Bridge Inspection Report

056B00210N
Inspector: Marcella Kennedy
Entered by: MKENNEDY
12/02/2024
Standard (24 months)

IDENTIFICATION

Structure Num (8):	056B00210N
NBI Number	056B00210N
Structure Name:	
Location (9):	0.55 MI N OF I-264
Carries (7):	I-65
Type of Service (42A):	1 Highway
Feature Crossed (6):	MANNING RD
Type of Service (42B):	1 Highway
Placecode (4):	Not Applicable
County (3):	Jefferson (056)
State (1):	21 Kentucky
Admin Area:	Inventory
District:	District 5
Latitude (16):	38° 11' 51"
Longitude (17):	85° 44' 2"
Owner (22):	State Highway Agency
Maint. Resp. (21):	State Highway Agency
Year Built (27):	1957
Year Recon (106):	1985
Border State (98A):	Not Applicable (P)
Border Number (99):	
% Responsibility (98B):	

Fair **Heath Index:** 81.43

SubStd: No **SubStd Reason:** Not Sub-Standa

Inspection Type	Freq (92)	Last Insp (93)	Next Insp
Routine	24	12/2/2024	12/2/2026
Element	24	12/2/2024	12/2/2026
Fracture Critical (A)		1/1/1901	1/1/1901
Underwater (B)		1/1/1901	1/1/1901
Special Insp (C)		1/1/1901	1/1/1901

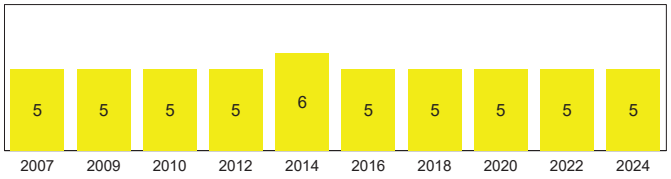
LOAD RATING AND POSTING

Posting Status(41):	A Open, no restriction
Posting (70):	5 At/Above Legal Loads
Signs Posted Cardinal:	No
Signs Posted Non-Cardinal:	No
Recmd Date:	**Posted Date:**

Required Postings (Tons.)		Field Postings (Tons.)	
Gross:		**Gross:**	
Truck Type 1:		**Truck Type 1:**	
Truck Type 2:		**Truck Type 2:**	
Truck Type 3:		**Truck Type 3:**	
Truck Type 4:		**Truck Type 4:**	
SUV 5:		**SUV 5:**	
SUV 6:		**SUV 6:**	
SUV 7:		**SUV 7:**	
EV Single Axle:		**EV Single Axle:**	
EV Tadem Axle:		**EV Tadem Axle:**	
EV Gross:		**EV Gross:**	

DECK GEOMETRY

Deck Geometry (68):	7 Above Min Criteria
Deck Area:	18,770.00 ft²
Deck Type (107):	1 Concrete-Cast-in-Place
Wearing Surface (108A):	6 Bituminous
Membrane (108B):	0 None
Deck Protection (108C):	1 Epoxy Coated Reinforci
Approach Roadway width (32):	120.10 ft.
Width Curb to Curb (51):	119.00 ft.
O. to O. Width (52):	125.30 ft.
Curb / Sidewalk Width L (50A):	0.00 ft.
Curb / Sidewalk Width R (50B):	0.00 ft.
Median (33):	3 Closed Med w/Barriers



DECK CONDITION

Deck Rating (58):	5 Fair
Bridge Rail (36A):	0 Substandard
Transition (36B):	0 Substandard
Approach Rail (36C):	0 Substandard
Approach Rail Ends (36D):	0 Substandard

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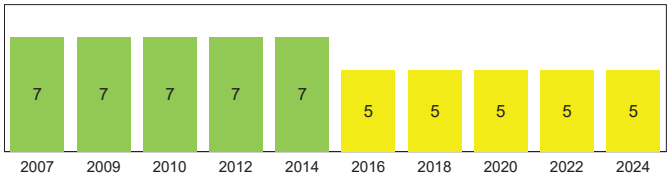
SUPERSTRUCTURE GEOMETRY

