

Bridge 05464 Inspection Report



Latitude:36.10304, Longitude:-94.34466

Route:16 Section:02 Log:3.929

Arnold Road ID:72x16x2xA, Arnold Log mile:3.977

District 04, 143 - Washington County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

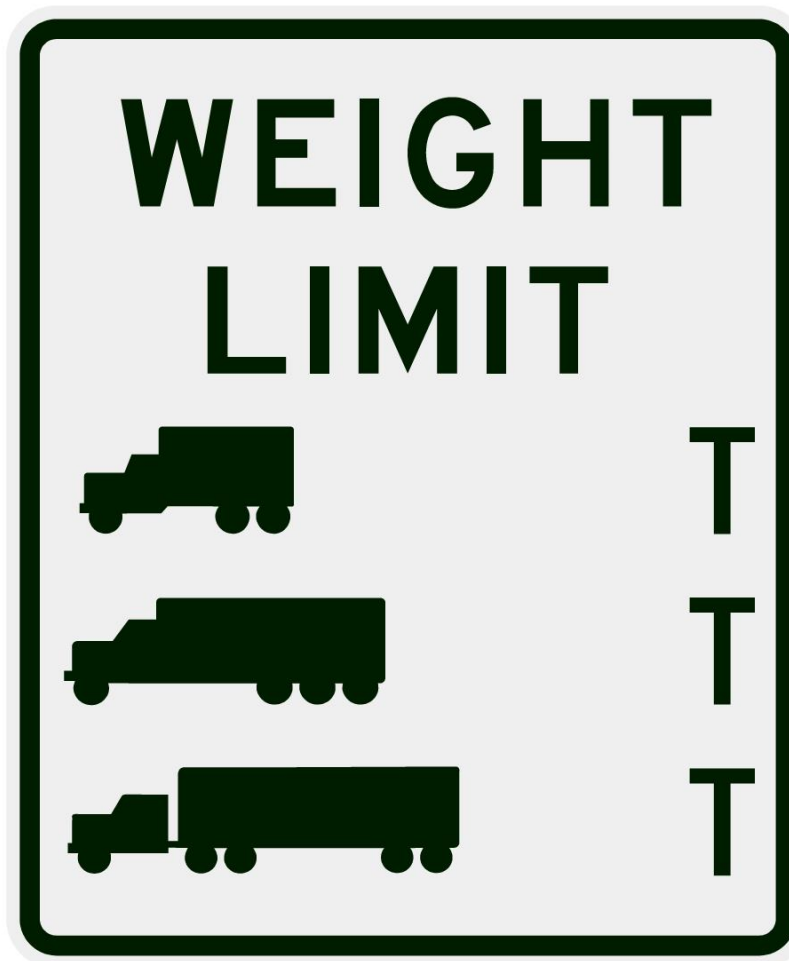
Bridge Posting Information

41 - Structure Open/Posted/Closed: A - Open, no restriction

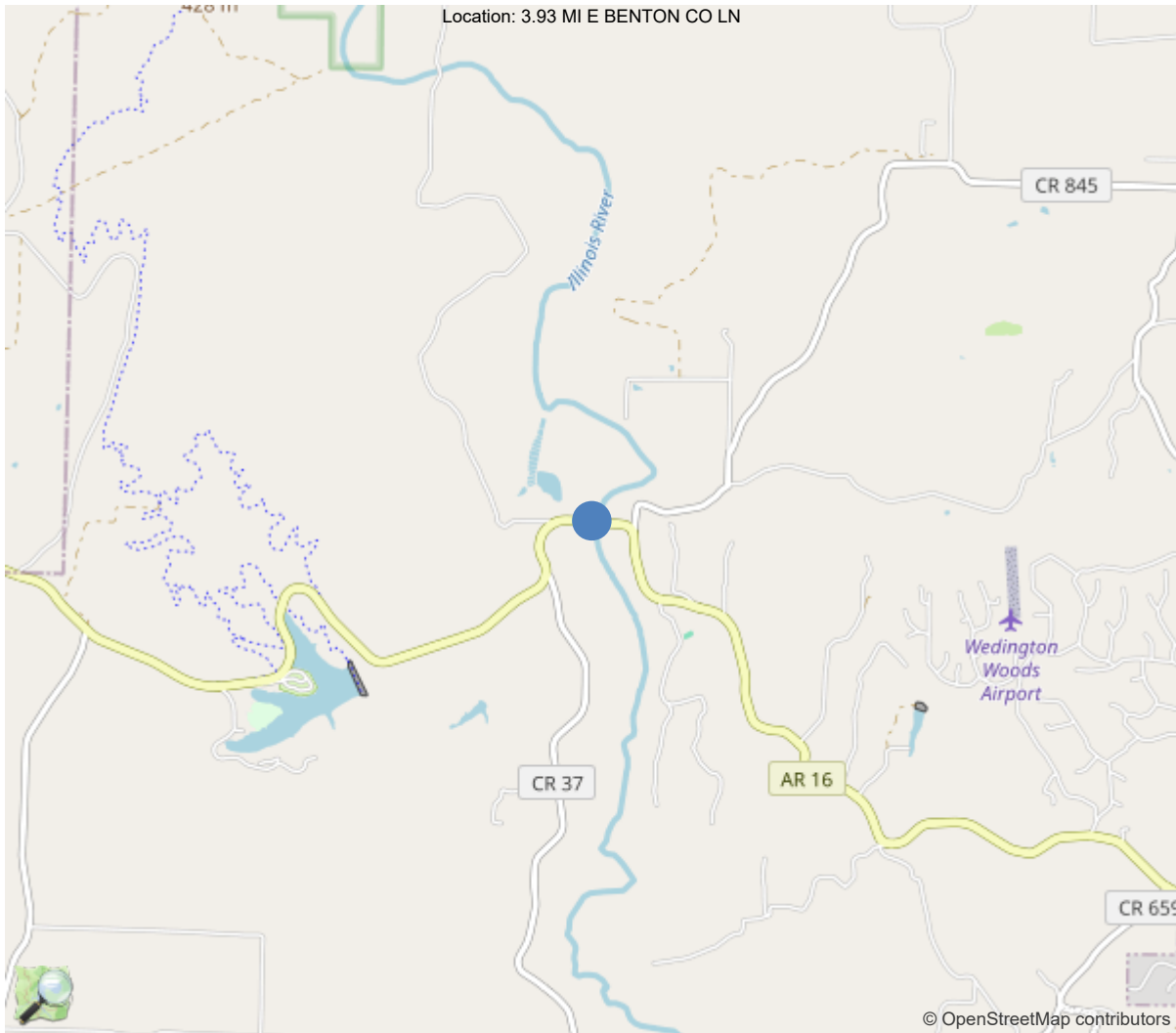
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	39		
Code 9 (31 Tons)	40		
Code 5 (40 Tons)	44		

