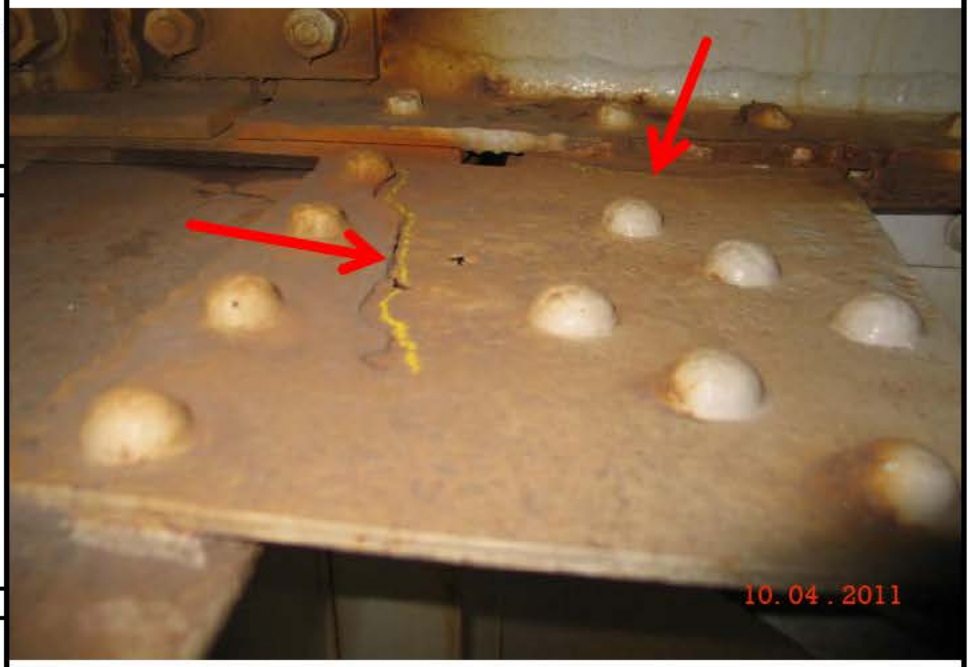


Photo No.: 43

Location:
Span 14, between Panel Points 2E-1E, gusset plate for lateral bracing connection between S8 and right fascia stringer, looking back & left.

Description:
Previously cracked lateral bracing gusset plate was replaced since the previous inspection.

Reference:
TP 350 - _29_ Secondar_ Members, Rated 5

Photo No.: 44

Location:
Span 1, between S13-S16, looking left.

Description:
All structural steel within the New Jersey Anchorage was cleaned and repainted since the previous inspection.

Reference:
TP 350 - [30] Paint, Rated 7; TP 350 - [28] Primary Members, Rated 5

Photo No.: 45

Location:
Span 3, between S9-S13, looking right.

Description:
All structural steel within the New Jersey Anchorage was cleaned and repainted since the previous inspection.

Reference:
TP 350 - [30] Paint, Rated 7; TP 350 - [28] Primary Members, Rated 5

Photo No.: 46

Location:
Span 14, underside of deck between S7-S8 and Panel Points 9E-8E, looking ahead.

Description:
The paint system is in generally good condition with few isolated areas of peeling paint and surface corrosion, mostly below the deck joints.

Reference:
TP 350 - [30] Paint, Rated 5; TP 350 - [28] Primary Members, Rated 5

Photo No.: 47

Location:
Span 5, deck joint within the westbound roadway, looking right.

Description:
Minor dirt accumulation wihtin the deck joint.

Reference:
TP 350 - _31_ Joints, Rated 4

Photo No.: 48

Location:
Span 5, underside of end deck joint below right side, looking right.

Description:
Fully clogged joint trough.

Reference:
TP 350 - [31] Joints, Rated 4

Photo No.: 49

Location:
Span 12, deck joint within the eastbound roadway at Panel Point 24W, looking left.

Description:
Section of missing joint sealer within the right lane.

Reference:
TP 350 - _31_ Joints, Rated 3

Photo No.: 50

Location:
Span 12, underside of deck joint below the eastbound roadway at Panel Point 37E, looking right.

Description:
Joint sealer is partially debonded and is hanging below the joint.

Reference:
TP 350 - [31] Joints, Rated 3

Photo No.: 51

Location:
Span 11, underside of finger joint at Panel Point 11W, between S5-S6, looking up & ahead.

Description:
Section of failed finger joint plate was replaced during this inspection.

Reference:
TP 350 - _31_ Joints, Rated 4

Photo No.: 52

Location:
Span 13, underside of finger joint below the westbound roadway at Panel Point 14E, looking back.

Description:
Newly installed drainage system and deflector troughs below the finger joint.

Reference:
TP 350 - [31] Joints, Rated 4

ASST. TEAM LEADER: Michael DeStefano
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Joel Bautista, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 53

Location:
Span 11, underside of finger joint at Panel Point 11W, below right lane of the westbound roadway, looking left.

Description:
Fully clogged trough below finger joint.

Reference:
TP 350 - 31 Joints, Rated 4

Photo No.: 54

Location:
Span 17, underside of deck joint below the eastbound roadway, looking back & left.

Description:
The joint trough remains sagged due to missing support bracket on end side of capbeam at Pier 17.

Reference:
TP 350 - [31] Joints, Rated 3

Photo No.: 55

Location:
Span 20, deck joint within the left lane of the eastbound roadway, looking left.

Description:
Section of missing joint sealer is allowing dirt and water leakage onto the structural steel members below.

Reference:
TP 350 - _31_ Joints, Rated 2

Photo No.: 56

Location:
Span 20, underside of deck joint below the westbound roadway, looking ahead & right.

Description:
The entire left half of the joint trough is missing below the westbound roadway.

Reference:
TP 350 - [31] Joints, Rated 2

Photo No.: 57

Location:
Span 23, underside of deck joint below the westbound roadway, looking right.

Description:
Drainage trough exhibits a 4" diameter corrosion hole below the median area.

Reference:
TP 350 - _31_ Joints, Rated 3

Photo No.: 58

Location:
Span 3, end capbeam, right bearing, looking right.

Description:
Both anchor bolts and nuts at the right bearing of capbeam were replaced since the previous inspection.

Reference:
TP 350 - [33] Bearings, Anchor Bolts & Pads,
Rated 5

Photo No.: 59

Location:
Span 9, end capbeam, left bearing, looking ahead & left.

Description:
Unseated anchor bolt nuts (1 of 2) at the left bearing of the capbeam.

Reference:
TP 350 - _33_ Bearin_s, Anchor Bolts & Pads,
Rated 5

Photo No.: 60

Location:
Span 9, left fascia stringer bearing near Panel Point 2W, looking left.

Description:
Missing (2 of 2) anchor bolt nuts at bearing of left fascia stringer.

Reference:
TP 350 - [33] Bearings, Anchor Bolts & Pads,
Rated 5

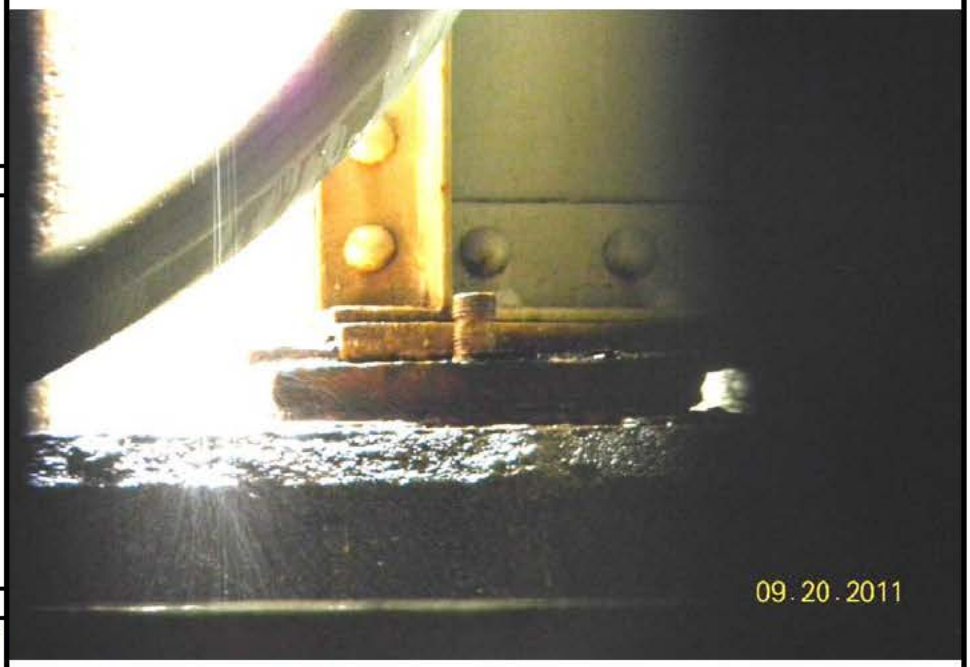


Photo No.: 61

Location:
Span 12, Stringer S8 bearing at end side of Panel Point 17W, looking back & right.

Description:
Sheared ie down bolt (1 of 2) at he stringer bottom flange connection to the seated bearing angle at he main floorbeam.

Reference:
TP 350 - _33_ Bearin_s, Anchor Bolts & Pads,
Rated 4

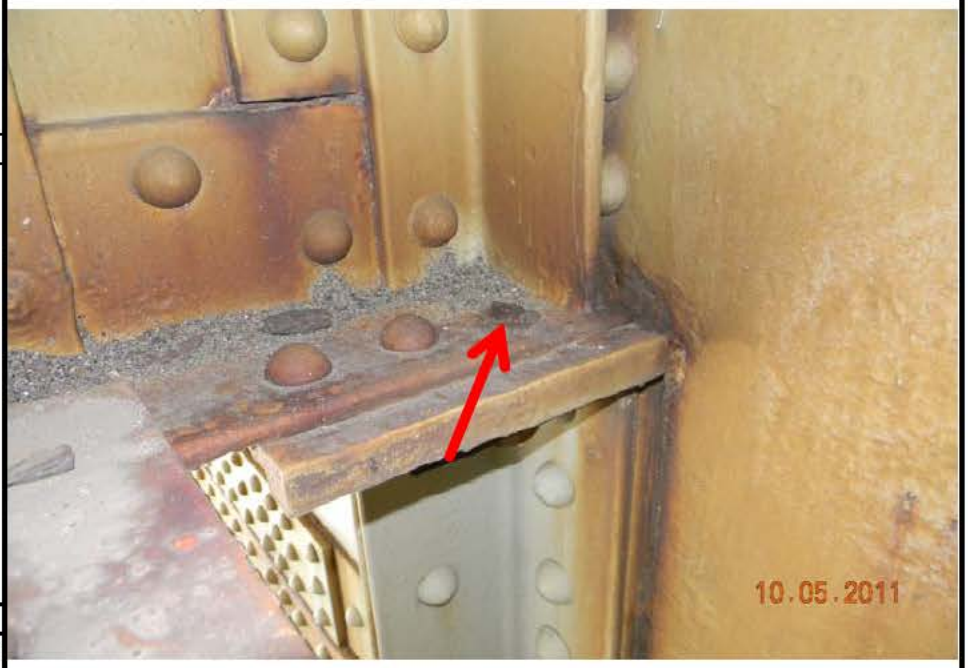


Photo No.: 62

Location:
Span 12, Stringer S3 bearing at begin side of Panel Point 26W, looking ahead.

Description:
The seated connection of the stringer exhibits (4 of 4) missing/sheared rivets and the stringer and sole plate are shifted 1/2" left and 1/4" back relative to he bearing plate.

This location was recommended for immediate repair during the inspection.

Reference:
TP 350 - [33] Bearings, Anchor Bolts & Pads,
Rated 4

Photo No.: 63

Location:
Span 14, Stringer S7 bearing at Panel Point 1E, looking ahead.

Description:
Frozen sliding plate bearing due to pack rust build up.

Reference:
TP 350 - _33_ Bearin_s, Anchor Bolts & Pads,
Rated 4

Photo No.: 64

Location:
Span 16, intermediate bearing for right sidewalk stringer, looking back & left.

Description:
Heavy pack rust between he masonry plate and pedestal. The bearing pedestal is spalled with approximate 10% undermining below the masonry plate.

Reference:
TP 350 - [33] Bearings, Anchor Bolts & Pads,
Rated 4;
TP 350 - [34] Pedestals,
Rated 4

Photo No.: 65

Location:
Span 17, right bearing below end capbeam, looking back & right.

Description:
Severe corrosion with approximately 50% section losses to the anchor bolt nuts at he capbeam bearing.

Reference:
TP 350 - _33_ Bearin_s, Anchor Bolts & Pads,
Rated 4

Photo No.: 66

Location:
Span 20, Stringer S18 bearing at end capbeam, looking left.

Description:
Seated stringer bearing connection angle exhibits severe corrosion with heavy pack rust and (2 of 2) sheared tie down bolts. (Sheared bolt at right side of Stringer 18 shown).

Reference:
TP 350 - [33] Bearings, Anchor Bolts & Pads,
Rated 3;
TP 350 - [34] Pedestals,
Rated 3

Photo No.: 67

Location:
Span 20, Stringer S8 bearing at end capbeam, looking ahead & left.

Description:
Missing (1 of 2) tie down bolts at he seated stringer bearing connection angle to the Pier 20 capbeam.

Reference:
TP 350 - _33_ Bearin_s, Anchor Bolts & Pads,
Rated 3
TP 350 - [34] Pedestals,
Rated 3

Photo No.: 68

Location:
Span 13, near Panel Point 14E, looking back & left.

Description:
Heavy accumulation of debris remains on top of he tower strut and gusset plate below the finger joint near the left curbline.

Reference:
TP 350 - [35] Top of Pier Cap or Beam, Rated 4

Photo No.: 69

Location:
Span 6, end right column, looking ahead and right.

Description:
Base of column was repaired by installing bolted steel reinforcement plates and new anchor bolts.

Reference:
TP 350 - _38_ Pier Column, Rated 5

Photo No.: 70

Location:
Span 17, end right interior column, looking left.

Description:
New anchor bolts were installed at he base of the pier column since the previous inspection.

Reference:
TP 350 - [38] Pier Column, Rated 5

Photo No.: 71

Location:
Span 20, end right interior column, looking ahead & right.

Description:
New anchor bolts were installed at he base of the pier column since the previous inspection.

Reference:
TP 350 - _38_ Pier Column, Rated 5

Photo No.: 72

Location:
Span 22, left column, looking ahead & right.

Description:
Base of column was repaired by installing bolted steel reinforcement plates since the previous inspection. (Similar repairs completed at Pier 23).

Reference:
TP 350 - [38] Pier Column, Rated 5

Photo No.: 73

Location:
Span 23, end center column, looking ahead & left.

Description:
Up to 3/16" pitting in column base plate and 100% section loss to anchor bolt nuts at the base of the pier column.

Reference:
TP 350 - _38_ Pier Column, Rated 4

Photo No.: 74

Location:
Span 3, between S16-S17, looking back & right.

Description:
Broken underdeck ligh ing fixture.

Reference:
TP 350 - [43] Lighting Standards & Fixtures, Rated 1

Photo No.: 75

Location:
Span 10, right sidewalk between Panel Points 5W-6W, looking left.

Description:
Disconnected electrical conduit at base of lighting standard exposing electrical wiring.

Reference:
TP 350 - _43_ Li_htin_ Standards & Fixtures, Rated 1

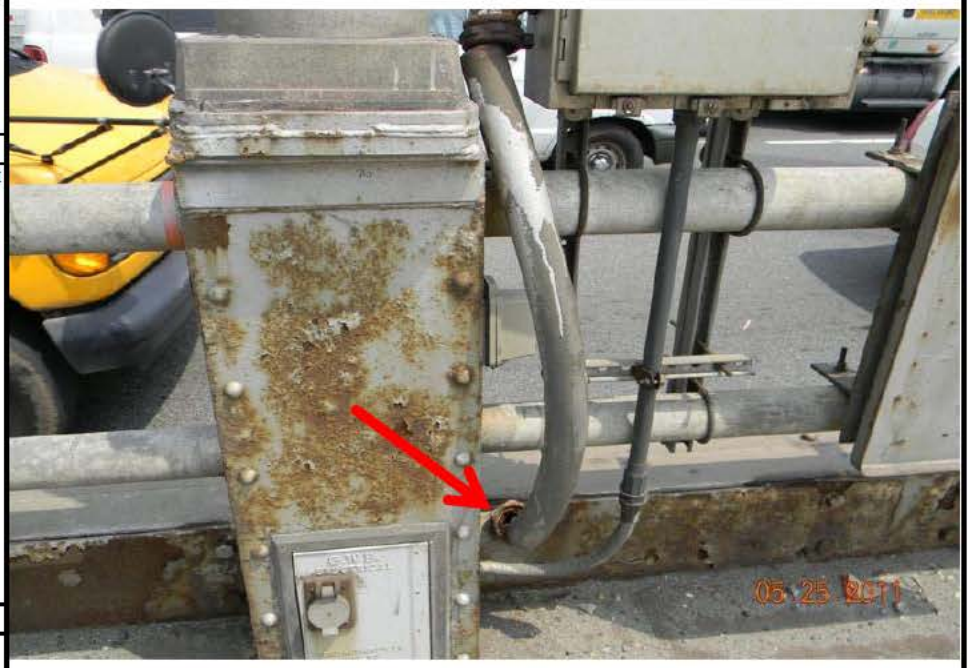


Photo No.: 76

Location:
Span 12, left sidewalk between Panel Points 29E-28E, looking ahead.

Description:
Unsecured handhole cover at the base of the lighting standard due to (1 of 2) missing screws.

Reference:
TP 350 - [43] Lighting Standards & Fixtures, Rated 1

Photo No.: 77

Location:
Span 13 at left curbline between Panel Points 14E-11E (New York Tower), looking down and left.

Description:
Missing lighting standard.

Reference:
TP 350 - _43_ Li_htin_ Standards & Fixtures, Rated 1

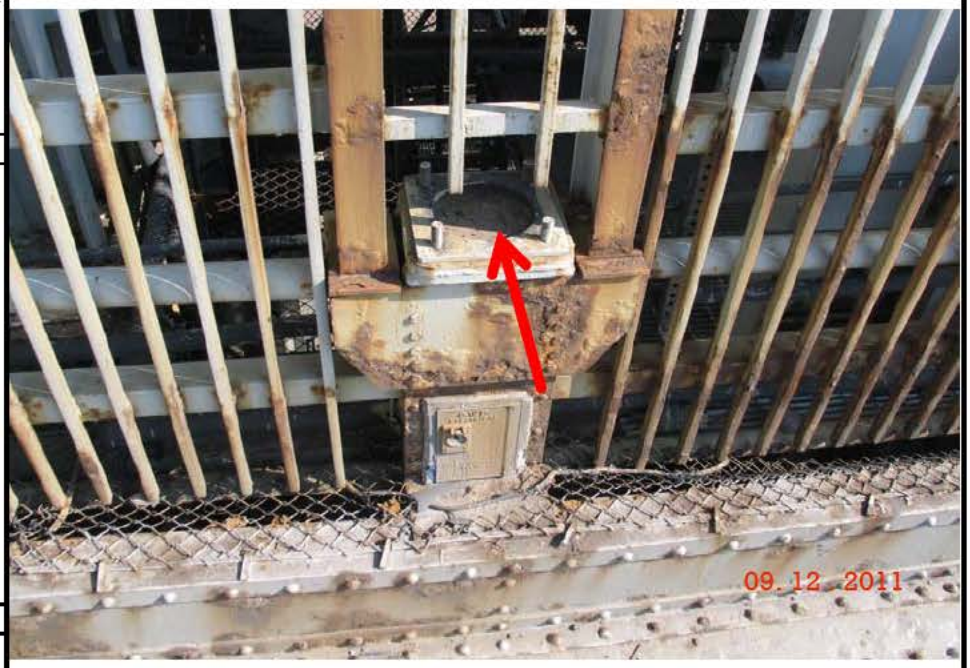


Photo No.: 78

Location:
Span 14, lighting standard at right sidewalk between Panel Points 3E-2E, looking up & back.

Description:
Cracked lens cover and twisted arm of lighting standard due to impact damage.

Reference:
TP 350 - [43] Lighting Standards & Fixtures, Rated 1

Photo No.: 79

Location:
Span 10, lighting standard at right sidewalk between Panel Points 5W-6W, looking ahead.

Description:
All previously cracked welds noted at the base of the lighting standards in Spans 10, 12 and 14 were repaired since the previous inspection.

Reference:
TP 350 - _43_ Li_htin_ Standards & Fixtures, Rated 1

Photo No.: 80

Location:
Span 10, underdeck lighting fixture at right side of Stringer S7 between Panel Points 2W-3W, looking ahead & left.

Description:
Broken/non-functional underdeck lighting fixture.

Reference:
TP 350 - [43] Lighting Standards & Fixtures, Rated 1

Photo No.: 81

Location:
Span 13, underdeck lighting fixture near left side between Panel Points 14E-11E, looking up & left.

Description:
Loose support bracket for underdeck lighting fixture due to (1 of 2) missing U-bolt nuts.

Reference:
TP 350 - _43_ Li_htin_ Standards & Fixtures, Rated 1

Photo No.: 82

Location:
Span 17, left sidewalk, looking ahead & right.

Description:
Missing lighting standard wi h exposed electrical wiring remaining at base.

Reference:
TP 350 - [43] Lighting Standards & Fixtures, Rated 1

Photo No.: 83

Location:
Span 20, left sidewalk, looking back.

Description:
Missing arm and light fixture at lighting standard.

Reference:
TP 350 - _43_ Li_htin_ Standards & Fixtures, Rated 1

ASST. TEAM LEADER: Michael DeStefano
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

Photo No.: 84

Location:
Span 22, overhead sign structure attached to end capbeam, looking up & left.

Description:
Missing (1 of 4) bolts at right arm connection of sign structure attached to the bottom flange of he Pier 20 capbeam.

Reference:
TP 350 - [44] Sign Structures, Rated 4

TEAM LEADER: Joel Bautista, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 85

Location:
Span 9, underside of deck near Stringer S5 looking ahead & left.

Description:
Broken electrical outlet with exposed electrical wiring.

Reference:
TP 350 - _45_ Utilities And Utilities Supports, Rated 1

Photo No.: 86

Location:
Span 10, underside of right sidewalk between Panel Points 2W-3W, looking up & back.

Description:
Deteriorated electrical junction box with exposed wiring.

Reference:
TP 350 - [45] Utilities And Utilities Supports, Rated 1

Photo No.: 87

Location:
Span 14, underside of left sidewalk between Panel Points 6E-5E, looking right.

Description:
Partially disconnected u ilitiy box support angle.

Reference:
TP 350 - _45_ Utilities And Utilities Supports, Rated 1

Photo No.: 88

Location:
Span 12, underside of right sidewalk between Panel Points 28W-29W, looking back & left.

Description:
Disconnected electrical conduit with exposed and hanging wires.

Reference:
TP 350 - [45] Utilities And Utilities Supports, Rated 1

Photo No.: 89

Location:
Span 11, maintainance catwalk within the right leg of the New Jersey Tower at Level 3, looking right.

Description:
Section loss and small corrosion hole in the catwalk support member.

Reference:
TP 350 - _45_ Utilities And Utilities Supports, Rated 1

Photo No.: 90

Location:
Span 12, left sidewalk between Panel Points 28W-29W, looking back.

Description:
Missing emergency blue light at he top of the post with exposed wiring.

Reference:
TP 350 - [45] Utilities And Utilities Supports, Rated 1

Photo No.: 91

Location:
Span 14, left main Cable D at Panel Point 8E, looking ahead and left.

Description:
(1 of 2) broken safety rope stanchions.

Reference:
TP 350 - _45_ Utilities And Utilities Supports, Rated 1

Photo No.: 92

Location:
Span 22, underside of deck at right side, looking right.

Description:
Disconnected electrical conduits with exposed wiring. Note missing section of scupper downspout.

Reference:
TP 350 - [23] Scuppers, Rated 2;
TP 350 - [45] Utilities And Utilities Supports, Rated 1

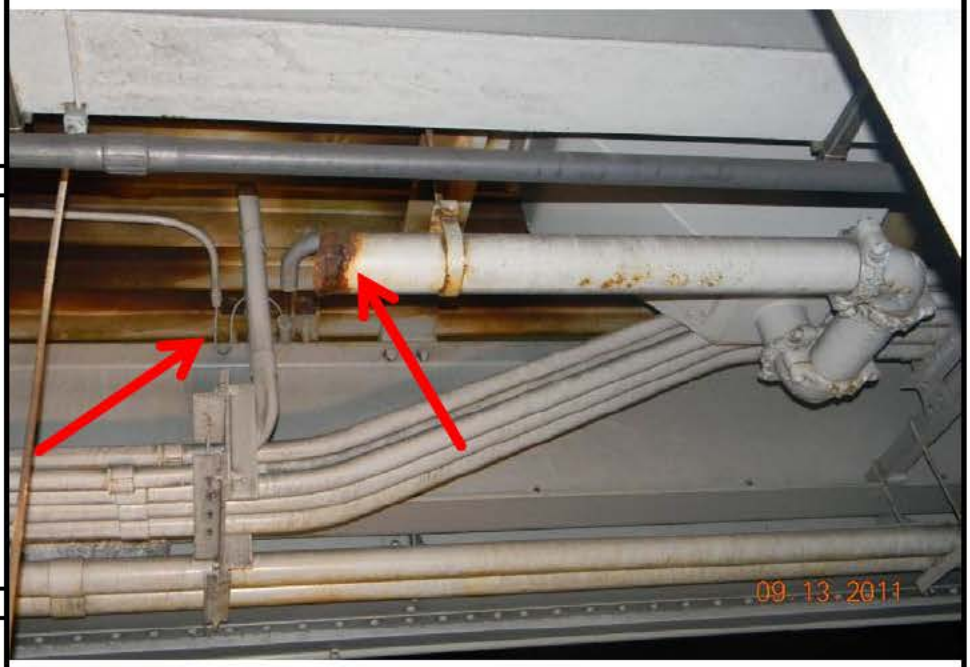


Photo No.: 93

Location:
Span 23, underside of deck near S12, looking ahead & right.

Description:
Missing cover at electrical junction box with exposed electrical wiring.

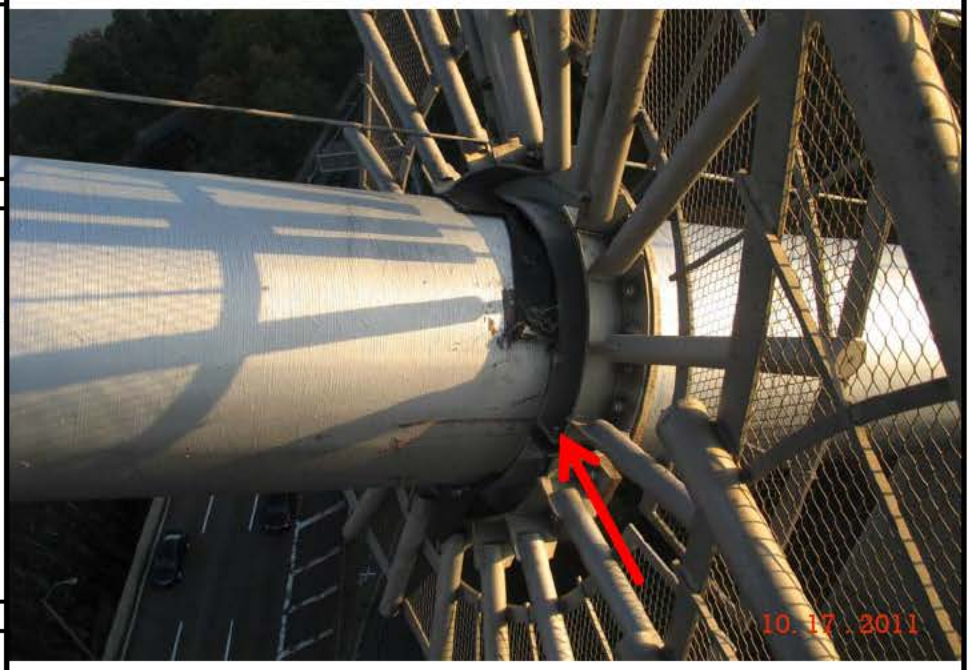
Reference:
TP 350 - _45_ Utilities And Utilities Supports, Rated 1

Photo No.: 94

Location:
Span 14, left main Cable D between Panel Points 2E-1E, looking ahead & left.

Description:
The fan-type security fence is slightly loose due to (4 of 4) loose nuts at the circumferential clamping angles (arrow) and has slipped approximatley 1' down the cable. The neoprene pad is exposed and is slightly torn.

Reference:
TP 350 - [45] Utilities And Utilities Supports, Rated 1



INVENTORY

BD234 (01/06)

NYSDOT

FIELD VERIFICATION FORM

YEAR 2011

BIN: 5522508

☐ Inventory problems exist

☑ No Changes

REC	CO.	REGULATED BRIDGE IDENT. NUMBER	OUT TO DOT WIDTH	CURB WIDTH	BEGINNING ABUTMENT ABUT	VAR	FTG	PILE	HT. (FT)	JOINT TYPE	SKEW	ENDING ABUTMENT ABUT	VAR	FTG	PILE	HT. (FT)	JOINT TYPE	SKEW	CONT CODE	REC CODE	TX CO
1	2	3 9	42 45	47 50	66	67	68	69	70	74	75	77	78	79	80	81	85	87	116	119	120
N	3	5 5 2 2 5 0 8	1 1 7.0	0 8 8.0	6	3	1	9	9	1	1	1	1							0 2	2

DATE	10/26/11
PREPARED BY	M. DeSTEFANO
REVIEWED BY	J. BAUTISTA, P.E.

GUIDERAIL TYPE	TRANS	TERM	ROLLING TYPE MED	RT	RT	CONT CODE	REC CODE	TX CO
13	15	17	22	24	26	116	119	120
1 4 9 7 0 1			0 2 0 2 0 2				0 3	2

F NO.	DI.	FEATURE ON BRIDGE DESCRIPTION OR RTE.	REFERENCE MARKER	MAX VERT CLEAR FT	IN	TOT. NO. LANES	TOTAL HORIZ CLEAR	VERT CLEAR FT	IN	CONT CODE	REC CODE	TX CO
16	17	18 21	22 25 34	67	69	84	104 106	108	110	116	119	120
1		9 5 1	9 5 1 0 4 0 1 1 0 0 7	1 7 0 5		0 8	4 4 0	3 7 0 5			1 2	2

F NO.	DI.	FEATURE UNDER BRIDGE (OVER IP STACK) DESCRIPTION OR RTE.	REFERENCE MARKER	NO LANES	MAX VERT CLEAR FT	IN	SUPER	HORIZ CLEAR TOTAL	LEFT	RIGHT	VERT CLEAR FT	IN	CONT CODE	REC CODE	TX CO
	17	18 21	22 25 34	67	69	71	76	85 87	88 90	91 93	94	96	116	119	120
2		9 A	9 A 0 4 0 2 1 1 0 8	0 3	9 9	9 N	S	0 0	0 0	0 0	9 9	9 9		1 3	2
3		D H U D S O N	R I V E R	0 0	0 0	0 2	0	0 0	0 0	9 9	0 0	0 0		1 3	2
4														1 3	2

SPAN NO.	SPAN TYPE MATERIAL	WORKING	COMPOSITE	STRUCTURAL	BASIC TYPE	STRUCTURAL DETAILS FRACT. CRIT	CAPACITY	REDUNDANCY	CONTINUITY	THERMAL RES.	FOOT. RES.	PIER TYPE	HEIGHT (IN FEET)	FOOT. TYPE	PILE TYPE	BEARINGS BEGIN PRIMARY	BEGIN TYPE	END PRIMARY	END TYPE	STRUCTURAL DECK TYPE	WEARING SURFACE ORIGINAL	FRICS. ORIG. SCORE	TYPE	CONTRACTOR CODE	RECORD CODE	TX CODE
10 12	13	14	16	16	17 18	19	20	21	22	23	24	29	31 33	34	35	40	44	48	49	51	54	56	57	116	119	120
0 0 1	1	1	1	E	3 7	1	3	3	A	3	8	0	7 3 9 3 3 1	3	0	3 3 0 3		0 7			2 4 3 2 4				1 5	2
0 0 2	1	1	1	E	3 7	1	3	3	A	3	8	0	7 3 9 3 3 1	3	0	3 3 0 3		0 7			2 4 3 2 4				1 5	2
0 0 3	1	1	1	E	3 7	1	3	3	A	3	8	0	0 1 3 0 3 1	3	0	3 3 0 3		0 7			2 4 3 2 4				1 5	2
0 0 4	1	1	1	1	0 9	1	3	3	A	2	8	0	0 1 3 0 3 1	3	0	5 2 5 1		0 7			2 4 3 2 4				1 5	2
0 0 5																									1 5	2

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	8

DATE 10/26/11

PREPARED BY Joel Bautista, P.E.

SPAN NO.			Wa king	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/ Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	R	I	X	X	X				X	X	X			X			X		X			9	9	1	7	2
0	0	1	X	X															X			9	9	1	7	2
0	0	2	X	X	X														X			9	9	1	7	2
0	0	3	X	X	X														X			9	9	1	7	2
0	0	4	X	X	X														X			9	9	1	7	2
0	0	5	X	X															X			9	9	1	7	2
0	0	6	X	X															X			9	9	1	7	2
0	0	7	X	X															X			9	9	1	7	2
0	0	8	X	X															X			9	9	1	7	2
0	0	9	X	X															X			9	9	1	7	2
0	1	0	X	X	X				X	X							X		X			9	9	1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	8

DATE 10/26/11

PREPARED BY Joel Bautista, P.E.

SPAN NO.			Wa king	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	R	I																				9	9	1	7	2
0	1	1	X		X				X					X					X			9	9	1	7	2
0	1	2	X	X	X				X	X							X		X			9	9	1	7	2
0	1	3	X		X				X										X			9	9	1	7	2
0	1	4	X	X	X				X	X							X		X			9	9	1	7	2
0	1	5	X	X					X	X	X								X			9	9	1	7	2
0	1	6	X	X					X	X	X								X			9	9	1	7	2
0	1	7	X	X					X	X	X								X			9	9	1	7	2
0	1	8	X	X					X	X	X								X			9	9	1	7	2
0	1	9	X						X	X	X								X			9	9	1	7	2
0	2	0	X		X				X	X	X								X			9	9	1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	8

DATE 10/26/11

PREPARED BY Joel Bautista, P.E.

SPAN NO.			Walking	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	R	I																				9	9	1	7	2
0	2	1	X						X	X	X								X			9	9	1	7	2
0	2	2	X						X	X	X								X			9	9	1	7	2
0	2	3	X						X	X	X								X			9	9	1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

BD 240a (1/93)

Sheet 1 of 1

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

BRIDGE INVENTORY AND INSPECTION SYSTEM

Under Bridge Debris and Land Use Inventory Coding Form

DATE 10/26/11

PREPARED BY Joel Bautista, P.E.

REQUIRED													CATEGORY								REQUIRED				
Reg.	Co.	BIN							Span			Priority	1		2		3		4		Contractor Code		Record Code		TX Code
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
N	**3**	**5**	**5**	**2**	**2**	**5**	**0**	**8**	0	0	8	L	2	4							9	9	1	8	2
									0	0	9	L	2	4							9	9	1	8	2
									0	1	8	L	2	4							9	9	1	8	2

Debris and Stored Material Codes

01- Containers, Marked
02- Containers, Unmarked
03- Non-Containerized
04- Wood, Dwellings
05- Wood, Heavy
06- Wood, Light
07- Metal
08- Rubber, Plastic, Synthetics
09- Asbestos Supposition
10- General Trash

Land Use Category Codes

20 - Buildings, Ind./Com. Fuel Storage
21 - Buildings, Ind./Com. Non-Fuel Storage
22 - Buildings, Others
23 - Buildings, Parking Facilities
24 - Buildings, Electrical Facilities
25 - Attachments/ Support

Priority Codes

H - High Priority (Photos Required)
M - Medium Priority
L - Low Priority
N - No Debris/ Land Use

TX Codes

2 = Updating an Existing Record
3 = Creating a New Record

INSTRUCTIONS

1. For each BIN enter only the span or spans affected by debris, stored material and/or land use. Region, County, and BIN only has to be entered once for a bridge with multiple span entries, with each span recorded below the previous span entered.