# of Main Spans (45):	3
# of Approach Spans (46):	0
Main Material (43 A):	4 Steel Continuous
Main Design (43 B):	02 Stringer/Girder
Max Span Length (48):	58.00 ft.
Structure Length (49):	149.80 ft.
NBIS Length (37):	Long Enough
Temp Structure (103):	Not Applicable (P)
Skew (34):	24°
Structure Flared (35):	1 Yes, flared
Parallel Structure (101):	No || bridge exists
Approach Alignment (72):	8 Equal Desirable Crit

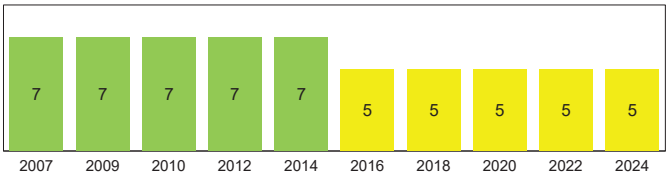


SUPERSTRUCTURE CONDITION

Superstructure Rating (59):	5 Fair
Structure Evaluation (67):	5 Above Min Tolerable

SUBSTRUCTURE GEOMETRY

Navigation Control (38):	NA-no waterway
Nav Vert Clearance (39):	0.00 ft.
Nav Horiz Clearance (40):	0.00 ft.
Pier Protection (111):	Not Applicable (P)
Lift Bridge Vertical Clearance (116):	
Scour Rating (113):	N Not Over Waterway
Waterway Adequacy (71):	N Not applicable



SUBSTRUCTURE CONDITION

Substructure Rating (60):	5 Fair
Channel Rating (61):	N N/A (NBI)

KYTC FIELDS

Overlay:	Yes	**Scour Observed:**	N/A
Overlay Type:	L T Polymer Asph	**Scour Risk :**	N/A
Overylay Thickness:	2.25 in.	**Scour Analysis/Assessment :**	Not Required
Overlay Year:	2012	**Scour POA :**	Not Required
Cross Section:	Not Required	**Scour POA Date :**	
Cross Section Date:		**Next Cross Section Due Date :**	

1ST NON-CARD ROUTE ON: I-65 NC

ROADWAY LOCATION

Pos Prefix (5A):	1st Non-Card Route
Kind of Hwy (5B):	1 Interstate Hwy
Route Num (5D):	00065
LRS Route (13A/B):	IO0065_000/00
Milepost (11):	131.30 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	8
Detour Length (19):	8.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	11 Urban Interstate
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	1 On Interstate STRAHNET
Toll Facility (20):	3 On free road
ADT (29):	129,829 Cars/Day
Pct Trucks (109):	12.00%
ADT Year (30):	2022

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	19.67 ft.
Horizontal (47):	59.50 ft.
Min Lat Left (56):	0.00 ft.
Min Lat Right (55B):	14.20 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	6 Equal Minimum

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ROUTE UNDER STRUCTURE: MANNING RD

ROADWAY LOCATION

Pos Prefix (5A):	One Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	01723
LRS Route (13A/B):	
Milepost (11):	0.11 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	1
Detour Length (19):	0.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	19 Urban Local
Level Service (5C):	0 None of the below
NHS (104):	0 Not on NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	1,558 Cars/Day
Pct Trucks (109):	-1.00%
ADT Year (30):	2006

CLEARANCES

Vertical (10):	19.67 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	19.67 ft.
Horizontal (47):	22.50 ft.
Min Lat Left (56):	0.00 ft.
Min Lat Right (55B):	14.20 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	6 Equal Minimum

ROUTE ON STRUCTURE: I-65

ROADWAY LOCATION

Pos Prefix (5A):	Route On Structure
Kind of Hwy (5B):	1 Interstate Hwy
Route Num (5D):	00065
LRS Route (13A/B):	IO0065_000/00
Milepost (11):	131.30 mi
Suffix (5E):	0 N/A (NBI)
Lanes On (28A):	8
Detour Length (19):	8.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	11 Urban Interstate
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	1 On Interstate STRAHNET
Toll Facility (20):	3 On free road
ADT (29):	129,829 Cars/Day
Pct Trucks (109):	12.00%
ADT Year (30):	2022

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	19.67 ft.
Horizontal (47):	59.50 ft.
Min Lat Left (56):	0.00 ft.
Min Lat Right (55B):	14.20 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	6 Equal Minimum