If calculated capacity is less than the Legal Load Listed, the Bridge Legally Requires Posting Signs to be installed by the Bridge Owner.



30"x36" AR



36.10304, -94.34466

National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	05464
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	143 - Washington County
(4) Place Code	0
(6) Features Intersected	Illinois River-Wash Co.
(7) Facility Carried	State Highway 16
(9) Location	3.93 MI E BENTON CO LN
(11) Mile Point	3.929 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000016020
(16) Latitude	36.10304
(17) Longitude	-94.34466
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3 - Steel
Type	2 - Stringer/Multi-beam or girder
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	5
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	5 - Epoxy Overlay
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1972
(106) Year Reconstructed	0
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	2900
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	20 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	60 ft
(49) Structure Length	302 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	28 ft
(52) Deck Width Out to Out	30.7 ft
(32) Approach Roadway Width (W/Shoulders)	34.1 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	28 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0 - No navigation control on w
(111) Pier Protection	1 - Navigation protection not
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	6 - Rural Minor Arterial
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exists
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structure
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	7
(59) Superstructure	6
(60) Substructure	4
(61) Channel & Channel Protection	8
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	5 - MS 18 / HS 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	55
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	36
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	
(68) Deck Geometry	4
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	6
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	8 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	0 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 0
(97) Year of Improvement Cost Estimate	
(114) Future ADT	3797
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			07/16/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection	No		
* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.			

Team Lead: Jeff Jones, Inspection Date: 07/16/2024

Specifications for National Bridge Inventory Sheets

IDENTIFICATION	
B.ID.01 Bridge Number	05464
B.ID.02 Bridge Name	
B.ID.03 Previous Bridge No.	M0422
B.W.01 Year Built	1972

LOCATION	
B.L.01 State Code	5 - Arkansas
B.L.02 County Code	143 - Washington County
B.L.03 Place Code	00000 - N/A
B.L.04 Highway Agency District	04 - District 04
B.L.05 Latitude	36.10304
B.L.06 Longitude	-94.34466
B.L.07 Border Bridge Number	
B.L.08 Border Bridge State or Country Code	
B.L.09 Border Bridge Insp. Resp.	
B.L.10 Border Bridge Designated Lead State	
B.L.11 Bridge Location	3.93 MI E BENTON CO LN
B.L.12 Metropolitan Planning Organization	5

CLASSIFICATION	
B.CL.01 Owner	S01 - State transportation departme
B.CL.02 Maint. Responsibility	S01 - State transportation departme
B.CL.03 Federal or Tribal Land Access	N - Not Applicable
B.CL.04 Historic Significance	N - Bridge is not eligible for the
B.CL.05 Toll	N - Bridge does not carry a toll ro
B.CL.06 Emergency Evacuation Designation	

ROADSIDE HARDWARE	
B.RH.01A Bridge Railing Type	
B.RH.01B Bridge Railing Year (YY)	
B.RH.01C Bridge Railing Test Level	
B.RH.02A Transition Type	
B.RH.02B Transition Year (YY)	
B.RH.02C Transition Test Level	

BRIDGE GEOMETRY	
B.G.01 NBIS Bridge Length	301.8
B.G.02 Total Bridge Length	301.8
B.G.03 Max Span Length	60
B.G.04 Min Span Length	60
B.G.05 Bridge Width Out-to-Out	30.8
B.G.06 Bridge Width Curb-to-Curb	27.9
B.G.07 Left Curb or Sidewalk Width	0
B.G.08 Right Curb or Sidewalk Width	0
B.G.09 Approach Roadway Width	34.1