2. All unused category columns are to be left blank.

3. Code the most critical priority rating for each span affected.

4. More than one BIN can be entered on a sheet.

5. When removing a previous condition for debris, code the Priority Code = “N.”

BD 241 (7/93)

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

BRIDGE INSPECTION OVERHEAD ELECTRICITY SURVEY

DATE	MO		DAY		YEAR	
	1	0	2	6	1	1
	10	11	12	13	14	15

PRESENCE OF OVERHEAD ELECTRIC LINES OR OTHER ENERGIZED ELECTRICAL SYSTEMS **A** (16) (Indicate Classification)

REG	CO	BIN						
N	3	5	5	2	2	5	0	8
1	2	3	4	5	6	7	8	9

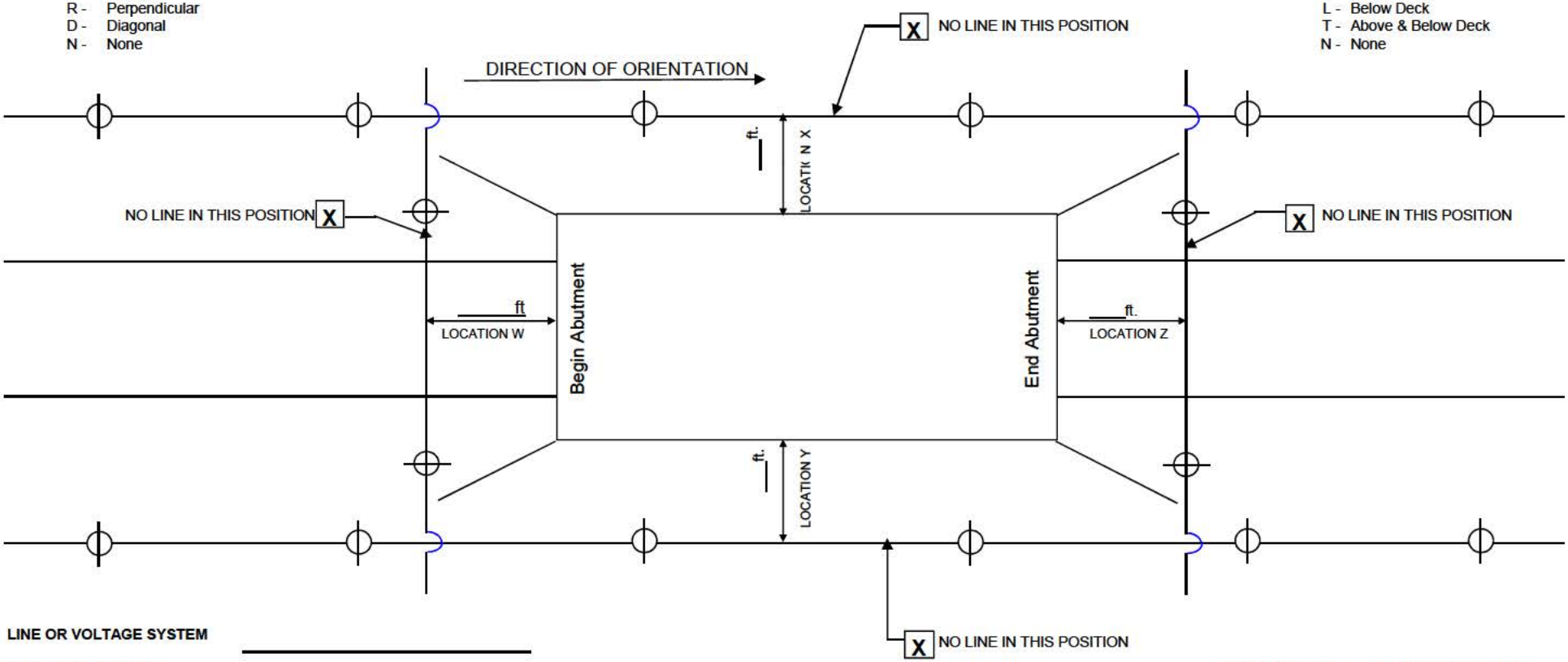
A CLASSIFICATION (CAUTION) - No Overhead Electrical System Present
B CLASSIFICATION (WARNING) - Overhead Electrical System Present - Normal Inspection Possible
C CLASSIFICATION (DANGER) - Overhead Electrical System Present - Normal Inspection Not Possible

SYSTEM ALIGNMENT		
N	N	N
17	18	19

W					X					Y					Z				
HORIZ. OFFSET		VERT. OFFSET		ABV or BLW DECK	HORIZ. OFFSET		VERT. OFFSET		ABV or BLW DECK	HORIZ. OFFSET		VERT. OFFSET		ABV or BLW DECK	HORIZ. OFFSET		VERT. OFFSET		ABV or BLW DECK
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39

P - Parallel
R - Perpendicular
D - Diagonal
N - None

U - Above Deck
L - Below Deck
T - Above & Below Deck
N - None



LINE OR VOLTAGE SYSTEM _____

ELECTRICAL UTILITY _____

INSPECTED BY: **Joel Bautista, P.E.**

DETAILS OR SITUATIONS REQUIRING SPECIAL EMPHASIS DURING INSPECTION

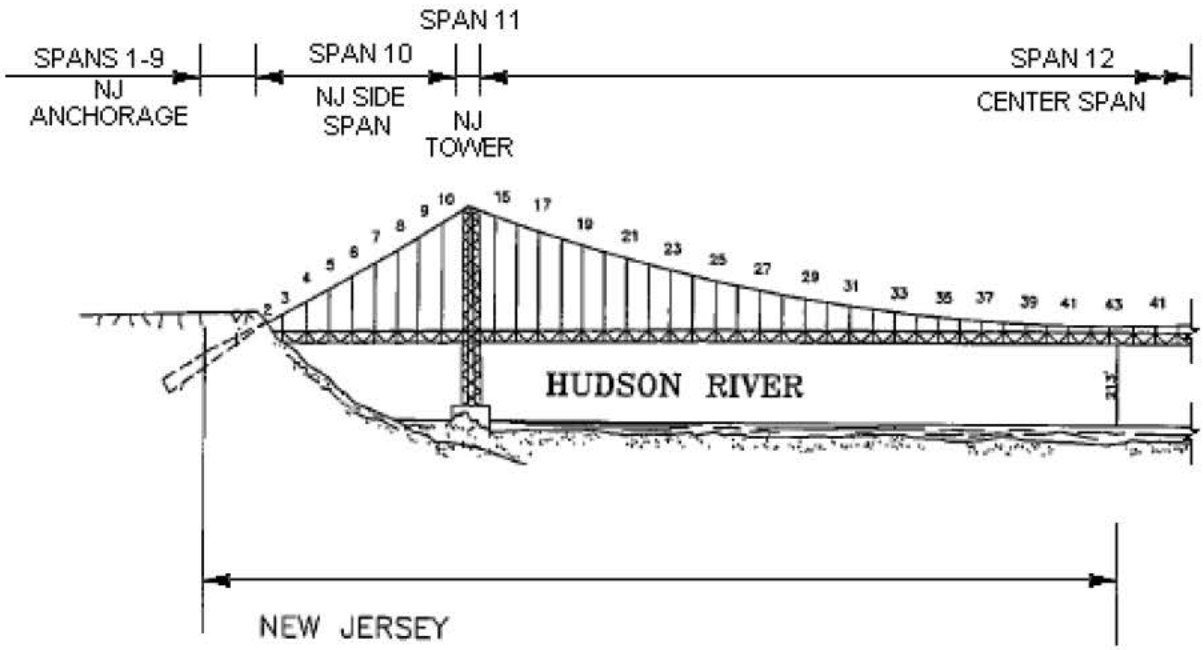
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION (LOOKING NORTH)

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT, FRACTURE CRITICAL CAP BEAMS AND FATIGUE DETAILS IN THE NEW JERSEY ANCHORAGE, SPANS 1 THROUGH 9, SEE DETAIL SHEET 5 OF 17.

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT AND FRACTURE CRITICAL MEMBERS INCLUDING MAIN CABLES, END CONNECTIONS OF SUSPENDER ROPES, UPPER TRUSS MEMBERS AND UPPER PORTION OF TRUSS DIAGONALS AND FLOORBEAMS SPACED AT 60'-0" C/C, SPANS 10 THROUGH 14.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE MAIN FLOORBEAMS AND STRINGERS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION. (SEE SHEET 3 OF 17)

PE #085931
10/26/11

BD 186

BIN 5522508

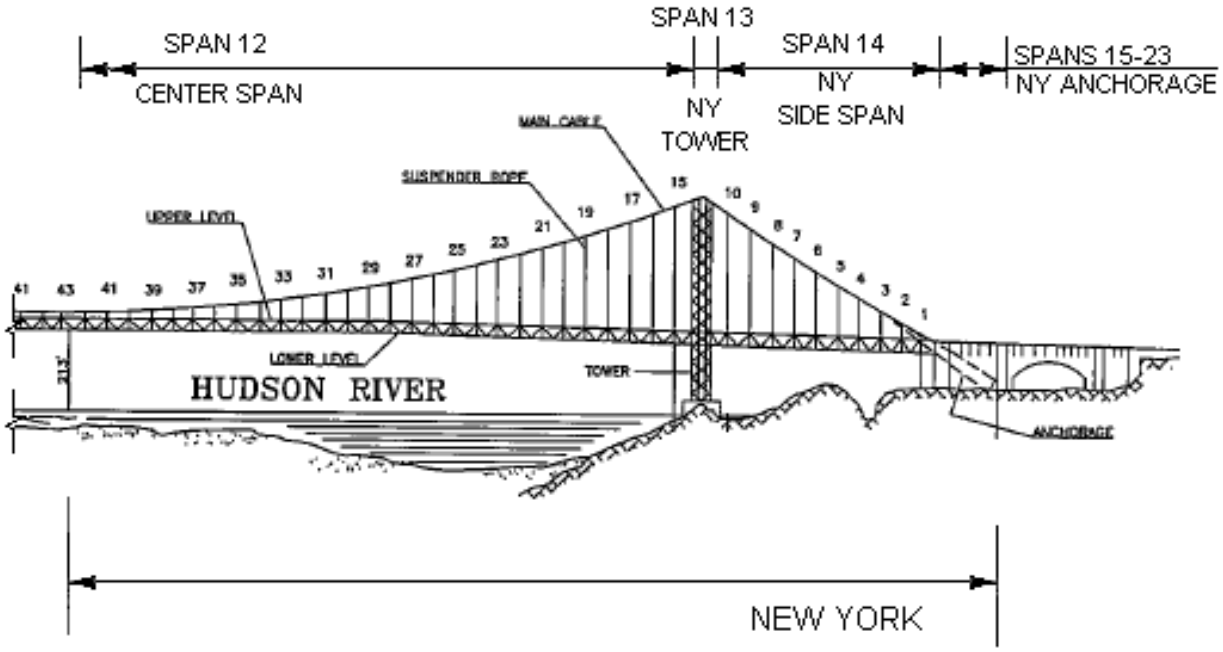
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 2 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION (LOOKING NORTH)

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT AND FRACTURE CRITICAL MEMBERS INCLUDING MAIN CABLES, END CONNECTIONS OF SUSPENDER ROPES, UPPER TRUSS MEMBERS AND UPPER PORTION OF TRUSS DIAGONALS AND FLOORBEAMS SPACED AT 60'-0" C/C, SPANS 10 THROUGH 14.

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT, FRACTURE CRITICAL CAP BEAMS AND FATIGUE DETAILS IN THE NEW YORK ANCHORAGE, SPANS 15 THROUGH 23. SEE FRAMING PLAN AND DETAILS ON SHEET 4 OF 17.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE MAIN FLOORBEAMS AND STRINGERS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION. (SEE SHEET 3 OF 17)

PE #085931
10/26/11

BD 186

BIN 5522508

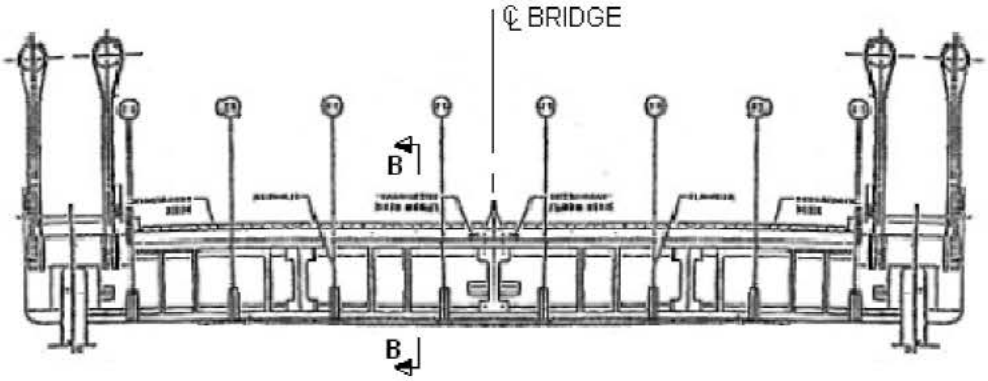
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 3 **OF** 17

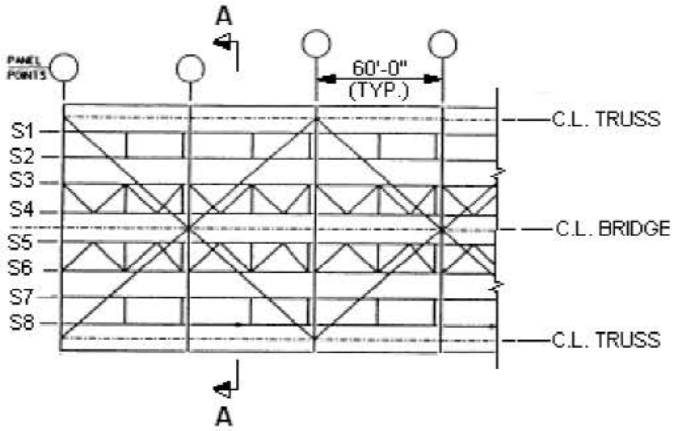
TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

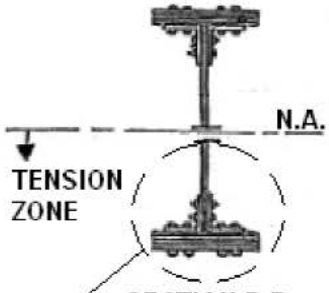
Feature Crossed: ROUTE 9A AND HUDSON RIVER



SECTION A-A
TYPICAL UPPER LEVEL FLOORBEAM
(LOOKING WEST)



UPPER LEVEL BRIDGE FRAMING PLAN



SECTION B-B

CATEGORY "D"

RIVETED CONNECTION OF FLOORBEAMS AND STRINGERS IN TENSION ZONE

100% CLOSE-UP, HANDS-ON INSPECTION WAS PERFORMED ON ALL FLOORBEAMS SPACED 60'-0" C/C IN SPANS 10 THROUGH 14.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE MAIN FLOORBEAMS AND STRINGERS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION.

PE #085931
10/26/11

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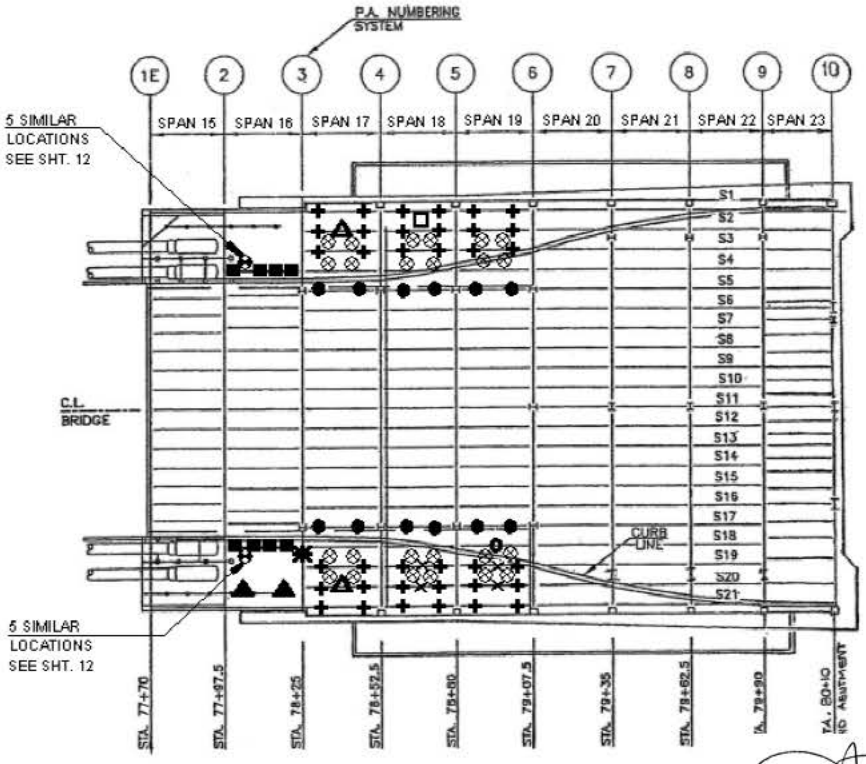
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



LOCATIONS OF SPECIAL EMPHASIS

UPPER LEVEL - NEW YORK ANCHORAGE FRAMING PLAN

PE #085931
10/26/11

LEGEND

- ○ BRACING IS FIELD WELDED TO GIRDER BOTTOM FLANGE, SPAN 19. SEE DETAIL SHT. 7 OF 17 (I LOCATION)
- ● STEEL ANGLE IS FIELD WELDED LONGITUDINALLY AND TRANSVERSELY TO GIRDER BOTTOM FLANGE, SPANS 17, 18 AND 19. SEE DETAIL SHT. 6 OF 17.
- × STEEL PLATE IS FIELD WELDED VERTICALLY TO WEB OF GIRDER, SPANS 18 AND 19. SEE DETAIL SHT. 9 OF 17.
- ✚ STEEL ANGLE SITTING ON TOP OF BOTTOM FLANGE OF GIRDERS ACTING AS SUPPORT FOR PIPE HANGER IS FIELD WELDED TO THE GIRDER BOTTOM FLANGES, SPANS 17, 18 AND 19. SEE DETAIL SHT. 9 OF 17.
- ✱ STEEL ANGLE SUPPORTING HIGH VOLTAGE CONDUITS IS FIELD WELDED TO FLOORBEAM BOTTOM FLANGE, SPAN 16. SEE DETAIL SHT. 17 OF 17.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE CAPBEAMS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION. (SEE SHEET 5 OF 17)

- △ FLAME CUT "T" SECTION FIELD WELDED TO GIRDER BOTTOM FLANGE, SPAN 17. SEE DETAIL SHT. 10 OF 17.
- ▲ STEEL CHANNEL IS FIELD WELDED TO GIRDER BOTTOM FLANGE, SPAN 16. SEE DETAIL SHT. 11 OF 17.
- ⊖ STEEL ANGLE SUPPORTING SIDEWALL IS FIELD WELDED TO BOTTOM FLANGE, SPAN 16. SEE DETAIL SHT. 12 OF 17.
- ⊗ STEEL ANGLE IS FIELD WELDED TO WEB OF GIRDER, SPANS 17, 18 AND 19. SEE DETAIL SHT. 8 OF 17.
- ■ STEEL "T" BEAM IS FIELD WELDED TO BOTTOM OF TOP FLANGE AND TOP OF BOTTOM FLANGE AND ALSO TO WEB OF ADJACENT GIRDER, SPAN 16. SEE DETAIL SHT. 13 OF 17.
- □ STEEL DIAPHRAGMS ARE FIELD WELDED TO WEB AND BOTTOM OF TOP FLANGE AND TOP OF BOTTOM FLANGE, SPAN 18. SEE DETAIL SHT. 14 OF 17.

BD 186

BIN 5522508

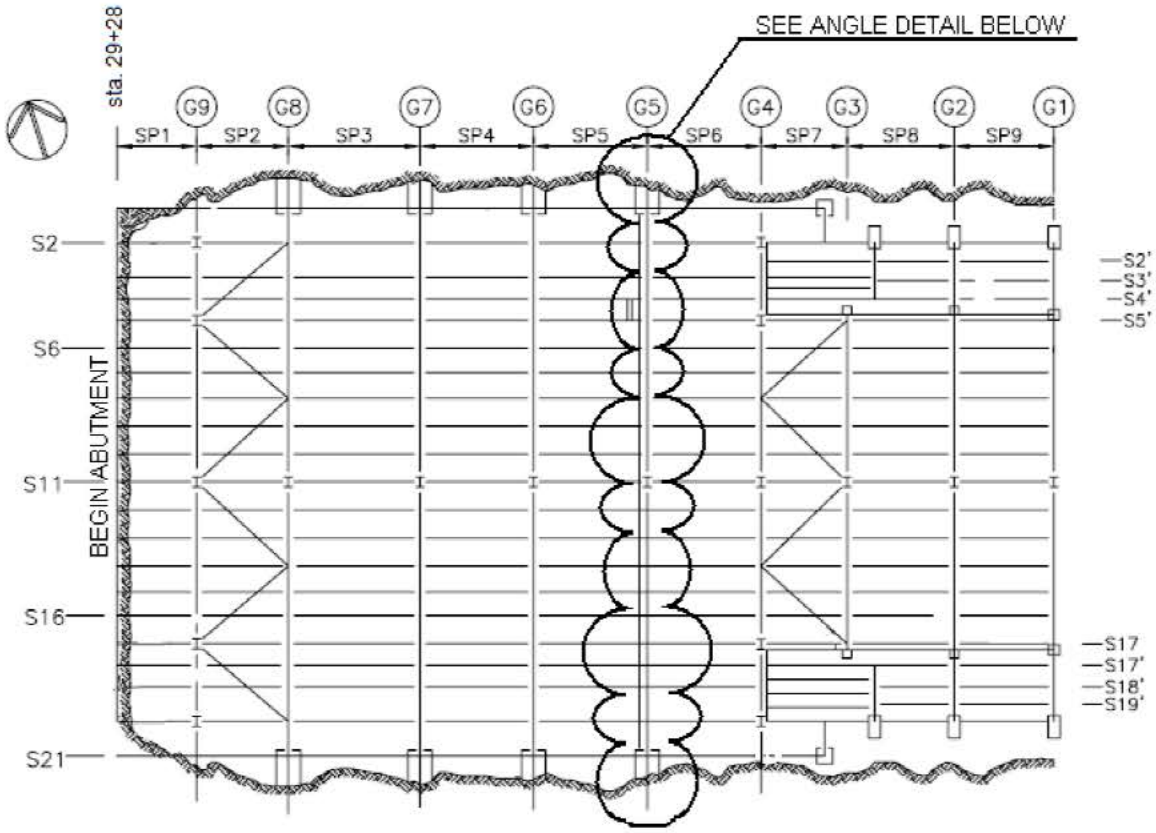
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 5 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

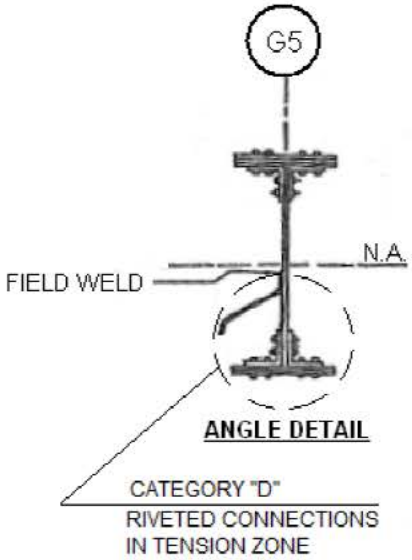
Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



FRAMING PLAN
NEW JERSEY ANCHORAGE

PE #085931
10/26/11



ANGLE DETAIL

DEFLECTIVE STEEL PLATE UNDER DECK JOINT IS FIELD WELDED TO THE WEB OF THE FLOORBEAM IN THE TENSION ZONE.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON CATEGORY "E" WELD.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE CAPBEAMS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION.

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BIN 5522508

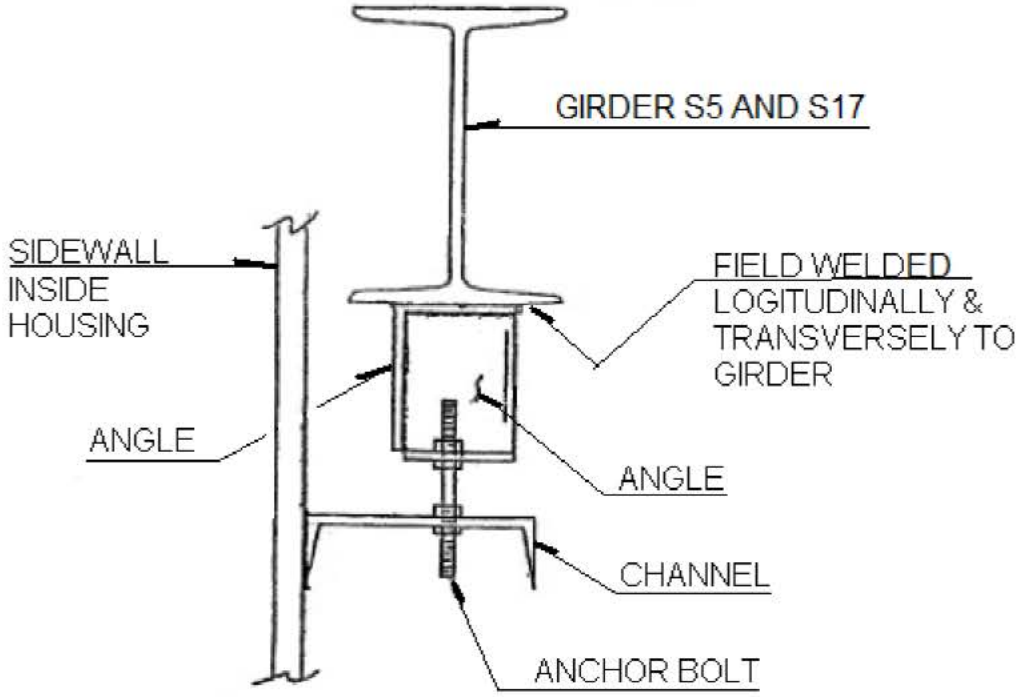
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 6 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



ANGLE DETAIL - SPANS 17, 18 AND 19

(LEGEND ●)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL ANGLE DETAILS CATEGORY "D" WELD.

PE #085931
10/26/11

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BIN 5522508

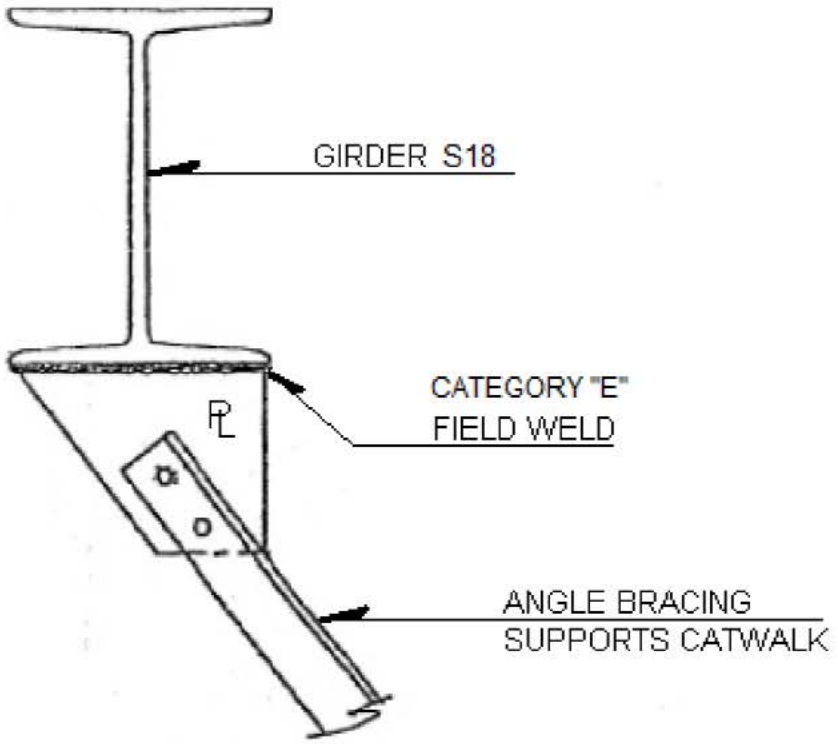
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 7 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



BRACING DETAIL - SPAN 19

(LEGEND ●)

NOTES:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON CATEGORY "E" BRACING FIELD WELDED CONNECTION.

PE #085931
10/26/11

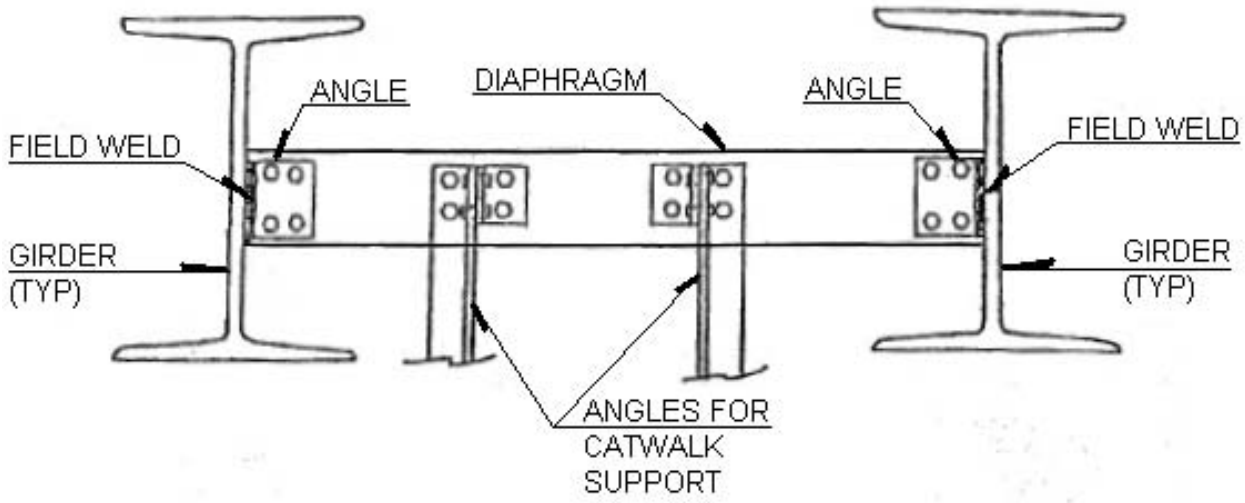
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 8 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



DIAPHRAGM ANGLE DETAIL
SPANS 17, 18 & 19 AT GIRDERS S3, S4, S19 & S20

(LEGEND ⊗)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON INSPECTION WAS PERFORMED ON ALL DIAPHRAGMS FOR CATWALK SUPPORT FIELD WELD CATEGORY "D".

PE #085931
10/26/11

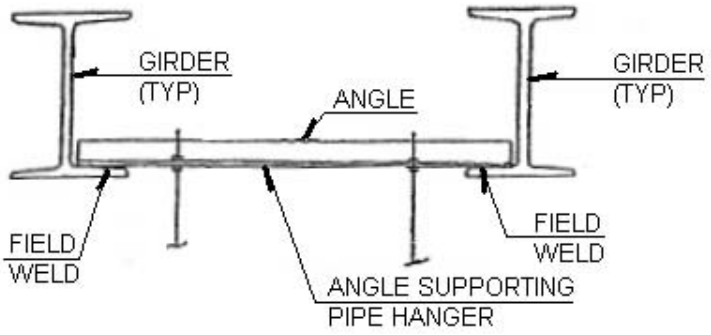
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 9 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

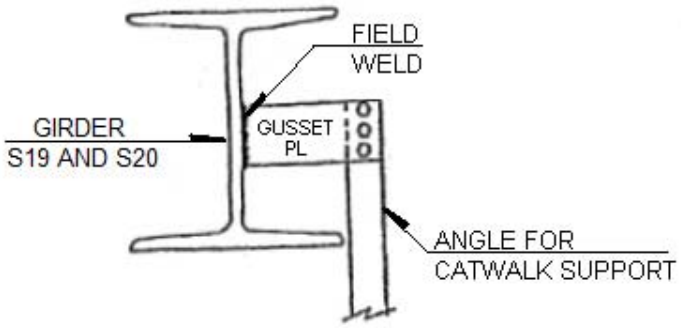


NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL PIPE HANGER ANGLE DETAILS, CATEGORY "C" FIELD WELD.

PIPE HANGER ANGLE DETAIL
SPANS 17, 18 & 19 - GIRDERS S1, S2, S3, S19, S20 & S21
(LEGEND ✚)



NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL CATWALK FIELD WELDED CATEGORY "C" CONNECTIONS.

TRANSVERSE WEB GUSSET PLATE DETAIL
SPANS 18 & 19
(LEGEND ✕)

PE #085931
10/26/11

BD 186

BIN 5522508

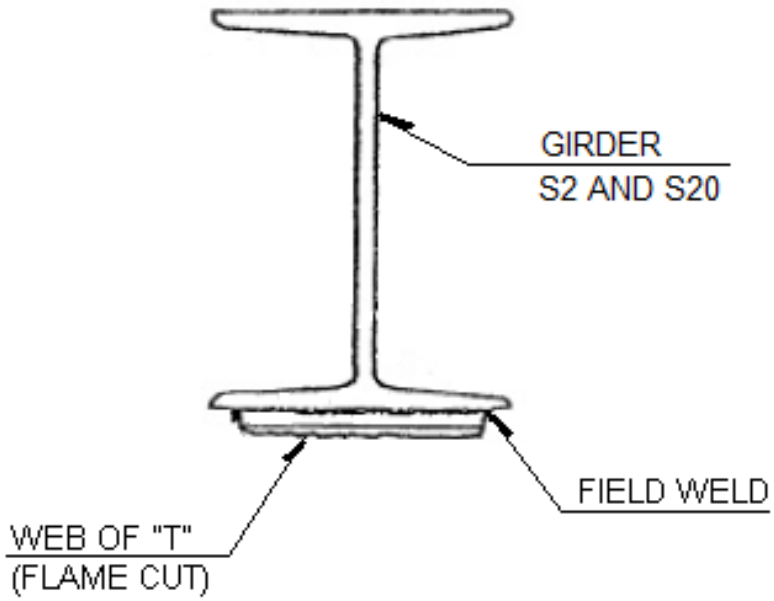
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 10 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



FLAMED CUT "T" DETAIL - SPAN 17

(LEGEND ▲)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON CATEGORY "E" COVER PLATE WELDS.

PE #085931
10/26/11

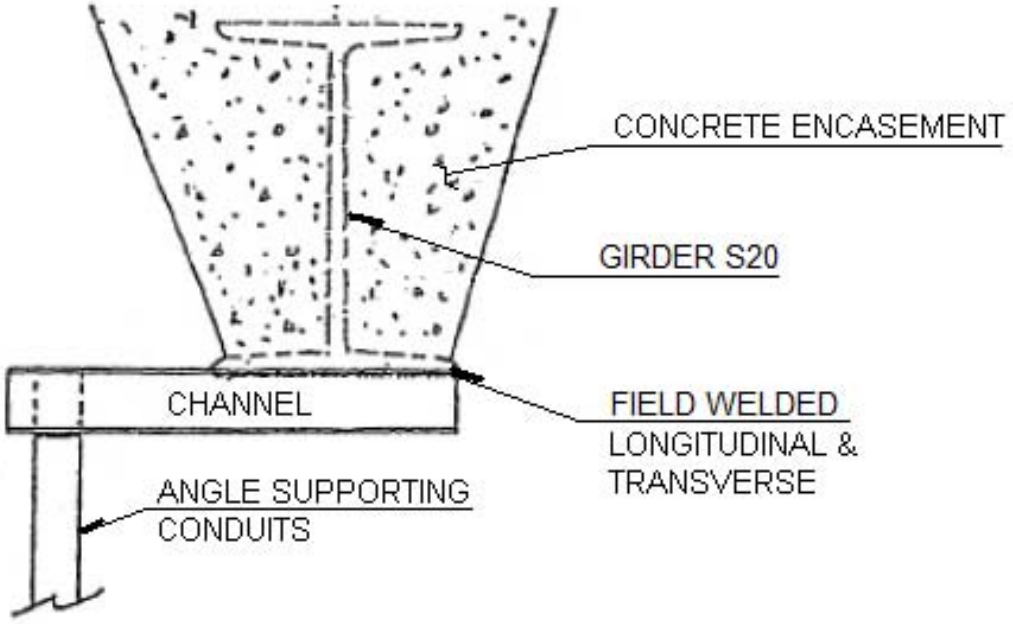
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



CHANNEL DETAIL - SPAN 16

(LEGEND ▲)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL CHANNEL DETAILS CATEGORY "D" WELD.

PE #085931
10/26/11

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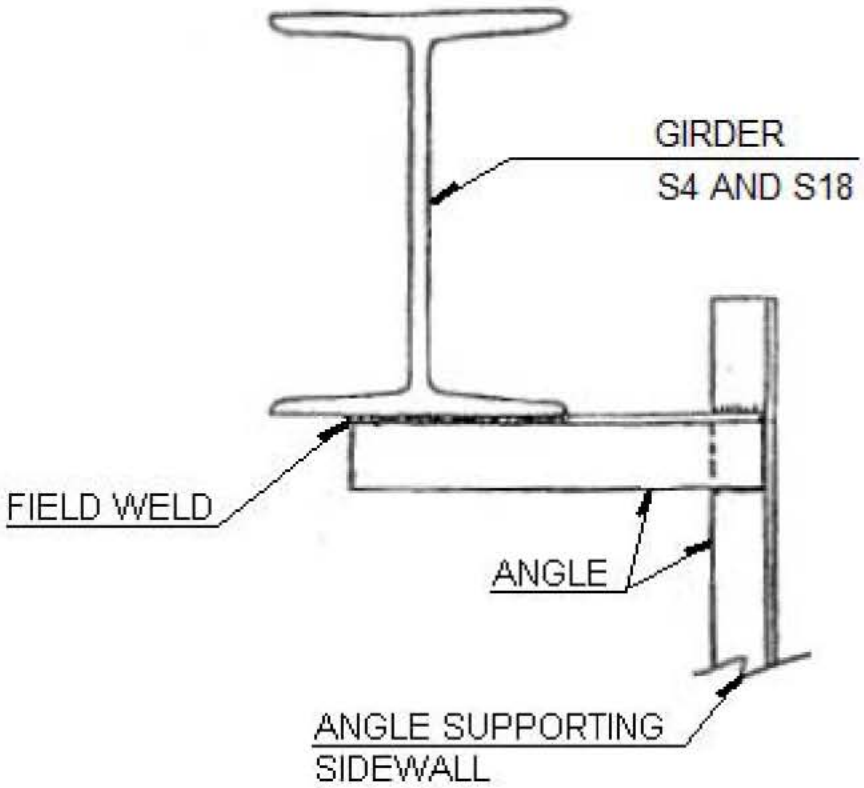
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 12 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



SIDEWALL ANGLE DETAIL - SPAN 16

(LEGEND ❽)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL SIDEWALL ANGLE DETAILS CATEGORY "D" FIELD WELDED TO GIRDER BOTTOM FLANGE.