STRUCTURE NOTES

-ACCESS: L01 key is required for vehicular access below the bridge. See Natalie House-Lewis (DBE) for key.
-In 2023, AECOM used infrared thermography to identify and locate areas of concrete delamination and overlay debonding in the deck, plus they obtained core samples for testing to determine chloride ion levels in the concrete. See Media tab for results.
-2017 rehab project (CID 174301) included replacement of asphalt plug joints with asphalt waterproofing mix.
-2012 repair contract (CID 121305) included 2.25" asphalt waterproofing overlay (low temp., a product by "Road Science" - not Rosphalt), and asphalt plug joints installed over the existing joints.
-In 2001 an in-depth inspection was performed on this structure.
-Structure has been widened three times. Plans are numbered as follows:
-DN 17948: 1955 original plans (10 beams)
-DN 17822: 1969 widening to centerline (4 beams)
-DN 18876: 1979 widening (4 beams)
-DN 20782: 1983 NB widening (2 beams)
-DN 20787: 1983 SB widening (2 beams)

INSPECTION NOTES

-Routine inspection performed by Marcella Kennedy and Daniel Coulter.
-Element 215 quantity was updated to include wingwalls paralleling the roadway at all four corners (65 feet total).

SCOUR NOTES

LOAD RATING NOTES

COMPLIANCE NOTES

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	**Re Concrete Deck**	**3**	**12/02/2024**	**18,922.00**	**sq.ft**	**6,998.00**	**11,420.00**	**504.00**	**0.00**

The top of deck cannot be visually inspected due to "Road Science" asphalt waterproofing mix overlay. Soffit has transverse cracking with efflorescence spaced at less than 3 feet throughout Spans 1 and 3, in exterior bays, and near the longitudinal joint. Cracking near longitudinal joint at Abutment 1 has an isolated area with heavy efflorescence (4 SF CS3). There is a local area of full depth deterioration in Span 2-Bay 1 at midspan (30 SF CS3). Soffit has spalling below the joints behind the end diaphragms with some exposed rebar, as well as spalling along the haunches (462 SF CS3). Bay 6 soffit has a 4' W x 2' L x 3" D spall with exposed rebar having section loss at Abutment 1 (8 SF CS3). Portions of the soffit are covered in soot from fires under the bridge near Abutment 4. The deck moves independently from the beams under heavy live load at Beams 2-8 at Abutment 1 and Beams 2, 4, 5, and 7 at Abutment 4; spalling is common along the haunches at these locations.

813	AC Wearing Surf w/ Membrane	3	12/02/2024	17,980.00	sq.ft	2,960.00	14,980.00	40.00	0.00

The bridge was overlaid with an asphalt waterproofing mix (a product by "Road Science") as part of the 2012 rehab project. Overlay has minor wearing in the traffic lanes, plus some 1-inch-wide spalls in the NB lanes in Span 1. There is also intermittent unsealed longitudinal cracking along the right NB edge line. The shoulders are lined with dirt and debris.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
107	**Steel Opn Girder/Beam**	**3**	**12/02/2024**	**3,168.00**	**ft**	**2,758.00**	**300.00**	**110.00**	**0.00**

The deck moves independently from the beams at Beams 2-8 at Abutment 1 and Beams 2, 4, 5, & 7 at Abutment 4, with gaps typically up to 3/8 inch between the deck and top flanges. The gap above the Beam 7 top flange at Abutment 4 is up to 2.5 inches at a spalled portion of the haunch. Some beam ends have flaking corrosion, especially at Abutment 4 (110' CS3). The beams have surface corrosion scattered throughout, especially near the bridge ends, longitudinal joint, and exterior faces (300' CS2). There is soot from fires on Beams 12-20 at Abutment 4; Beam 17 has up to 3/4 inch distortion in the web. There are a few cracked tack welds at the top of the stiffeners visible near the abutments.

