2026 Routine Element Level Inspection Report

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DRAFT

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Department of Transportation

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Chapter 1: Introduction

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1.1 BRIDGE DESCRIPTION

HAM-00071-00.000R (SFN: 3105970) carries four northbound lanes of vehicular traffic from the lower deck of the Brent Spence Bridge to Interstate Route 75, Interstate Route 71 (Fort Washington Way), and Second Street (**Figure 1**). The deck width and the number of travel lanes vary, as the different ramps converge towards other ramps. The structure was built by Peneker Construction and opened to traffic in 1963.

The bridge is a 25-span structure with a total length of approximately 2,160 feet and consists of seven units separated by expansion joints. The units consist of rolled or welded steel girders that support a reinforced concrete deck continuously between the expansion joints. Cross frames are welded or bolted to the transverse stiffeners at varied spacing in all spans. The steel girders bear on reinforced concrete substructures, including cap and column piers, and hammerhead piers all with deep concrete pile foundations. The pier columns of the first twelve piers starting from the river are reinforced concrete cap and column.

The bridge was built in 1961 and 1962. In 1988, the parapets were refaced, and a super-plasticized dense concrete overlay was placed on the deck. During the 1999 rehabilitation, the last seven spans after Pier 20D were removed and a new five-span unit was constructed for the reconfiguration of I-71 and Second Street. The new spans consist of welded steel plate girders with a composite concrete deck supported on new reinforced concrete cap and column piers and the existing Pier 20D. The wearing surface on the non-composite portion of the bridge was removed in 2009 and replaced with a micro- silica concrete overlay. This rehabilitation also included minor deck repairs and the piers below the deck expansion joints were sealed. In 2004, Piers 4 and 8 end cross frames were replaced and painted and expansion joints were repaired. In 2016, a rehabilitation project included concrete patching of the deck and piers, replacement of rocker bearings and end cross frames at the deck joints, cracked girder retrofit, zone painting of girders and end cross frames at expansion joints, replacing deck expansion joints, and the replacement of scupper downspouts. Fourteen spans were painted as part of the 2021 Brent Spence Bridge painting contract.

The nomenclature for the bridge follows the original 1960 design plans and the 1999 reconfiguration plans. Spans, cross frames, and substructure units are labeled from south to north. For components of the bridge decks in all spans, locations are based on the alignment of the original bridge. Substructure units for the original structure are numbered from River Pier, Pier 1A to Pier 11A, Pier 12C to Pier 15C, Pier 16D to Pier 20D. The reconstructed spans are numbered from Pier 20D to Pier 1 through Pier 5. These reconstructed spans are referred to in this report as FWW (Fort Washington Way) Spans 1-5 and Piers 1-5.

FIGURE 1—BRIDGE LOCATION



1.2 INSPECTION SCOPE AND PROCEDURE

AECOM performed the inspection from August 18, 2026 to September 16, 2026. The team accessed the bridge using a 125-foot telescoping boom lift, a drone, and on foot. Ground access was coordinated with Walsh-Kokosing as part of the Brent Spence Bridge Corridor construction project. Access was limited for certain areas of the bridge based on active construction. The inspection was performed in accordance with the D08 BI 2025/2026 (A) Consultant Bridge Inspection Scope of Services. Unless noted otherwise, all defects were visually inspected for any changes from the previous inspection report and the dimensions provided were carried forward from the previous inspection report.

The inspection team members are as follows:

- Travis Baker, P.E.: Team Leader, Project Manager
- Prateek Nepal, E.I.: Team Leader, FAA Certified UAS Pilot
- Matt Kish, E.I.: Inspector
- Ibrahim Ibrahim, E.I.: Inspector

1.3 CONDITION DESCRIPTIONS AND RATINGS

State and federal guidelines for evaluating the condition of bridges have been developed to promote uniformity in the inspections performed by different teams and at different times.

Condition ratings are used to describe the existing, in-place bridge as compared to the as-built condition. The following table was used as a guide in evaluating the condition of the various members of the bridge.

TABLE 1—CONDITION RATING GUIDELINES (TABLE 7.2-ODOT MBIS 2025)

Condition		Defect Severity				Strength or Performance Affected
		Inherent	Minor	Moderate	Major	
9	Excellent	Isolated				No
8	Very Good	Some				No
7	Good		Some			No
6	Satisfactory		Widespread	Isolated		No
5	Fair			Some	Isolated AND	No
4	Poor			Widespread	Isolated AND	Yes—advanced deterioration of structure. Repairs are necessary.
3	Serious				≥ Isolated	Yes—local failures possible. Urgent repairs are necessary.
2	Critical				≥ Isolated	Yes—severe loss of strength. Emergency repairs are required.
1	Imminent Failure					Yes—bridge is closed pending major repairs or rehabilitation.
0	Failed					Yes—bridge is closed and beyond repair.

Chapter 2: Bridge Condition

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2.1 ITEM B.C.01—DECK CONDITION RATING

2.1.1 Element 12—Reinforced Concrete Deck

The reinforced concrete deck is in SATISFACTORY CONDITION (6) overall. Transverse hairline to moderate width cracks are present throughout the deck underside for the full width of the bays between girders (**Figure 2**). The majority of cracks exhibit evidence of water seepage and efflorescence. Crack intervals range from two or three cracks per bay per span up to typical cracking spaced at 4' on average for all bays for the entire span. This condition is typical for all spans. The deck underside in Span 17D exhibits a dark layer of soot due to the railroad tracks below the span.

There are isolated spalls with exposed reinforcement in various spans. In Span 3A, there is a 1' diameter spall with exposed rebar between Girders E and F, 1' from crossframe #2. In Span 10A, there is a 2' x 1' spall with exposed transverse bars in Bay 6 at midspan and four spalls with exposed reinforcement in Bay 7. In Span 11A, there is a 2' x 2' spall with exposed reinforcement (**Figure 3**). In Span 12C, there is a 4' x 3' spall with exposed reinforcement between Girders D and E near Pier 11A. In Span 13C, Bay 1 there is a 32" x 20" x 1" spall. In Span 14C, Bay 1 there is a 42" x 24" x 3 1/2" spall with four exposed transverse and one longitudinal bar. In Span 16D, near Pier 15C, Bay 4 there is a 2' x 2' spall with two exposed longitudinal reinforcing bars.