B.G.10 Bridge Median	0 - No median
B.G.11 Skew	0
B.G.12 Curved Bridge	N - Not curved
B.G.13 Max Bridge Height	22
B.G.14 Sidehill Bridge	N - Not a sidehill bridge
B.G.15 Irregular Deck Area	
B.G.16 Calculated Deck Area	9308.6

LOADS AND LOAD RATING	
B.LR.01 Design Load	HS20 - HS-20
B.LR.02 Design Method	
B.LR.03 Load Rating Date	
B.LR.04 Load Rating Method	LFR - Load Factor Rating
B.LR.05 Inventory Load Rating Factor	1
B.LR.06 Operating Load Rating Factor	1.53
B.LR.07 Controlling Legal Load Rating Factor	
B.LR.08 Routine Permit Loads	

INSPECTION REQUIREMENTS	
B.IR.01 NSTM Inspection Required	N - NSTM inspection not required.
B.IR.02 Fatigue Details	Y - E/E' details are present
B.IR.03 UW Inspection Required	N - Underwater inspection not requi
B.IR.04 Complex Feature	N - Bridge does not have complex fe

COMPONENT CONDITION RATINGS	
B.C.01 Deck Condition Rating	7 - GOOD - Some minor defects.
B.C.02 Superstructure Condition	6 - SATISFACTORY - Widespread
B.C.03 Substructure Condition	5 - FAIR - Some moderate defec
B.C.04 Culvert Condition	N - NOT APPLICABLE - Component
B.C.05 Bridge Railing Condition	5 - FAIR - Some moderate defec
B.C.06 Bridge Railing Transitions Condition	8 - VERY GOOD - Some inherent
B.C.07 Bridge Bearings Cond.	5 - FAIR - Some moderate defec
B.C.08 Bridge Joints Condition	6 - SATISFACTORY - Widespread
B.C.09 Channel Condition Rating	8 - VERY GOOD - Inherent defec
B.C.10 Channel Protection Condition	7 - GOOD - Some minor defects.
B.C.11 Scour Condition Rating	8 - Insignificant scour.
B.C.12 Bridge Condition Classification	F - Fair
B.C.13 Lowest Condition Rating	5 - FAIR - Some moderate defec
B.C.14 NSTM Insp. Condition	
B.C.15 UW Inspection Condition	

APPRAISAL	
B.AP.01 Approach Roadway Alignment	G - Good
B.AP.02 Overtopping Likelihood	2 - Very low - once every 51 to 99
B.AP.03 Scour Vulnerability	AB-T - TEMP - Stable for scour, pos
B.AP.04 Scour Plan of Action	0 - A scour POA is not required.
B.AP.05 Seismic Vulnerability	0 - Seismic evaluation not complete

SPAN SETS			
M1			
B.SP.02 # of Spans	5	B.SP.08 Deck Interaction	CU - Composite - unshored cons
B.SP.03 # of Beam Lines	4	B.SP.09 Deck Material and Type	C01 - Reinforced concrete - ca
B.SP.04 Span Material	S01 - Steel - rolled	B.SP.10 Wearing Surface	P01 - Polymer - epoxy
B.SP.05 Span Continuity	1 - Simple or single span	B.SP.11 Deck Protective System	0 - None
B.SP.06 Span Type	G02 - Girder/beam - I-shaped s	B.SP.12 Deck Reinforcing Protective System	0 - None
B.SP.07 Span Protective System	C01 - Coating - paint	B.SP.13 Deck Stay-In-Place Forms	0 - None

SUBSTRUCTURE SETS			
A1			
B.SB.02 No. of Substructure Units	2	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	P01 - Pile - steel H-shape
B.SB.04 Substructure Type	A02 - Abutment - stub	B.SB.07 Foundation Protective System	0 - None
P1			
B.SB.02 No. of Substructure Units	4	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	F02 - Footing - on rock
B.SB.04 Substructure Type	B02 - Bent - column with web w	B.SB.07 Foundation Protective System	0 - None

HIGHWAY FEATURES			
H1			
B.F.02 Feature Location	C - Carried on bridge	B.H.09 Annual ADT	2900
B.F.03 Feature Name	State Highway 16	B.H.10 Annual ADTT	29
B.H.01 Functional Classification	4 - Minor Arterial	B.H.11 Year of Annual ADT	2018
B.H.02 Urban Code	99999	B.H.12 Highway Max Usable Vertical Clearance	99.9
B.H.03 NHS Designation	N - Non-NHS	B.H.13 Highway Min Vertical Clearance	99.9
B.H.04 National Highway Freight Network	N - Not on the NHFN	B.H.14 Highway Min Horizontal Clearance, Left	
B.H.05 STRAHNET Designation	N - Not a STRAHNET route	B.H.15 Highway Min Horizontal Clearance, Right	
B.H.06 LRS Route ID	16020	B.H.16 Highway Max Usable Surface Width	29.1
B.H.07 LRS Mile Point	3.929	B.H.17 Bypass Detour Length	20
B.H.08 Lanes On Highway	2	B.H.18 Crossing Bridge Number	