515	Steel Protective Coating	3	12/02/2024	25,344.00	sq.ft	6,336.00	11,404.00	5,069.00	2,535.00

The majority of the paint is substantially effective and dulling, with areas of limited to no effectiveness near the abutments and longitudinal joint. There is soot from fires on Beams 12-20 at Abutment 4; some of these beams have paint bubbling and/or failure, especially Beam 15.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
205	**Re Conc Column**	**3**	**12/02/2024**	**20.00**	**each**	**16.00**	**3.00**	**1.00**	**0.00**

Pier 2-Column 3 has spalling with exposed rebar at the bottom of the south face, 1.5-foot-diameter by 1-inch-deep (1 CS3). A few columns have small spalls and moderate cracks (3 CS2).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	Re Conc Abutment	3	12/02/2024	316.00	ft	106.00	70.00	140.00	0.00

Abutment 1 cap has 6' L x 1' W x 9" H spalling with exposed rebar and adjacent wide cracking in Bay 8 (8' CS3). Abutment 1 cap also has intermittent wide horizontal cracking in the NB portion (17' CS3). Abutment 4 cap has spalls with exposed rebar at Beams 5 and 6, each roughly 4' L x 1' H x 7" D, with large delaminations and wide cracking below Beams 4-7 (20' CS3). Abutment 4 has wide horizontal cracking plus scaling in the cap and backwall from fires between Beams 13-15 (14' CS3). The backwalls have intermittent wide cracking and wide diagonal cracks with efflorescence at the ends (81' CS3). The abutments otherwise have scattered moderate cracks, plus intermittent sound patching on the backwalls. There are no deficiencies noted in the wingwalls.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	Re Conc Pier Cap	3	12/02/2024	272.00	ft	269.00	2.00	1.00	0.00

Pier 2 cap has a moderate crack at the west end about 1/3 of the cap depth from the bottom and extending into both the north and south faces, and a delamination in the east face adjacent to Column 5 (2' CS2). Pier 3 cap has an 8-inch-diameter spall with exposed rebar on the bottom face at the west end (1' CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
306	Other Joint	3	12/02/2024	260.00	ft	0.00	0.00	46.00	214.00

Asphalt plug joints are breaking up and/or missing throughout the traffic lanes, plus the full length of the SB Abutment 1 joint (214' CS4). The joints have debris in the shoulders with some partial depth cracks (46' CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
311	Moveable Bearing	3	12/02/2024	66.00	each	22.00	0.00	44.00	0.00

The movable bearings are located at the abutments and Pier 3. Abutment bearings have flaking corrosion and pack rust between the rocker and bearing plates; corrosion is heavier at exterior bearings and near the longitudinal joint. Several abutment bearings have gaps between the plates and rocker and/or below the masonry plates due to pack rust. Abutment bearings are expanded at 28° F (tolerable alignment, inconsistent with temperature). At Abutment 1-Beam 4, the rocker bearing is laterally rotated with an 11/16" gap between the sole plate and rocker on the west side only. No significant deficiencies noted on Pier 3 rocker bearings.

515	Steel Protective Coating	3	12/02/2024	330.00	sq.ft	55.00	55.00	0.00	220.00

The paint has failed on the abutment bearings. The paint is substantially to fully effective on the Pier 3 rockers.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
313	**Fixed Bearing**	**3**	**12/02/2024**	**22.00**	**each**	**22.00**	**0.00**	**0.00**	**0.00**

No significant deficiencies noted on the Pier 2 fixed bearings.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
515	Steel Protective Coating	3	12/02/2024	44.00	sq.ft	44.00	0.00	0.00	0.00

The paint is fully effective on Pier 2 fixed bearings.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	**Re Conc Bridge Railing**	**3**	**12/02/2024**	**600.00**	**ft**	**196.00**	**300.00**	**104.00**	**0.00**

Median rails have numerous spalls with exposed rebar; spalling is more widespread on the NB rail (95' CS3). Median railing has a 5-foot-long diagonal fracture at the north end, with spalling with exposed rebar on both faces, plus an additional 4 feet of spalling on the west face (9' CS3). The east and west railings have moderate width vertical cracks and scattered small spalls (300 ft CS2).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
850	**2nd Elem**	**3**	**12/02/2024**	**1.00**	**each**	**0.00**	**0.00**	**1.00**	**0.00**

The diaphragms have surface corrosion with some flaking corrosion near the abutments.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
853	**Utilities**	**3**	**12/02/2024**	**1.00**	**each**	**0.00**	**0.00**	**1.00**	**0.00**

There are disconnected utility conduits at the west ends of Abutments 1 & 4. There are missing utility access covers in the east and west railings near Abutment 4. (CS3)

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
857	Embankment Erosion	3	12/02/2024	1.00	each	0.00	1.00	0.00	0.00

The Abutment 1 slope protection is slightly undermined at the top of the east side and has some differential settlement of panels at the top between Beams 3-6.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
859	Vegetation	3	12/02/2024	1.00	each	0.00	0.00	1.00	0.00

Vegetation is overhanging the east railing in the south approach near Abutment 1. Vegetation is slightly overhanging the west railing near Abutment 4.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
860	Erosion Ctrl/Prt	3	12/02/2024	1.00	each	0.00	1.00	0.00	0.00

The Abutment 1 slope protection has a few cracked sections near the toe of the slope. There is also minor undermining at the top of the east side and some differential settlement of panels at the top between Beams 3-6.