There are two large spalls with exposed reinforcement in Span 17D, Bay 4: 32" x 20" x 2 1/2" (**Figure 4**) and 36" x 20" x 2 1/2". There is a spall with exposed reinforcement in Span 18D, Bay 2: 36" x 48" x 2 1/2" (**Figure 5**). There is also a 24" x 72" x 2" spall with four transverse and four longitudinal reinforcing bars exposed in Span 18D, Bay 1. There is a spall with exposed reinforcing in Span 20D, Bay 3: 64" x 52" x 2 1/2" with seven transverse and three longitudinal exposed reinforcing bars (**Figure 6**).

Full depth concrete patches 4' x 4' are typical at replaced expansion joints, some have become unsound or have adjacent cracking and spalling.

The deck overhangs typically exhibit hairline to moderate transverse cracking with efflorescence, and multiple locations of spalling with exposed rebar are present throughout. In the East overhangs of Spans 5A and 7A, multiple 1' diameter spalls with exposed reinforcement are present. In Span 11A, there is a 6' x 2' x 4" spall with exposed reinforcement on the West overhang (**Figure 7**) and a 3' x 18" x 3" spall with exposed reinforcement on the East overhang. In Span 12C, there is a 4' x 2' spall with exposed rebar at the East overhang near Pier 12C. There is a 10' x 3' x 3" spall with exposed reinforcement on the East overhang over the full depth concrete repair at Pier 12C expansion joint. The largest spall is in Span 14C on the West overhang: 8' x 2' x 6" with eight transverse reinforcing bars exposed (**Figure 8**). There is also a 5' x 2' spall with exposed rebar at the West overhang of Span 14C near midspan. There is an approximately 9" diameter spall at the east overhang over Pier 17D in Span 17D (**Figure 9**).

FIGURE 2—TYPICAL TRANSVERSE CRACKING WITH EFFLORESCENCE (FWW SPAN 2)



FIGURE 3—SPALL WITH EXPOSED REINFORCEMENT (BAY 4, SPAN 11A)



FIGURE 4—32” X 20” X 2 1/2" SPALL WITH EXPOSED REINFORCEMENT (BAY 4, SPAN 17D)



FIGURE 5—SPALL WITH EXPOSED REINFORCEMENT (BAY 2, SPAN 18D)



FIGURE 6—SPALL WITH EXPOSED REINFORCEMENT (BAY 3, SPAN 20D)



FIGURE 7—72” L X 24” W X 4” D SPALL WITH EXPOSED REINFORCEMENT ON WEST OVERHANG (SPAN 11A)



FIGURE 8—8' X 2' X 6" SPALL WITH EXPOSED REINFORCEMENT ON WEST OVERHANG (SPAN 14C)



FIGURE 9—SPALL AT EAST OVERHANG NEAR PIER 17D (SPAN 17D)



2.2 ITEM B.C.01.01—WEARING SURFACE CONDITION RATING

2.2.1 Element 510—Wearing Surface

The wearing surface is in SATISFACTORY CONDITION (6). There were locations of hairline to moderate transverse, diagonal, and longitudinal cracks and minor pop-out spalls present throughout the surface of the wearing surface. The bridge deck was sounded by ODOT in December 2020, and multiple delaminated areas were found throughout the wearing surface. There is a 10' L x 4' W x 2" D asphalt filled pothole near Pier 8A. A pothole has been patched with concrete in Span 11A near Pier 10A (**Figure 10**). A small spall is present in FWW Span 3 due to a missing raised pavement marker.

FIGURE 10—CONCRETE PATCH (SPAN 11A)



2.3 ITEM B.C.02—SUPERSTRUCTURE CONDITION RATING

2.3.1 Element 107—Steel Open Beams/Girders

The girders are in SATISFACTORY CONDITION (6) overall, with isolated areas of laminar rust and section loss up to 3/8" deep. Beams in Spans 15C to 20D typically exhibit minor surface corrosion and freckled rust where the paint system is in poor condition, with more

moderate corrosion present on the fascia girders of the original structure (**Figure 11**). The fascia girders typically exhibit isolated areas of moderate laminar corrosion with pitting and section loss, mainly concentrated in the bottom flange and at stiffener locations.

Spans 1A to 14C exhibit moderate to heavy cleaned and painted pitting, and up to 3/8" section loss was evident on the top of the bottom flanges for the full length of Girders A and G, intermittent throughout. There is non-active section loss on the webs of Girders A and G at the River Pier in Span 1A. The rehabilitated portion of Girder A at the River Pier is in good condition. There is a drilled-out hole in the bottom of the web at the welded retrofit, approximately 4' from the bearing. The Girder G bottom flange cover plate in Span 6A has been blasted clear of pack rust, revealing that the cover plate has separated from the bottom flange up to 3/8" with a 4 1/4" crack in the OB weld. There are two fatigue prone bottom flange welds on Girder D in Span 11A: 8' ahead of Pier 12C and 8' back from Pier 13C. There are flame-cut gouges in Span 16D on the bottom flange welded retrofit. Span 9A has two inactive corrosion holes behind the bearings at Pier 8A: a 3" diameter hole in the Girder B web and a 1/2" diameter hole in the Girder H web.

The girders on the FWW spans are in good condition. Girder B8 on Span 4 exhibits laminar corrosion near the ground wire (**Figure 12**). Girder B8 on Span 2 has scrapes on the underside of the bottom flange near Pier 2.

FIGURE 11—ORIGINAL FASCIA GIRDER WITH BOTTOM FLANGE CORROSION (GIRDER E, SPAN 20D)



FIGURE 12—GROUND WIRE WITH LAMINAR CORROSION (GIRDER B8, FWW SPAN 4)



2.4 ITEM B.C.02.01—PROTECTIVE COATING SYSTEM CONDITION RATING

2.4.1 Element 515—Steel Protective Coating System

The Steel protective coating is in FAIR CONDITION (5) overall. Spans 15C to 20D typically exhibit coating failure on girders (**Figure 13**). Chalking, dulling, flaking, and peeling were observed throughout the superstructure steel members. Surface corrosion is active at locations where the paint is in poor condition, and rust staining is evident on the remaining protective system. The fascia girders exhibit the most severe paint condition, with complete paint failure on the bottom flanges and bottom portions of the web, with areas of moderate to severe corrosion and laminating rust.

Spans 1A to 14C were recoated in 2021 and are in good condition. The members below the expansion joints at Piers 4A, 8A, 12C, 15C, and 20D were cleaned and painted during the 2016 rehabilitation. The paint on the FWW spans, Spans 1 to 5, is in satisfactory condition with small areas of surface rust, and moderate corrosion concentrated to joint locations.