HIGHWAY ROUTES					
Highway Parent	B.RT.01 Route Designation	B.RT.02 Route Number	B.RT.03 Route Direction	B.RT.04 Route Type	B.RT.05 Service Type
H1	R01	16	2-T - TEMP - Two-way traffic - NS or EW	3 - State route	1 - Mainline



Team Lead: Jeff Jones, Inspection Date: 07/16/2024

WATERWAY FEATURES

W1			
B.F.02 Feature Location	B - Below bridge	B.N.03 Movable Bridge Max Navigation Vertical Clearance	
B.F.03 Feature Name	Illinois River	B.N.04 Navigation Channel Width	
B.N.01 Navigable Waterway	N - Not navigable waters	B.N.05 Navigation Channel Min Horizontal Clearance	
B.N.02 Navigation Min Vertical Clearance		B.N.06 Substructure Navigation Protection	

POSTING STATUS DATA

B.PS.01 Load Posting Status	B.PS.02 Posting Status Change Date
PO - Permanent - Open	

LOAD EVALUATION AND POSTING

B.EP.01 Legal Load Configuration	B.EP.02 Legal Load Rating Factor	B.EP.03 Posting Type	B.EP.04 Posting Value
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Inspection Notes

General Observation

07/16/2024 - JCJ & TJL - Routine Inspection and Type 2 Underwater Inspection conducted this date.

Inspection Procedure:

Parking:

Vehicle can be parked behind the approach guardrail at the Northwest end of the structure.

Access:

Structure inspected from the ground.

There is pedestrian access on both sides of the structure without needing to go through locked gates.

Depth of Water:

Water was less than 1' deep during the time of inspection.

Tools Needed:

Sounding weight attached to a tape measure - Channel cross sections were taken along both edges of the deck utilizing a Sounding weight attached to a tape measure.

Hip Waders & Range Pole – Substructure in the channel was visually inspected along with wading and probing using sections of range pole from under the structure.

GoPro Camera on a pole - Substructure caps and Superstructure was inspected using a go pro camera.

58 - Deck (7 - GOOD CONDITION - some minor problems.)

The deck is over all in good condition with isolated areas with concrete deterioration around the deck drains that is visible from the undersurface of the deck.

59 - Superstructure (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

Superstructure is in Satisfactory condition with corrosion in the ends of the beams under the expansion joints.

60 - Substructure (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour.)

Substructure is over all in Poor condition based upon advanced concrete deterioration with exposed reinforcing steel in the intermediate bent caps.



Asset #05464(Routine, Underwater type 2)

State Highway 16 over Illinois River-Wash Co.

Location: 3.93 MI E BENTON CO LN

Team Lead: Jeff Jones Inspection Date: 07/16/2024

61 - Channel/Channel Protection (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)
07/16/2024 - JCJ & TJL - Type 2 Underwater Inspection conducted this date.

Design:

ArDOT Drawing Number 17653 General Notes state that all piling shall be HP 10 X 42 driven to a minimum bearing capacity of 55 tons per pile into the material designated as Hard Blue Slate.

Footings shall be set a minimum of 1'-0" into Slate. Top of Footings shall not Be Located Higher than the Channel Bottom.

Field observations at the structure:

Wading and probing along with visual observations during low and clear water conditions indicate that the top of Bent 2 & 3 footings are exposed. Top of footings appear to be well keyed into the solid rock channel. Top of footings appear to be reasonably close to the same elevation as the adjacent channel floor with no apparent scour problems during this inspection.

Water was less than 1' deep in the channel during the time of inspection.

There is drift accumulation against Bent 3 in the channel.

Profile:

A cross section of the channel was taken along both sides of the structure this date.

See channel cross section documentation associated with this inspection for additional information.

Channel:

Main channel is under Span 2 with solid shale exposed under the structure.

Banks appear to be well vegetated under the structure.

The majority of the dumped rip rap at both abutments is in place during the time of inspection.

There is some embankment erosion observed approximately 500'+ Down Stream (Left) of the structure.

History:

Review of the bridge inspection history files indicate that this structure has no documentation of undermining or scour problems.

Drift accumulation indicates that high water events reach the deck and superstructure.

A-45 - Bats Present (1 - Yes)

07/16/2024 - JCJ & TJL - Bats are in the expansion joints with piles of guano on the cap of Bents 4 & 5 during the time of inspection.

08/18/2022 - EJW - Bats in the expansion joints over all intermediate bents.

A-58 - Cap Cleaning/Flushing Needed (Y)

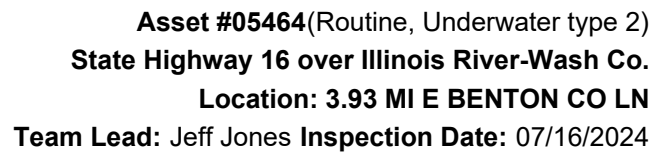
Debris on the caps.