Looking north along I-65 NB towards Eastern Parkway (US 60A)

Looking south along I-65 NB towards I-264

Asphalt plug joint over Abutment 1 (NB)

Asphalt plug joints are breaking up and/or missing throughout the traffic lanes (Abutment 1 at right NB edge line shown).

Asphalt plug joint over Abutment 4 (NB)

Median railing has a 5-foot-long diagonal fracture at the north end, with spalling along both faces and exposed rebar on the west face. Note failed asphalt plug joint.

Overlay has intermittent unsealed longitudinal cracking along the right NB edge line.

Overlay has minor wearing in the traffic lanes, plus some 1-inch-wide spalls in the NB lanes in Span 1.

Looking north along I-65 SB

Looking south along I-65 SB

Asphalt plug joint over Abutment 1 (SB)

Asphalt plug joints are breaking up and/or missing throughout the traffic lanes, plus the full length of the SB Abutment 1 joint (right SB shoulder shown).

Asphalt plug joint over Abutment 4 (SB)

Asphalt plug joints are breaking up and/or missing throughout the traffic lanes (Abutment 4 joint shown). Note fracture in median barrier.

Median rails have numerous spalls with exposed rebar; spalling is more widespread on the NB rail.

Abutment 1

At Abutment 1-Beam 4, the rocker bearing is laterally rotated with an 11/16" gap between the sole plate and rocker on the west side only. Note asphalt piled on seat.

Close up

Bay 6 soffit has a 4' W x 2' L x 3" D spall at Abutment 1. Note daylight visible through failed joint.

Close up

Abutment 1 cap has 6' L x 1' W x 9" H spalling with exposed rebar in Bay 8.

Abutment bearings have flaking corrosion and pack rust, primarily between the rockers and masonry plates, with heavier corrosion at the longitudinal joint and exterior beams (Beam 16 at Abutment 1 shown).

Abutment 1 has intermittent wide horizontal cracking in the NB portion.

Span 1

South face of Pier 2

Typical fixed bearings at Pier 2

North face of Pier 2

Span 2

Soffit has transverse cracking, some with effloresence; cracking is more closely spaced in the exterior bays and near the longitudinal joint. There is an isolated area of full depth deterioration in Span 2-Bay 1 at midspan (shown).

South face of Pier 3

North face of Pier 3

Typical rocker bearings at Pier 3

Pier 3 cap has an 8-inch-diameter spall with exposed rebar on the bottom face at the west end.

Pier 2-Column 3 has spalling with exposed rebar at the bottom of the south face, 1.5-foot-diameter by 1-inch-deep.

Span 3

Abutment 4

Abutment bearings are expanded at 28° F (tolerable alignment, inconsistent with temperature; looking west along Abutment 4 shown).

Abutment 4 cap has spalls with exposed rebar at Beams 5 and 6, each roughly 4' L x 1' H x 7" D. There are also large delaminations at this location.

The deck moves independently from the beams at several locations, with gaps typically up to 3/8" between the deck and top flanges. Beam 7 at Abutment 4 has a 2.5" gap at a spalled portion of the haunch.

Abutment bearings have flaking corrosion and pack rust, primarily between the rockers and masonry plates, with heavier corrosion at the longitudinal joint and exterior beams (Beam 8 at Abutment 4 shown).

There is soot from fires on Beams 12-20 at Abutment 4.

Closer view at Beams 13-15

Abutment 4 has wide horizontal cracking plus scaling from fires between Beams 13 and 15 (cap at Beam 14 shown).

Close up of Abutment 4 backwall at Beam 14

Paint bubbling and failure from fires at Beam 15

There are a few cracked tack welds at the top of the stiffeners visible near the abutments.

East profile

West profile