FIGURE 13—TYPICAL PAINT FAILURE AND SURFACE CORROSION (SPAN 18D)



2.5 ITEM B.C.03—SUBSTRUCTURE CONDITION RATING

The substructure is in SATISFACTORY CONDITION (6). The original bridge substructure consists of seventeen reinforced concrete pier bents and four hammerhead piers. The FWW spans are supported on five reinforced pier bents. The piers typically exhibit minor to moderate vertical and horizontal cracking. There are isolated areas of wide cracking and spalling with exposed rebar. As part of the 2016 rehabilitation, most of the previously noted spalls and delaminations have been repaired with concrete patches and FRP wrapping. The FRP was added to the River Pier, Piers 4A, 5A, 7A, 8A, 12C, 15C, 17D, and 20D.

2.5.1 Element 205—Reinforced Concrete Column

The Pier Columns/bents are in GOOD CONDITION (7) overall. Isolated small spalls, exposed rebar, and hairline cracking were observed on columns. Typically, the round columns in the reconfiguration portion of the bridge are in better condition than the older rectangular columns.

Concrete patching was observed on several columns and FRP wrapping was observed on the River Pier, Piers 4A, 5A, 7A, 8A, 12C, and 15C. Patches are typically sound, and the FRP wrapping is in good condition with only isolated areas of peeling/failing protective coating. An area of map cracking was observed at the southeast corner of Column 1 at Pier 1A

(**Figure 14**). There are isolated small spalls without any exposed reinforcing, mainly on the corners, at the River Pier, Piers 1A, 5A, 6A, 14C (**Figure 15**) and 19D. Spalling was observed around the corner armor at Pier 15C columns (**Figure 16**).

FIGURE 14—53" H X 6" W AREA OF WIDE MAP CRACKING AT SOUTHEAST CORNER NEAR BASE (COLUMN 1, PIER 1A)



FIGURE 15—9" DIA. X 1" D SPALL AT CORNER NEAR BASE (COLUMN 1, PIER 14C)



FIGURE 16—SPALLS AROUND CORNER ARMOR (COLUMN 2, PIER 15C)



2.5.2 Element 210—Reinforced Concrete Pier Wall

Piers 16D, 17D, 18D, and 20D are hammerhead piers and they are in GOOD CONDITION (7) with isolated medium width cracking throughout. There are spalls with exposed rebar around corner armor at the base of Piers 16D (**Figure 17**) and 20D. Pier 20D has been patched with FRP wrap and there is rust staining coming through near the cap and alligator scaling of the FRP.

FIGURE 17—SPALLS AROUND CORNER ARMOR (PIER 16D)



2.5.3 Element 234—Reinforced Concrete Pier Cap

The reinforced concrete pier caps are in SATISFACTORY CONDITION (6) with isolated medium width cracking throughout. As part of the 2016 rehabilitation work, many of the previously noted spalls and delaminations were patched. The River Pier and Piers 4A, 5A, 7A, 8A, 12C, 15C, 17D, and 20D were partially wrapped in FRP wrapping. There are areas on both faces of Pier 12C where the FRP is delaminating from the concrete. Areas in Pier Caps 15C (**Figure 18**) and 20D (**Figure 19**) also exhibit peeling FRP. There are vertical cracks on the North overhang of FWW Pier 1 (**Figure 20**). On FWW Pier 5, moderate cracking is present on the north face of the pier cap, with vertical cracking up to 0.080" wide occurring on the north and south overhangs (**Figure 21**).

There are small concrete spalls with exposed reinforcing on the caps of Piers 1A, 3A, 5A, 10A, and 11A. The spall at Pier 1A is on the north face, east end and is approximately 12" W

x 12” H x 1” D (**Figure 22**). There are two spalls on the north face at each end (**Figure 23**) with exposed rebar and another spall on the underside of Pier 3A. There is a spall on the underside of Pier 5A near the east column that has exposed longitudinal and shear bars (**Figure 24**). Potentially loose concrete remains at the spall and could not be removed during the inspection. The pier cap at Pier 10A has a spall with exposed reinforcing between Girders G and H on the top of the cap. There are two 12” x 6” x 1” spalls with exposed reinforcing on the north face and underside of Pier Cap 11A (**Figure 25**).

FIGURE 18—PEELING FRP WRAP ON NORTH FACE (PIER CAP 15C)



FIGURE 19—PEELING FRP WRAP (PIER CAP 20D)



FIGURE 20—CRACKS IN NORTH OVERHANG UP TO 0.020" WIDE (FWW PIER 1)



FIGURE 21—VERTICAL CRACK UP TO 0.080" WIDE ON SOUTH OVERHANG (FWW PIER 5)



FIGURE 22—SPALL WITH EXPOSED REINFORCEMENT (PIER CAP 1A)



FIGURE 23—SPALL WITH EXPOSED REINFORCEMENT ON NORTH FACE, EAST END (PIER CAP 3A)



FIGURE 24—SPALL WITH EXPOSED REINFORCEMENT (PIER CAP 5A)



FIGURE 25—SPALL WITH EXPOSED REINFORCEMENT ON UNDERSIDE (PIER CAP 11A)



2.6 ITEM B.C.05—BRIDGE RAILING CONDITION RATING

2.6.1 Element 331—Reinforced Concrete Bridge Railing

The reinforced concrete bridge railings are in FAIR CONDITION (5). There are moderate to wide transverse cracks on the top and moderate width vertical cracks on the interior and exterior faces of both bridge railings. Cracks are spaced 1'-3' apart with most exhibiting efflorescence, rust staining, or moisture staining throughout all spans (**Figure 26**). There is heavier cracking, including wide horizontal cracks up to 20' long, and exposed rebar in the west railing in FWW Span 2 (**Figure 27**). There are spalls on the top portion of the west and east railing at the expansion joint at the River Pier. There is a concrete spall on the top portion of the East railing in Span 12C near Pier 12C. There is a 24" x 3" x 1" spall in the inside corner of the west railing in Span 6A. There is a 4' long impact spall in the West railing in Span 16D.