A-110 - Hydro-demolition date (7/23/2018 11:00:00 AM)

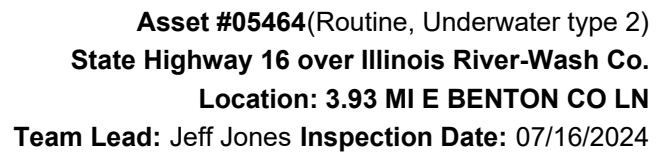
07/23/2018 - JCJ & TJL - The structure is in the process of getting a hydro-demolition / Latex modified overlay deck rehab under contract during this inspection. ArDOT Job Number 040729

National Bridge Element Quantities and Notes

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	9250	9166	80	4	0
1080	Delamination/Spall/Patched Area	SF	5	0	5	0	0
1090	Exposed Rebar	SF	4	0	0	4	0
1130	Cracking (RC and Other)	SF	75	0	75	0	0
510	Wearing Surfaces	SF	8400	8400	0	0	0
<p>(12) The structure has had a hydro-demolition / latex modified overlay deck rehab performed under contract under ArDot Job Number 040729.</p> <p>The structure now has a polymer wearing surface.</p> <p>Deck undersurface has delaminated and spalled areas with exposed reinforcing steel adjacent to the deck drains in several locations. 4SF CS3 Exposed Reinforcing Steel, 5SF CS2 Delamination/Spall</p> <p>Deck undersurface has a few isolated transverse cracks. 75SF CS2</p> <p>Pre-polymer wearing surface documentation-</p> <p>The new driving surface has areas of sealable transverse, random and map cracking in several locations. The most notable areas are the left lane in spans 1 and 4, and the right lane in span 5 which have moderate map cracking. The areas of map cracking in spans 1 and 5 are primarily near the abutments.</p> <p>The driving surface has transverse cracks in random locations and short duration longitudinal cracks adjacent to the expansion joint assemblies in several locations.</p> <p>The gutters have areas of hairline transverse and superficial map cracking.</p> <p>(510-12) No apparent problems with the polymer wearing surface during this inspection.</p>							
107	Steel Open Girder/Beam	LF	1200	1120	74	6	0
1000	Corrosion	LF	80	0	74	6	0
515	Steel Protective Coating	SF	10380	10260	0	0	120
3440	Effectiveness (Steel Protective Coatings)	SF	120	0	0	0	120
<p>(107) Superstructure has areas of active corrosion at the girder ends adjacent to the expansion joints.</p> <p>Upper portion of the web at the expansion dam juncture has flaking rust / minor section loss in some locations. 74 LF CS2 & 6LF CS3</p> <p>Bent 4, Beam 4 appeared to be the most extreme example of section loss with approximately 3/16' section loss to the top of the web at the expansion dam juncture.</p> <p>(515-107) Superstructure has areas of active corrosion with rust showing through the paint system. 120SF CS4</p>							
205	Reinforced Concrete Column	EA	8	2	5	1	0
1080	Delamination/Spall/Patched Area	EA	3	0	2	1	0
1190	Abrasion/Wear (PSC/RC)	EA	3	0	3	0	0
<p>(205) Bases of the columns in the channel have light abrasion. 3EA CS2</p> <p>Bent 2, Column 1 has several shallow spalls with no exposed reinforcing steel adjacent to the water quality monitoring equipment anchorage. 1EA CS2</p> <p>Bent 4 columns have minor concrete deterioration at the footing juncture. 1 EA CS2, 1 EA CS3</p> <p>No apparent noteworthy changes since previous inspection.</p>							
210	Reinforced Concrete Pier Wall	LF	38	21	16	1	0



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	1	0	0	1	0
1190	Abrasion/Wear (PSC/RC)	LF	15	0	15	0	0
(210) Intermediate bent web walls in the channel have light abrasion. 15LF CS2 Bent 2 back face has a 12" spall with exposed reinforcing steel and a 2' vertical delaminated area in the web wall. 1LF CS3 Exposed Reinforcing Steel, 1LF CS2 Spall							
215	Reinforced Concrete Abutment	LF	71	39	20	12	0
1080	Delamination/Spall/Patched Area	LF	5	0	5	0	0
1090	Exposed Rebar	LF	1	0	0	1	0
1130	Cracking (RC and Other)	LF	26	0	15	11	0
(215) Abutment 1: Debris on the abutment cap. Abutment 1 face of backwall has vertical hairline cracks. 5LF CS2. Abutment 2: Abutment 2 face of stem has 4 delaminated areas (up to 2'). 5LF CS2 Abutment 2, Bay 2 face of stem has an 8" spall with exposed reinforcing steel. 1LF CS3 There are horizontal cracks up to approximately 1/16" in width located approximately 6" below the bearing area of abutment 2 bridge seat. 10LF CS2, 11LF CS3							
220	Reinforced Concrete Pile Cap/Footing	LF	40	20	20	0	0
1190	Abrasion/Wear (PSC/RC)	LF	20	0	20	0	0
(220) The tops of footings are exposed at Bents 2 and 3. Footings appear to be well keyed into solid rock channel. Visual observation in low water conditions revealed that the tops of footings have light abrasion. 20LF CS2							
234	Reinforced Concrete Pier Cap	LF	108	0	25	83	0
1080	Delamination/Spall/Patched Area	LF	14	0	13	1	0
1090	Exposed Rebar	LF	18	0	0	18	0
1120	Efflorescence/Rust Staining	LF	12	0	12	0	0
1130	Cracking (RC and Other)	LF	64	0	0	64	0
(234) The intermediate bent caps have bat guano accumulation that contributes to the accelerated deterioration of the concrete. The intermediate bent caps have 1/8" wide horizontal cracking located approximately 4 to 6 inches below the top of the cap indicating active corrosion in the primary longitudinal reinforcing steel. 64LF CS3 Cracking Efflorescence - Bt3=3LF CS2, Bt4=7LF CS2, Bt5=2LF CS2 Bent 2, Right end of cap has map cracking and shallow spalls and one 24 inch spall visible from the undersurface of the cap with exposed reinforcing steel. Top of the cap appears to be delaminated above the horizontal crack. 2LF CS3 Exposed Reinforcing Steel Bent 3 cap has several delaminated areas and multiple shallow spalls with exposed reinforcing steel. 6LF CS3 Exposed Reinforcing Steel, 7LF CS2 Delamination/Spall Bent 4, Previous inspector documented sounding with a hammer indicates the top of the cap is delaminated above the horizontal cracking. Right end of the cap has cracking that extends to the anchor bolts. 2LF CS3 Exposed Reinforcing Steel, 2LF CS2 Delamination/Spall							