PE #085931
10/26/11

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BIN 5522508

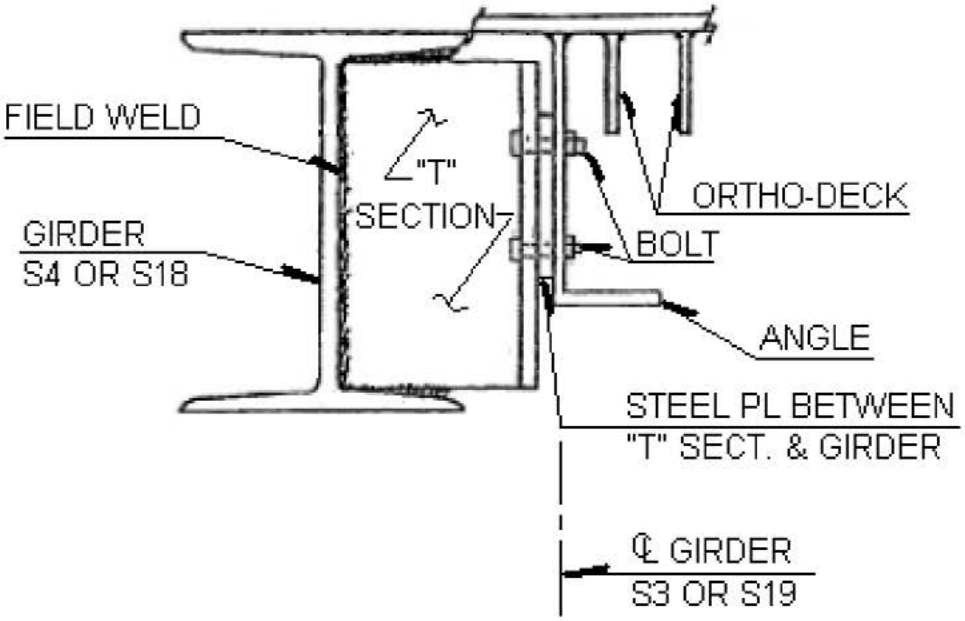
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 13 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



"T" SECTION DETAIL - SPAN 16

(LEGEND ■)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL "T" BEAM TO GIRDER CATEGORY "C" FIELD WELDED CONNECTIONS.

PE #085931
10/26/11

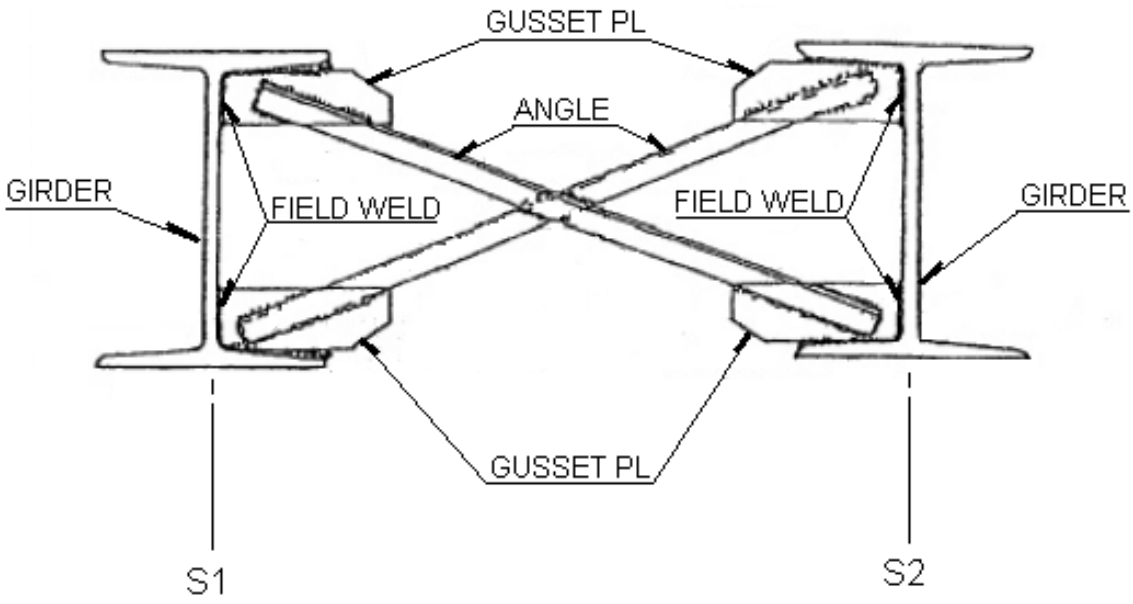
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 14 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



CROSS ANGLE DIAPHRAGMS DETAIL - SPAN 18

(LEGEND ◻)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL CROSS ANGLE DIAPHRAGMS DETAILS, CATEGORY "C" FIELD WELDED CONNECTIONS.

PE #085931
10/26/11

BD 186

BIN 5522508

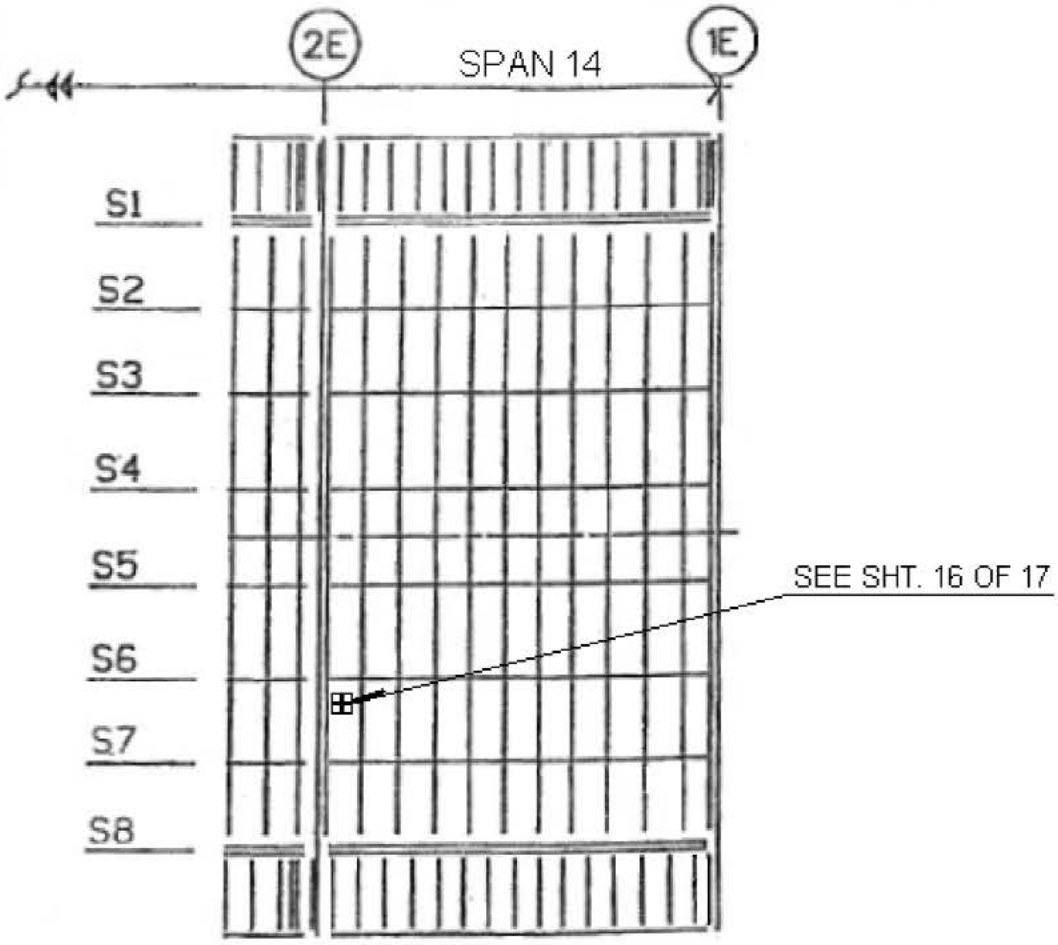
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 15 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



NOTE:

SEE SHT. 16 OF 17 FOR DETAIL.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON TACK WELDED STEEL PLATE AT BOTTOM FLANGE OF 1ST SECONDARY FLOORBEAM EAST OF PP2E BETWEEN S6-S7.

PE #085931
10/26/11

BD 186

BIN 5522508

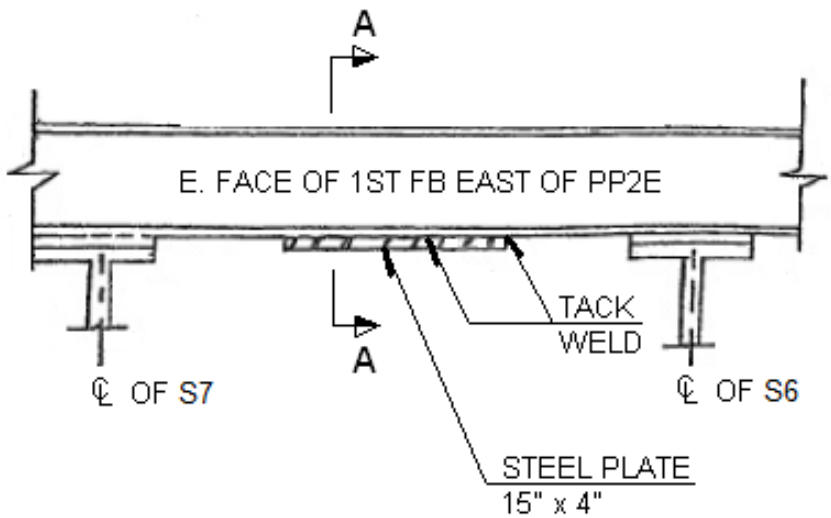
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

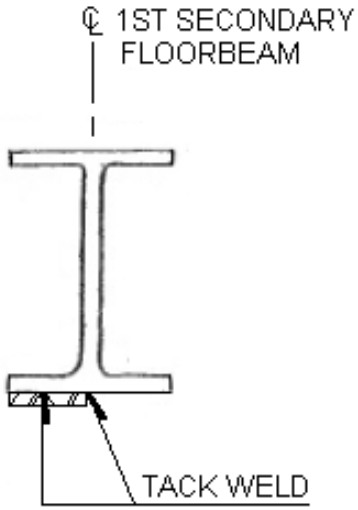
SHEET 16 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER





SECTION A-A
(LOOKING NORTH)

NOTE:

SEE SHT. 15 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON THE TACK WELDED STEEL PLATE CATEGORY "D" AT THE BOTTOM FLANGE OF 1ST SECONDARY FLOORBEAM EAST OF PP2E BETWEEN S6-S7, SPAN 14 (LEGEND ⊞).

PE #085931
10/26/11

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BIN 5522508

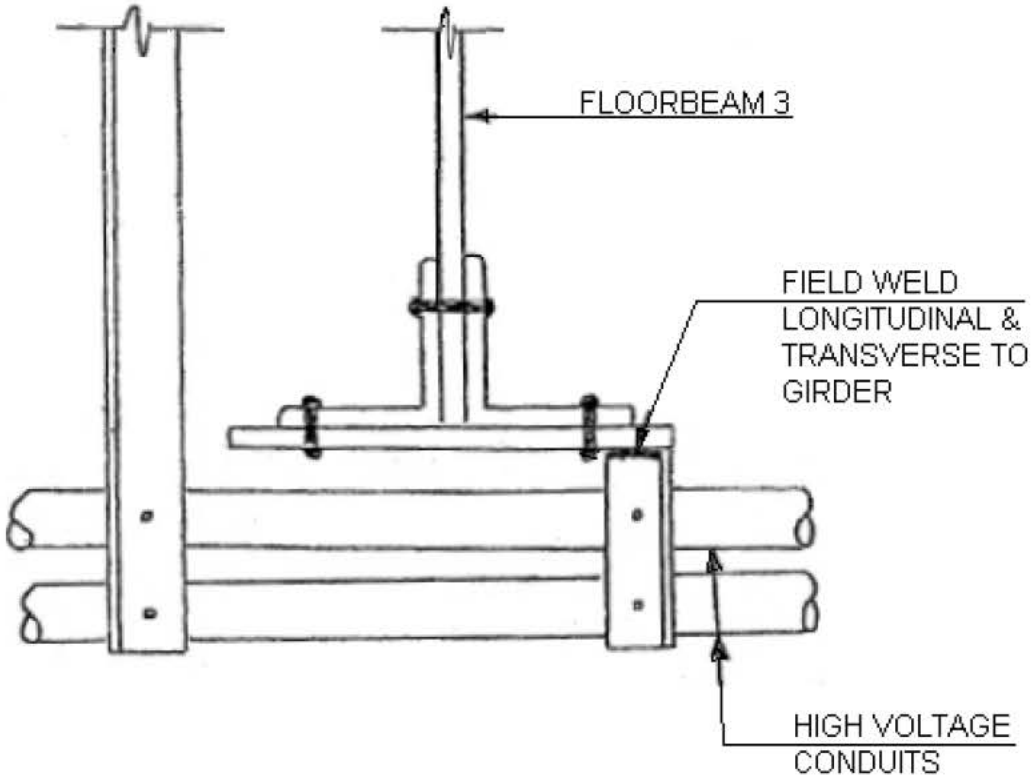
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 17 **OF** 17

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



CONDUIT SUPPORT DETAIL - SPAN 16

(LEGEND ✱)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON THE HIGH VOLTAGE CONDUIT SUPPORT FIELD WELD CATEGORY "D" DETAIL.

PE #085931
10/26/11

SKETCHES
IN LIEU
OF PLANS

BD 186 (4/95)

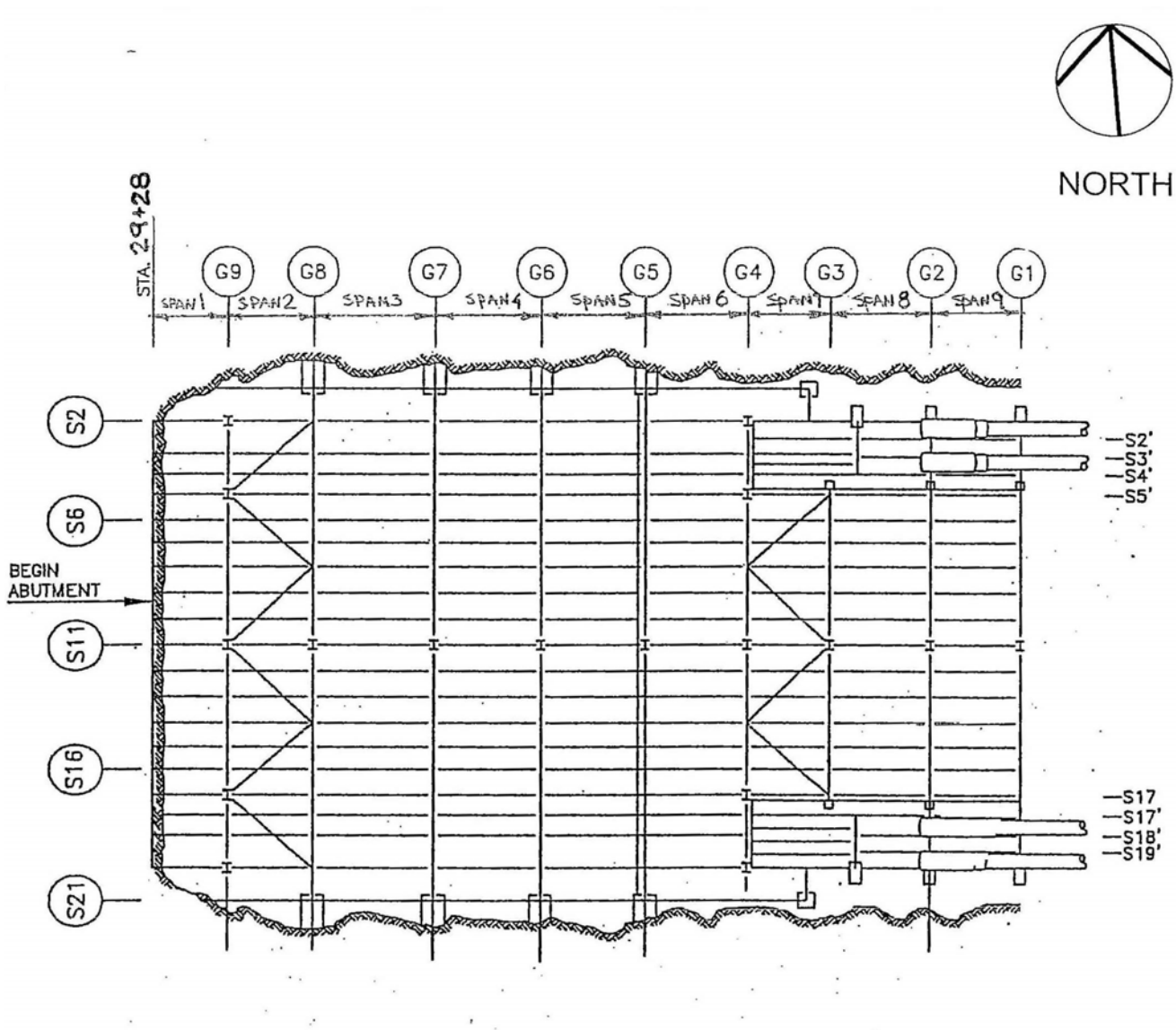
BIN 5522508

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 **OF** 5

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



UPPER LEVEL
NEW JERSEY ANCHORAGE FRAMING PLAN

BD 186 (4/95)

BIN 5522508

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 **OF** 5

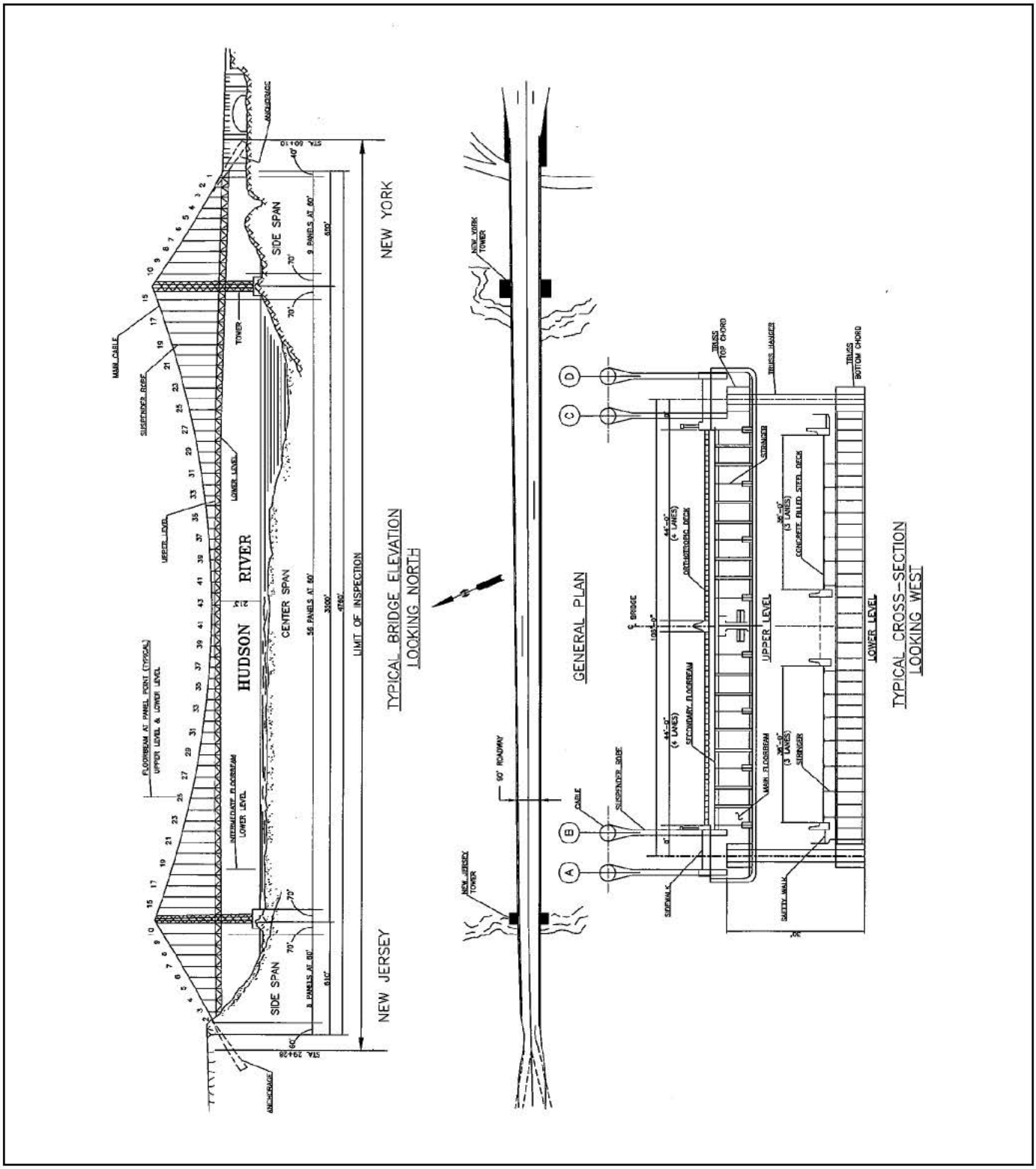
TEAM LEADER: Joel Bautista, P.E.

ASST. TEAM LEADER: Michael DeStefano

DATE: 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



BD 186 (4/95)

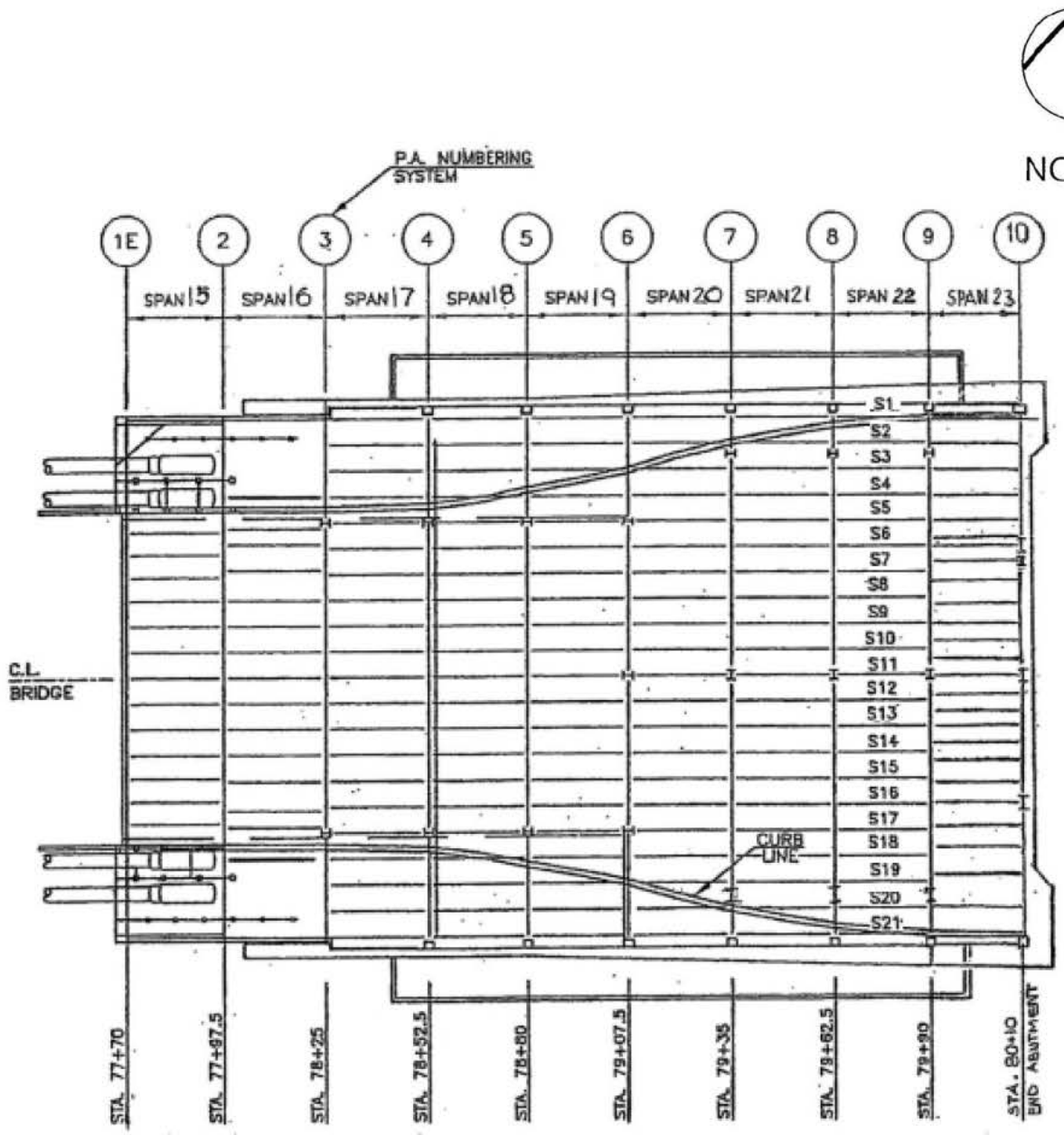
BIN 5522508

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 **OF** 5

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



UPPER LEVEL
NEW YORK ANCHORAGE FRAMING PLAN

BD 186 (4/95)

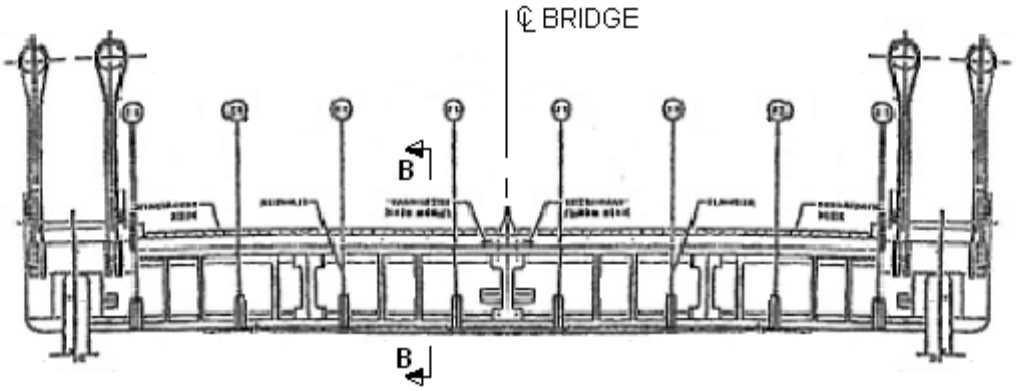
BIN 5522508

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 **OF** 5

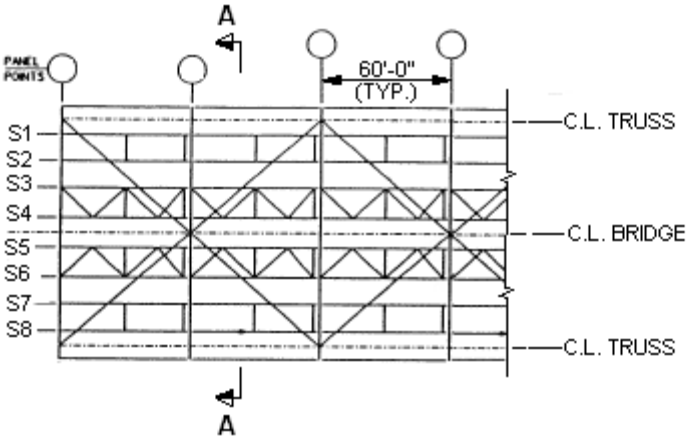
TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

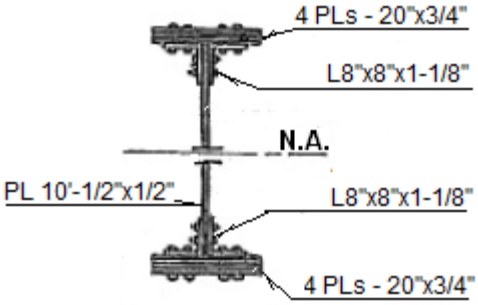
Feature Crossed: ROUTE 9A AND HUDSON RIVER



SECTION A-A
TYPICAL UPPER LEVEL FLOORBEAM
(LOOKING WEST)



UPPER LEVEL BRIDGE FRAMING PLAN



SECTION B-B

TYPICAL FROM PANEL POINTS 2W TO 1E

BD 186 (4/95)

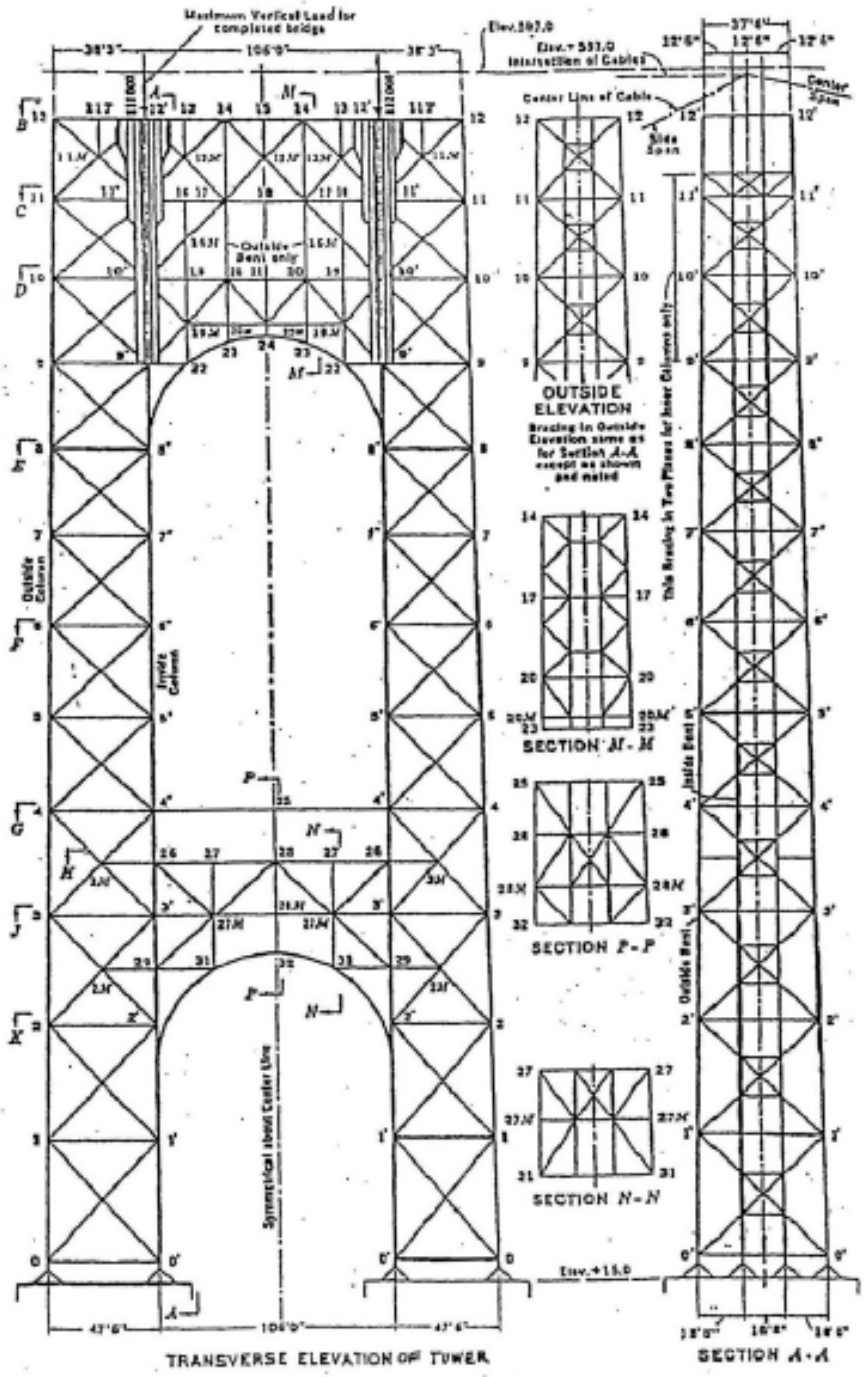
BIN 5522508

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 **OF** 5

TEAM LEADER: Joel Bautista, P.E. **ASST. TEAM LEADER:** Michael DeStefano **DATE:** 10/26/11

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



B.I.N. : **5522508**

Region **11** COUNTY: **NEW YORK**

Feature Carried : **I-95 (GWB UPPER LEVEL)**

Feature Crossed: **ROUTE 9A AND HUDSON RIVER**

General Recommendation: **5**

The bridge has details that should receive special emphasis during each inspection. See the last section of this binder for location of details.