FIGURE 26—TYPICAL CRACKING ON WEST RAILING (FWW SPAN 1)



FIGURE 27—TYPICAL CRACKING ON WEST RAILING (FWW SPAN 2)

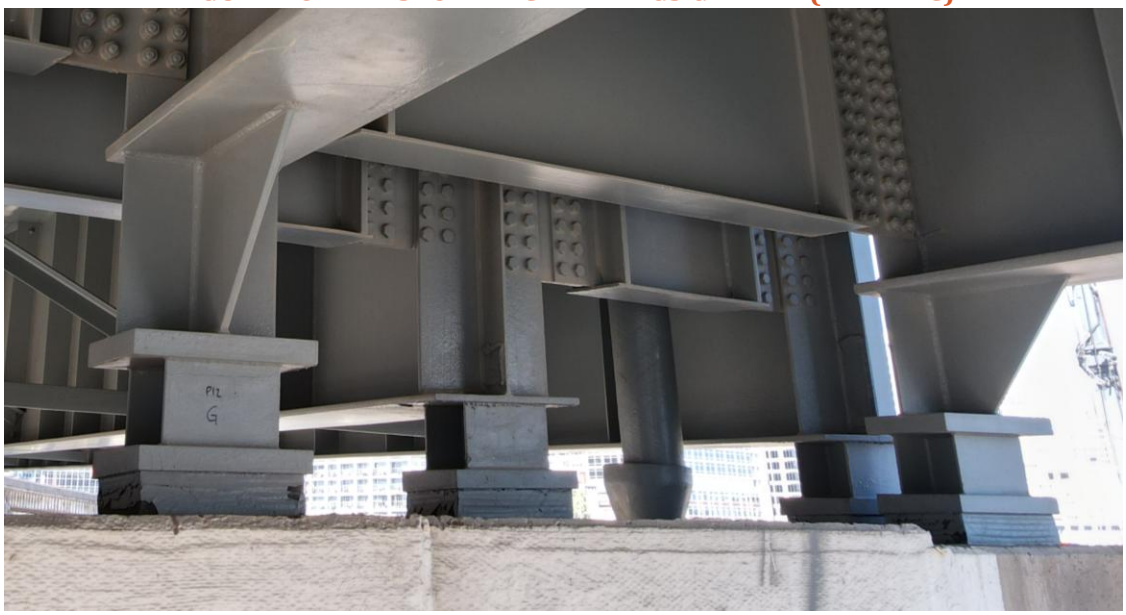


2.7 ITEM B.C.07—BRIDGE BEARINGS CONDITION RATING

2.7.1 Element 310—Elastomeric Bearing

The Elastomeric Bearings are in GOOD CONDITION (7) overall. There are elastomeric bearings at the River Pier, Piers 12C (**Figure 28**), 15C, and 17D that replaced steel rocker bearings as part of the 2016 Rehabilitation work. The bearings typically have minor surface corrosion and isolated paint failure.

FIGURE 28—ELASTOMERIC BEARINGS G AND H (PIER 12C)



2.7.2 Element 311—Movable Bearing

The Movable Bearings are in POOR CONDITION (4) overall. The original steel rocker bearings typically exhibit paint failure and surface corrosion throughout, as well as moderate section loss below expansion joints (**Figure 29**). Intermittent areas of painted-over pitting exist. There is pack rust between the rockers and masonry plates on the exterior bearings at Piers 5A, 6A, 7A, and 19D. Bearing A at Pier 8A Span 8A has a 1" diameter corrosion hole in the keeper plate and visibly deflects under live load.

A total of 11 rocker bearings were observed with gaps up to 1/4" wide with rust fretting and exposed pintles. This condition exists at Pier 4A Bearing C, Pier 7A Bearing F, Pier 8A Span 8A Bearings E and F, Pier 8A Span 9A Bearings A, D, F and G, Pier 9A Bearing G, and Pier 14C Bearings B and C. In addition, Bearing A for Span 9A on Pier 8A visibly deflects under live load. No signs of movement were observed on the other bearings, appearing to indicate that the bearings could be resting on the pintles. A 1" corrosion hole in a keep plate is located on bearing A for Span 9A on Pier 8A.

FIGURE 29—TYPICAL ORIGINAL STEEL ROCKER BEARINGS (BEARINGS D AND F, PIER 20D)



2.7.3 Element 313—Fixed Bearing

The Fixed Bearings are in SATISFACTORY CONDITION (6) overall. The fixed bearings south of Pier 14C were painted as part of the 2021 paint contract. The remaining steel fixed bearings typically exhibit paint failure and moderate corrosion throughout. The fixed bearings at Pier 13C for Girders C, D, and E have loose anchor nuts (**Figure 30**). At Pier 6A, the Girder G fixed bearing (Span 7A) has pitting on the masonry plate, and the Girder D bearing has loose anchor nuts.

FIGURE 30—LOOSE ANCHOR NUTS AT BEARINGS C AND D (PIER 13C)



2.7.4 Element 314—Pot Bearing

The Pot Bearings are in FAIR CONDITION (5) overall. The reconstructed spans' pot bearings typically exhibit minor paint failure and moderate corrosion throughout (**Figure 31**). There are a few instances of elastomer bulging or "walking out". There is active corrosion of the anchor plates on the pot bearings for Girders B through F at Pier 20D, with section loss up to 1/4" deep at Bearing D (**Figure 32**), and up to 1/8" deep at Bearing F (**Figure 33**). There is a missing anchor bolt at Bearing E at Pier 20D.

FIGURE 31—TYPICAL PAINT FAILURE AND ACTIVE CORROSION ON POT BEARING A (FWW PIER 2)



FIGURE 32—LAMINATING CORROSION AND SECTION LOSS UP TO 1/4" DEEP ON POT BEARING D (PIER 20D)



FIGURE 33—LAMINATING CORROSION AND SECTION LOSS UP TO 1/8" DEEP ON POT BEARING F (PIER 20D)



2.8 ITEM B.C.08—BRIDGE JOINTS CONDITION RATING

2.8.1 Element 300—Strip Seal Expansion Joint

The expansion joints are in FAIR CONDITION (5). Expansion joints are located at Piers 4A, 8A, 12C, 15C, and 17D and were replaced in 2016. The expansion joints at Pier 20D and FWW Pier 5 were constructed during the 1999 reconstruction. There is loosely packed debris in all expansion joints on the deck. The expansion joints at Pier 20D are leaking with debris on the pier caps below due to seal adhesion failure (**Figure 34**). There is a large tear on Pier 5 allowing free flow water through the joint. Leakage onto the pier caps and active corrosion of the girders and bearings below these joints is evident (**Figure 35**).

FIGURE 34—CRACKS, ADHESION FAILURE AND VEGETATION GROWING IN JOINT (PIER 20D)



FIGURE 35—STAINING BELOW EXPANSION JOINT (FWW PIER 5)



2.9 OTHER BRIDGE ELEMENTS

2.9.1 Element 815—Drainage

The drainage system is in POOR CONDITION (4) due to multiple drainpipes being completely or partially clogged at the deck level scupper locations and at the ground level, causing water ponding on the deck. The drain grate in Span 2A is missing. There are several disconnected and misaligned drain boots at column bases. The exposed drainage bells are typically fully clogged with debris.