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
<p>Bent 5 top of cap is delaminated. Ends of the cap have soft deteriorated concrete with section loss and exposed reinforcing steel. Face of cap has several spalls with exposed reinforcing steel. 8LF CS3 Exposed Reinforcing Steel, 4LF CS2 & 1LF CS3 Delamination/Spall The exposed reinforcing steel has initial section loss. There are no apparent repairs since last inspection.</p>							
301	Pourable Joint Seal	LF	180	168	12	0	0
2310	Leakage	LF	12	0	12	0	0
(301) Pourable joint sealant has minor areas of adhesion failure with leakage. 12LF CS2							
311	Movable Bearing	EA	20	0	0	20	0
1000	Corrosion	EA	20	0	0	20	0
515	Steel Protective Coating	SF	80	17	12	13	38
3440	Effectiveness (Steel Protective Coatings)	SF	63	0	12	13	38
<p>(311) Bearings have areas with active corrosion. 20EA CS3 The most notable areas are over bents 4 and 5 which have areas of corrosion with thick flaking rust. Bent 5 bearings have been painted with bridge mate in the past. Several bearings have pack rust between the masonry and rockers causing height differentials between the bearings and appear to be lifting the deck. (515-311) Bearings have areas with active corrosion with failing paint system. 12SF CS2, 13SF CS3, 38SF CS4</p>							
313	Fixed Bearing	EA	20	0	17	3	0
1000	Corrosion	EA	20	0	17	3	0
515	Steel Protective Coating	SF	80	17	12	13	38
3440	Effectiveness (Steel Protective Coatings)	SF	63	0	12	13	38
<p>(313) Bearings have areas with active corrosion. 17EA CS2 & 3EA CS3 The most notable areas are over bents 4 and 5 which have areas of corrosion with thick flaking rust. Abutment 1 bearings have active corrosion with flaking rust. (515-313) Bearings have areas with active corrosion with failing paint system. 12SF CS2, 13SF CS3, 38SF CS4</p>							
321	Reinforced Concrete Approach Slab	SF	1120	1111	9	0	0
1080	Delamination/Spall/Patched Area	SF	9	0	9	0	0
510	Wearing Surfaces	SF	1120	1120	0	0	0
<p>(321) Approach slabs have a polymer wearing surface. History: The recently constructed East approach slab constructed under ArDot Job Number 040729 has an apparent repair in the West bound lane that is approximately 3' x 3'. The repair appears to be sound at this inspection. 9SF CS2 Patched Area No visible cracking in the approach slabs at this inspection.</p>							
331	Reinforced Concrete Bridge Railing	LF	600	526	74	0	0
1080	Delamination/Spall/Patched Area	LF	12	0	12	0	0
1090	Exposed Rebar	LF	62	0	62	0	0
(331) Numerous delaminated areas and shallow spalls with exposed reinforcing steel where steel has very little concrete cover from							

Inspection Photos and Notes



Elevation. Left side of structure.



Undersurface of Span 2. Typical.



Deck. Typical.



Bent 3 footing exposed.



Channel. Right side of structure.



Channel. Left side of structure.



Solid rock Channel exposed under Span 2.



Top of Bent 2 footing exposed.



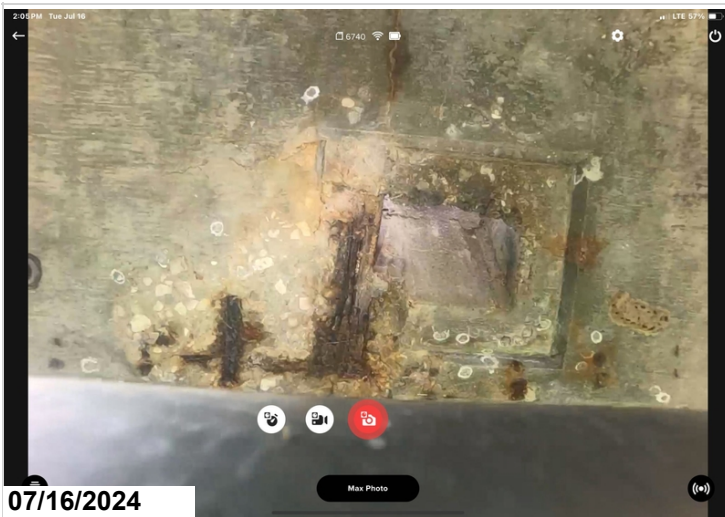
07/16/2024

Approach roadway facing East.