2013 INSPECTION

CAUTION

NO KNOWN
HIGH VOLTAGE
OVERHEAD

REVIEWED BY :

GAREN APANOSIAN, P.E. # 077794

TITLE : QUALITY CONTROL ENGINEER
FOR STANTEC CONSULTING

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 OF 6

BIN 5522508

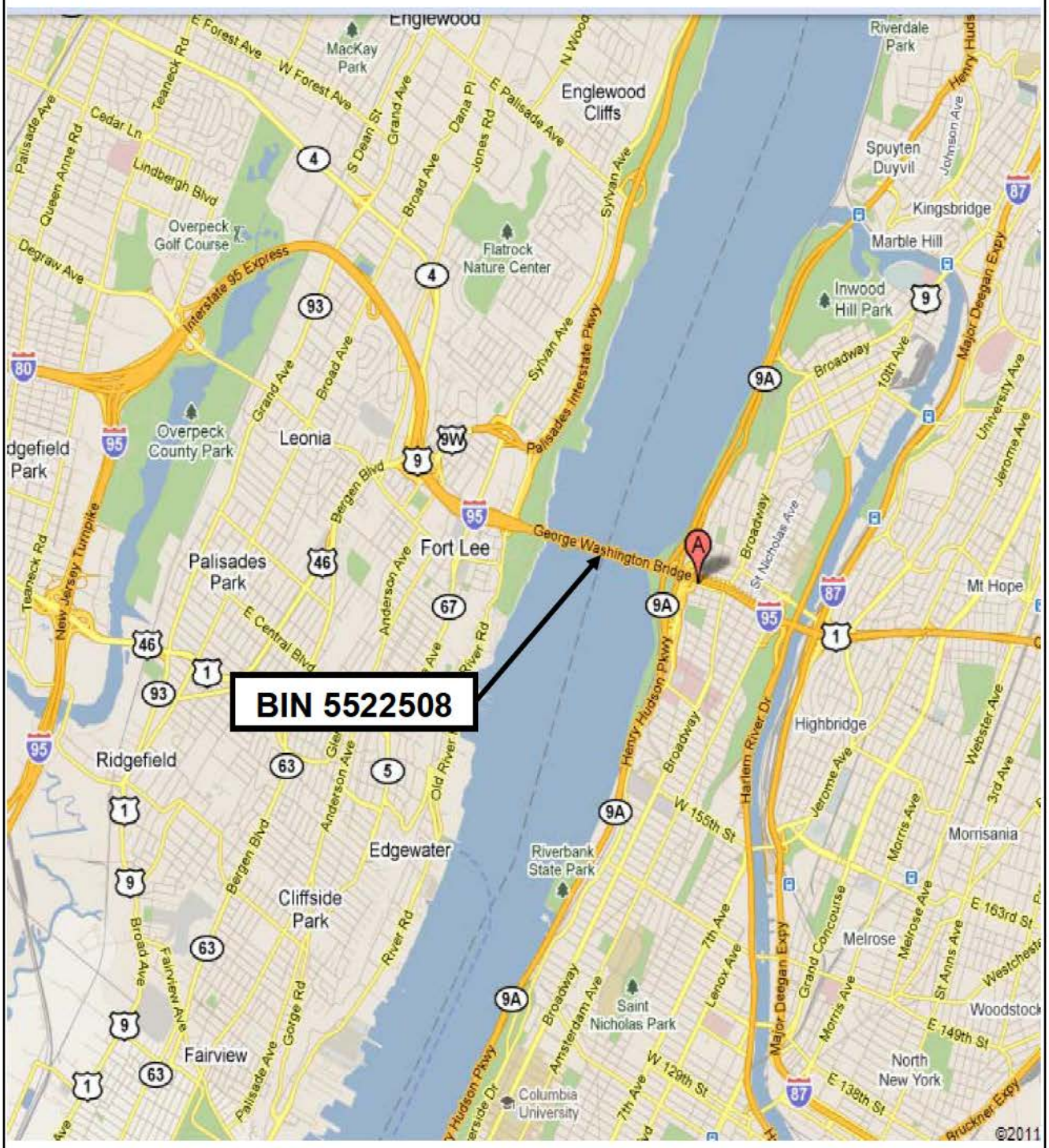
TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

NORTH

LOCATION MAP



BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

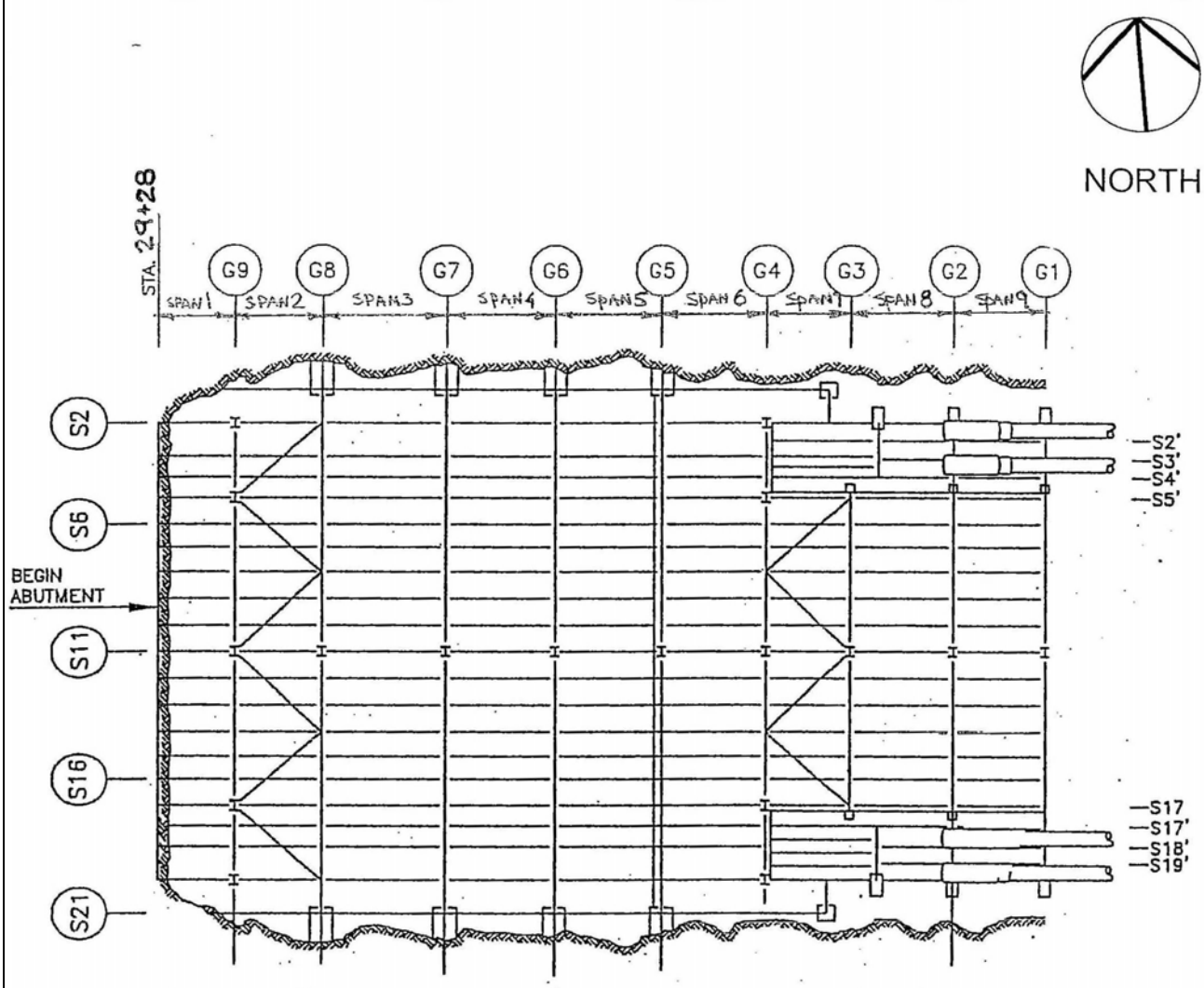
BIN 5522508

SHEET 2 OF 6

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



UPPER LEVEL

NEW JERSEY ANCHORAGE FRAMING PLAN

BD 188 (1/96)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

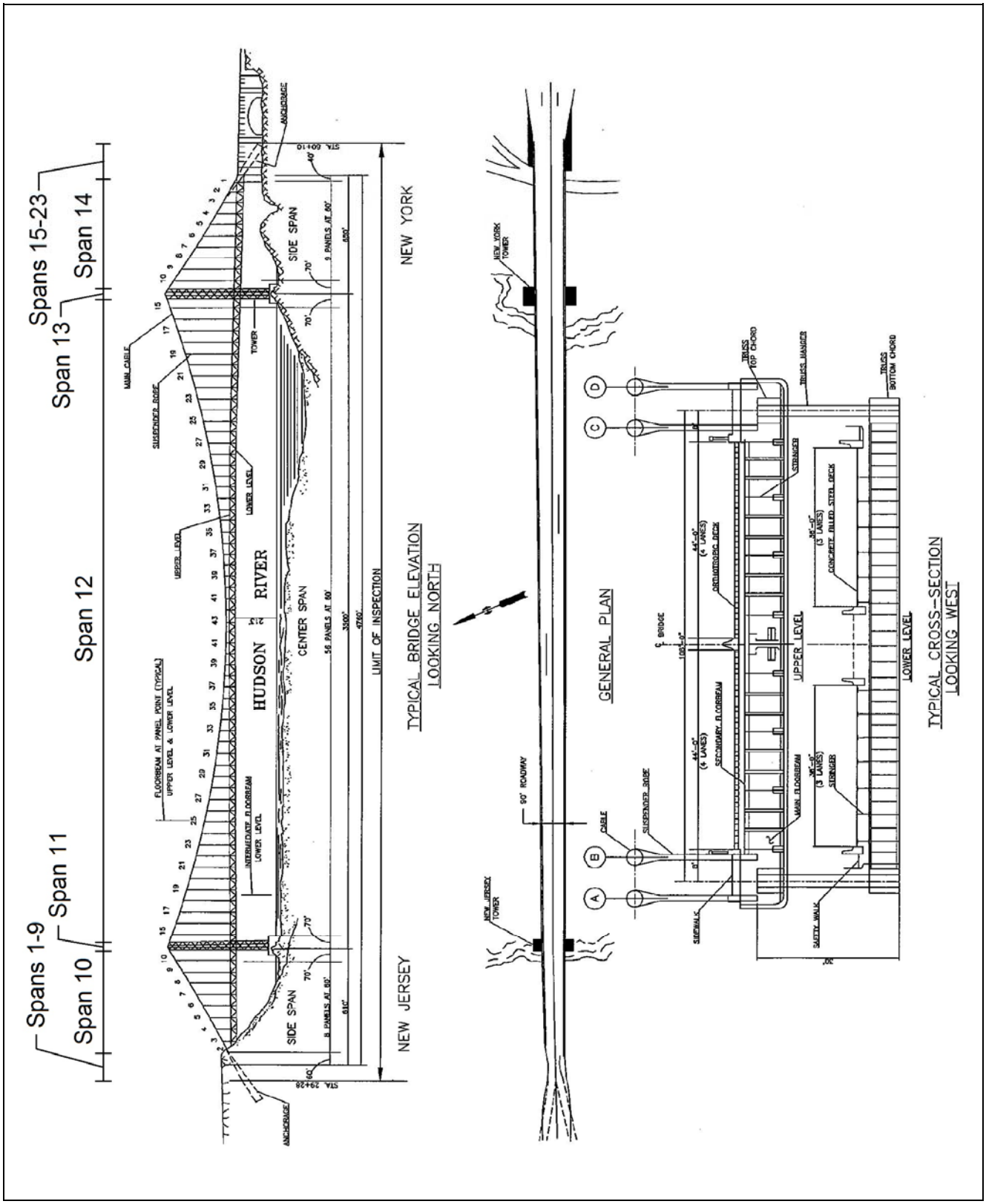
BIN 5522508

SHEET 3 OF 6

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



BD 188 (1/96)

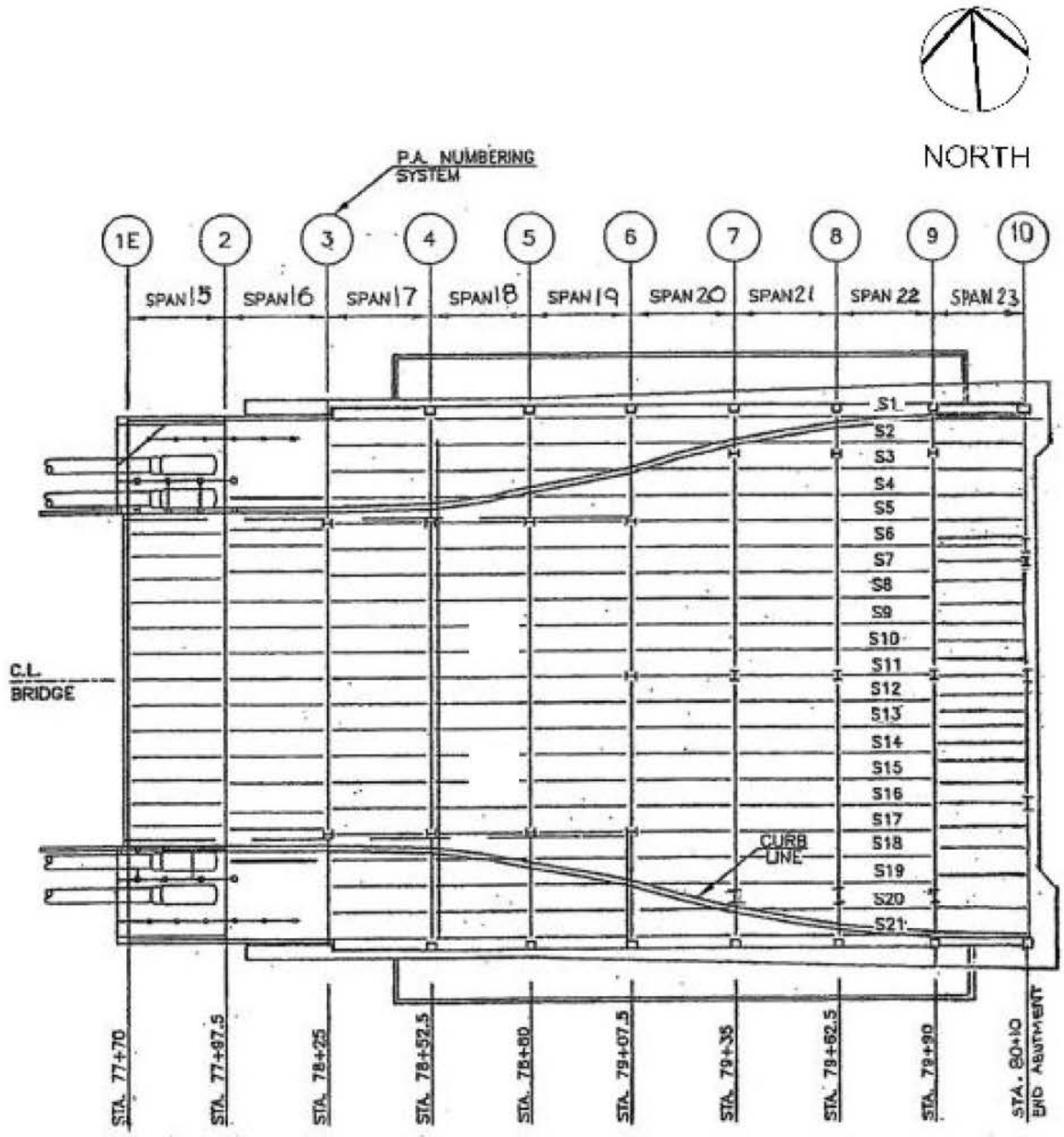
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 OF 6

BIN 5522508

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



UPPER LEVEL
NEW YORK ANCHORAGE FRAMING PLAN

BD 188 (1/96)

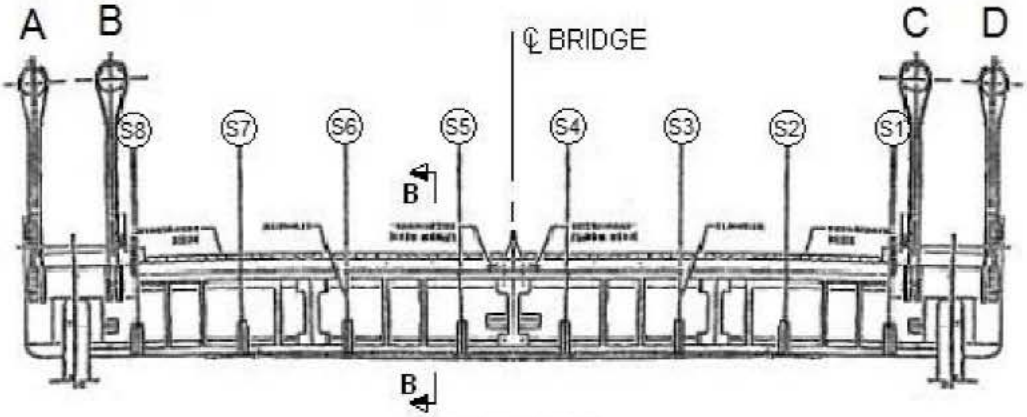
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 OF 6

BIN 5522508

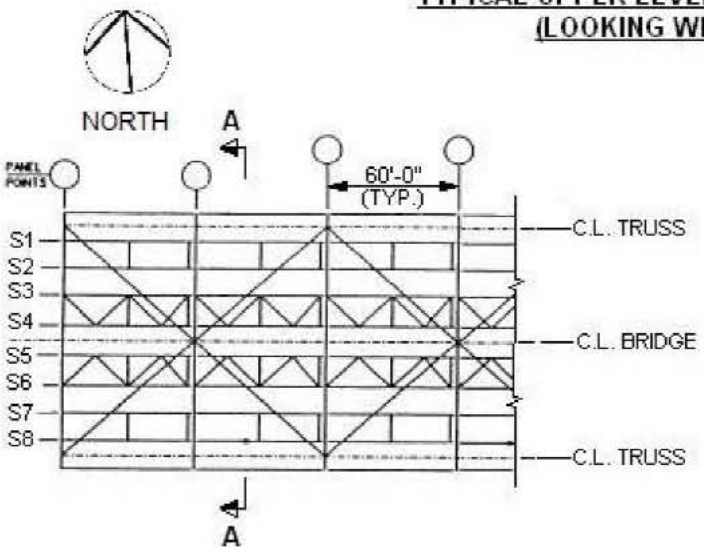
TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

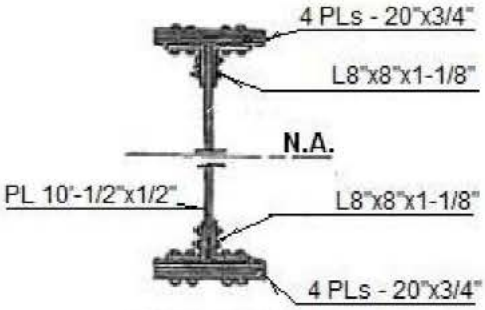
Feature Crossed: ROUTE 9A AND HUDSON RIVER



SECTION A-A
TYPICAL UPPER LEVEL FLOORBEAM
(LOOKING WEST)



UPPER LEVEL BRIDGE FRAMING PLAN



SECTION B-B

TYPICAL FROM PANEL POINTS 2W TO 1E

BD 188 (1/96)

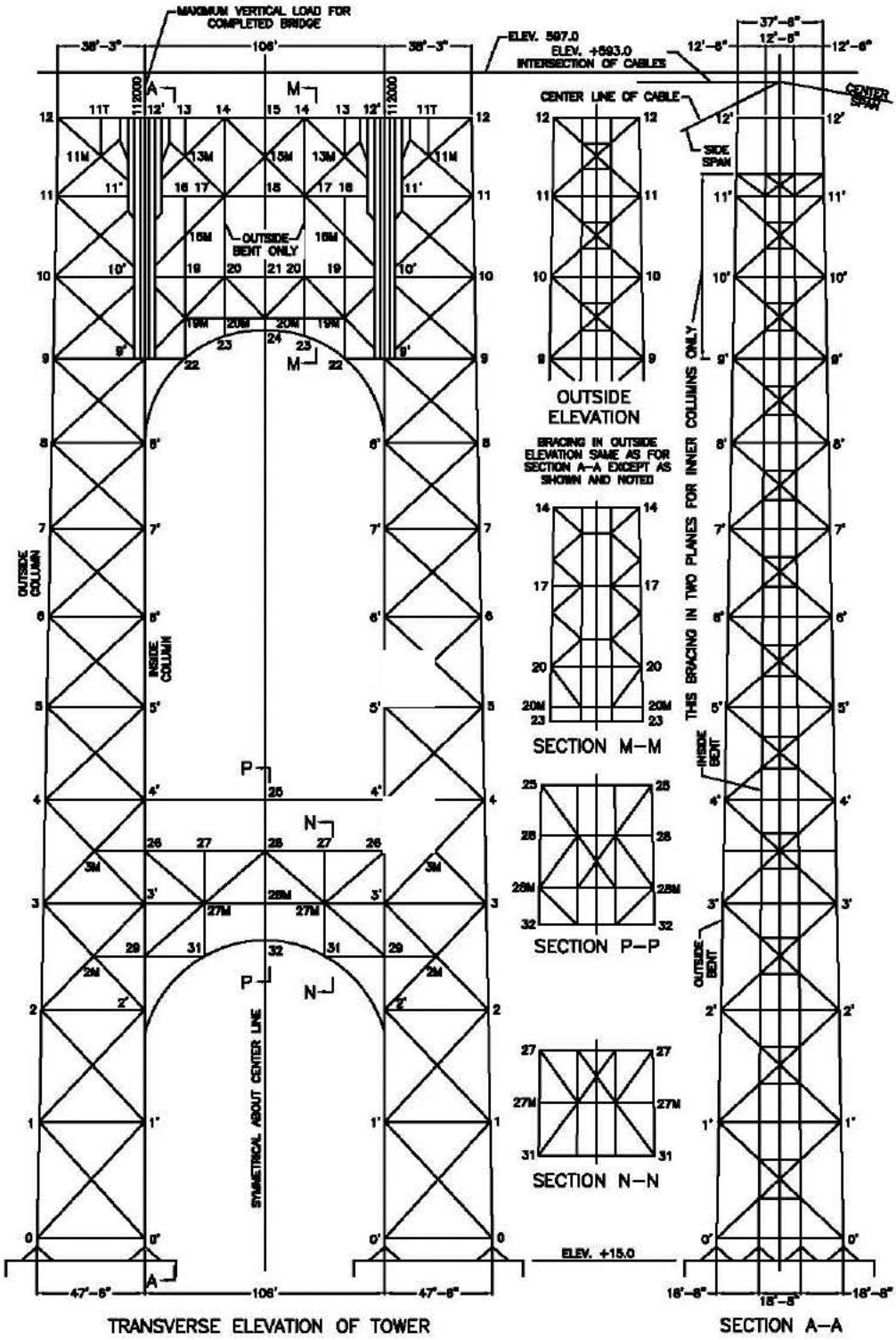
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 OF 6

BIN 5522508

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



SPAN 11 (NJ TOWER)
SPAN 14 (NY TOWER)

INSPECTION

TP349 (12/97)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 OF 28

DATE MO 1 0 (13 14) DAY 1 8 (15 16) YEAR 1 3 (17 18)

RC - BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

TEAM LEADER Eric Hilliard, PE
Signature
P.E. NUMBER 063761 **STATE** NY
ASST TEAM LEADER William Ng

RAMP BRIDGE ATTACHED TO SPAN _____ BIN _____

INSPECTION AGENCY 1 3 (19 20) TYPE OF INSPECTION 1 (21) 1 - BIENNIAL 3 - IN DEPTH 5 - SPECIAL 2 - INTERIM 4 - NONE(UNDER CONTRACT)

STATE HWY. NO. 000000 MILEPOINT: 0.74 POLIT. UNIT: NEW YORK
FEATURE(S) CARRIED: 95I 95I04011007
FEATURE(S) CROSSED: UNDER 9A 9A04121108, UNDER HUDSON RIVER
TOTAL SPANS: 23 BRIDGE ORIENTED: 3 EAST YEAR BUILT: 1931
BRIDGE TYPE: 313 STEEL SUSPENSION AADT/YR: 280718 / 2010

VERTICAL CLEARANCE AND LOAD POSTINGS
ON: NOT POSTED FT (19) IN (21)
UNDER: NOT POSTED FT (23) IN (25)
LOADING NONE TONS (27)
0 6 2 (118)

ABUTMENTS:	begin	end
Joint with deck	3 (22)	8 (23)
Bearings, anchor bolts, pads	5 (24)	8 (25)
Bridge seat and pedestals	5 (26)	8 (27)
Backwall	4 (28)	8 (29)
Stem (breastwall)	8 (30)	8 (31)
Erosion or scour	6 (32)	8 (33)
Footings	9 (34)	8 (35)
Piles	8 (36)	8 (37)
Recommendation	5 (38)	8 (39)

WINGWALLS:	begin	end
Walls	8 (40)	8 (41)
Footings	8 (42)	8 (43)
Erosion or Scour	8 (44)	8 (45)
Piles	8 (46)	8 (47)

STREAM CHANNEL:	
Stream alignment	7 (48)
Erosion or Scour	6 (49)
Waterway opening	6 (50)
Bank protection	6 (51)

APPROACHES:	
Drainage	8 (53)
Embankment	8 (54)
Settlement	8 (55)
Erosion	8 (56)
Pavement	8 (57)
Guide railing	8 (58)

GENERAL RECOMMEND 5 (60)

ACCESS CATEGORY:
WALKING
STEP LADDER
EXT. LADDER
<=30' LIFT
30'-90' LIFT
>90' LIFT
SCAFFOLDING
LC w/ SHADOW VEHICLE
DIVING

FLAG ISSUED? None X (61) — BRIEF REASON
RED STRUCTURAL ☐ (62)
YELLOW STRUCTURAL ☐ (63)
SAFETY ☐ (64)

[redacted]

REVIEWED BY Garen Apanosian
P.E. NUMBER 077794
DATE 11/11/2013

TP 350G (10/95)

RC-BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 OF 28

TEAM LEADER: Eric Hilliard, PE

ASST TEAM LEADER: William Ng

DATE MO 1 0 (13 14) DAY 1 8 (15 16) YEAR 1 3 (17 18)

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Features Carried: I-95 (GWB UPPER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	0	1	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	8	8	5
0	0	2	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	6	8	5
0	0	3	5	5	5	5	8	8	6	8	4	5	5	7	8	5	5	5	8	8	5	5	9	8	8	5	1	8	5
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0	1	0	5	4	4	4	3	8	4	8	5	5	5	5	3	5	5	5	4	5	5	5	9	6	8	5	1	5	1

DIVING INSPECTION REQUIRED? [X] YES [ ] NO *If yes, indicate year of last diving inspection* 1 1

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted]	[redacted]	[redacted]
PIN AND HANGER		
FATIGUE-PRONE WELDS(AASHTO D,(E) OR E')	X	Span 5
NON-CATEGORIZED FATIGUE-PRONE DETAILS		
OTHERS(SPECIFY) CABLES AND SUSPENDERS	X	Span 10

REMARKS:

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

20

50

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
				See Attached Table

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 OF 28

RC-BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

TEAM LEADER: Eric Hilliard, PE

ASST TEAM LEADER: William Ng

DATE — MO: 1 0 (13 14) DAY: 1 8 (15 16) YEAR: 1 3 (17 18)

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Features Carried: I-95 (GWB UPPER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	1	1	5	4	5	4	8	8	4	8	5	5	5	5	4	5	4	5	4	5	5	5	9	6	8	5	1	5	1
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DIVING INSPECTION REQUIRED? [X] YES [ ] NO — *If yes, indicate year of last diving inspection* 1 1

SPECIAL EMPHASIS INSPECTION REQUIRED: [X] YES [ ] NO
If yes, indicate type below.

[redacted] [redacted]

PIN AND HANGER [ ]

FATIGUE-PRONE WELDS(AASHTO (D) (E) OR E') [X] Spans 14 and 16 through 19

NON-CATEGORIZED FATIGUE-PRONE DETAILS [ ]

OTHERS(SPECIFY) CABLES AND SUSPENDERS [X] Spans 11, 12, 13 and 14

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

REMARKS: (20) (50)

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
				See Attached Table

TP 350G (10/95)

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 OF 28

RC-BIN N 3 (1, 2) 5 5 2 2 5 0 8 (3, 4, 5, 6, 7, 8, 9)

TEAM LEADER: Eric Hilliard, PE

ASST TEAM LEADER: William Ng

DATE — MO: 1 0 (13, 14) DAY: 1 8 (15, 16) YEAR: 1 3 (17, 18)

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Features Carried: I-95 (GWB UPPER LEVEL)

Features Crossed: ROUTE 9A AND HUDSON RIVER

SPAN NO.			DECK ELEMENTS								SUPERSTRUCTURE						PIER										UTILITIES		
			Wearing Surface	Curbs	Sidewalks & Fascias	Railings & Parapets	Scuppers	Gratings	Median	Mono Deck Surf.	Deck Structural	Primary Members	Secondary Members	Paint	Joints	Recom-mendation	Brg. anchor bolt, pads	Pedestals	Top of pier cap or beam	Stem solid pier	Cap beam	Pier columns	Footings	Erosion or scour	Piles	Recom-mendation	Lighting stds. and fixtures	Sign structure	Utilities and utilities supp.
10	11	12	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	2	1	5	5	5	4	3	8	5	8	5	5	5	5	8	5	5	5	5	8	5	5	9	8	8	5	5	8	5
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0	2	3	5	5	5	3	8	8	5	8	5	5	5	5	3	5	8	8	5	8	5	4	9	8	8	5	5	8	1

DIVING INSPECTION REQUIRED? X YES ☐ NO *If yes, indicate year of last diving inspection* 1 1

SPECIAL EMPHASIS INSPECTION REQUIRED: X YES ☐ NO
If yes, indicate type below.

[redacted] ☐ [redacted]

PIN AND HANGER ☐

FATIGUE-PRONE WELDS(AASHTO D, E, OR E') ☐

NON-CATEGORIZED FATIGUE-PRONE DETAILS ☐

OTHERS(SPECIFY) _____ ☐

RECOMMEND FURTHER INVESTIGATION 1 (19) 1 = NO 2 = YES

REMARKS:
(20)
(50)

Field Notes:

Date	Time of Arrival	Time of Departure	Temp (C)	Weather Conditions
				See Attached Table

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
5/10/13	10:00 AM	2:30 PM	82	Partly Sunny
5/13/13	7:30 AM	2:30 PM	50	Partly Sunny
5/13/13	10:00 PM	4:00 AM	44	Partly Cloudy
5/14/13	6:45 AM	2:30 PM	60	Sunny
5/14/13	10:00 PM	4:00 AM	50	Cloudy
5/15/13	6:30 AM	2:30 AM	60	Cloudy
5/16/13	7:30 AM	2:30 PM	70	Partly Cloudy
5/17/13	7:00 AM	1:00 PM	66	Partly Cloudy
5/20/13	7:30 AM	2:30 PM	70	Drizzle
5/21/13	6:30 AM	2:30 PM	80	Hazy
5/22/13	6:30 AM	2:30 PM	80	Drizzle
5/23/13	6:30 AM	2:00 PM	65	Rain
5/24/13	11:30 AM	2:30 PM	73	Partly Cloudy
5/28/13	8:00 AM	1:00 PM	75	Rain
5/29/13	6:30 AM	2:30 PM	85	Cloudy
5/30/13	8:00 AM	1:00 PM	85	Hazy
5/30/13	10:00 PM	4:00 AM	84	Partly Cloudy
6/10/13	7:30 AM	1:30 PM	85	Rain
6/11/13	6:30 AM	1:30 PM	85	Cloudy
6/11/13	10:00 PM	4:00 AM	68	Cloudy
6/12/13	6:30 AM	1:30 PM	85	Sunny
6/12/13	10:00 PM	4:00 AM	66	Cloudy
6/14/13	10:00 PM	4:00 AM	72	Cloudy
6/17/13	8:00 AM	12:30 PM	85	Sunny
6/17/13	10:00 PM	4:00 AM	85	Clear
6/18/13	10:00 PM	3:00 AM	85	Clear
6/19/13	11:00 AM	3:00 PM	85	Mostly Sunny
6/19/13	10:00 PM	4:00 AM	70	Clear

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
6/20/13	10:00 PM	4:00 AM	69	Cloudy
6/24/13	8:00 AM	2:00 PM	90	Mostly Sunny
6/25/13	6:30 AM	2:00 PM	90	Mostly Sunny
6/26/13	6:30 AM	1:30 PM	90	Mostly Sunny
6/27/13	6:30 AM	1:30 PM	90	Mostly Cloudy
7/01/13	8:00 AM	1:00 PM	80	Rain
7/01/13	10:00 PM	2:30 AM	80	Partly Cloudy
7/02/13	10:00 PM	3:30 AM	80	Cloudy
7/03/13	6:00 AM	2:00 PM	81	Cloudy
7/08/13	8:00 AM	1:00 PM	90	Mostly Sunny
7/09/13	6:00 AM	2:00 PM	95	Sunny
7/09/13	10:00 PM	1:30 AM	85	Cloudy
7/10/13	10:00 PM	2:00 AM	85	Cloudy
7/11/13	10:00 AM	2:00 PM	83	Rainy
7/15/13	7:30 AM	12:00 PM	95	Mostly Sunny
7/16/13	6:30 AM	1:30 PM	95	Mostly Sunny
7/17/13	6:30 AM	1:00 PM	95	Mostly Sunny
7/18/13	6:30 AM	1:00 PM	95	Mostly Sunny
7/22/13	7:30 AM	12:00 PM	85	Mostly Cloudy
7/23/13	6:30 AM	1:00 PM	85	Mostly Cloudy
7/24/13	6:30 AM	11:00 PM	85	Mostly Sunny
7/26/13	10:00 PM	2:00 AM	75	Cloudy
7/31/13	10:30 PM	3:30 AM	70	Cloudy
8/05/13	7:30 AM	2:30 PM	65	Sunny
8/06/13	7:00 AM	2:30 PM	75	Mostly Sunny
8/07/13	7:00 AM	2:30 PM	75	Cloudy
8/08/13	7:00 AM	1:30 PM	75	Cloudy
8/16/13	10:00 PM	4:00 AM	68	Cloudy

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 7 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

FIELD NOTES

DATE	ARRIVAL TIME	DEPARTURE TIME	TEMP (°F)	WEATHER
8/19/13	7:30 AM	1:30 PM	80	Partly Sunny
8/20/13	6:45 AM	2:30 PM	85	Partly Sunny
8/21/13	6:45 AM	2:30 PM	88	Partly Sunny
8/22/13	6:45 AM	11:00 AM	88	Thunderstorms
8/23/13	10:00 PM	4:00 AM	76	Cloudy
8/26/13	10:00 PM	4:00 AM	80	Showers
8/27/13	10:00 PM	4:15 AM	80	Partly Cloudy
8/28/13	10:00 PM	4:30 AM	80	Partly Cloudy
9/14/13	6:00 AM	2:00 PM	64	Sunny
9/19/13	10:00 PM	4:00 AM	64	Cloudy
9/20/13	6:00 AM	2:00 PM	81	Sunny
9/30/13	7:30 AM	2:30 PM	75	Sunny
10/01/13	7:30 AM	2:30 PM	80	Sunny
10/02/13	7:30 AM	2:30 PM	80	Sunny
10/07/13	7:30 AM	2:30 PM	70	Showers
10/08/13	7:30 AM	2:30 PM	60	Sunny
10/15/13	10:00 PM	4:00 AM	62	Cloudy
10/16/13	10:00 PM	4:00 AM	68	Cloudy
10/17/13	10:00 PM	4:00 AM	68	Cloudy
10/18/13	10:00 PM	4:00 AM	62	Cloudy

FEDERAL RATING FORM

NYS DEPT. of TRANSPORTATION

RC-BIN N 3 (1 2) 5 5 2 2 5 0 8 (3 4 5 6 7 8 9)

BRIDGE INSPECTION REPORT

TEAM LEADER Eric Hilliard, PE

ASST TEAM LEADER William Ng

SHEET 8 OF 28

OTHERS Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

DATE MO 1 0 (13 14) DAY 1 8 (15 16) YEAR 1 3 (17 18)

FEATURE CARRIED : 95I 95I04011007

FEATURE CROSSED : ROUTE 9A & HUDSON RIVER

Description	Deck	Superstructure	Substructure	Channel	Culvert
Fed. Item #	58	59	60	61	62
Rating	5	6	5	7	N
	19	20	21	22	23

Comments: Contract GWB-244.022 is currently in progress which includes replacement of portion of the deck adjacent to all suspension span joint areas eliminating the deteriorated riser beams and secondary floorbeams below.

Notes: 1). See attached explanations for Federal Items Nos. a) 58 ~ Deck, 59 ~ Superstructure, 60 ~ Substructure; b) 61~ Channel and Channel Protection; c) 62 ~ Culverts

2). Items Nos. 58, 59, and 60 shall be coded N for all culverts.

3). A rating or an N must be entered for all Federal Items. Blanks are not acceptable

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522508

SHEET 9 **OF** 28

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

GENERAL NOTES:

1. There is no BIN plate attached to the bridge.

2. The inspection of the upper level was performed during the months of May through October, 2013.

3. Spans 1 to 9 consists of the 9 panels within the New Jersey Anchorage. Spans 10 to 14 are the Main Suspension Spans, comprised of the New Jersey Side Span, New Jersey Tower, Main Span, New York Tower, and New York Side Span, respectively. Spans 15 to 23 consists of the 9 panels within the New York Anchorage.

4. Span 1 of this bridge is attached to BIN 3800018 (New Jersey Approach Ramp structure) and Span 23 is attached to BINs 552250C, 552250G and 552250K (New York Approach Ramp structures). Therefore, the approach items on TP 349 are rated 8.

[redacted]

[redacted]

BD 188 (4/95)

N.Y.S. DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

BIN 5522508

SHEET 10 **OF** 28

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature(s) Carried: I-95 (GWB UPPER LEVEL)

Feature(s) Crossed: ROUTE 9A AND HUDSON RIVER

REMARKS:

GENERAL NOTES:

7. Contract GWB-244.022 was underway at the time of this inspection. This rehabilitation project is scheduled to include the replacement of short sections of the steel orthotropic deck and the transverse joint systems at each panel point along the Upper Level roadway of the Main Suspension Spans. The new short deck system will eliminate all existing riser beams over the main floorbeams and span from end Secondary Floorbeams B1 & B12(or B13) that will be replaced. The deck adjacent to the deck joints will be replaced for an approximate overall length of 6 feet on both sides of the main floorbeams, and all drainage scuppers and downspouts will also be replaced. In addition, numerous structural steel repairs will be performed at main floorbeams, stringers, secondary floorbeams, bearing and finger joint elements. As part of this ongoing contract, 15' wide temporary scaffoldings were installed spanning full length below each main floorbeam between Panel Points 3W to 10W, 15W to 15E and 10E to 2E (see Photo 3). Inspection of several floorbeams and the ends of several panels were performed from the scaffolds, using extension and step ladders. Elsewhere in the Main Suspension Spans, access for inspection was obtained by means of 30'-50' lifts in conjunction with complete roadway and/or lane closures with shadow vehicles. A 135' manlift was used to inspect both interior and exterior faces of the New York Anchorage walls.

8. The concrete fascias along the Main Suspension Spans and the concrete deck over the New Jersey Anchorage and sections of the New York Anchorage were sounded with a hammer in suspected delaminated or spalled areas. All loose concrete areas were removed.

9. The Access form was updated during this inspection. No change was noted on the Inventory, Debris/Land Use, and Overhead Electrical forms. Therefore, are not included in this report.

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 11 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP 349 - ABUTMENTS
3	3	7 8 9	[22] JOINT WITH DECK (BEGIN) • The armored elastomeric deck joint above both roadways exhibits debris accumulation and localized tears and holes in the filler. Portion of begin side spalled concrete header has been patched with asphalt. The drainage trough installed below the joint is clogged, misaligned at a few locations and also shows corrosion holes at several locations.
5	5	10	[26] BRIDGE SEAT AND PEDESTALS (BEGIN) • There is a localized area of heavy debris accumulation at the begin abutment bridge seat between Stringers S11 and S12. The remaining areas exhibit minor debris accumulation.
4	4	11 12	[28] BACKWALL (BEGIN) • The begin abutment backwall behind stringer S19 exhibits a large spalled and delaminated area, measuring 15 SF x up to 6” deep. There is also a spalled area, 4 SF x 3” deep between Stringers S2 and S3.
			TP350 – DECK ELEMENTS
4	4	13	[20] CURBS Spans 10 thru 12 & 14 • The steel curbs along both roadways exhibit localized moderate corrosion with section loss and corrosion holes up to 8" diameter on the vertical and horizontal faces, typically near the joints. These holes result in water leakage onto the steel members below, causing member deterioration.
4	5	13 (Typ.)	Span 13 • The steel curbs along both roadways exhibit localized moderate corrosion with section loss and corrosion holes on the vertical and horizontal faces, typically near the joints. These holes result in water leakage onto the steel members below, causing member deterioration. Rating downgraded from “5” to 4”.

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 12 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – DECK ELEMENTS (Cont'd)
4	4		[21] SIDEWALKS AND FASCIAS Spans 10, 12 & 14
		14 15	• The right sidewalk fascia exhibits numerous areas of spalled concrete with and without exposed rebar ranging from 1' to 30' long x up to 1' wide. All loose concrete was removed during the inspection. The left sidewalk fascia is generally in good condition with small isolated spalls. The top of both sidewalks are generally in good condition with exception of several shallow spalling with exposed rebars typically noted along the joints.
4	4		[22] RAILINGS AND PARAPETS Spans 10 thru 16, 20, 21 & 22
		16	• The steel bridge railings and parapets along both sidewalks exhibit minor to moderate section loss and localized corrosion holes in the railing posts and horizontal rails. The railings also exhibit several disconnected horizontal rails, broken or cracked collar plates, missing bolts connecting the horizontal rails to the posts and/or broken rail post caps. The built-up steel parapets in Spans 10-14 exhibit numerous missing, sheared off or deteriorated connection bolts throughout the outside faces. In Span 21, a disconnected horizontal rail on the left side was noted. However, previously reported disconnected horizontal rails at Spans 16, 20 and 22 were not found.
3	3		Spans 17, 18, 19 & 23
		17 18 19	• The steel bridge railings on both sidewalks exhibit moderate to severe section loss with localized corrosion holes in the railing posts and horizontal rails. In Spans 18, 19 & 23, one rail post at the left railing is either disconnected or loose at the base due to missing anchor bolt nuts. Similar condition exists in Span 17 on the right railing with a 5' long completely deteriorated section on the top horizontal rail and disconnected left side top horizontal railing from post near end of span. In addition, the left concrete parapet in Spans 17, 18 & 19 exhibits few large spalls up to 5" deep with exposed corroded rebar.