The drainage T joint is disconnected on the north face of Column 1 at Pier 12C and the pipe is cracked, but this condition has not changed from the 2024 inspection. Most downspouts are partially or completely disconnected from the underground drainage termination, but do not show signs of erosion (**Figure 36**). Several drainpipes are cracked with corrosion holes through the pipe wall throughout the structure.

FIGURE 36—DISCONNECTED DRAINPIPE (COLUMN 2, PIER 6A)



2.9.2 Diaphragms and Cross Frames

The Steel cross-frames are in GOOD CONDITION (7) during the inspection and no significant defects were noted. Paint failure is present on the crossframes in Spans 14C-20D, which were not painted in 2021. Paint is peeling on crossframes in the FWW spans (**Figure 37**), with diaphragms below the leaking FWW Pier 5 joint exhibiting corrosion

(**Figure 38**). The lower member of the crossframe between Girders A and B in Span 14C is bent out of place (**Figure 39**).

FIGURE 37—PAINT PEELING AT CROSSFRAME (BAY 1, FWW SPAN 4)



FIGURE 38—DIAPHRAGM CORROSION BELOW LEAKING JOINT (FWW PIER 5)



FIGURE 39—BENT LOWER MEMBER OF CROSSFRAME (BAY 1, SPAN 14C)



2.9.3 Alignment

Alignment is in good condition with no significant defects in the vertical or horizontal alignment noted through visual inspection.

2.9.4 Fatigue

The superstructure fatigue prone details are in good condition.

2.10 SIGNS AND UTILITIES

2.10.1 Signs

The signs on the structure are in GOOD CONDITION (7) with no significant defects noted. There are three overhead signs (**Figure 40**), eight light poles, one exit sign, and three-mile marker signs mounted to the bridge.

The sign supports on the structure are in GOOD CONDITION (7) with no significant defects noted to the supports or connections to the structure.

FIGURE 40—OVERHEAD SIGNS (PIER 15C)



2.10.2 Utilities

The utilities on the structure are in GOOD CONDITION (7). There is an electrical conduit that is attached to Girder A from the River Pier to Pier 13C that has been painted under the 2021 paint contract. There is a lighting conduit attached to the girders in Span 16D. There are lighting conduits that extend from the ground to the superstructure on the outside columns of Pier 14C. The steel conduit near Pier 12C on the west overhang has an open joint. There is light surface rust on the electrical junction box and the bracket attached to Girder A at Pier 13C.

2.11 ITEM B.C.13.01—GENERAL APPRAISAL

Based on the 2026 Routine Inspection, the HAM-00071-00.000R bridge is in SATISFACTORY CONDITION (6). The overall rating is controlled by the conditions of the substructure and superstructure. The AssetWise Bridge Inspection Report reflecting the element level condition ratings can be found in Appendix A.

Chapter 3: Recommendations

The recommendations below are provided for the HAM-00071-00.000R bridge with respect to its remaining service life of approximately four years:

Deck

- Shim movable bearings that have gaps between rocker and sole plates.
- Clean debris from clogged drainage scuppers.
- Repair broken/missing/disconnected drainpipes and bulging boots throughout.
- Patch minor pop-out spalls in the concrete wearing surface.
- Remove debris from expansion joints.
- Remove potentially loose concrete on Pier Cap 5A.
- Monitor/repair strip seals at Pier 20D and FWW Pier 5.

Superstructure

- None

Substructure

- None

APPENDIX A

AssetWise Bridge Inspection Report

Inspector: Nepal,Prateek
Inspection Date: 09/16/2026

Structure Number: 3105970
Facility Carried: NB IR 71

Ohio Bridge Inspection Summary Report

HAM-00071-0000R_(3105970)

B.L.04: District District 08 15000 - CINCINNATI (HAM county)
B.CL.02: Major Maint. 01 - State Highway Agency /
B.CL.02.02: Rou. Maint A/B 01 - State Highway Agency /
B.CL.02.03: Inspection A/B 01 - State Highway Agency /

Condition

B.C.01: Deck	6
58.01: Wearing Surface	6
B.C.08: Joint	5
B.C.02: Superstructure	6
59.01: Paint & PCS	5
B.C.03: Substructure	6
B.C.09: Channel	N
B.C.11: Scour	N
B.C.10: Channel Prot.	N
B.C.05: Bridge Railing	5
B.C.06: Transitions	N
B.C.07: Bearings	4
B.C.04: Culverts	N
Ohio GA	6

Appraisal

B.AP.03: Scour Vul. Not over Waterway

Geometric

B.G.01: NBIS Bridge Length (ft)	3042.8
B.G.02: Total Bridge Length (ft)	3042.8
B.G.03: Max Span (ft)	186.4
B.G.05: Deck Width, Out-To-Out (ft)	47.9
B.G.16: Calc Deck Area (sf)	145750.1
B.G.09: Appr Roadway Width (ft)	30.2
B.G.06: Bridge Width, Curb-Curb (ft)	39.7
B.G.07: Curb/SW Width: Left (ft)	0
B.G.08: Curb/SW Width: Right (ft)	0
B.G.11: Skew (deg)	0
54B: Min Vert Underclearance (ft)	18
336A: Min Vert Clrnce IR Cardinal (ft)	14.917
336B: Min V Clr IR Non-Cardinal (ft)	0
B.SP.16.02: Culvert Length (ft)	0

Load Posting

41: Op/Post/Closed A - Open
70: Posting 5 - Equal to or above legal loads
70.01: Date
70.02: Sign Type
734: Percent Legal (%) 150
B.LR.03: Rating Date 07/01/2013
B.LR.04: Rating Method ASR - Allowable Stress Rating

5A: Inventory Route 1 00071
7: Facility On NB IR 71
6: Feature Ints 3RR;USR 27;IR 75; USR 42
9: Location OH-KY STATE LINE
Lat, Lon 39.093039 , -84.522519

Structure Type

43: Bridge Type	4 - Steel continuous 02 - Stringer/Multi-beam or Girder N- Not Applicable
45: Spans Main / Approach	35 / 0
107: Deck Type	1 - Concrete Cast-in-Place
408: Composite Deck	U - Unknown
414A Joint Type 1	2 - Sliding Metal Plate Angle
414B: Joint Type 2	8 - Elastomeric Strip Seal
108: Wearing Surface	2 - Integral Concrete (separate non-modified layer of concrete added to structural deck) 3 - MicroSilica
B.SP.10.03: WS Date	07/01/2007
B.SP.10.02: WS Thick (in)	2.8
B.SP.07.01: PCS Type	4 - Paint System B
483: PCS Date	01/01/1978
453: Bearing Type 1	2 - Rockers & Bolsters
455: Bearing Type 2	C - Elastomeric (laminated)
528: Foundn: Abut Fwd	N - None (Such as most Culverts)
533: Foundn: Abut Rear	N - None (such as most Culverts)
536: Foundn: Pier 1	2 - Cast-in-Place Reinforced Concrete Piles (Other diameter)
539: Foundn: Pier 2	N - None (Such as most Culverts)