07/16/2024

Abutment 1. Debris on cap.



07/16/2024

Span 3 deck undersurface, Right side. Exposed reinforcing steel.



07/16/2024

Span 4 , Undersurface of the deck. Typical.



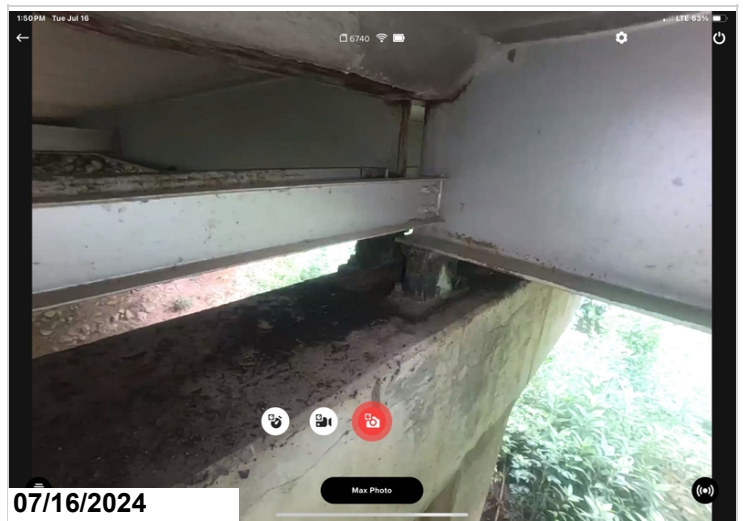
Span 3, Right side, Deck undersurface has Spalls with exposed reinforcing steel adjacent to the deck drains.



Deck undersurface. Span 1. Typical.



Deck. Looking West. Typical.



Bent 5 cap, Right side, Girder 3.



07/16/2024

Abutment 1, Girder 4 has areas of corrosion showing through the paint system.



07/16/2024

Bent 2, Column 1 has minor shallow spalls adjacent to the water quality testing brackets.



07/16/2024

Bent 2 back face has a 12" spall and a 2' delaminated area in the web wall.



07/16/2024

Abutment 2 cap, Horizontal crack approximately 1/16" wide.



Abutment 2. Typical.



Top of Abutment 1 backwall. Polymer wearing surface.



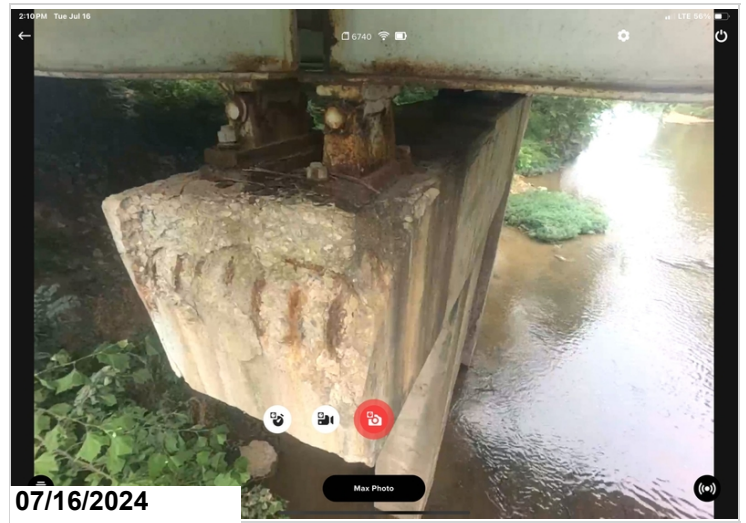
Abutment 1. Debris on cap.



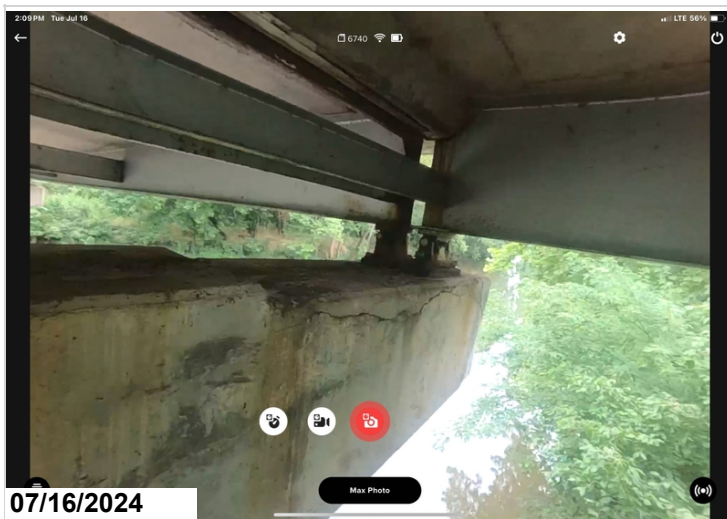
Abutment 1. Typical.