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BRIDGE INSPECTION REPORT
SHEET 13 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – DECK ELEMENTS (Cont'd)
			[23] SCUPPERS
3	3		Span 9
		20	• The concrete catch basin encasement below the right curb line exhibits cracking, spalling with exposed rebar and efflorescence staining. The drainage pipe is moderately corroded at the interface with the concrete. There is evidence of water leakage from both the catch basin and the drainage pipe. Both scuppers on the eastbound and westbound roadways are free of debris.
3	2		Spans 10, 12 & 14
		21 22 23	• Several scuppers within the Main Suspension Spans are partially or fully clogged along the eastbound and westbound roadways. The downspouts below the roadway at all locations that were clogged and leaking have been replaced or removed under Contract GWB-244.022 which is scheduled to replace all scuppers and downspouts within the Main Suspension Spans. Rating upgraded from "2" to "3".
3	2		Span 17
		21 (Typ.)	• Both scuppers along the eastbound and westbound roadways are fully clogged. Downspouts below deck are in good condition. Rating upgraded from "2" to "3".
3	2		Span 21
		21 (Typ.)	• The scupper along the eastbound roadway is fully clogged. Downspout below deck is in good condition. There is no scupper along the westbound roadway. Rating upgraded from "2" to "3".
2	2		Span 22
		24 25	• The scupper along the westbound roadway is fully clogged. There is no scupper along the eastbound roadway. Also, the drainage downspout attached to the end face of Pier 22 (Capbeam 9) exhibits localized corrosion holes and a missing section of pipe.

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BRIDGE INSPECTION REPORT
SHEET 14 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – DECK ELEMENTS (Cont'd)
4	5		[25] MEDIAN Span 10
		26 (Typ.)	• The steel median barrier within the Main Suspension Spans exhibit areas of pitting, scrape marks due to vehicular impact and localized corrosion holes. Rating downgraded from "5" to "4".
4	4		Spans 11 thru 14
		26 27	• The steel median barrier within the Main Suspension Spans exhibit areas of pitting up to 1/4" deep, scrape marks due to vehicular impact and localized corrosion holes up to 3" diameter. The worst areas are between Panel Points 11W-14W, 14W-15W, 20W-21W, 36W-37W, 15E-14E, 14E-11E and 11E-10E. In addition, the median barrier is misaligned at Panel Point 11W.
			TP350 - SUPERSTRUCTURE
4	4		[27] DECK STRUCTURAL Spans 1 thru 4 & 6 thru 9
		28	• The underside of deck inside the New Jersey Anchorage generally exhibits scattered areas of light to moderate scaling, fine mapcracking and transverse cracks with efflorescence. Medium to large spalls with exposed rusted rebar up to 4' x 5' x 3" deep and hollow sounding areas were noted at localized areas. Refer to the sketches on pages 26 to 28 for the underside of deck conditions.
5	5		Spans 10 thru 14
		29 30 31	• The orthotropic deck in the Main Suspension Spans consists of a steel deck plate welded to an inverted T-shaped deck ribs topped with a 2" thick asphalt wearing surface. The steel orthotropic plate is in generally good condition. There are several locations where the deck ribs exhibit cracks and/or corrosion holes in the web and/or bottom flanges. Immediate repair request was issued to drill a hole at the ends of each rib web crack to stop further propagation and repair selected severely deteriorated ribs. A large number of cracks were also noted in the welds that connect the deck ribs to the strap plates located at the top of the secondary floorbeams or riser beams (above the floorbeams). Several missing tie down bolts and tie down plates connecting the deck to the secondary floorbeams were also noted. The majority of the deck rib cracks occurs near the joint areas and is currently being repaired under ongoing Contract GWB-244.022.

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BRIDGE INSPECTION REPORT
SHEET 15 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – SUPERSTRUCTURE (Cont'd)
5	5		[27] DECK STRUCTURAL (Cont'd) Spans 15 thru 23
		32	• The deck of the upper level roadway in the area over the New York Anchorage is also an open orthotropic deck system. The orthotropic deck is in generally good condition with scattered areas of surface rust due to water leakage through several small drilled holes noted in the deck plate at isolated locations. Along the longitudinal joints between the orthotropic deck segments, localized moderate corrosion with few missing connection bolts were noted.
5	5		[28] PRIMARY MEMBERS Spans 1 thru 9
			• The floorbeams and stringers within the New Jersey Anchorage are in generally good condition with localized areas of moderate section loss mainly below leaking deck joints
5	5		Spans 10 thru 14
		33 34 35	• The main floorbeams, stringers, upper truss chords, upper portions of truss verticals, diagonals, secondary floorbeams and riser beams are in generally good condition. Localized moderate to heavy corrosion was noted below the deck joints. The following isolated deficiencies are locally rated 4, but do not affect the overall rating of the entire primary member system: • The webs of several main floorbeams exhibit areas of localized heavy pitting and up to 1/4" section loss mostly below the joints, median and curblines with occasional up to 2" diameter corrosion holes. Isolated rivet heads along the bottom flanges exhibit up to 50% head loss. • The webs of several stringers exhibit localized moderate section loss with isolated moderate corrosion and small web holes above the seated bearing connections to the floorbeams. In addition, between Panel Points 9W & 10W, 30E & 31E, 25E & 26E and 20E & 21E, the lateral bracing connection to Stringer S7 has gouged the stringer bottom flange up to 1/8" deep. Similar condition was noted at Stringer S2 at Panel Points 2E & 3E. • Previously noted localized severe pitting and section loss up to ¼" in the web of the floorbeam in Span 10, Panel Point 10W, near stringer S8, below the roadway curbline area, has been repaired.

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BRIDGE INSPECTION REPORT
SHEET 16 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP350 – SUPERSTRUCTURE (Cont'd) [28] PRIMARY MEMBERS (Cont'd) Spans 10 thru 14 (Cont'd) • Arrestor holes have been drilled at the end of the cracks propagating from localized section loss at the outboard leg of the riveted connection angles between the main floorbeams and the upper chord of the truss at Panel Points 22E, 16E and 15E. The cracks occur just above the upper chord location and do not significantly affect the overall shear capacity of the floorbeam connections.
		36 37	• Several begin and end secondary floorbeams in Spans 10, 12 and 14 and one interior secondary floorbeam in Spans 11 and 14 exhibit web cracks, with or without corrosion holes, mostly occurring at the ends of Secondary Floorbeams SFB1 & SFB12 (or SFB13) and typically extending horizontally along the base of the web left and/or right of the longitudinal stringer bearing location. Numerous crack arresting holes varying in size from 1/4" to 3/4" diameter were previously drilled at the ends of the web cracks, however, the cracks have continued to propagate beyond the drill holes at several locations. In addition, web cracks without arresting holes were also noted at the ends of secondary floorbeams at several localized locations. Ongoing Contract GWB244.022 is scheduled to replace all end Secondary Floorbeams SFB1 & SFB12 (and SFB13). Several secondary floorbeams exhibit missing connection rivets or bolts between their bottom flanges and the top flanges of stringers. Few secondary floorbeams were found with (4 of 4) missing rivets/bolts and were loose with some movement evident under live load.
		38	• Several riser beams located over the main floorbeams, which support the steel orthotropic deck ribs, exhibit fully cracked web plates with movement evident during passage of large trucks. The new deck joint system under currently ongoing Contract GWB244.022 will be eliminating all riser beams over the floorbeams.
		88	• The stringers are connected to the floorbeam via a pinned-connection within truss panels adjacent to the towers and end panels of suspended spans. At some of these locations, the pins exhibit section losses up to 1/4" on the exterior surface. Ultrasonic testing of these pins has been recommended.

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BRIDGE INSPECTION REPORT
SHEET 17 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP350 – SUPERSTRUCTURE (Cont'd) [28] PRIMARY MEMBERS (Cont'd) Main Cables and Suspender Ropes
		39 40	• The main cables, suspender ropes, saddles, eyebars and strand shoes within the anchorages are in generally good condition. There are numerous broken wire strands found on the main cables, mostly in the NY Anchorage. There are also isolated broken wires on the suspenders noted at the lower sockets. Inside the Anchorages, localized corrosion of wire strands is noted at several locations. Also, the steel bracing members for the eyebars of Cables C and D exhibit severe corrosion with localized corrosion holes evident at the base.
			[redacted]
5	5		[redacted]
			• The capbeams and stringers over the New York Anchorage are in generally fair to good condition with areas of moderate to severe corrosion and localized areas of moderate section loss mainly below leaking deck joints. Several stringers exhibit small cracks in the web copes, however, arrestor holes have been previously drilled at the ends of each crack.
5	4		Spans 17 & 21
		41	• Previously noted pitting with section losses along the base of the stringer webs at the connection to the capbeams, at Stringers 11 & 12 at the begin face of Pier 17 and Stringers 14-17 at the end face of Pier 20, have been repaired. Rating upgraded from "4" to "5".

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 18 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP350 – SUPERSTRUCTURE (Cont'd)
5	5		[29] SECONDARY MEMBERS Spans 1 thru 23
		11	• All secondary members are in generally good condition with isolated areas of localized severe corrosion with small corrosion holes and pack rust mostly below the deck joints and below the median. In Span 1, below the begin abutment joint, the end diaphragm between S18-S19 exhibits a 5'L x 1'H corrosion hole. All other diaphragms at this location are in good condition. Localized medium pitting with corrosion and heavy dirt and debris was typically noted on the horizontal gusset plates for the main lateral bracings below the median. At numerous locations, where the main lateral bracing angles connect to the bottom flanges of the stringers, there is heavy pack rust build-up with heavy corrosion to both the lateral bracing member and the bottom flange of the stringer.
		42	• Previously noted severely corroded and cracked lateral bracing connection at Stringer S6 to Secondary Floorbeam SFB1, in Span 12 between Panel Point 21W-22W, has been replaced as part of joint reconstruction under ongoing Contract GWB244.022.
		43	• Previously noted end diaphragm with severe corrosion and holes in the lower bracing angle, in Span 14 between Stringers S1-S2 and floorbeam, has been replaced with new bracing members as part of repair work under ongoing Contract GWB244.022.
5	5		[30] PAINT Spans 10 thru 23
		44	• The paint system in these spans is in generally good condition with isolated areas of peeling paint and surface corrosion at scattered locations occurring mostly below the deck joints and at lower suspender rope sockets.
4	4		[31] JOINTS Span 5
		45 52 (Typ.)	• The joint exhibits minor dirt accumulation and is slightly torn within both roadways. In addition, the trough below the joint is fully clogged with dirt and debris.

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 19 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – SUPERSTRUCTURE (Cont'd)
3	3		[31] JOINTS (Cont'd) Spans 10, 12 & 14
		46 47	• The intermediate deck joints within the Main Suspension Spans at most panel points exhibit segments of debonded, depressed, torn or missing sealers. The active water leakage through these joints has resulted in moderate to severe corrosion of the riser beams over the floorbeams and the end secondary floorbeams. These joints are being reconfigured and replaced under ongoing Contract GWB244.022.
4	4		Spans 11 & 13
		48	• The joint troughs are completely clogged and are overflowing with dirt and debris. During this inspection audible banging noises of the finger joints were heard under live load at Panel Points 11W and 14E. No loose tie- down bolts were observed. The transverse support beams for the finger joints exhibit localized section losses on the web plate and small corrosion holes at the base of numerous intermediate stiffeners.
3	3		Span 17
		49 50 (Typ.)	• The joint exhibits moderate dirt accumulation at the top of deck and has a missing section of joint sealer. The drainage trough below the joint that was clogged and had sagged below the eastbound roadway due to a missing support bracket noted in the previous inspection has been removed. The leakage is causing member deterioration below.
3	2		Span 20
		50 51 52	• The joint above the roadway is partially paved over and exhibits broken and cracked asphalt and sections of deteriorated, torn or missing joint sealer. Below westbound roadway, the joint trough is missing along the entire left half. In addition, the trough below eastbound roadway is fully clogged with dirt and debris. Rating upgraded from "2" to "3" since previous rating was too conservative.
3	3		Span 23
		53 50 (Typ.)	• The joint exhibits moderate dirt accumulation at the top of deck and has a missing section of joint sealer. The drainage trough below the joint exhibits a 4" diameter corrosion hole at Stringer S8.

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NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 20 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP350 - PIER
4	4		[33] BEARINGS, ANCHOR BOLTS, PADS Spans 11 & 12
		54 55 56	• The bearings of several stringers at Panel Points 14W and 14E exhibit severe corrosion with section loss over 50% to the anchor bolt nuts. In Span 12, several tie down bolts/rivets connecting the stringer bottom flanges to the seated angles at the main floorbeams are sheared off or exhibit up to 100% head section loss. • Previously noted missing/sheared rivets and shifted sole plate at the seated connection of Stringer S3, Panel Point 26W, has been repaired. At the begin side of Panel Points 25W and 27W, the sliding plate bearings at Stringers S6 and S8, respectively, are frozen due to heavy pack rust between plates.
4	4		Span 14
		57 54 (Typ.) 56 (Typ.)	• Inside the New York Anchorage, the intermediate bearing below the right sidewalk Stringer S18 exhibits heavy pack rust between the masonry plate and exhibits up to 10% bearing area loss due to spalled concrete pedestal. • Several tie down bolts/rivets connecting the stringer bottom flanges to the seated angles at the main floorbeams are sheared off or exhibit up to 100% head section loss. At Panel Point 1E, the sliding plate bearings for all roadway stringers are frozen due to heavy pack rust and the anchor bolt nuts of both sidewalk fascia stringers exhibit over 50% section loss.
5	4		Span 16
		58	• Previously noted heavy pack rust between the masonry plate and pedestal of the intermediate bearing below the right sidewalk at Stringer S18, has been repaired. Remaining bearings are in good condition. Rating upgraded from “4” to “5”.
4	4		Span 17
		59 60	• The right bearing below the capbeam at Pier 17 exhibits severe corrosion with approximately 50% section loss to the anchor bolt nuts. Stringer S13 exhibits a cracked shim plate and sheared off tie down bolt at the seated bearing connection angle to the capbeam. Remaining bearings are in good condition.

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 21 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – PIER (Cont'd)
			[33] BEARINGS, ANCHOR BOLTS, PADS (Cont'd)
4	3		Span 20
		61 62	• Stringers S8, S9, S14 and S19 at Pier 20 exhibit severe corrosion and missing or loose tie down bolts at the seated bearing connection angles to the capbeams. Previously noted bent bearing angle due to heavy pack rust for Stringer S16 has been repaired. However, the condition still remains at Stringer S17. In addition, previously noted severe corrosion with heavy pack rust and sheared tie down bolts at seated angle, for Stringer S18 bearing at Pier 20, has been repaired. Rating upgraded from "3" to "4".
			[34] PEDESTALS
4	5		Span 14
5	4		Span 15
		57	• Stringer S18 bearing pedestal is spalled causing approximately 10% undermining of masonry plate. Previously, the bearing pedestal was rated incorrectly under Span 15. Rating upgraded from "4" to "5" for Span 15 and downgraded from "5" to "4" for Span 14. Remaining pedestals are in good condition.
5	4		Span 16
		58	• Previously noted severely spalled bearing pedestal undermining masonry plate of the intermediate bearing below the right sidewalk at Stringer S18, has been repaired. Remaining pedestals are in good condition. Rating upgraded from "4" to "5".
4	3		Span 20
		61, 62	• The seated angles at the stringer bearings at Pier 20 are rated as pedestals. (See Item [33] for comments). Rating upgraded from "3" to "4".
			[35] TOP OF PIER CAP OR BEAM
4	4		Spans 10 thru 13
		63	• The top of the tower struts at the New Jersey and New York Towers located below the finger joints support the stringers and are rated under this item. Heavy accumulation of dirt and debris is noted on these members for full length as a result of the overflow from the joint troughs.

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NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 22 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – PIER (Cont'd)
4	4		[38] PIER COLUMNS Span 23
		64	• At Pier 23, the center column and both left interior columns are corroded at the base with up to 3/16" section loss and up to 100% section loss to the anchor bolt nuts.
			TP350 - UTILITIES
1	1		[43] LIGHTING STANDARDS AND FIXTURES Spans 3 & 6
		65	• All underdeck lighting fixtures in the NJ Anchorage are disconnected and/or broken with exposed wiring.
1	1		Spans 10 thru 14 – Top of Deck
		66	• Span 10 - At the right sidewalk between Panel Points 5W-6W, the base of the light standard exhibits a disconnected conduit exposing electrical wiring.
			• Span 11 - Both left and right light standards are in good condition. Rating is based on conditions noted at underside of deck. (See below for details).
		67	• Span 12 - At the right sidewalk between Panel Points 27W-28W, the light standard remains missing with no exposed wiring noted. Also, at the right sidewalk between Panel Points 40E-39E, the base of the light standard exhibits a disconnected electrical outlet exposing electrical wiring. At the left sidewalk between Panel Points 29E-28E, the light standard exhibits an unsecured handhole cover near the base due to (1 of 2) missing screws. The access cover was temporarily secured with electrical tape.
		68	• Span 13 - At the left curbline of the New York Tower, the light standard remains missing with no exposed wiring noted at the base.
		69	• Span 14 - The lens covers at the left and right light standards between Panel Points 3E-2E are missing and cracked, respectively. In addition, the arm of the right light standard is twisted due to impact damage. However, still stable.

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NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 23 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
			TP350 – UTILITIES (Cont'd)
			[43] LIGHTING STANDARDS AND FIXTURES (Cont'd) Spans 10 thru 14 – Underside of Deck
		70 71	• At the underside of deck, there are several random broken, non-functional or missing lighting fixtures and bulbs. The supports for some underdeck lighting fixtures are also broken or partially disconnected. However, still intact.
1	1		Span 17
		72	• At the left sidewalk, the lighting standard remains missing and exposed electrical wiring remains at the sidewalk. The lighting standard at the right sidewalk is missing an end cap.
4	4		Spans 18 & 19
		70 (Typ.)	• The underdeck lighting fixtures exhibit missing or non-functional light bulbs over the westbound roadway.
1	1		Span 20
		73	• At the left sidewalk, the light standard is missing an arm and fixture and the base cover is unsecured with exposed electrical wiring. The lighting standard at the right sidewalk is missing an end cap.
4	4		Span 22
		70 (Typ.)	• The underdeck lighting fixtures exhibit missing or non-functional light bulbs over the westbound roadway. The lighting standard at the left sidewalk is also missing its end cap.
			[44] SIGN STRUCTURES
4	5		Span 13
		89	• Cantilevered sign structure attached to NY Tower exhibits (7 of 7) non-functioning light fixtures. Rating downgraded from "5" to "4".
4	4		Span 22
		74	• The overhead sign structure attached to the capbeam at Pier 22 exhibits (1 of 4) missing bolts at the right arm connection to the bottom flange of the capbeam. The remaining (3 of 4) bolts are intact.

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 24 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS NEW	RATINGS PREV	PHOTO NO.	REMARKS
			TP350 – UTILITIES (Cont'd)
1	1		[45] UTILITIES AND UTILITIES SUPPORTS Spans 6 & 9
		75	• At the underside of deck near the center of Span 6 and at the left side of Span 9, the electrical outlet boxes are broken exposing the electrical wiring. In addition, at the right side of Span 6, a junction box exhibits a detached cover exposing the electrical wiring.
1	1		Spans 10 thru 14
		76 77 78	• At the underside of deck within the Main Suspension Spans, several deficiencies were noted involving missing or deteriorated junction box covers with exposed wiring, improperly supported conduits and electrical wiring, disconnected conduits, union couplings and utility supports and corroded junction boxes. Other deficiencies noted are as follows:
		79	• In Span 10 between Panel Points 10W-11W, the grating for the maintenance platform below the right sidewalk exhibits a severely deteriorated section. At Panel Point 11W, the maintenance platform below the finger joint exhibits severely deteriorated supports. Also, near Panel Point 11W, an electrical wire was found hanging below right main Cable A.
		80 81 82	• In Span 11, previously noted severely deteriorated support members of the maintenance catwalk utilized for access to utilities at Levels 3 and 3M within the right leg of the New Jersey Tower, has been repaired. However, a new location of similar condition was noted at Level 3M. Also, the support members within the left leg exhibit deteriorated or missing bolts.
		83	• In Span 12, at the left sidewalk between Panel Points 28W-29W, the emergency blue light remains missing from the post with exposed wiring.
		81 (Typ.)	• In Span 13, the maintenance catwalk utilized for access to utilities at Level 3M within the right leg of the New York Tower exhibits severely deteriorated members.

BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 25 **OF** 28

TEAM LEADER: Eric Hilliard, P.E. **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: I-95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

RATINGS		PHOTO NO.	REMARKS
NEW	PREV		
1	1	84 85 86 24 87	**TP350 – UTILITIES (Cont'd)** [45] UTILITIES AND UTILITIES SUPPORTS (Cont'd) Spans 10 thru 14 (Cont'd) • In Spans 10, 12 & 14, the safety cables along the main cables and their supporting members are rated under this item. Several bolts connecting the stanchions to the cable bands are not fully engaged. At Cable D, Panel Point 15E, the hand rope adjacent to the stanchion bracket exhibits one broken wire. Previously noted broken stanchion at Cable D, in Span 14 at Panel Point 8E, has been repaired. • Previously noted slightly loose fan-type security fence at the circumferential clamping angles and torn neoprene pad, between Panel Points 2E-1E on the left main Cable D, has been repaired. The other fan-type security fences located between Panel Points 1W-2W and 2E-1E and at Panel Points 41W and 41E are in good condition with isolated loose nuts at the circumferential clamping angles noted. Spans 22 & 23 • At the underside of deck, few areas of improperly supported conduits, loose electrical wiring, disconnected conduits with/without exposed wiring and missing covers at electrical junction boxes were noted.

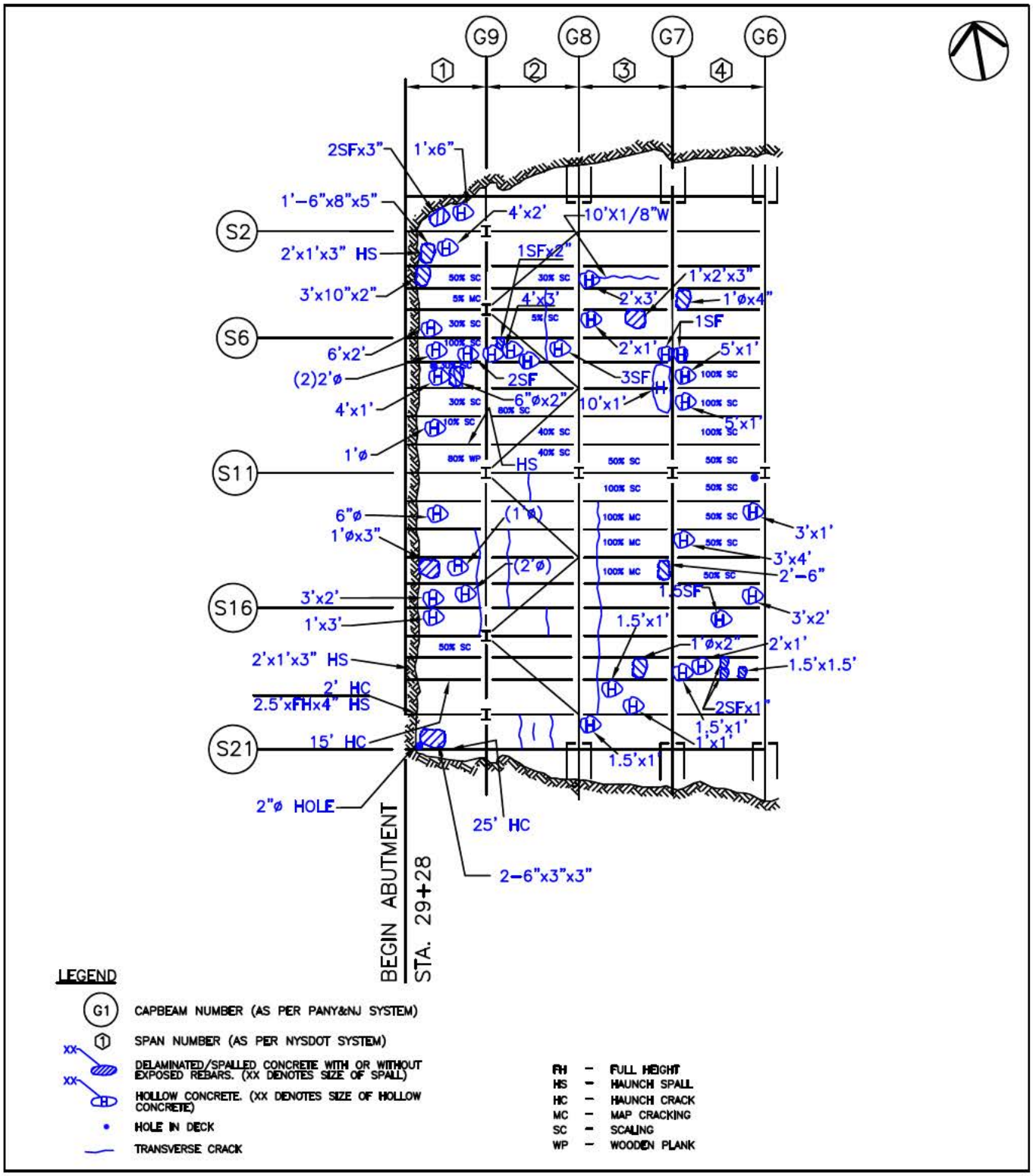
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 27 of 28

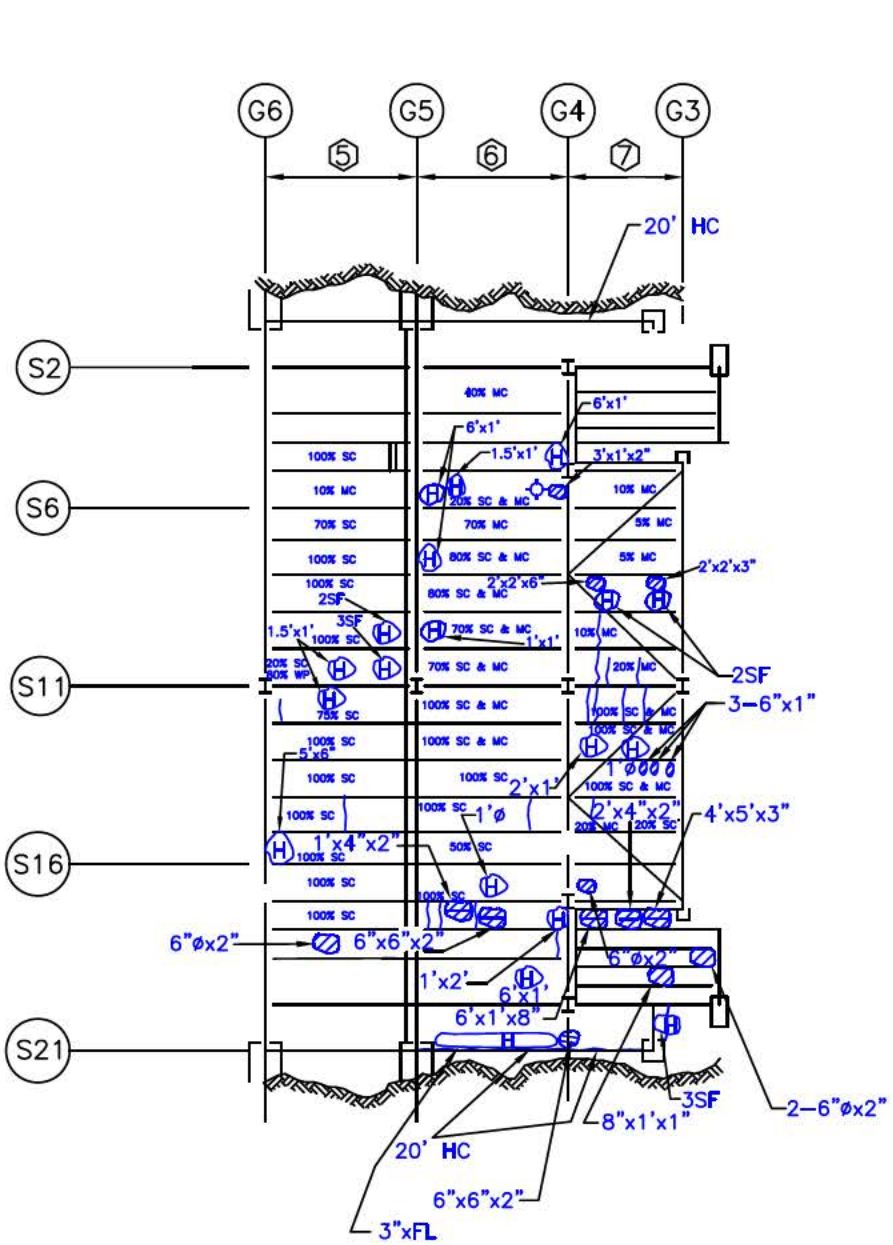
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



LEGEND

- (G1) CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- (1) SPAN NUMBER (AS PER NYSDOT SYSTEM)
- XX — DELAMINATED/SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL)
- XX — HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE)
- HOLE IN DECK
- TRANSVERSE CRACK

FL – FULL LENGTH
HS – HAUNCH SPALL
HC – HAUNCH CRACK
MC – MAP CRACKING
SC – SCALING
WP – WOODEN PLANK

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 28 of 28

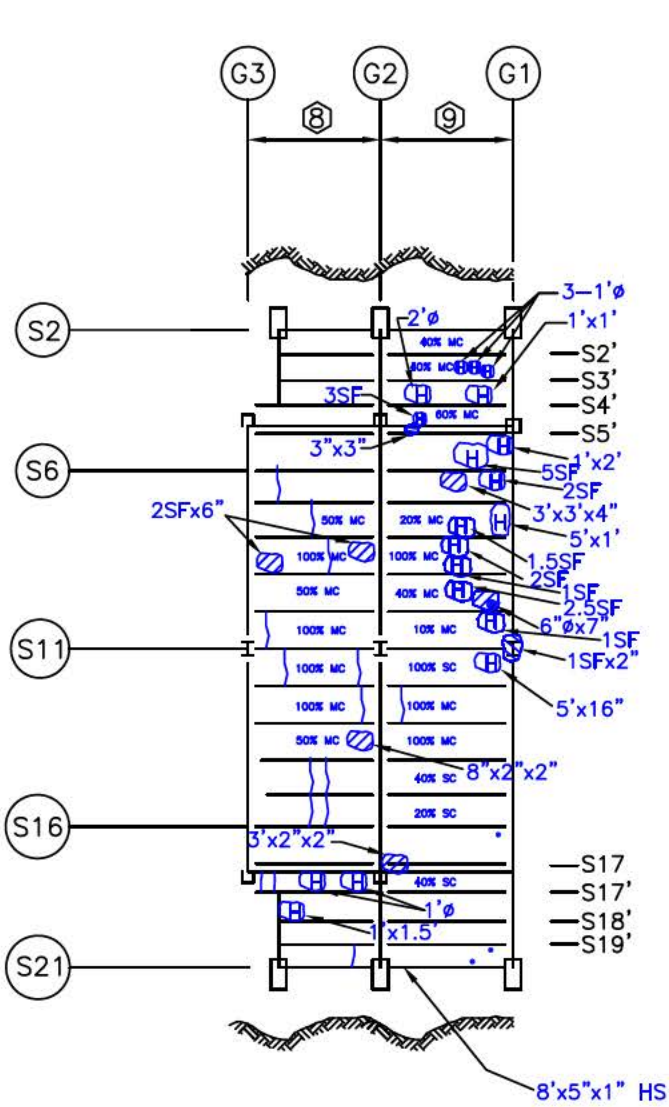
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



LEGEND

- G1 — CAPBEAM NUMBER (AS PER PANY&NJ SYSTEM)
- 1 — SPAN NUMBER (AS PER NYSDOT SYSTEM)
- XX — DELAMINATED/SPALLED CONCRETE WITH OR WITHOUT EXPOSED REBARS. (XX DENOTES SIZE OF SPALL)
- XX — HOLLOW CONCRETE. (XX DENOTES SIZE OF HOLLOW CONCRETE)
- 1"ø HOLE IN DECK
- TRANSVERSE CRACK

HS – HAUNCH SPALL
HC – HAUNCH CRACK
MC – MAP CRACKING
SC – SCALING
WP – WOODEN PLANK

PHOTOGRAPHS

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 1 of 53

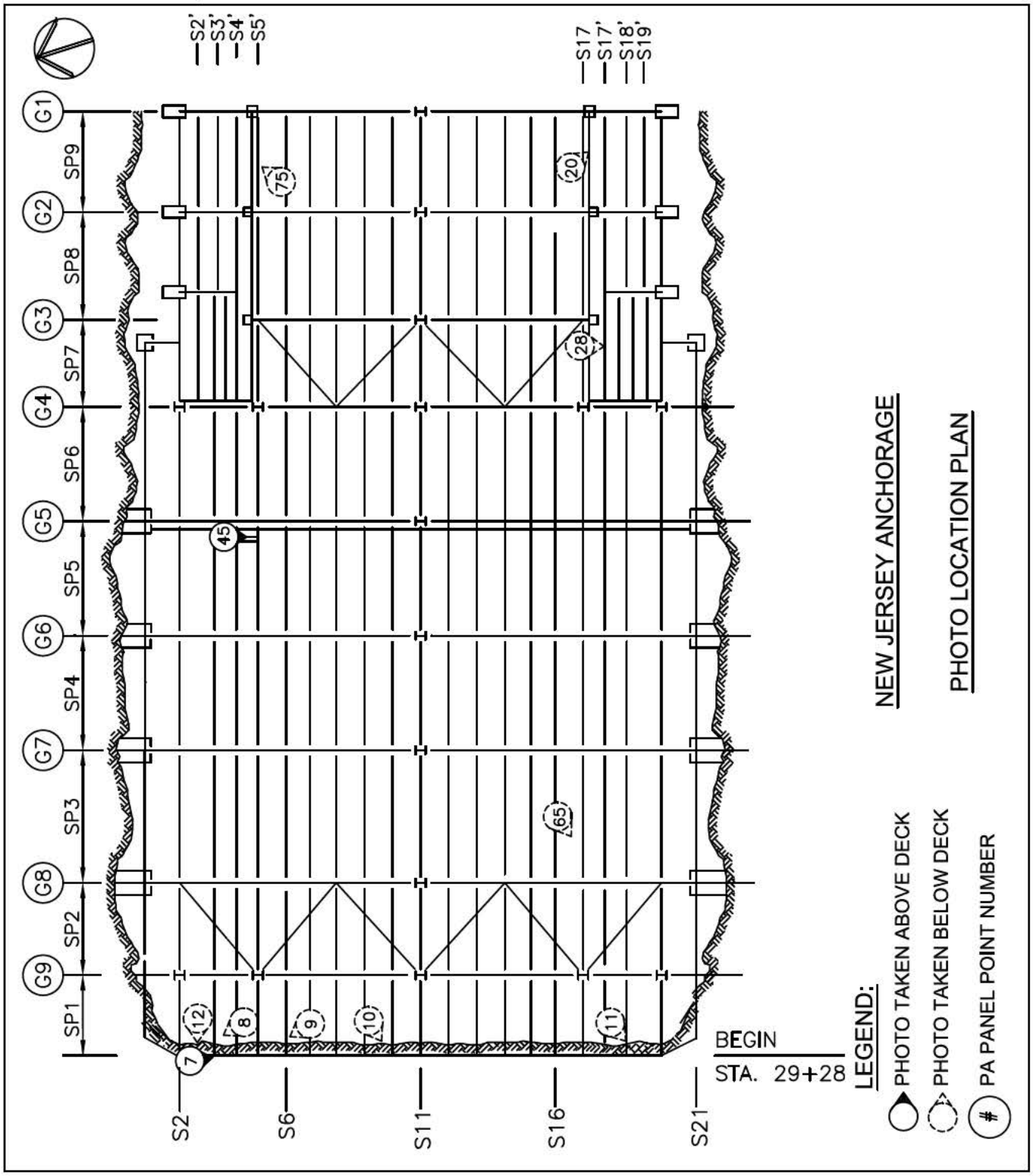
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 of 53