Age and Service

B.W.01: Year Built / Rehab	1963 / 0000
42A: Service On	1 - Highway
42B: Service Under	4 - Highway - railroad
28A: Lanes on	03
28B: Lanes Under	08
19: Bypass Length	0
29: ADT	67393
109: % Trucks (%)	15

Inspections

		Months
B.IE.03 Routine Insp.		12
B.IE.03: NSTM Insp.	N	0
B.IE.03: UW Insp.		0
B.IE.03: Special Insp.		0
UBIT Insp.	N	0
Drone Insp.	N	0

Inspector Nepal,Prateek

Inspector: Nepal,Prateek
Inspection Date: 09/16/2026

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12-Reinforced Concrete Deck	3 - Mod.	108784	sq. ft.	81238	27205	341	0
	CS2: -Transverse hairline to moderate width cracks with efflorescence are present throughout the deck underside for the full width of the bay between girders, typically at 4' on center. -Cracks and efflorescence are much more prevalent in the reconstructed spans, with cracks spaced at 1' or less in some areas. -The deck overhangs exhibit hairline to moderate width transverse cracking with efflorescence throughout. CS3: -In Span 3A, there is a 1' diameter spall with exposed rebar between Girder E and F, 1' from crossframe #2. -There are multiple spalls with exposed reinforcement up to 1' diameter in the East overhang of Span 5A. -There is a 1 SF spall with exposed reinforcement in the east overhang of Span 7A. -In Span 10A, there is a 2' x 1' spall with exposed rebar at the midspan of Bay 6, and 4 spalls with exposed rebar totaling 6 square feet in Bay 7. -In Span 11A, there is a 4 square foot spall with exposed rebar in Bay 4. -In Span 11A, there is a 3' L x 18" W x 3" deep spall with exposed rebar in the East overhang. -A concrete spall of 6' x 2' x 4" with exposed reinforcement is present on the West overhang at Pier 11A. -In Span 12C, there is a 4' long spall with exposed rebar in the West overhang. -In Span 12C, there is a 4' L x 3' W spall with exposed rebar between Girder D and E near Pier 11A. -In Span 12C, there is a 4' L x 2' W spall with exposed rebar at the East overhang near Pier 12C. -There is a concrete spall 10' x 3' x 3" with exposed reinforcement on the East overhang over the full depth concrete repair at Pier 12C expansion joint. -In Span 13C, Bay 1 there is a 32" L x 20" W x 1" D spall. -In Span 14C, Bay 1 there is a 42" x 24" x3 1/2" Spall with 4 exposed transverse bars and 1 longitudinal bar. -There is 8' x 2' x 6" with 8 transverse reinforcing bars exposed in Span 14C west overhang. -In Span 14C, there is a 5' L x 2' W spall with exposed rebar at the West overhang near midspan. -In Span 16D, near Pier 15C, Bay 4 there is a 24" x 24" spall with 2 exposed longitudinal reinforcing bars. -There are two large spalls with exposed reinforcement in Span 17D, Bay 4: 32" x 20" x 2 1/2" and 36" x 20" x 2 1/2". -There is a spall with exposed reinforcement in Span 18D, Bay 2: 36" x 48" x 2 1/2". There is also a 24" x 6' x 2" spall with 4 transverse and 4 longitudinal reinforcing bars exposed in Span 18D, Bay 1. -There is a spall with exposed reinforcing in Span 20D, Bay 3: 64" x 52" x 2 1/2" with 7 transverse and 3 longitudinal exposed reinforcing bars. -Full depth 4' x 4' concrete patches are typical at replaced expansion joints, and some have become unsound or have adjacent cracking and spalling.						
510-Wearing Surfaces		108645	sq. ft.	96613	12011	21	0
	CS2: -There are isolated locations of hairline to moderate transverse, diagonal, and longitudinal cracks. Isolated locations of map cracking and minor pop-out spalls were exhibited throughout the wearing surface. -The wearing surface was sounded by ODOT in 2020, and multiple delaminated areas were found. CS3: -There is a small spall in Span 3 (reconstructed spans) due to a missing raised pavement marker. -There is a 10' x 4' asphalt patch with 3 SF of wearing surface breaking-up around patch in Span 9A. -There is heavy long cracking in the right lane of Span 10A.						
107-Steel Open Girder/Beam	3 - Mod.	14228	ft.	10515	3242	470	1

Inspector: Nepal,Prateek
Inspection Date: 09/16/2026

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	CS2: -Girders in Spans 15C- 20D typically exhibit minor surface corrosion and freckled rust where the paint system has failed, with moderate surface corrosion present on the fascia girders of the original structure. -There are grid marks approximately 20'L and 1/32" deep on Girder F in Span 6A. -There are undercut welds and porosity in Span 12C, Girder D between web and top flange. -There are flame-cut gouges in the retrofitted bottom flange weld of Span 16D. CS3: -The fascia girders typically exhibit isolated areas of moderate laminar corrosion with section loss up to 3/8” deep, mainly concentrated to the bottom flange and at stiffener locations. -In Spans 1A-14C, painted-over section loss is present on the web and top of the bottom flanges of Girders A and G, intermittent throughout; this section loss is typically 1/8” deep, with isolated areas up to 3/8” deep. -In Span 1, there is inactive section loss up to 3/8” deep for the full web length of Girder A and for 9' on the web of Girder G near the River Pier. -There is painted-over pitting on the web, bottom flange, and stiffeners at the bearings in all Span 15C girders at Pier 15C. -There is 6” wide x 3/8” deep active section loss on the bottom flange of Girder A in Span 17D, approximately 1/4 span from Pier 16D (7% flange LOS). -There is 1' L x 3” W x 3/8” deep inactive section loss on the bottom exterior flange of Girder A in Span 1A, approximately 1/3 span from the River Pier. -There is a 3” diameter corrosion hole in the web of Girder B and a 1/2’ diameter corrosion hole in web of Girder H in Span 9A; both holes are inactive and are located behind the bearings at Pier 8A. CS4: -The Girder G bottom flange cover plate in Span 6A was blasted clean of pack rust in 2021, revealing the cover plate has separated from the bottom flange up to 3/8”. There is a 4-1/4" crack in the outboard weld.						
515-Steel Protective Coating		187414	sq. ft.	161669	8945	4765	12035
	CS2: -In Spans 15C-20D, paint failures are typical on all girders with chalking, dulling, flaking, and peeling throughout. CS3: -The paint on the repainted spans (Spans 1A-14C) has isolated areas of surface corrosion throughout. CS4: -Surface corrosion is active at all locations where the paint has failed, and rust staining is evident on the protective system remaining. -The fascia girders exhibit the most severe paint condition with complete paint failure to the bottom flanges and bottom portions of the web with areas of moderate to severe corrosion and laminating rust. -There are isolated areas of laminating corrosion near joints.						
205-Reinforced Concrete Column	3 - Mod.	49	each	17	28	4	0
	CS2: -At Pier 1A, Column 1, there is a 53” high x 6” wide area of wide map cracking at the southeast corner. -There are various other small spalls with no exposed reinforcing, mainly on the corners, including at Piers 1A, 5A, 6A, and 19D. -There is also moderate cracking and exposed rebar due to lack of cover common throughout. CS3: -There is a 9" diameter spall up to 1" deep at the Southeast corner of Pier 14C, Column 1 near the base. -There are spalls at the corner armor of the Pier 15C columns. -Pier 2A, Column 2 has vertical cracking extending from the cap into the column.						
210-Reinforced Concrete Pier Wall	3 - Mod.	46	ft.	32	12	2	0
	CS2: -There is isolated minor cracking up to 0.020" throughout. CS3: -There are spalls with exposed rebar at the base of Piers 16D and 20D around the corner armor. -Pier 20D has been patched with FRP wrap and there is rust staining coming through near the cap.						
234-Reinforced Concrete Pier Cap	3 - Mod.	1330	ft.	1064	194	72	0

Inspector: Nepal,Prateek
Inspection Date: 09/16/2026
Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	CS2: -There is moderate width cracking above Column 2 of Pier 5A. -There is typical vertical cracking throughout. CS3: -There are areas on both faces of Pier Cap 12C where the FRP is delaminating from the concrete. -There are wide horizontal cracks and a 12” tall x 18” wide x 1” deep spall with exposed rebar on the north face at east end of Pier Cap 1A. -There are two spalls on the north face at each end of Pier Cap 3A, totaling 8 square feet. -There is a 4’ long x 3’ wide x 2” deep spall on the underside of Pier Cap 5A near the east column that has expose longitudinal and transverse reinforcement with minor to moderate section loss. -There is 3'x2' cracking, 1/32" wide on the north face of Pier Cap 6A below Girder G. -There is a 4’ -6" long x 3’ wide x 2” deep spall with exposed longitudinal and transverse reinforcement with minor to moderate section loss on the top of Pier Cap 10A between Bearings G and H. -There are two reinforcing bars exposed due to shallow cover on the north face and underside of Pier Cap 11A. -There is map cracking on east end of Pier Cap 15C. -There is a 1’ x 1’ x 1” spall on Girder B pedestal of the Pier 5 (reconstructed spans) cap, as well as wide cracking in Girder A Pedestal (for the bridge just north of Span 5) and on the east nose of the cap. -There is a crack on the North Face of Pier 25.						
300-Strip Seal Joint	3 - Mod.	463	ft.	158	290	3	12
	CS2: -There is loosely packed debris in all expansion joints on the deck. CS3: -There are minor spalls along the Pier 20D joint armor header. CS4: -The expansion joints at Pier 20D are leaking with debris on the pier caps below due to tears in the joint failure. -The expansion joint at Pier 5 (reconstructed span) has a large tear in the joint, allowing free flow water through the joint.						
310-Elastomeric Bearing	3 - Mod.	36	each	24	12	0	0
	CS2: -There is isolated surface rust and paint failures.						
515-Steel Protective Coating		36	sq. ft.	30	6	0	0
311-Movable Bearing	3 - Mod.	97	each	61	11	14	11
	CS2: -Span 20D Bearing B at Pier 20D was rotated south 6° in a previous inspection. All other bearings at these locations showed minimal rotation. CS3: -Intermittent areas of painted-over pitting exist on the rockers, masonry plates, and anchor rods, particularly under expansion joints. -There is painted-over pack rust between the rockers and masonry plates of Bearing G at Piers 5A, 6A, and 7A. -There is active pack rust between the rockers and masonry plates on the exterior bearings at Pier 19D. -Several of the bearings painted in 2021 have gaps up to 1/2” wide between the rocker and masonry plate with exposed pintles, likely due to pack rust being removed during blast cleaning; these bearings may be resting on the pintles. Affected bearings include Span 4A Bearing C at Pier 4A, Bearing F at Pier 7A, Span 9A Bearing G at Pier 8A, and Span 14C Bearings B and C at Pier 14C. -There is a 1” diameter corrosion hole in keeper plate to Bearing A, at Pier 8A; this bearing visibly deflects under live load.						
515-Steel Protective Coating		97	sq. ft.	41	20	36	0
	CS2: -Minor isolated surface rust to several bearings. CS3: -Bearings (North of Pier 14C) typically exhibit paint failure and surface corrosion throughout.						
313-Fixed Bearing	3 - Mod.	46	each	21	23	2	0