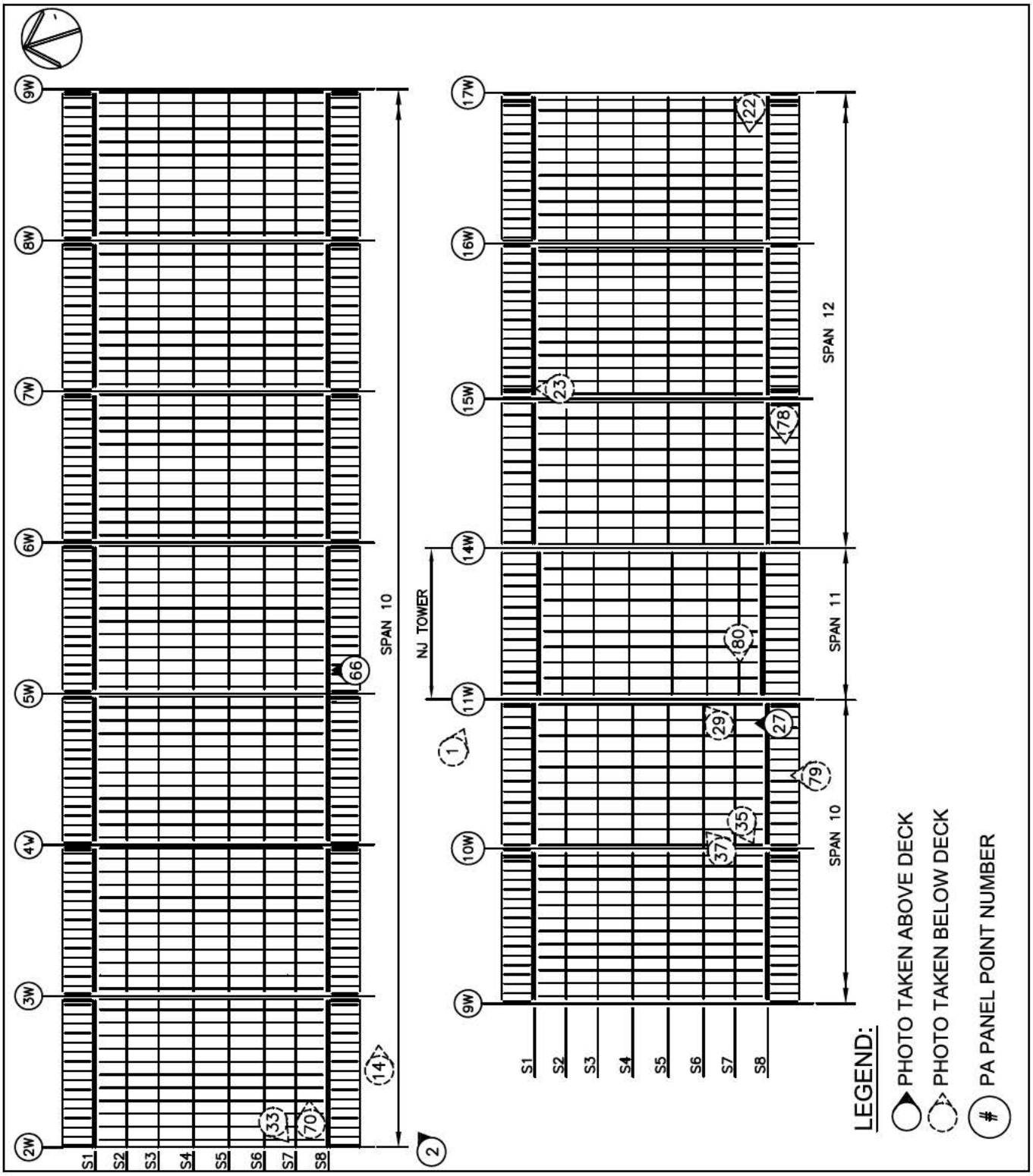
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 3 of 53

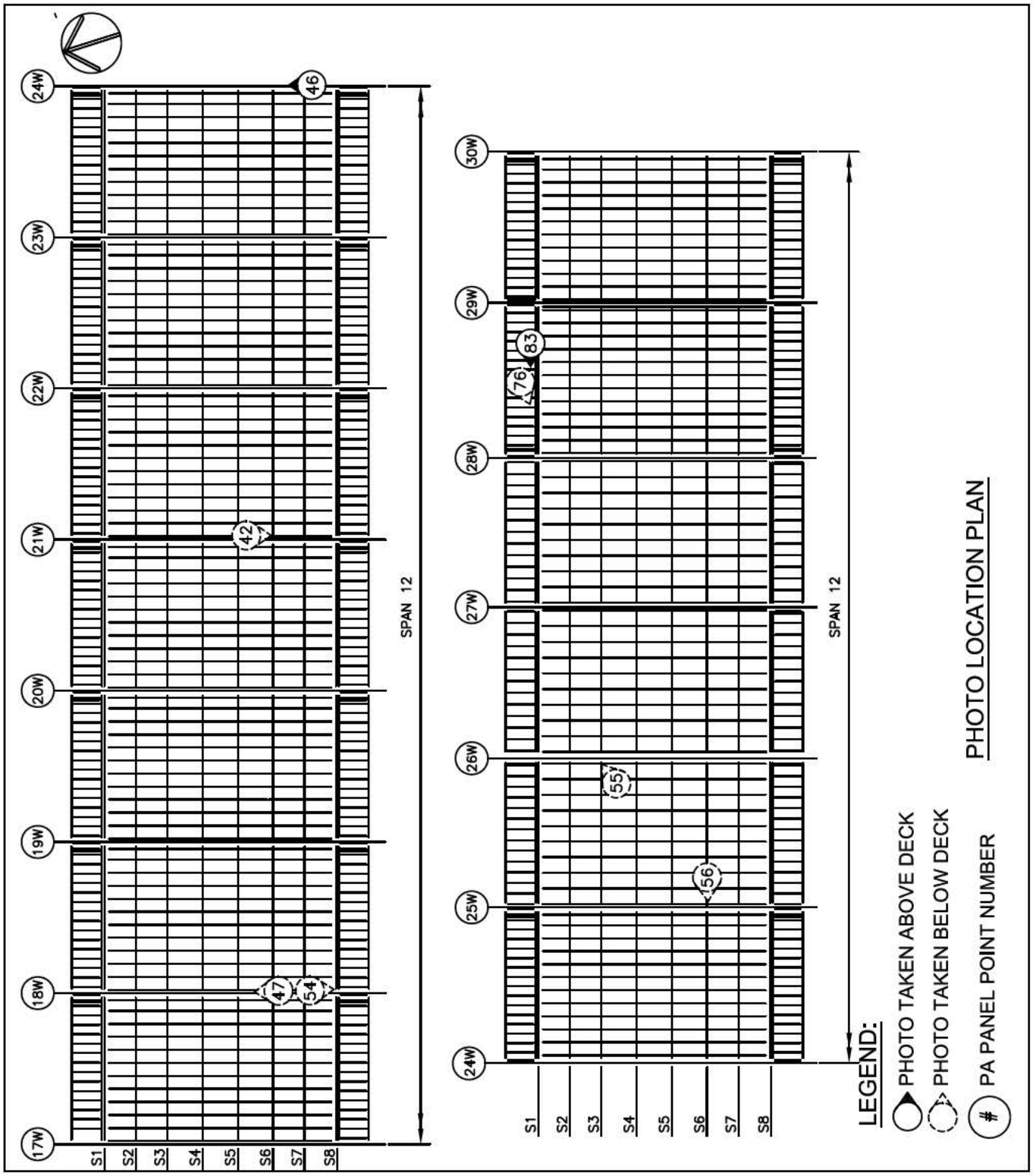
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 of 53

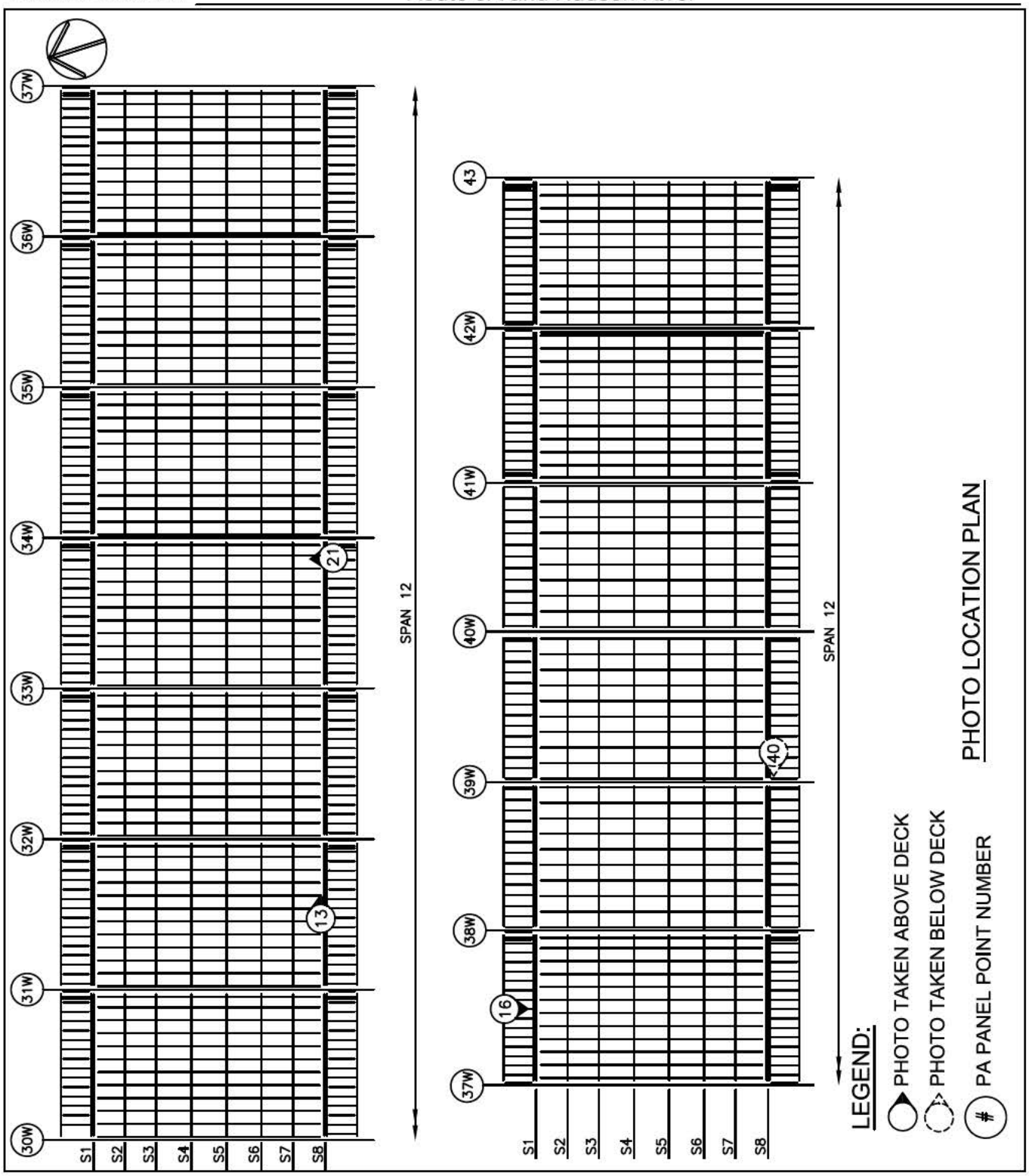
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 5 of 53

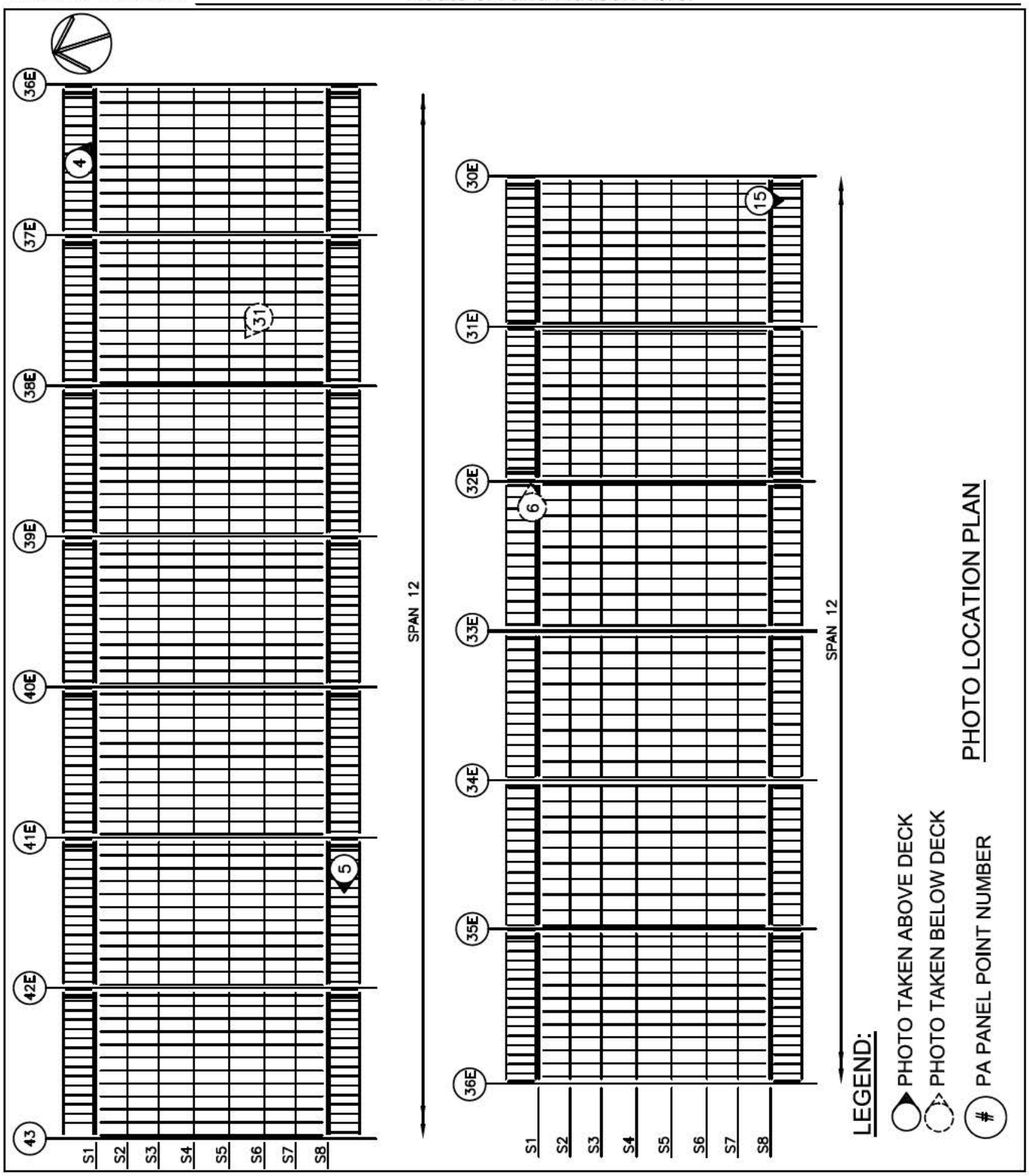
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 6 of 53

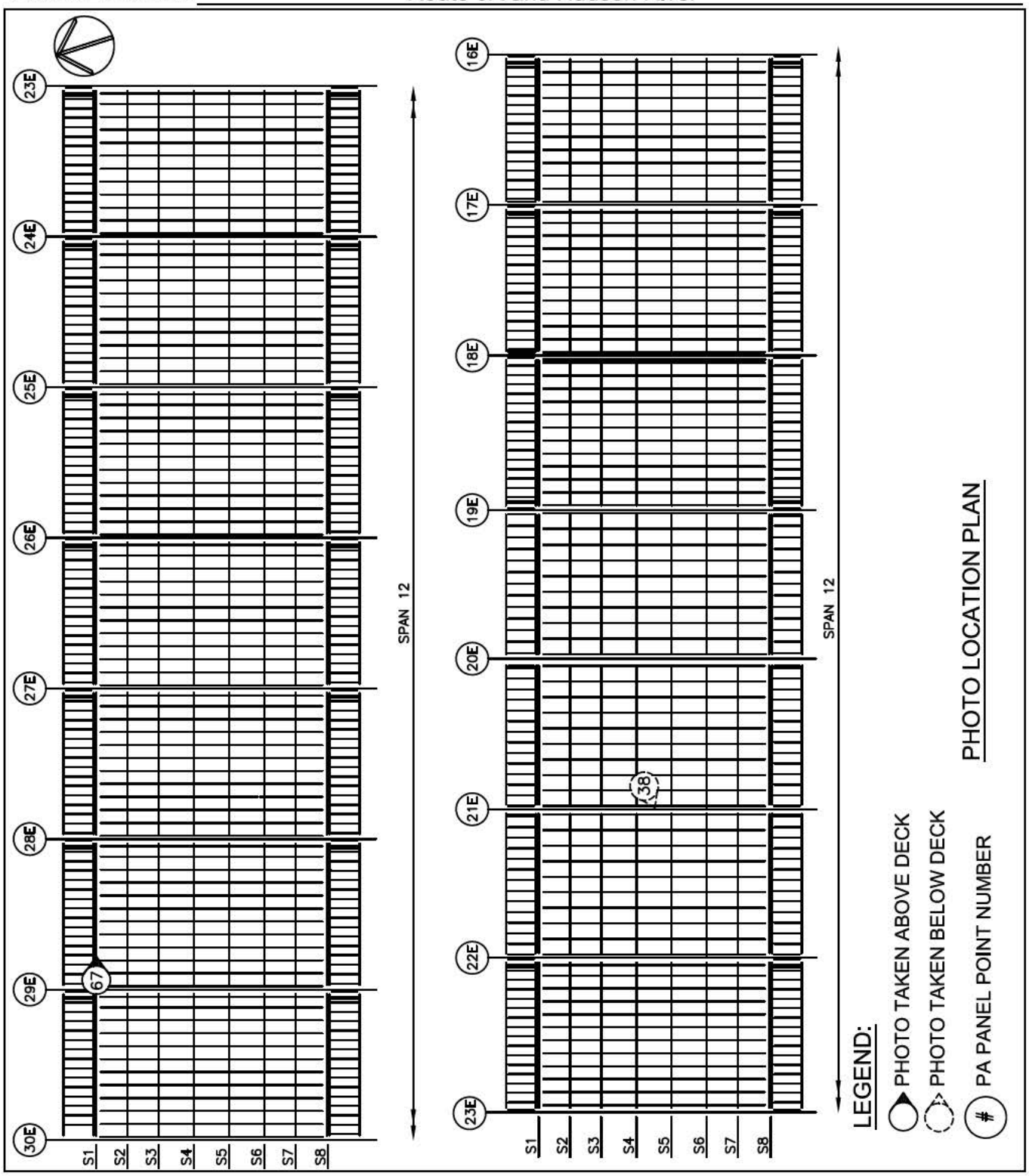
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 7 of 53

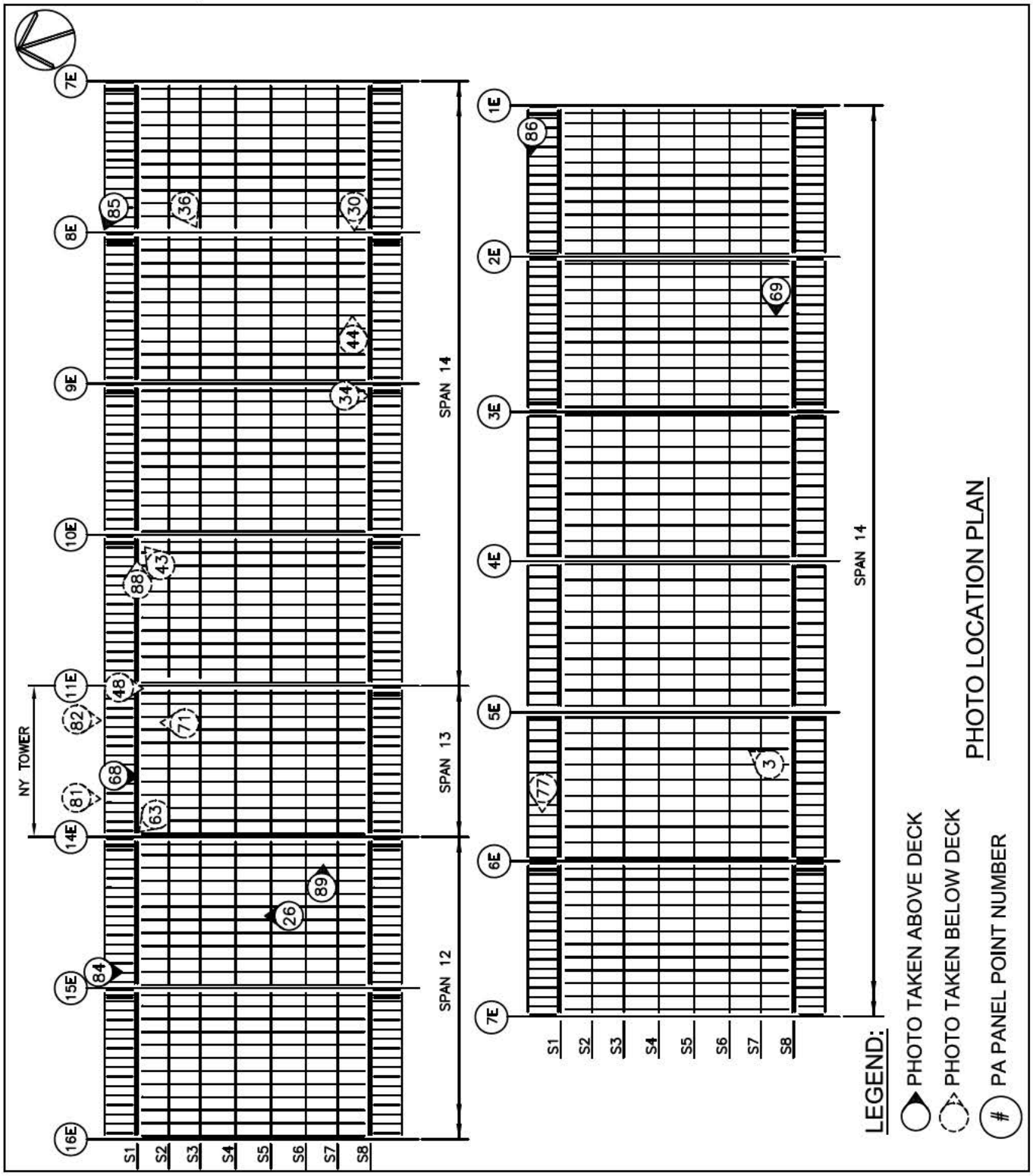
BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/13

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River



NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 8 of 53

BIN 5522508

TEAM LEADER: Eric Hilliard, PE
ASST.TEAM LEADER: William Ng
DATE: 10/18/2013

OTHERS: Dino Sedycias, PE, John Cascone, PE, David Grinberg, Robert Quinn

Feature Carried: I-95 (GWB Upper Level)

Feature Crossed: Route 9A and Hudson River

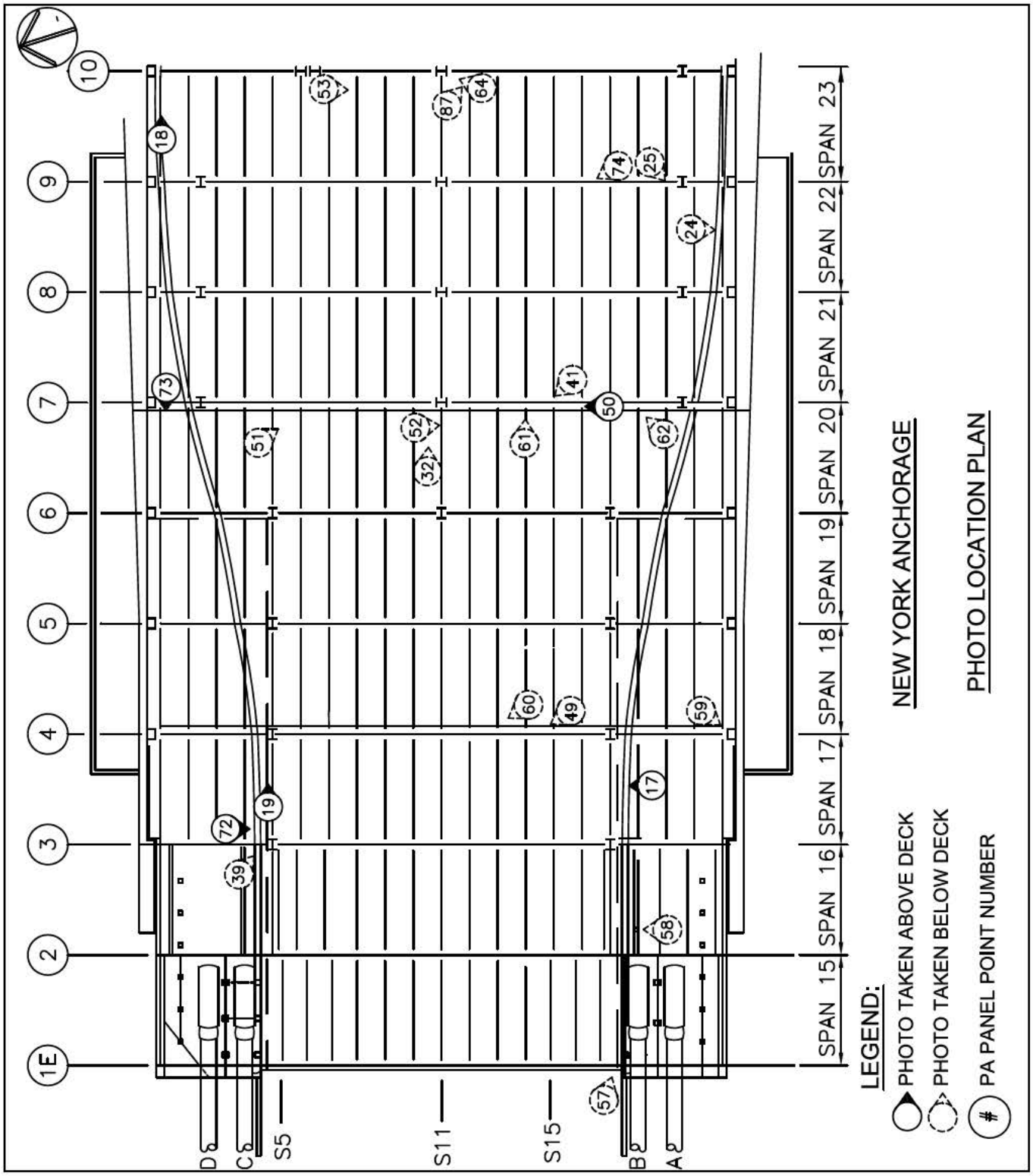


Photo No.: 1

Location:
Left elevation,
looking ahead and right.

Description:
General view of main suspended spans 11-14.

Reference:
None

Photo No.: 2

Location:
Right elevation,
looking ahead and left.

Description:
General view of main suspended spans 10-14.

Reference:
None

Photo No.: 3

Location:
Span 14, underside of deck and superstructure between Panel Points 6E-5E, looking ahead and left.

Description:
General view of NY side suspended span superstructure framing. Note: installation of temporary scaffolding due to ongoing Contract GWB244.022.

Reference:
None

Photo No.: 4

Location:
Span 12, top of deck, between Panel Points 37E-36E, looking ahead and right.

Description:
General view of top of deck.

Reference:
None

BRIDGE INSPECTION REPORT

SHEET 11 OF 53
BIN: 5522508

Photo No.: 5

Location:

[redacted]

Description:

[redacted]

Reference:

None

Photo No.: 6

Location:

[redacted]

Description:

[redacted]

Reference:

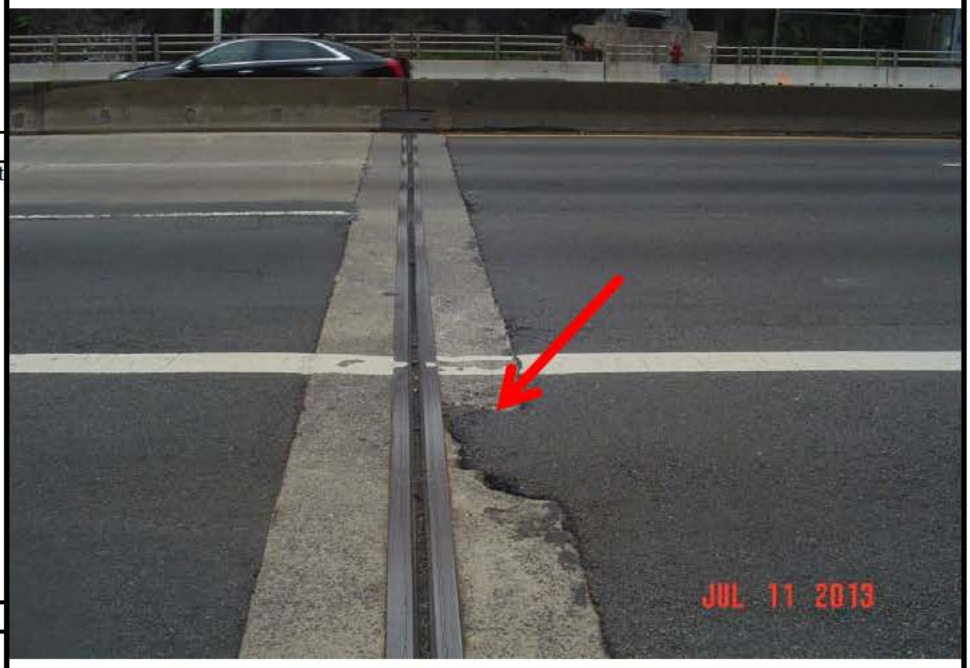
None

ASST. TEAM LEADER: William Ng
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Eric Hilliard, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 7

Location:
Begin abutment deck joint, looking right.



Description:
Portion of spalled concrete joint header has been patched with asphalt. The joint sealer is partially covered with dirt and exhibits localized tears and holes.

Reference:
TP 349 - [22] Joint With Deck (Begin), Rated 3

Photo No.: 8

Location:
Begin abutment, underside of deck joint between Stringers S3-S4, looking back and left.

Description:
Corrosion holes hrough drainage trough attached to the begin abutment. Trough is also misaligned at few locations.

Reference:
TP 349 - [22] Joint With Deck (Begin), Rated 3

Photo No.: 9

Location:
Begin abutment, underside of deck joint from Stringer S7, looking back and left.

Description:
Drainage trough attached to begin abutment exhibit debris accumulation.

Reference:
TP 349 - [22] Joint With Deck (Begin), Rated 3

Photo No.: 10

Location:
Begin abutment bridge seat between Stringers S11-S12, looking back and right.

Description:
Heavy localized accumulation of dirt and debris on bridge seat.

Reference:
TP 349 - [26] Bridge Seat and Pedestals (Begin), Rated 5

Photo No.: 11

Location:
Begin abutment backwall behind Stringer S19, looking back and right.

Description:
Large spalled and delaminated area in backwall behind S19, measuring 15SF x up to 6" deep. Note large corrosion hole in diaphragm. Remaining diaphragms at begin abutment are in good condition.

Reference:
TP 349 - [28] Backwall (Begin), Rated 4
TP 350 - [29] Secondary Members, Rated 5 for Spans 1 to 23

Photo No.: 12

Location:
Begin abutment backwall between Stringers S2-S3, looking back.

Description:
Spalled with exposed rebar in backwall approximately 4SF x 3" Deep.

Reference:
TP 349 - [28] Backwall (Begin), Rated 4

Photo No.: 13

Location:
Span 12, right curb at Panel Points 31W-32W, looking down and ahead.

Description:
Localized corrosion holes through steel curb. (Typical condi ion)

Reference:
TP 350 - [20] Curbs, Rated 4 for Spans 10-12 and 14

Photo No.: 14

Location:
Span 10, right fascia between Panel Points 2W-3W, looking ahead.

Description:
Sidewalk fascias exhibit numerous areas of spalled concrete with and without exposed rebar. (Typical for Spans 12 and 14).

Reference:
TP 350 - [21] Sidewalks and Fascias, Rated 4 for Spans 10, 12 and 14

Photo No.: 15

Location:
Span 12, right sidewalk between Panel Points 30E-31E, looking down and right.

Description:
Sidewalk exhibits localized shallow spalling with exposed rebars and transversal cracks. (Typical condi ion)

Reference:
TP 350 - [21] Sidewalks and Fascias, Rated 4 for Spans 10, 12 and 14

Photo No.: 16

Location:
Span 12, left parapet between Panel Points 37W-38W, looking right.

Description:
Missing connection bolts on outside face of parapet. (Typical condi ion)

Reference:
TP 350 - [22] Railings and Parapets, Rated 4 for Spans 10-16 and 20-22

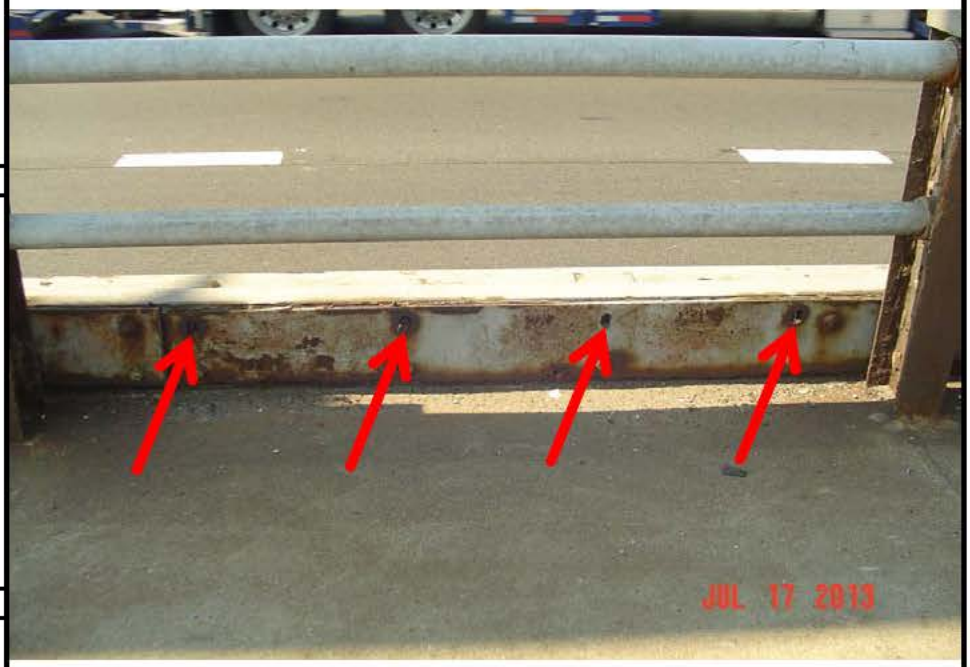


Photo No.: 17

Location:
Span 17, right bridge railing, looking left.

Description:
Disconnected post and 5' long section of severely deteriorated top horizontal bridge rail.

Reference:
TP 350 - [22] Railings and Parapets, Rated 3 for Spans 17-19 and 23

Photo No.: 18

Location:
Span 23, left bridge railing, looking ahead.

Description:
Loose railing post due to loose and missing anchor bolt nuts.

Reference:
TP 350 - [22] Railings and Parapets, Rated 3 for Spans 17-19 and 23

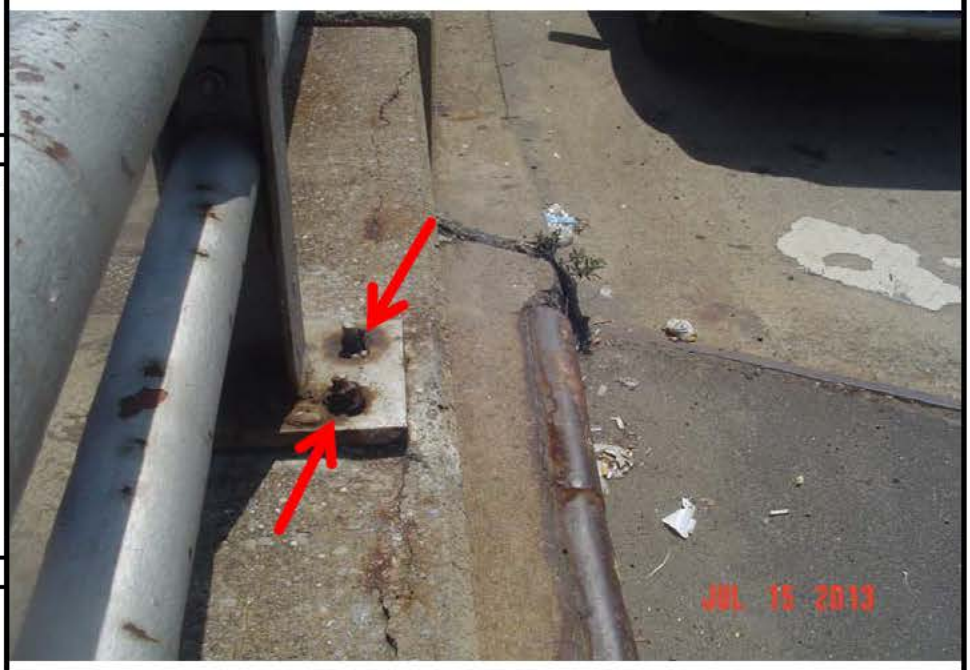


Photo No.: 19

Location:
Span 17, left parapet, looking ahead.

Description:
Large spalls with exposed rusted rebar along the right and top faces of he concrete parapet. Also, disconnected top horizontal railing from post near end of span.

Reference:
TP 350 - [22] Railings and Parapets, Rated 3 for Spans 17-19 and 23

Photo No.: 20

Location:
Span 9, below right curbline, looking ahead and right.

Description:
Concrete catch basin exhibits cracking, spalling with exposed rebar and water leakage with efflorescence. The drainage pipe is moderately corroded at the interface wi h the concrete.

Reference:
TP 350 - [23] Scuppers, Rated 3 for Span 9

Photo No.: 21

Location:
Span 12, right scupper near Panel Point 34W, looking down and left.

Description:
Typical fully clogged scupper along curbline.

Reference:
TP 350 - [23] Scuppers, Rated 3 for Spans 10, 12 and 14

Photo No.: 22

Location:
Span 12, right scupper downspout between Panel Points 16W-17W, looking up and back.

Description:
Previously noted clogged downspout pipe and missing cleanout cover has been removed.

Reference:
TP 350 - [23] Scuppers, Rated 3 for Spans 10, 12 and 14

Photo No.: 23

Location:
Span 12, left scupper downspout between Panel Points 15W-16W, looking left.

Description:
Previously noted scupper downspout which was fully clogged and was missing the cleanout cover has been replaced with a new downspout.

Reference:
TP 350 - [23] Scuppers, Rated 3 for Spans 10, 12 and 14 (Locally rated 6)

Photo No.: 24

Location:
Span 22, underside of deck at right side, looking right.

Description:
Disconnected electrical conduits with exposed wiring. Note missing section of scupper downspout.

Reference:
TP 350 - [23] Scuppers, Rated 2 for Span 22
TP 350 - [45] Utilities and Utilities Supports, Rated 1 for Spans 22 and 23

Photo No.: 25

Location:
Span 22, end face of Capbeam 9 near right side, looking back & right.

Description:
Missing section of downspout pipe.

Reference:
TP 350 - [23] Scuppers, Rated 2 for Span 22

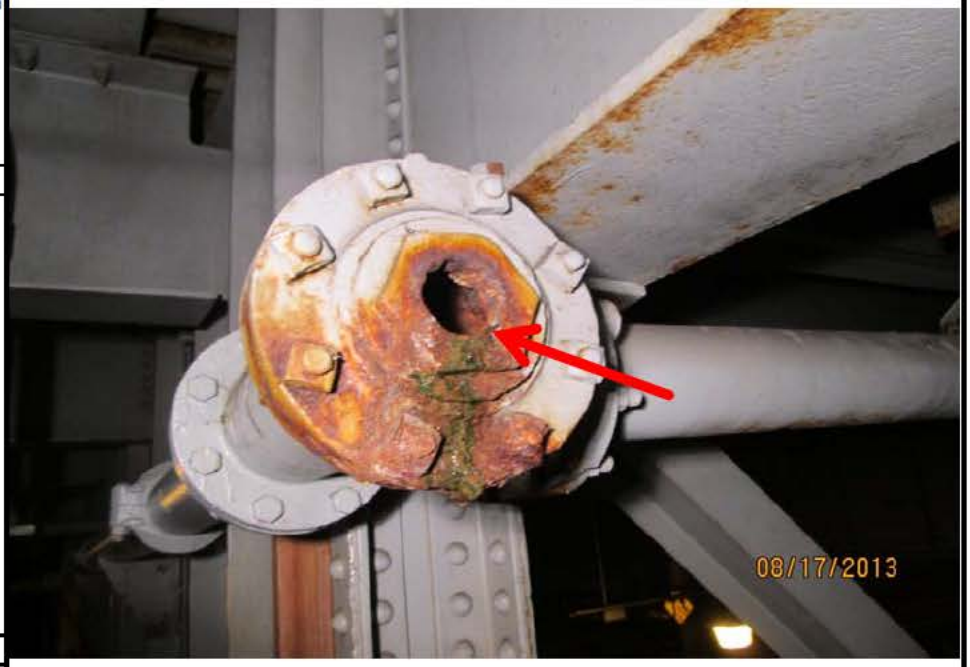


Photo No.: 26

Location:
Span 12, median barrier between Panel Points 15E-14E, looking left.

Description:
Typical localized pitting, corrosion holes and scrape marks on the median barrier. (Typical condi ion)

Reference:
TP 350 - [25] Median, Rated 4 for Spans 11-14

Photo No.: 27

Location:
Span 11, median barrier at Panel Point 11W, looking left.

Description:
Misaligned median barrier.

Reference:
TP 350 - [25] Median, Rated 4 for Spans 11-14

Photo No.: 28

Location:
Span 7, underside of deck between Stringers S17-S17', looking right.

Description:
Large spall 4' x 5' x 3" deep with exposed rusted rebar in deck.

Reference:
TP 350 - [27] Deck Structural, Rated 4 for Spans 1-9

Photo No.: 29

Location:
Span 10, orthotropic deck Rib 20 (PA numbering) over Secondary Floorbeam SFB 10, at Stringer S6 and between Panel Points 10W-1W, looking ahead and left.

Description:
Crack along the web of the orthotropic deck rib.

Reference:
TP 350 - [27] Deck Structural, Rated 5 for Spans 10 to 14

Photo No.: 30

Location:
Span 14, orthotropic deck rib over riser beam, between Stringers S7-S8 and Panel Point 8E, looking back.

Description:
Typical cracked weld between the orthotropic deck rib and the deck strap plate.

Reference:
TP 350 - [27] Deck Structural, Rated 5 for Spans 10 to 14

Photo No.: 31

Location:
Span 12, Secondary Floorbeam SFB 4, between Stringers S5-S6 and Panel Points 38E-37E, looking back and left.

Description:
Typical missing tie down bolt and plate connecting the deck strap plate to he top flange of the secondary floorbeam.

Reference:
TP 350 - [27] Deck Structural, Rated 5 for Spans 10 to 14

Photo No.: 32

Location:
Span 20, orthotropic deck between Stringers S10-S11, looking ahead.

Description:
The orthotropic deck exhibits localized corrosion at drilled holes in the deck plate.

Reference:
TP 350 - [27] Deck Structural, Rated 5 for Spans 15 to 23

Photo No.: 33

Location:
Span 10, Panel Point 2W, Main Floorbeam at Stringer S7, looking back and right.

Description:
Section loss and 2" diameter hole in he bottom of the web.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 34

Location:
Span 14, Stringer S8, at begin side of Panel Point 9E, looking right.

Description:
Localized moderate corrosion with corrosion hole and pitting in stringer web above the seated bearing area.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 35

Location:
Span 10, end face of floorbeam near Stringer S8 at Panel Point 10W, looking back and right.

Description:
Previously noted localized heavy pitting and section loss up to 1/4" in web of floorbeam below the roadway curbline has been repaired.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 36

Location:
Span 14, Secondary Floorbeam SFB 12 over Stringer S3, between Panel Points 9E-8E, looking back and right.

Description:
Previous web cracks along the base of the web have propagated beyond the drilled arrestor holes. Note areas of severe corrosion, pitting and corrosion hole in the base of web.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 37

Location:
Span 10, Secondary Floorbeam SFB 2 over Stringer S6 between Panel Points 10W-11W, looking ahead and left.

Description:
Missing (4 of 4) connection rivet/bolt between bottom flange of secondary floorbeam and top flange of stringer.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 38

Location:
Span 12, riser beam over floorbeam at Panel Point 21E between Stringers S4-S5, looking back and right.

Description:
Fully cracked web plates of riser beam over main floorbeam.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 39

Location:

[redacted]

Description:

[redacted]

Reference:

TP 350 - [28] Primary Members, Rated 5 for Spans 1-23

Photo No.: 40

Location:

[redacted]

Description:

[redacted]

Reference:

TP 350 - [28] Primary Members, Rated 5 for Spans 1-23

ASST. TEAM LEADER: William Ng
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Eric Hilliard, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 41

Location:
Span 21, Stringer S15 at the begin connection to capbeam at Pier 20, looking back and left.

Description:
Base of the stringer web at the connection to the capbeam has been repaired.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 17 and 21

Photo No.: 42

Location:
Span 12, lateral bracing connection plate at Stringer S6 to begin Secondary Floorbeam SFB1 connection, between Panel Points 21W-22W, looking right.

Description:
A new lateral bracing connection plate has been installed.

Reference:
TP 350 - [29] Secondary Members, Rated 5 for Spans 1 to 23

Photo No.: 43

Location:
Span 14, end diaphragm between Stringers S1-S2, at begin side of Panel Point 10E, looking ahead and left.

Description:
Deteriorated end diaphragm has been replaced with new bracing stringer to floorbeam members as part of ongoing Contract GWB244.022.

Reference:
TP 350 - [29] Secondary Members, Rated 5 for Spans 1 to 23

Photo No.: 44

Location:
Span 14, underside of deck between Stringers S7-S8 and Panel Points 9E-8E, looking ahead.

Description:
The paint system is in generally good condition.

Reference:
TP 350 - [30] Paint, Rated 5 for Spans 10 to 23

ASST. TEAM LEADER: William Ng
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Eric Hilliard, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 45

Location:
Span 5, deck joint within the westbound roadway, looking right.

Description:
Minor dirt accumulation within the deck joint.

Reference:
TP 350 - [31] Joints, Rated 4 for Span 5

Photo No.: 46

Location:
Span 12, deck joint within the eastbound roadway at Panel Point 24W, looking left.

Description:
Section of missing joint sealer within the right lane.

Reference:
TP 350 - [31] Joints, Rated 3 for Spans 10,12 and 14

Photo No.: 47

Location:
Span 12, underside of deck joint below the eastbound roadway at Panel Point 18W, looking left.

Description:
Joint sealer is partially debonded and is hanging below the joint.

Reference:
TP 350 - [31] Joints, Rated 3 for Spans 10,12 and 14

Photo No.: 48

Location:
Span 13, underside of finger joint at Panel Point 11E, below right lane of the westbound roadway, looking right.

Description:
Fully clogged trough below finger joint.

Reference:
TP 350 - [31] Joints, Rated 4 for Spans 11 and 13

Photo No.: 49

Location:
Span 17, underside of deck joint below the eastbound roadway, looking back and left.

Description:
Previously noted joint trough on end side of capbeam at Pier 17 has been removed.

Reference:
TP 350 - [31] Joints, Rated 3 for Span 17

Photo No.: 50

Location:
Span 20, deck joint within the left lane of the eastbound roadway, looking left.

Description:
Sections of missing joint sealer is allowing dirt and water leakage onto the structural steel members below. (Typical condition)

Reference:
TP 350 - [31] Joints, Rated 3 for Spans 17 & 20

Photo No.: 51

Location:
Span 20, underside of deck joint below the westbound roadway, looking ahead and right.

Description:
The entire left half of the joint trough is missing below the westbound roadway.

Reference:
TP 350 - [31] Joints,
Rated 3 for Span 20

Photo No.: 52

Location:
Span 20, underside of end deck joint below near median, looking right.

Description:
Fully clogged joint trough.
(Typical condi ion)

Reference:
TP 350 - [31] Joints,
Rated 3 for Span 20,
Rated 4 for Span 5

Photo No.: 53

Location:
Span 23, underside of deck joint at Stringer S8, looking right.

Description:
Drainage trough exhibits a 4" diameter corrosion hole.

Reference:
TP 350 - [31] Joints,
Rated 3 for Span 23

Photo No.: 54

Location:
Span 12, Stringer S8 bearing at end side of Panel Point 18W, looking right.

Description:
Severely corroded with up to 100% rivet head loss at the stringer bottom flange connection to the seated bearing angle at he main floorbeam.
(Typical condi ion)

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Spans 11, 12 and 14

Photo No.: 55

Location:
Span 12, Stringer S3 bearing at begin side of Panel Point 26W, looking ahead and left.

Description:
Previously noted seated connection of the stringer which exhibited (4 of 4) missing/sheared rivets and sole plate shifted 1/2" left and 1/4" back relative to the bearing plate has been repaired.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Spans 11 and 12
(Locally rated 5)

Photo No.: 56

Location:
Span 12, Stringer S6 bearing at Panel Point 25W, looking back.

Description:
Frozen sliding plate due to pack rust between bearing plates. (Typical condition)

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Spans 11, 12 and 14

Photo No.: 57

Location:
Span 14, bearing for right sidewalk at Panel Point 1E, looking ahead and right.

Description:
The bearing pedestal is spalled with approximately 10% undermining below the masonry plate.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Span 14
TP 350 - [34] Pedestals,
Rated 4 for Span 14

Photo No.: 58

Location:
Span 16, intermediate bearing for right sidewalk stringer, looking left.

Description:
Previously noted severely spalled bearing pedestal undermining the masonry plate has been repaired.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 5 for Span 16
TP 350 - [34] Pedestals,
Rated 5 for Span 16

Photo No.: 59

Location:
Span 17, right bearing below end capbeam, looking back and right.

Description:
Severe corrosion with approximately 50% section losses to the anchor bolt nuts at he capbeam bearing.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Span 17

Photo No.: 60

Location:
Span 17, Stringer S13 bearing at end capbeam, looking back and left.

Description:
Sheared off (1 of 2) tie down bolts and cracked shim plate at the seated stringer bearing connection angle to the Pier 17 capbeam.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Span 17

Photo No.: 61

Location:
Span 20, Stringer S14 bearing at end capbeam, looking ahead.

Description:
Missing (1 of 2) tie down bolts at he seated stringer bearing connection angle to the Pier 20 capbeam.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 for Span 20
TP 350 - [34] Pedestals,
Rated 4 for Span 20

Photo No.: 62

Location:
Span 20, Stringer S18 bearing at end capbeam, looking ahead and left.

Description:
Previously noted seated stringer bearing connection angle which exhibited severe corrosion with heavy pack rust and (2 of 2) sheared tie down bolts has been repaired.

Reference:
TP 350 - [33] Bearings, Anchor Bolts, Pads,
Rated 4 (Locally rated 5)
TP 350 - [34] Pedestals,
Rated 4 (Locally rated 5)

Photo No.: 63

Location:
Span 13, near Panel Point 14E, looking back and left.

Description:
Heavy accumulation of debris on top of horizontal connection plate below he finger joint near the left curbline.

Reference:
TP 350 - [35] Top of Pier Cap or Beam,
Rated 4 for Spans 10 thru 30

Photo No.: 64

Location:
Span 23, end center column, looking down and left.

Description:
Up to 3/16" pitting in column base plate and 100% section loss to anchor bolt nuts at the base of the pier column.

Reference:
TP 350 - [38] Pier Columns,
Rated 4 for Span 23

Photo No.: 65

Location:
Span 3, between S16-S17, looking back and right.

Description:
Broken underdeck ligh ing fixture.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Spans 3 and 6

Photo No.: 66

Location:
Span 10, right sidewalk between Panel Points 5W-6W, looking left.

Description:
Disconnected electrical conduit at base of lighting standard exposing electrical wiring.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Span 10

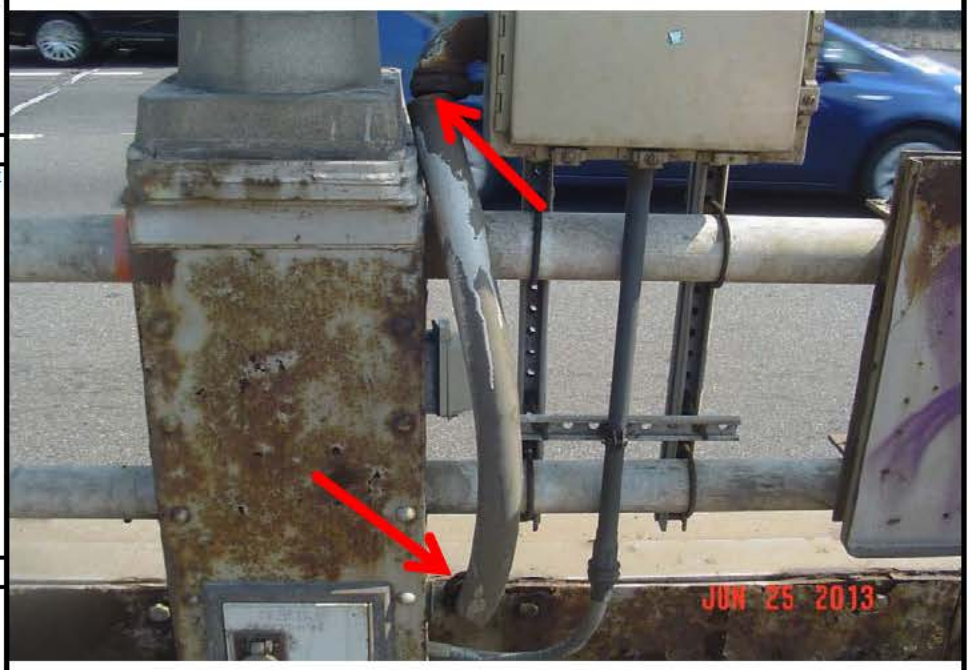


Photo No.: 67

Location:
Span 12, left sidewalk between Panel Points 29E-28E, looking ahead.

Description:
Unsecured handhole cover at the base of the lighting standard due to (1 of 2) missing screws is temporarily secured with tape.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Span 12

Photo No.: 68

Location:
Span 13 at left curbline between Panel Points 14E-11E (New York Tower), looking right.

Description:
Missing lighting standard.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Span 13

Photo No.: 69

Location:
Span 14, lighting standard at right sidewalk between Panel Points 3E-2E, looking up & back.

Description:
Cracked lens cover and twisted arm of lighting standard due to impact damage.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Span 14

Photo No.: 70

Location:
Span 10, underdeck lighting fixture between Stringers S7 and S8, between Panel Points 2W-3W, looking up and ahead.

Description:
Broken/non-functional underdeck lighting fixture. (Typical condi ion)

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Spans 10 to 14, 18, 19 and 22

ASST. TEAM LEADER: William Ng
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Eric Hilliard, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 71

Location:
Span 13, underdeck lighting fixture near left side between Panel Points 14E-11E, looking up and left.

Description:
Loose support bracket for underdeck lighting fixture due to (1 of 2) missing U-bolt nuts.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Spans 10 to 14

Photo No.: 72

Location:
Span 17, left sidewalk, looking right.

Description:
Missing lighting standard wi h exposed electrical wiring remaining at base.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Span 17

Photo No.: 73

Location:
Span 20, left sidewalk, looking back.

Description:
Missing arm and light fixture at lighting standard.

Reference:
TP 350 - [43] Lighting Standards and Fixtures, Rated 1 for Span 20

Photo No.: 74

Location:
Span 22, overhead sign structure attached to end capbeam, looking back and left.

Description:
Missing (1 of 4) bolts at right arm connection of sign structure attached to the bottom flange of capbeam.

Reference:
TP 350 - [44] Sign Structures, Rated 4 for Span 22

Photo No.: 75

Location:
Span 9, underside of deck near Stringer S5 looking ahead and left.

Description:
Broken electrical outlet with exposed electrical wiring.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 6 and 9

Photo No.: 76

Location:
Span 10, underside of left sidewalk between Panel Points 29W-28W, looking back and right.

Description:
Deteriorated conduits and electrical junction box with exposed wiring.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 77

Location:
Span 14, underside of left sidewalk between Panel Points 6E-5E, looking back.

Description:
Partially disconnected u ility box support angle.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 78

Location:
Span 12, underside of right sidewalk between Panel Points 14W-15W, looking back.

Description:
Disconnected electrical conduits with exposed and hanging wires.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 79

Location:
Span 10, below right sidewalk between Panel Point 10W-11W, looking left.

Description:
The grating for the maintenance platform exhibits a severely deteriorated section.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 80

Location:
Span 11, maintenance catwalk within the right leg of the New Jersey Tower at Level 3, looking back.

Description:
Section loss and small corrosion hole in the catwalk support member has been repaired.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14
(Locally rated 5)

Photo No.: 81

Location:
Span 14, catwalk support, right leg of NJ Tower at Level 3M, looking right.

Description:
Severe corrosion and holes in the catwalk support member near the connection. (Typical condition)

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 82

Location:
Span 14, catwalk support, left leg of NJ Tower at Level 3M, looking right.

Description:
Severely deteriorated catwalk support member with missing bolts at the connection.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 83

Location:
Span 12, left sidewalk between Panel Points 28W-29W, looking back.

Description:
Missing emergency blue light at he top of the post with exposed wiring.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

Photo No.: 84

Location:
Span 12, right main Cable D at Panel Point 15E, looking right.

Description:
Safety rope has one broken wire at he stanchion bracket.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14

ASST. TEAM LEADER: William Ng
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

TEAM LEADER: Eric Hilliard, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

Photo No.: 85

Location:
Span 14, left main Cable D at Panel Point 8E, looking back and left.

Description:
Previously noted (1 of 2) broken safety cable stanchions has been repaired.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14
(Locally rated 5)

Photo No.: 86

Location:
Span 14, left main Cable D between Panel Points 2E-1E, looking back.

Description:
Previously noted slightly loose fan-type security fence and torn neoprene pad at he circumferential clamping angles have been repaired.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 10 to 14
(Locally rated 5)

Photo No.: 87

Location:
Span 23, underside of deck near Stringer S12, looking ahead and right.

Description:
Missing cover at electrical junction box with exposed electrical wiring.

Reference:
TP 350 - [45] Utilities and Utilities Supports,
Rated 1 for Spans 22 and 23

Photo No.: 88

Location:
Span 14, pin at Stringer S1, Panel Point 10E, looking ahead.

Description:
Pin connecting the stringer to the main floorbeam exhibits 1/4" section loss.

Reference:
TP 350 - [28] Primary Members, Rated 5 for Spans 10 to 14

Photo No.: 89

Location:
Span 13, Sign structure at NY Tower, looking ahead.

Description:
Cantilevered sign structure exhibits (7 of 7) non-functioning light fixtures

Reference:
TP 350 - [44] Sign structure, Rated 4 for Span 13

ASST. TEAM LEADER: William Ng
FEATURE CROSSED: ROUTE 9A AND HUDSON RIVER

Location:

Description:

NONE

Reference:

TEAM LEADER: Eric Hilliard, PE
FEATURE CARRIED: I-95 (GWB UPPER LEVEL)

LOAD RATING

2013 LEVEL 1 LOAD RATING SUMMARY
(LOWEST HS CONTROLLING ELEMENTS)

RC – BIN	N3 – 5522508
Featured(s) Carried	I-95 (GWB Upper Level)
Feature(s) Crossed	Route 9A and Hudson River
Load Rating Unit (Spans)	Steel Spans (Spans 1-23)
Analysis Method	Load Factor (Floorbeam/Stringer/Crossbeam) Working Stress (Floorbeam/Stringer/Crossbeam)
Controlling Element	**Stringer A** **At Spans 42W-43, NYSDOT Span 12**
Calculated By (Date)	M.L./R.M./J.B./A.A./C.D. (12/1997 - Lichtenstein)
Checked By (Date)	R.M./J.B./A.A./C.D. (12/1997 - Lichtenstein)
Component	Interior Floorbeam G2 At G2-G3, NYSDOT Span 8
H Inventory and Operating (Tons)	L.F.: Inventory – H-20 (36.8T), Operating – H-20 (61.3T) W.S.: Inventory – H-20 (37.3T), Operating – H-20 (59.3T)
HS Inventory and Operating (Tons)	**L.F.: Inventory – HS-20 (49.9T), Operating – HS-20 (83.2T)** W.S.: Inventory – HS-20 (50.6T), Operating – HS-20 (80.5T)
Component	Stringer A At Spans 42W-43, NYSDOT Span 12
H Inventory and Operating (Tons)	L.F.: Inventory – H-20 (23.2T), Operating – H-20 (38.6T) W.S.: Inventory – H-20 (23.6T), Operating – H-20 (39.2T)
HS Inventory and Operating (Tons)	**L.F.: Inventory – HS-20 (31.0T), Operating – HS-20 (51.6T)** W.S.: Inventory – HS-20 (31.5T), Operating – HS-20 (52.3T)
Component	Crossbeams At Spans 1E-11E, 14E-14W, 11W-2W, NYSDOT Spans 10-14
H Inventory and Operating (Tons)	L.F.: Inventory – H-20 (22.4T), Operating – H-20 (37.3T) W.S.: Inventory – H-20 (26.2T), Operating – H-20 (36.4T)
HS Inventory and Operating (Tons)	**L.F.: Inventory – HS-20 (40.3T), Operating – HS-20 (67.2T)** W.S.: Inventory – HS-20 (47.1T), Operating – HS-20 (65.6T)

Notes:
During this 2013 Biennial Inspection, there were no significant losses in section of bridge members in comparison to the conditions found in the 2011 Biennial Inspection to warrant load rating updates.

Load Rating Engineer	Pak So, P.E.
P.E. Number	081576
Date	10/14/2013

INVENTORY

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	8

DATE 10/18/13

PREPARED BY Eric Hilliard, PE

SPAN NO.			Wa king	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/ Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	R	I	X	X	X				X	X	X						X	X	X			9	9	1	7	2
0	0	1	X	X														X	X			9	9	1	7	2
0	0	2	X	X	X													X	X			9	9	1	7	2
0	0	3	X	X	X													X	X			9	9	1	7	2
0	0	4	X	X	X													X	X			9	9	1	7	2
0	0	5	X	X														X	X			9	9	1	7	2
0	0	6	X	X														X	X			9	9	1	7	2
0	0	7	X	X														X	X			9	9	1	7	2
0	0	8	X	X														X	X			9	9	1	7	2
0	0	9	X	X														X	X			9	9	1	7	2
0	1	0	X	X	X				X	X							X	X	X			9	9	1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	8

DATE 10/18/13

PREPARED BY Eric Hilliard, PE

SPAN NO. 10 11 12	Wa king 13	Step Ladder 14	Ext. Ladder 15	40' UBIU 16	60' UBIU 17	LGWT-UBIU 18	<= 30' Lift 19	30-90" Lift 20	> 90" Lift 21	Row Boat 22	Barge 23	Diving 24	RR Flagging 25	Electric RR 26	Scaffolding 27	Lane Closure 28	W/Shad Veh 29	Other 30	Contractor Code 116	Record Code 118	TX Code 120
B R I																			9 9	1 7	2
0 1 1	X		X				X									X	X		9 9	1 7	2
0 1 2	X	X	X				X	X							X	X	X		9 9	1 7	2
0 1 3	X		X				X									X	X		9 9	1 7	2
0 1 4	X	X	X				X	X							X	X	X		9 9	1 7	2
0 1 5	X	X					X	X	X							X	X		9 9	1 7	2
0 1 6	X	X					X	X	X							X	X		9 9	1 7	2
0 1 7	X	X					X	X	X							X	X		9 9	1 7	2
0 1 8	X	X					X	X	X							X	X		9 9	1 7	2
0 1 9	X						X	X	X							X	X		9 9	1 7	2
0 2 0	X		X				X	X	X							X	X		9 9	1 7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

e) If more than one form is required for a single BIN: complete each form as described above, except each additional form must have the "BRI" span line crossed out.

f) IF DIVING ACCESS IS REQUIRED (as directed by Inspection TA 87-012) FOR EITHER OF THE TWO SUBSTRUCTURE FACES FACING THE SPAN BEING CODED, INDICATE SO WITH AN "X". THIS MUST BE DONE EVEN IF A DIVING INSPECTION IS NOT REQUIRED DURING THE CURRENT INSPECTION SEASON. NOTE that some NYSDOT documents refer to bridges requiring inspection as having an "I" ACCESS CATEGORY.

g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
BRIDGE INVENTORY AND INSPECTION SYSTEM

ACCESS CATEGORY CODING FORM

REG 1	CO. 2	BRIDGE ID NO. 3						
N	3	5	5	2	2	5	0	8

DATE 10/18/13

PREPARED BY Eric Hilliard, PE

SPAN NO.			Walking	Step Ladder	Ext. Ladder	40' UBIU	60' UBIU	LGWT-UBIU	<= 30' Lift	30-90" Lift	> 90" Lift	Row Boat	Barge	Diving	RR Flagging	Electric RR	Scaffolding	Lane Closure	W/Shad Veh	Other		Contractor Code		Record Code		TX Code
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		116		118		120
B	R	I																				9	9	1	7	2
0	2	1	X						X	X	X							X	X			9	9	1	7	2
0	2	2	X						X	X	X							X	X			9	9	1	7	2
0	2	3	X						X	X	X							X	X			9	9	1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2
																								1	7	2

INSTRUCTIONS: - Only a single BIN will be addressed on any single sheet –

a) Complete the date, preparer and sheet number headings.

b) Enter the region, county and BIN number.

c) In the first line of the form, having a span number of "BRI", place an "X" in each access category necessary for a proper inspection of the entire bridge and enter the contractor code.

d) In all subsequent rows, WITH ONE SPAN PER LINE AND USING AS MANY LINES AS THERE ARE SPANS FOR THE ENTIRE BRIDGE STRUCTURE, enter the span number being addressed (columns 10-12, right justified and zero filled) place an "X" in each access category necessary for a proper inspection of that span (and the two substructure faces facing that span) and enter the contractor code.

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g) Recode the entire bridge if ANY UPDATING of the Access Category is necessary.

h) Use col. 28 for situations requiring lane closure WITHOUT a shadow vehicle and col. 29 for lane closure WITH a shadow vehicle.

DETAILS OR SITUATIONS REQUIRING SPECIAL EMPHASIS DURING INSPECTION

BD 186

BIN 5522508

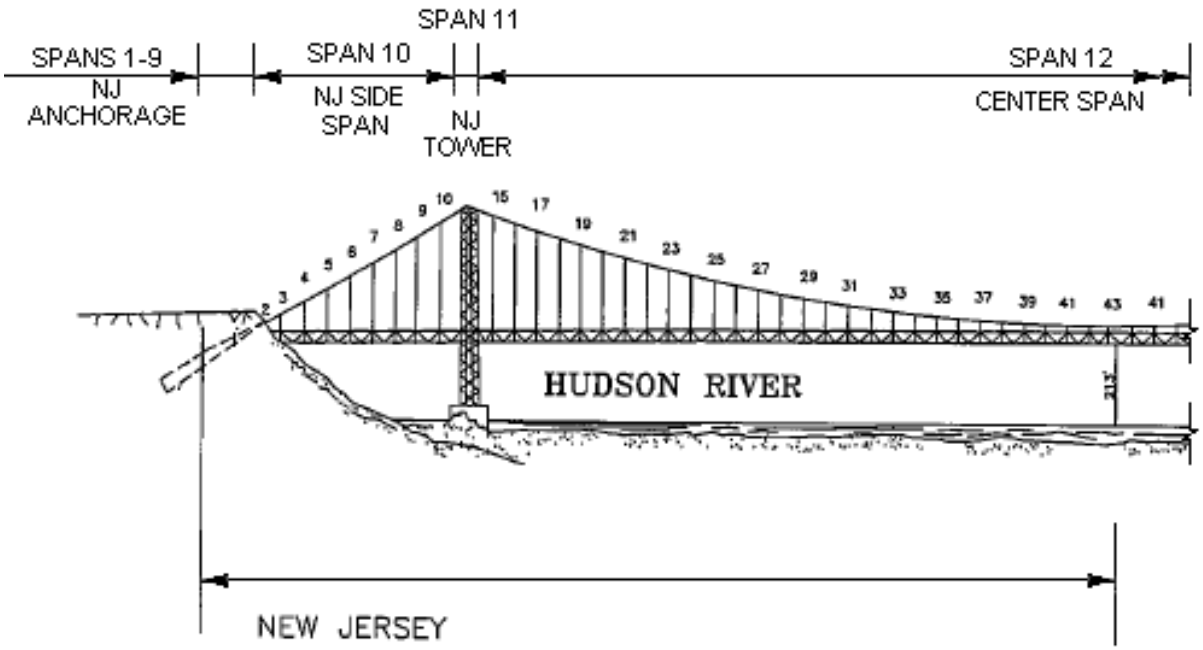
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 1 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION
(LOOKING NORTH)

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT, FRACTURE CRITICAL CAP BEAMS AND FATIGUE DETAILS IN THE NEW JERSEY ANCHORAGE, SPANS 1 THROUGH 9, SEE DETAIL SHEET 5 OF 17.

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT AND FRACTURE CRITICAL MEMBERS INCLUDING MAIN CABLES, END CONNECTIONS OF SUSPENDER ROPES, UPPER TRUSS MEMBERS AND UPPER PORTION OF TRUSS DIAGONALS AND FLOORBEAMS SPACED AT 60'-0" C/C, SPANS 10 THROUGH 14.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE MAIN FLOORBEAMS AND STRINGERS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION. (SEE SHEET 3 OF 17)

EHilliard PE (63761)
10/18/13

BD 186

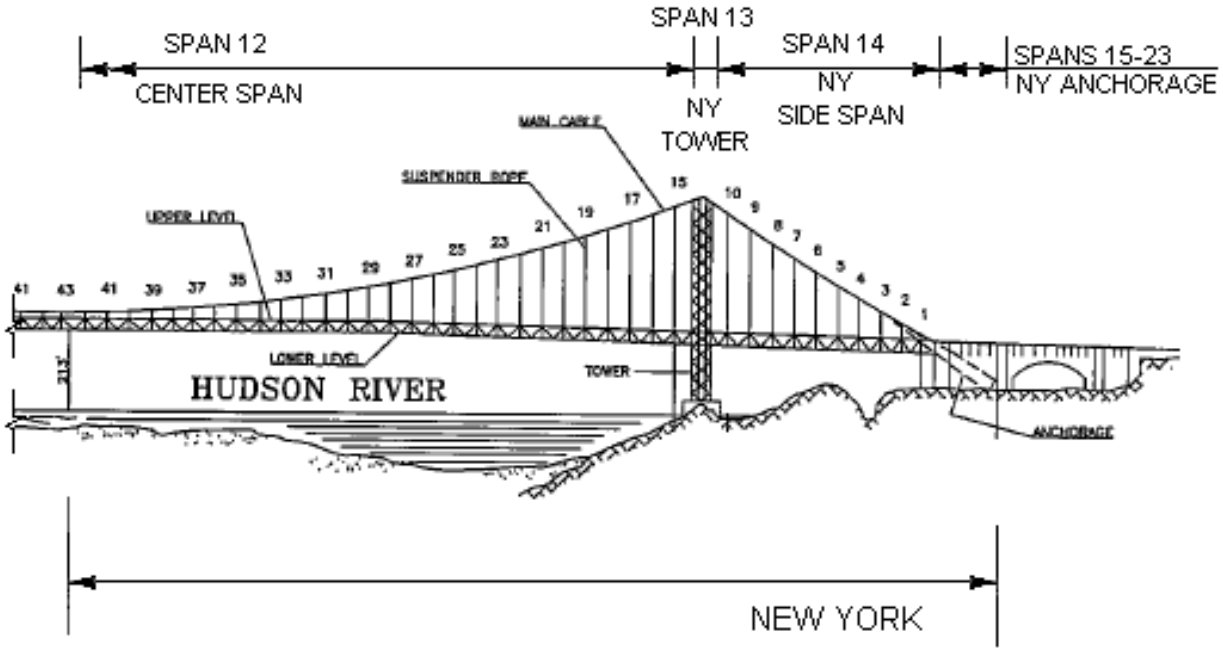
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 2 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



TYPICAL BRIDGE ELEVATION (LOOKING NORTH)

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT AND FRACTURE CRITICAL MEMBERS INCLUDING MAIN CABLES, END CONNECTIONS OF SUSPENDER ROPES, UPPER TRUSS MEMBERS AND UPPER PORTION OF TRUSS DIAGONALS AND FLOORBEAMS SPACED AT 60'-0" C/C, SPANS 10 THROUGH 14.

100% HANDS-ON INSPECTION WAS PERFORMED ON ALL NON-REDUNDANT, FRACTURE CRITICAL CAP BEAMS AND FATIGUE DETAILS IN THE NEW YORK ANCHORAGE, SPANS 15 THROUGH 23. SEE FRAMING PLAN AND DETAILS ON SHEET 4 OF 17.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE MAIN FLOORBEAMS AND STRINGERS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION. (SEE SHEET 3 OF 17)

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

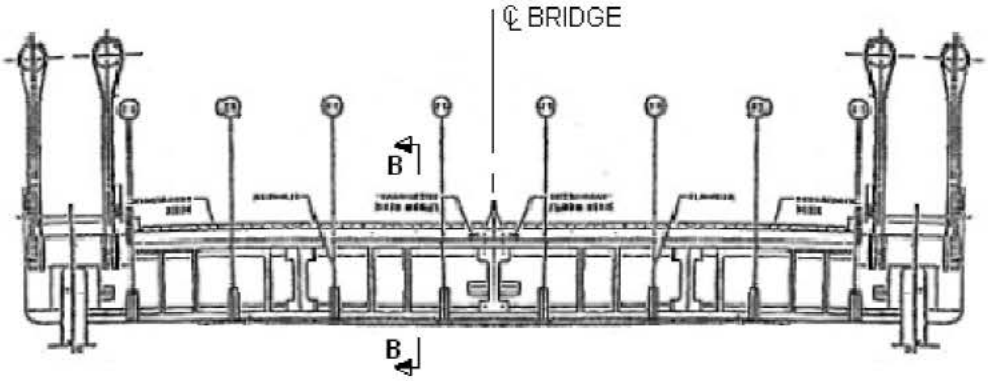
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 3 **OF** 17

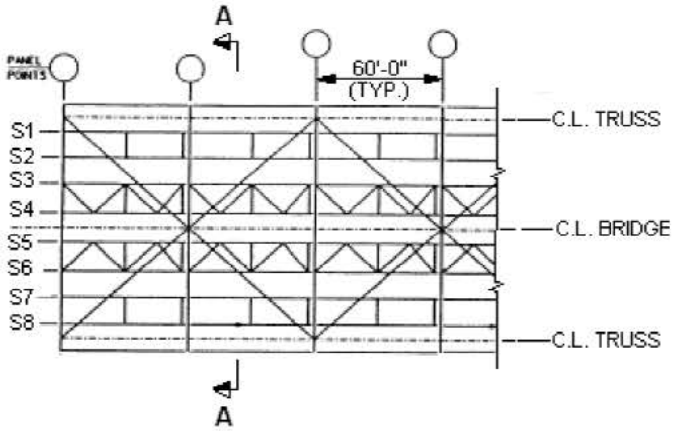
TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

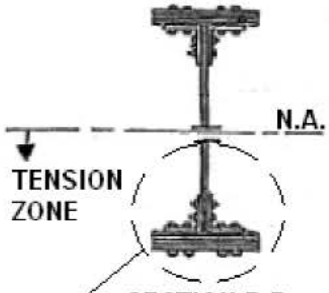
Feature Crossed: ROUTE 9A AND HUDSON RIVER



SECTION A-A
TYPICAL UPPER LEVEL FLOORBEAM
(LOOKING WEST)



UPPER LEVEL BRIDGE FRAMING PLAN



SECTION B-B

CATEGORY "D"

RIVETED CONNECTION OF FLOORBEAMS AND STRINGERS IN TENSION ZONE

100% CLOSE-UP, HANDS-ON INSPECTION WAS PERFORMED ON ALL FLOORBEAMS SPACED 60'-0" C/C IN SPANS 10 THROUGH 14.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE MAIN FLOORBEAMS AND STRINGERS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION.