Inspector: Nepal,Prateek
Inspection Date: 09/16/2026

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	CS2: -The fixed bearings north of Pier 14C typically exhibit paint failure and moderate surface corrosion throughout. -There are loose anchor rod nuts at Bearing D at Pier 6A and Bearings C-E at Pier 13C. CS3: -There is painted over pitting in the masonry plates of Bearing G at Pier 6A and Span 7A Bearing G at Pier 6A.						
515-Steel Protective Coating		46	sq. ft.	18	13	15	0
	CS2: -Minor isolated surface rust to several bearings. CS3: -Bearings (North of Pier 14C) typically exhibit paint failure and surface corrosion throughout.						
314-Pot Bearing	3 - Mod.	40	each	12	23	5	0
	CS2: -The reconstructed spans' pot bearings typically exhibit minor isolated paint failures and minor to moderate surface corrosion throughout. -There are several bearings that the elastomer is bulging or starting to walk out of the bearing pot. CS3: -There is also active laminating corrosion with section loss on Span 1 Bearings B-F at Pier 20D. -There is a missing anchor bolt at Bearing E, Span 1 at Pier 20D.						
515-Steel Protective Coating		40	sq. ft.	0	20	20	0
	CS2: -Minor isolated surface corrosion to most bearings. CS3: -Several pot bearings exhibit minor paint failure and moderate surface corrosion throughout.						
331-Reinforced Concrete Bridge Railing	3 - Mod.	4204	ft.	500	3579	125	0
	CS2: -There are moderate vertical cracks in both railings throughout, as well as horizontal cracks in the railings of the reconstructed spans. Cracks are spaced 1'-3' apart with most exhibiting efflorescence throughout all spans. CS3: -There is heavier cracking, including some wide horizontal cracks up to 23' long, as well as some exposed rebar in the west railing in Spans 1 and 2 (reconstructed spans). -There are spalls on the top portion of the railings at the expansion joint at the River Pier. -There is a 6" diameter x 1" spall in the top of the east railing near Pier 10A. -There is a 6' x 1' x 2" spall with exposed rebar on the top portion of the east rail in Span 12A near Pier 12C. -There is a 24" x 3" x 1" spall in the inside corner of the west railing in Span 6A. -There is a 4' long spall due to impact in the west rail in Span 16D. -Some cracks exhibit rust staining. -There are wide vertical cracks throughout both railings.						
815-Drainage	3 - Mod.	22	each	9	0	10	3
	CS3: -There are disconnected drainpipes at the base of Piers 6A and 8A. -The rubber boots connecting section of pipe at Piers 2A, Pier 3A, 16D, 19D, and Pier 25D, are bulged out and separated from pipe causing run off to leak. -The rubber boots at Piers 13C and 14C are offset. -There is a corrosion hole in the drainpipe at Pier 10A. -There is vegetation growing in the east drain near Pier 16D. CS4: -The drainpipe is disconnected at the base of Pier 4A, Column 2. the 8' Diameter erosion hole is still present at the base of the column, but run-off dirt and debris has filled 4' deep hole up to where erosion is only 3" deep at 2025 inspection. -There are several drainpipes that are fully clogged.						

Inspector:	Nepal,Prateek	**Structure Number:**	3105970
Inspection Date:	09/16/2026	**Facility Carried:**	NB IR 71

HAM-00071-0000R_(3105970)

ODOT District:	District 08					Date Built:	07/01/1963
Major Maint:	01 - State Highway Agency	Facility Carried:	NB IR 71	Traffic On:	1 - Highway	Rehab Date:	
Routine Maint:	01 - State Highway Agency	Feature Inters:	3RR;USR 27;IR 75; USR 42	Traffic Under:	4 - Highway - railroad	Insp. Resp A:	01 - State Highway Agency
FIPS Code:	15000 - CINCINNATI (HAM county)	Location:	DISTRICT 08		OH-KY STATE LINE	Insp Resp B:	
Inspector	Nepal,Prateek	Inspection Date	09/16/2026	Reviewer	Not Approved		

Inspector Comments - Deck and Approach

Deck, Wearing Surface, Joints, Railing

Reinforced Concrete Deck
The deck underside in Span 17D exhibits a dark layer of soot due to the railroad tracks below the span.

Bridge Wearing Surface
The wearing surface was inspected visually and via drone.

Expansion Joint
The expansion joints located at Piers 4A, 8A, 12C, 15C, and 17D were replaced in 2016. The expansion joints at Pier 20D and Pier 5 (Reconstructed Spans) were constructed during the 1999 reconstruction.

Bridge Railing
The bridge railing was inspected visually. The impact attenuator at the I-71/I-75 split near Pier 15C and at the I-71/2nd Street split exhibits minor impact damage.

Deck Drainage
As part of the 2016 rehabilitation project, drains at various locations were replaced and scuppers were cleaned.

Approach

Signs
The signs on the structure are in Good Condition with no significant problems noted. There are three overhead signs, eight light poles, one exit sign, and three mile-marker signs mounted to the bridge. Complete inspection of the overhead sign structures was outside the scope of this inspection.

Sign Supports
The sign supports on the structure are in Good condition with no significant problems noted for the supports or connections to the structure.

Utilities
All utilities are in Good condition. There is an electrical conduit that is attached to Girder A from the River Pier to Pier 13C that has been painted as a part of the 2021 paint contract. There is a lighting conduit attached to the girders in Span 16D. There are lighting conduits that extend from the ground to the superstructure on the outside columns of Pier 14C. The steel conduit near Pier 12C on the west

overhang has an open joint.

Inspector Comments - General Appraisal

Superstructure, Bearings

Steel Open Beams/Girders

There is a 4' section of Girder A at the River Pier where the bottom flange and part of the web was replaced; this rehabilitated section is in good condition. There is a drilled-out hole in the bottom of the web at this welded retrofit, approximately 4' from the bearing. There are two fatigue prone bottom flange welds on Girders C-H in Span 11A: 8' ahead of Pier 11A and 8' back from Pier 12C.

Moveable Bearing

There is abrasion dust present on several of the bearings at Pier 8A.

Protective Coating System

The paint in Spans 1A-11A and 12C-14C were painted in 2021 and the paints in these spans is in excellent condition. The end 5'-10' of the girders near the expansion joints at Piers 15C, 17D,and 20D were cleaned and painted during the 2016 rehabilitation; the paint inthese areas is in good condition.

Diaphragm/ X-Frames

There was paint failure and surface corrosion on the cross-frames in the non-painted original spans. The lower member of the cross-frame between Girders A and B in Span 14C near Pier 14C is bent. At Pier 8A, there is 16" x 3.5" corrosion hole in the bottom member of the end cross-frame at Girder G of Span 8A. Also at Pier 8A, there is a 2" diameter corrosion hole in the end cross-frame diagonal at Girder A, Span 8A. Some of the clip angles have been removed from the end cross-frames at Pier 8A during previous rehabilitations. Cross frame #5 in Span4, Bay 1, between Girder A and B, is bent on the lower angle.

Substructure

Reinforced Concrete Column

As part of the 2016 rehabilitation,concrete patches and FRP wrapping were applied to parts of the River Pier and Piers 4A, 5A,7A, 8A, 12C, and 15C. The protective coating on the FRP is beginning to peel in several areas.

Reinforced Concrete Pier Cap

As part of the 2016 rehabilitation, concrete patches and FRP wrapping were applied to parts of the River Pier and Piers 4A, 5A, 7A, 8A, 12C, 15C, 17D, and 20D. The protective coating on the FRP is beginning to peel at several piers.

Culvert

Inspector:	Nepal,Prateek	**Structure Number:**	3105970
Inspection Date:	09/16/2026	**Facility Carried:**	NB IR 71

N/A

Inspector Comments - Waterway

Channel Protection

N/A

Channel

N/A

Scour

N/A