EHilliard PE (63761)
10/18/13

BD 186

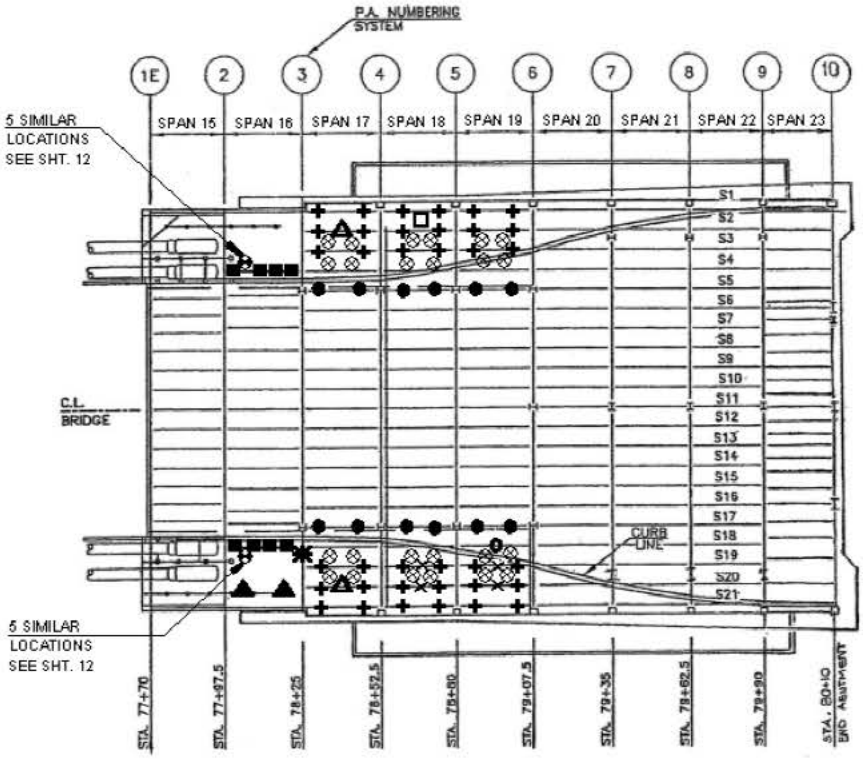
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 4 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



LOCATIONS OF SPECIAL EMPHASIS

UPPER LEVEL- NEW YORK ANCHORAGE FRAMING PLAN

LEGEND

- ○ BRACING IS FIELD WELDED TO GIRDER BOTTOM FLANGE, SPAN 19. SEE DETAIL SHT. 7 OF 17 (I LOCATION)
- ● STEEL ANGLE IS FIELD WELDED LONGITUDINALLY AND TRANSVERSELY TO GIRDER BOTTOM FLANGE, SPANS 17, 18 AND 19. SEE DETAIL SHT. 6 OF 17.
- × STEEL PLATE IS FIELD WELDED VERTICALLY TO WEB OF GIRDER, SPANS 18 AND 19. SEE DETAIL SHT. 9 OF 17.
- ✚ STEEL ANGLE SITTING ON TOP OF BOTTOM FLANGE OF GIRDERS ACTING AS SUPPORT FOR PIPE HANGER IS FIELD WELDED TO THE GIRDER BOTTOM FLANGES, SPANS 17, 18 AND 19. SEE DETAIL SHT. 9 OF 17.
- ✱ STEEL ANGLE SUPPORTING HIGH VOLTAGE CONDUITS IS FIELD WELDED TO FLOORBEAM BOTTOM FLANGE, SPAN 16. SEE DETAIL SHT. 17 OF 17.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE CAPBEAMS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION. (SEE SHEET 5 OF 17)

- △ FLAME CUT "T" SECTION FIELD WELDED TO GIRDER BOTTOM FLANGE, SPAN 17. SEE DETAIL SHT. 10 OF 17.
- ▲ STEEL CHANNEL IS FIELD WELDED TO GIRDER BOTTOM FLANGE, SPAN 16. SEE DETAIL SHT. 11 OF 17.
- ⊖ STEEL ANGLE SUPPORTING SIDEWALL IS FIELD WELDED TO BOTTOM FLANGE, SPAN 16. SEE DETAIL SHT. 12 OF 17.
- ⊗ STEEL ANGLE IS FIELD WELDED TO WEB OF GIRDER, SPANS 17, 18 AND 19. SEE DETAIL SHT. 8 OF 17.
- ■ STEEL "T" BEAM IS FIELD WELDED TO BOTTOM OF TOP FLANGE AND TOP OF BOTTOM FLANGE AND ALSO TO WEB OF ADJACENT GIRDER, SPAN 16. SEE DETAIL SHT. 13 OF 17.
- □ STEEL DIAPHRAGMS ARE FIELD WELDED TO WEB AND BOTTOM OF TOP FLANGE AND TOP OF BOTTOM FLANGE, SPAN 18. SEE DETAIL SHT. 14 OF 17.

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

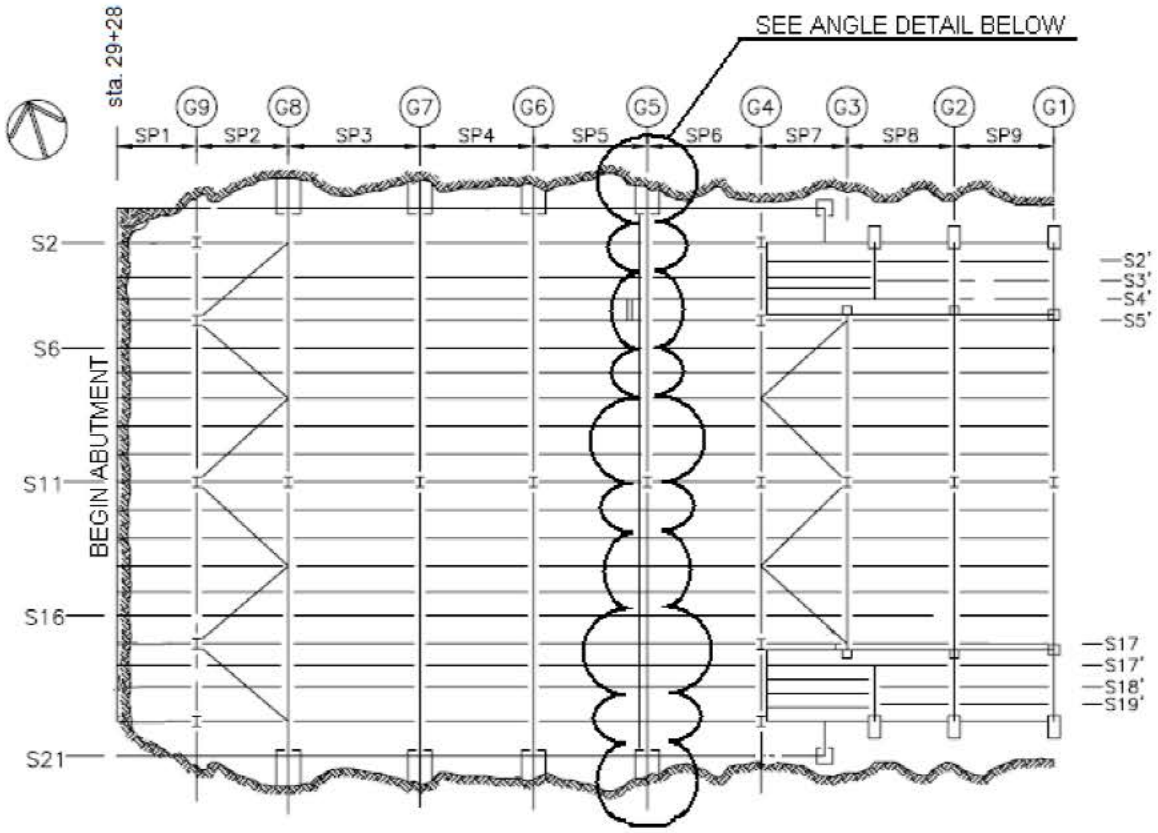
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 5 **OF** 17

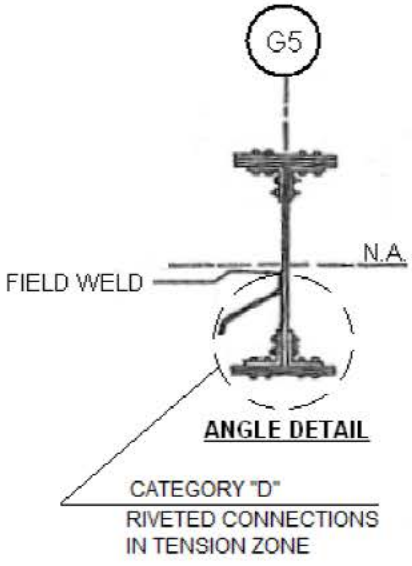
TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



FRAMING PLAN
NEW JERSEY ANCHORAGE



ANGLE DETAIL

DEFLECTIVE STEEL PLATE UNDER DECK JOINT IS FIELD WELDED TO THE WEB OF THE FLOORBEAM IN THE TENSION ZONE.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON CATEGORY "E" WELD.

ALL BUILT-UP RIVETED CONNECTIONS IN THE TENSION ZONE OF THE CAPBEAMS ARE CONSIDERED CATEGORY 'D' FATIGUE DETAILS AND RECEIVED 100% CLOSE-UP VISUAL INSPECTION.

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

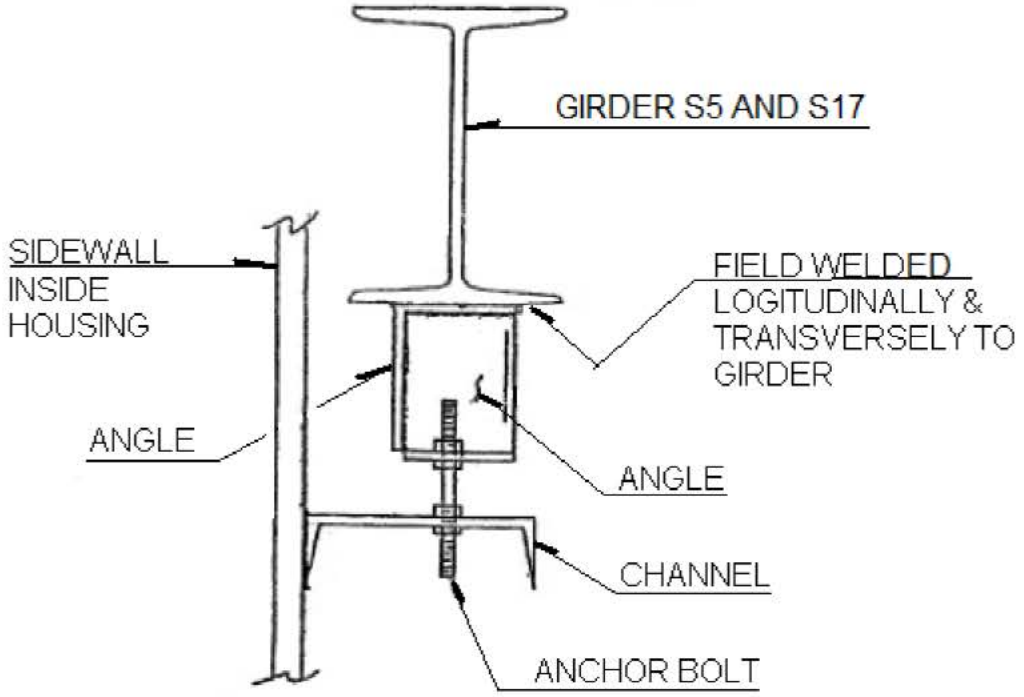
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 6 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



ANGLE DETAIL - SPANS 17, 18 AND 19

(LEGEND ●)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL ANGLE DETAILS CATEGORY "D" WELD.

EHilliard PE(63761)
10/18/13

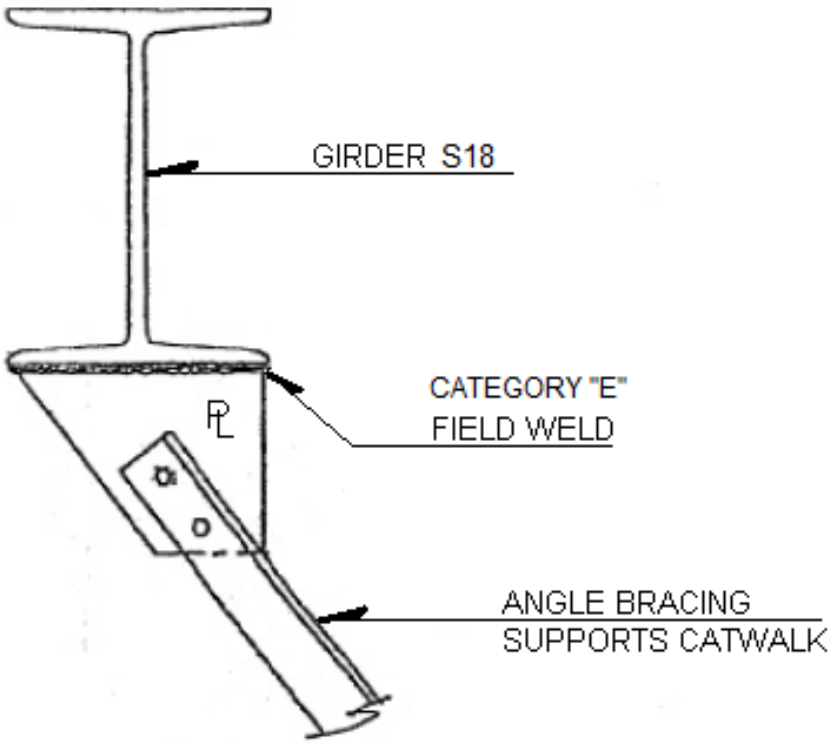
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 7 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



BRACING DETAIL - SPAN 19

(LEGEND ⊙)

NOTES:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON CATEGORY "E" BRACING FIELD WELDED CONNECTION.

EHilliard PE (63761)
10/18/13

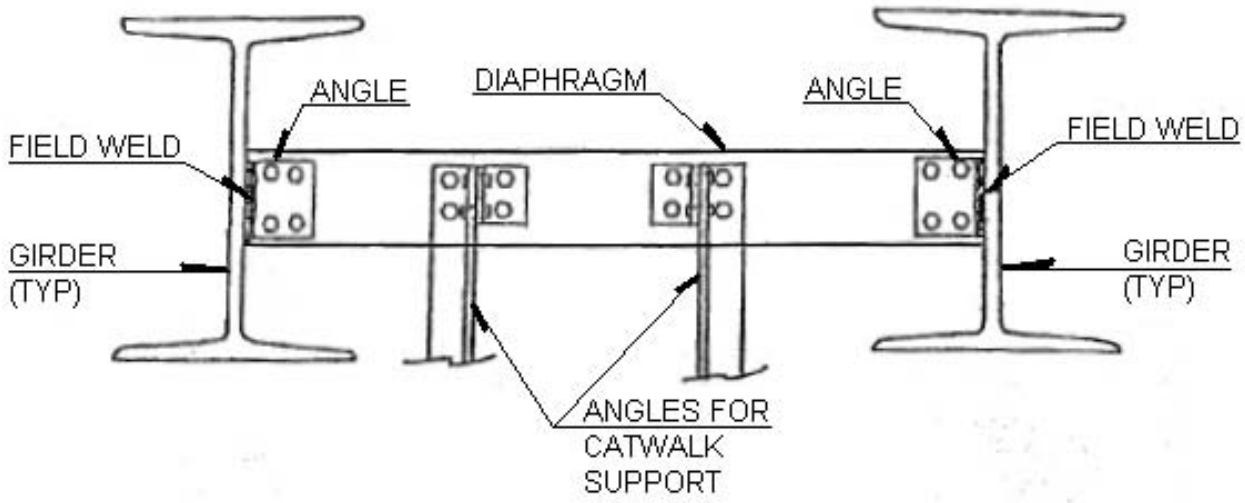
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 8 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



DIAPHRAGM ANGLE DETAIL
SPANS 17, 18 & 19 AT GIRDERS S3, S4, S19 & S20

(LEGEND ⊗)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON INSPECTION WAS PERFORMED ON ALL DIAPHRAGMS FOR CATWALK SUPPORT FIELD WELD CATEGORY "D".

EHilliard PE (63761)
10/18/13

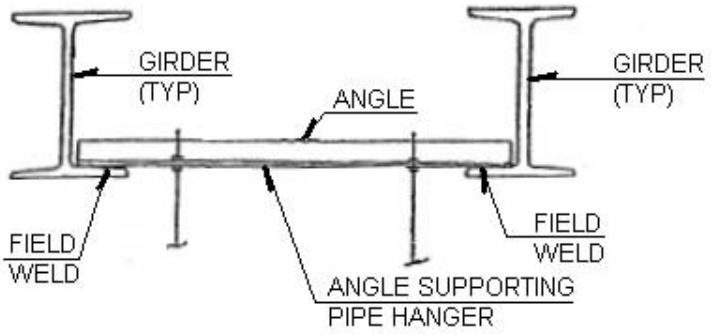
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 9 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER

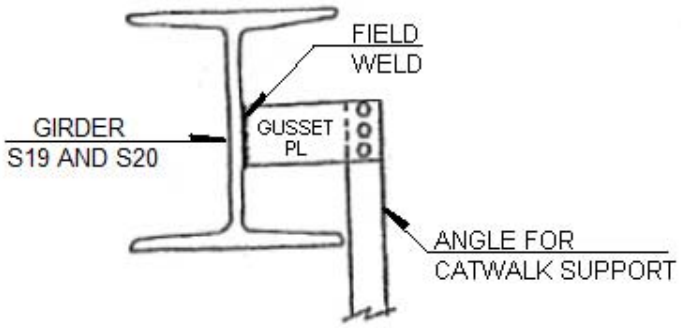


NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL PIPE HANGER ANGLE DETAILS, CATEGORY "C" FIELD WELD.

PIPE HANGER ANGLE DETAIL
SPANS 17, 18 & 19 - GIRDERS S1, S2, S3, S19, S20 & S21
(LEGEND ✚)



NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL CATWALK FIELD WELDED CATEGORY "C" CONNECTIONS.

TRANSVERSE WEB GUSSET PLATE DETAIL
SPANS 18 & 19
(LEGEND ✕)

EHilliard PE (63761)
10/18/13

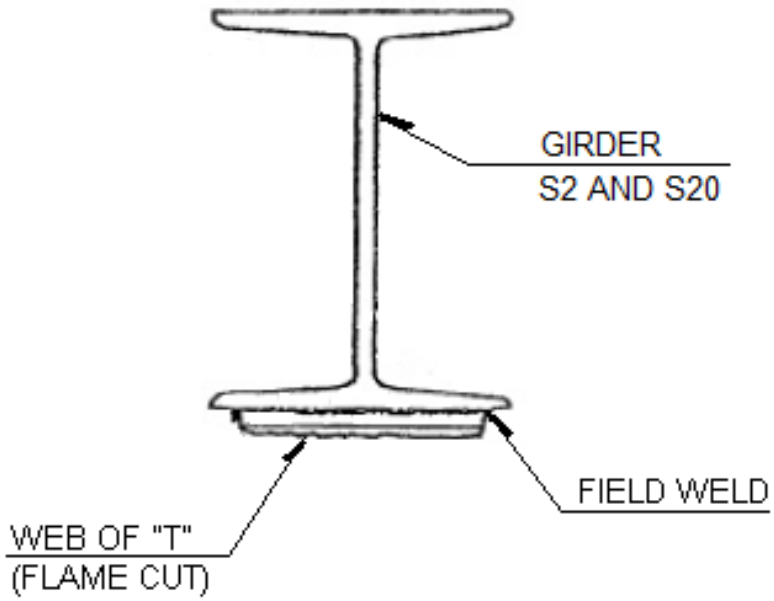
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 10 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



FLAMED CUT "T" DETAIL - SPAN 17

(LEGEND ▲)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON CATEGORY "E" COVER PLATE WELDS.

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

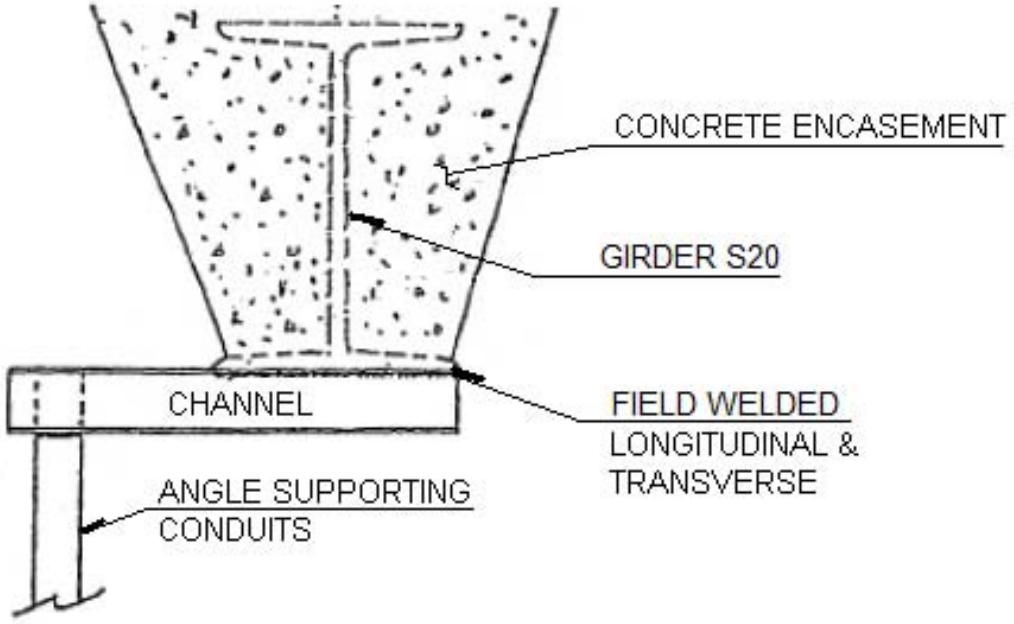
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 11 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



CHANNEL DETAIL - SPAN 16

(LEGEND ▲)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL CHANNEL DETAILS CATEGORY "D" WELD.

EHilliard PE (63761)
10/18/13

BD 186

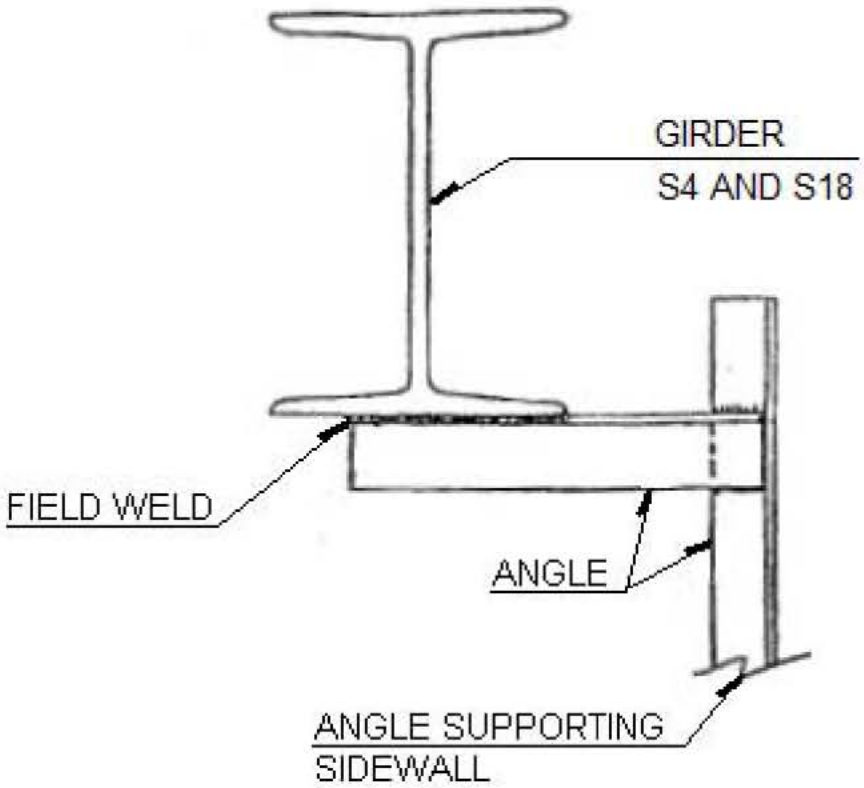
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



SIDEWALL ANGLE DETAIL - SPAN 16

(LEGEND ❽)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL SIDEWALL ANGLE DETAILS CATEGORY "D" FIELD WELDED TO GIRDER BOTTOM FLANGE.

EHilliard PE (63761)
10/18/13

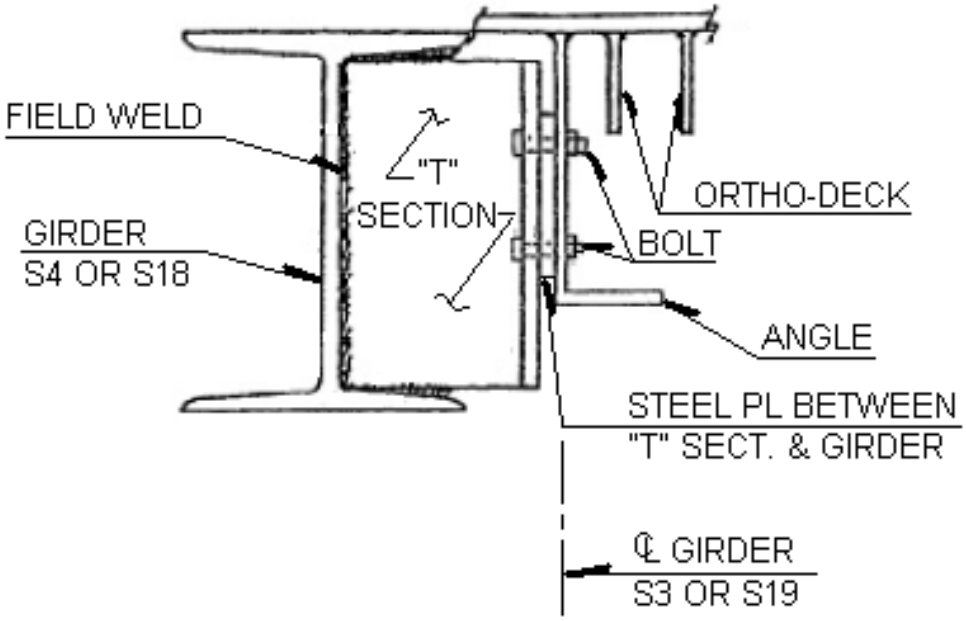
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 13 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



"T" SECTION DETAIL - SPAN 16

(LEGEND ■)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL "T" BEAM TO GIRDER CATEGORY "C" FIELD WELDED CONNECTIONS.

EHilliard PE (63761)
10/18/13

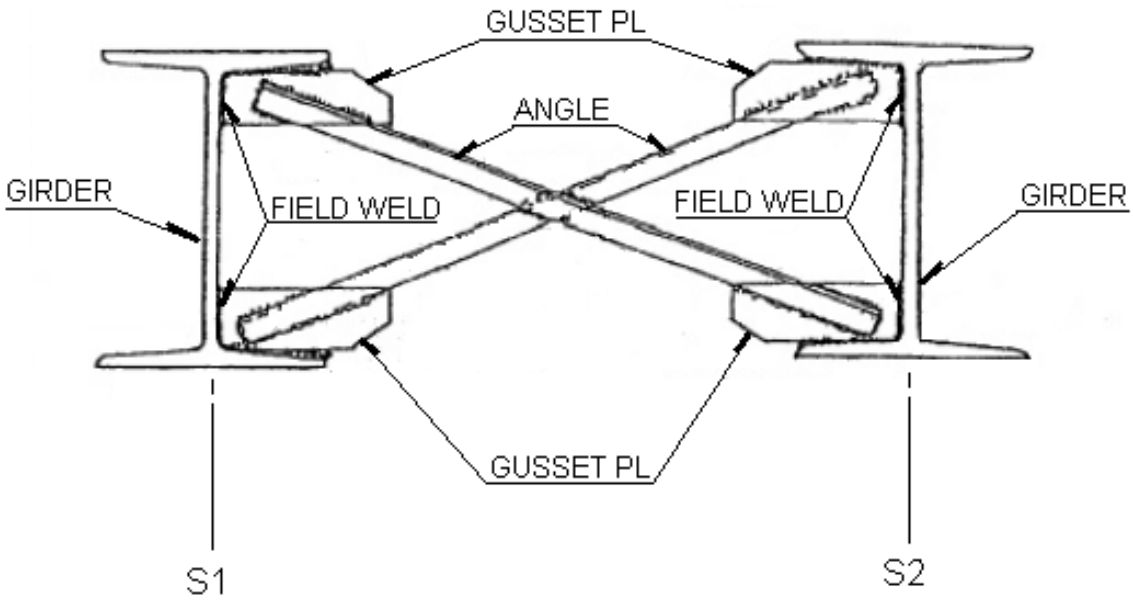
BIN 5522508

NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT
SHEET 14 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



CROSS ANGLE DIAPHRAGMS DETAIL - SPAN 18

(LEGEND ◻)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON ALL CROSS ANGLE DIAPHRAGMS DETAILS, CATEGORY "C" FIELD WELDED CONNECTIONS.

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

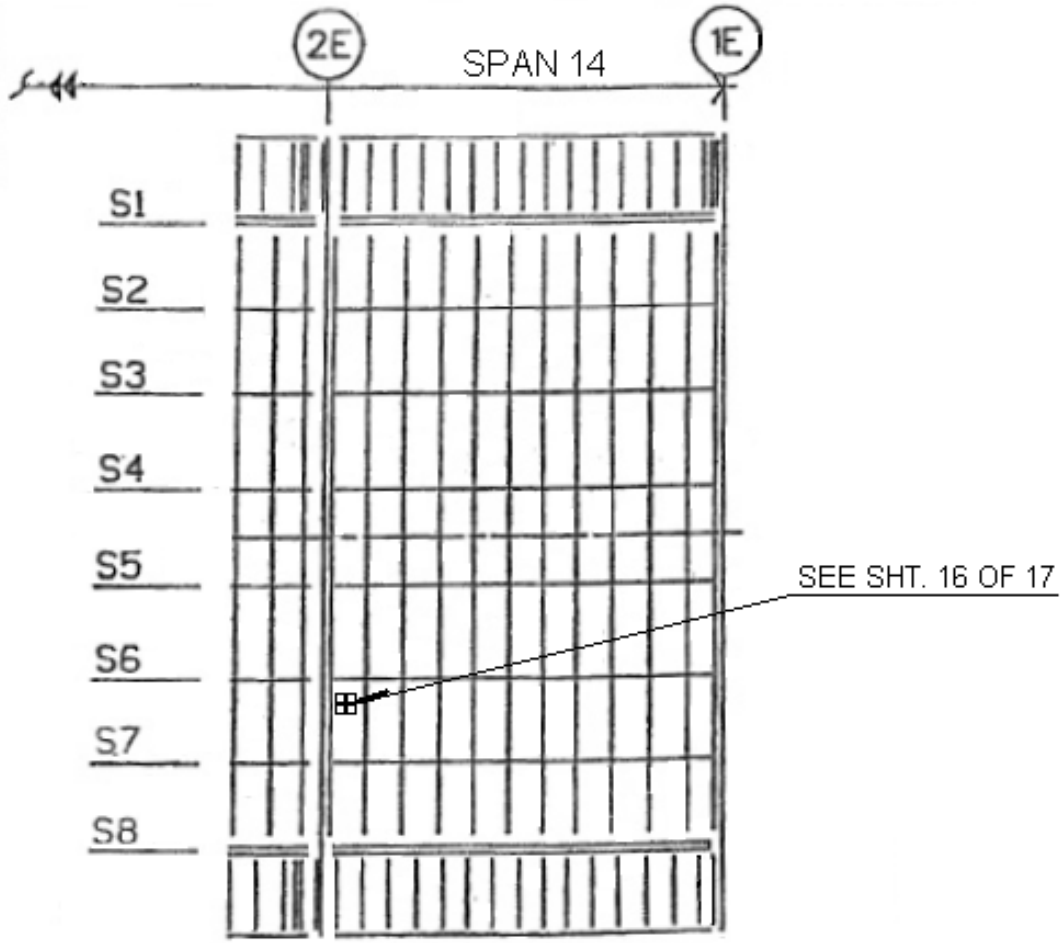
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 15 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



NOTE:

SEE SHT. 16 OF 17 FOR DETAIL.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON TACK WELDED STEEL PLATE AT BOTTOM FLANGE OF 1ST SECONDARY FLOORBEAM EAST OF PP2E BETWEEN S6-S7.

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

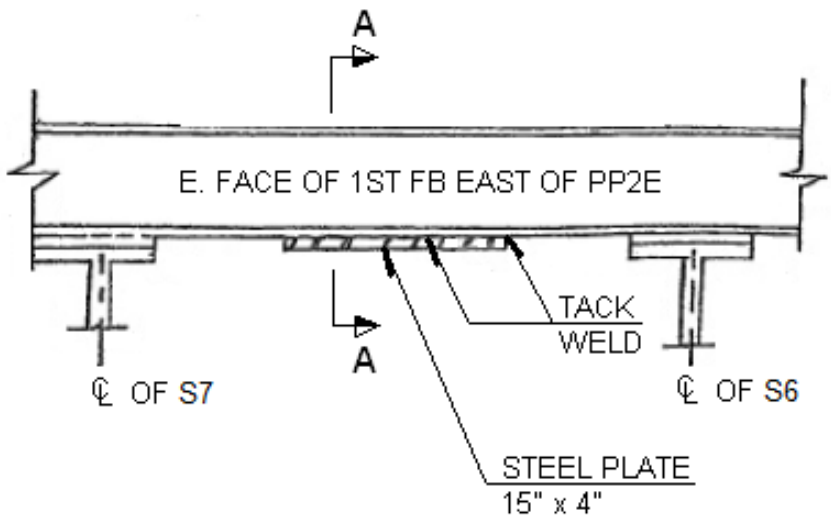
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

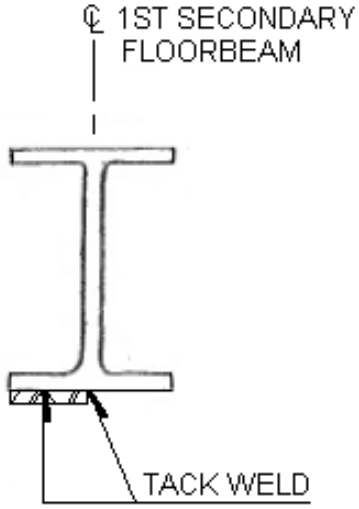
SHEET 16 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER





SECTION A-A
(LOOKING NORTH)

NOTE:

SEE SHT. 15 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON THE TACK WELDED STEEL PLATE CATEGORY "D" AT THE BOTTOM FLANGE OF 1ST SECONDARY FLOORBEAM EAST OF PP2E BETWEEN S6-S7, SPAN 14 (LEGEND ⊞).

EHilliard PE (63761)
10/18/13

BD 186

BIN 5522508

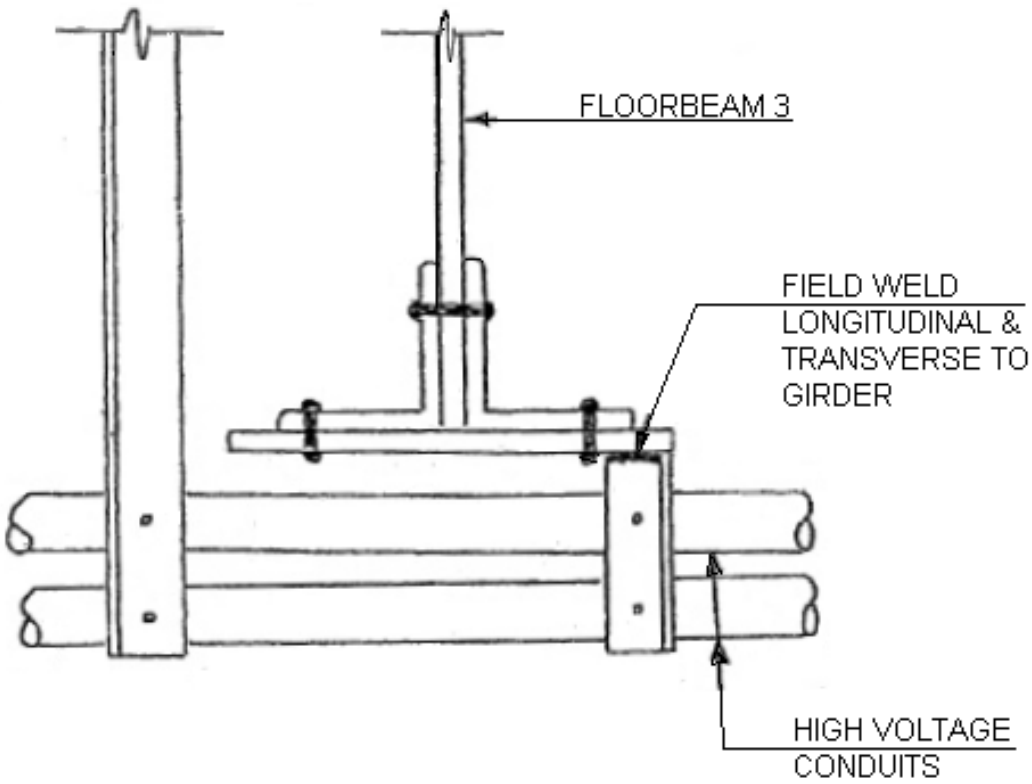
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

SHEET 17 **OF** 17

TEAM LEADER: Eric Hilliard, PE **ASST. TEAM LEADER:** William Ng **DATE:** 10/18/13

Feature Carried: INTERSTATE 95 (GWB UPPER LEVEL)

Feature Crossed: ROUTE 9A AND HUDSON RIVER



CONDUIT SUPPORT DETAIL - SPAN 16

(LEGEND ✱)

NOTE:

SEE SHT. 4 OF 17 FOR LOCATION.

100% CLOSE-UP, HANDS-ON VISUAL INSPECTION WAS PERFORMED ON THE HIGH VOLTAGE CONDUIT SUPPORT FIELD WELD CATEGORY "D" DETAIL.

EHilliard PE (63761)
10/18/13