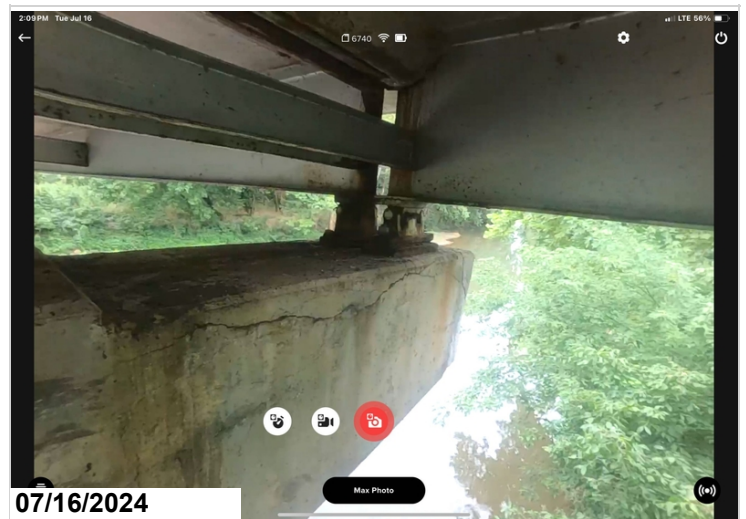
Bent 2 footings exposed.



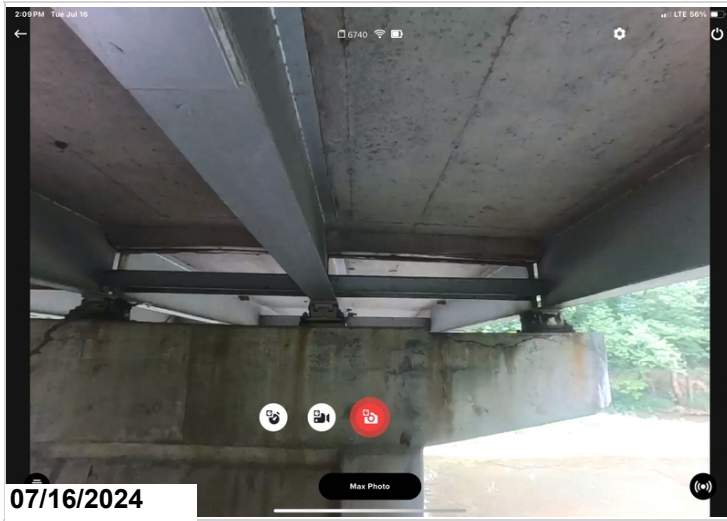
Bent 2 cap Right end.



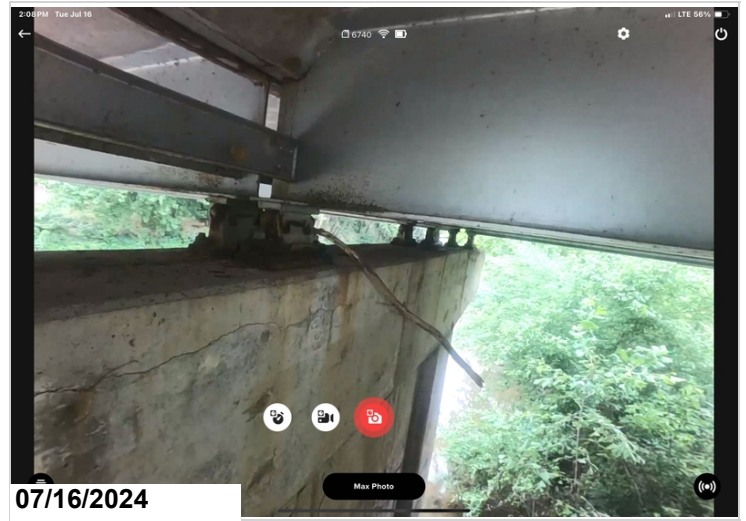
Bent 2 cap, back face, Right side, Bearings for Girder 4.



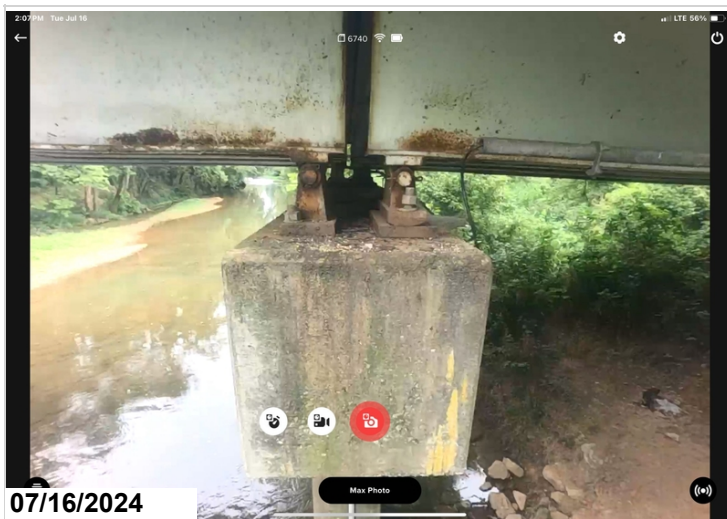
Bent 2 cap, back face, Right side.



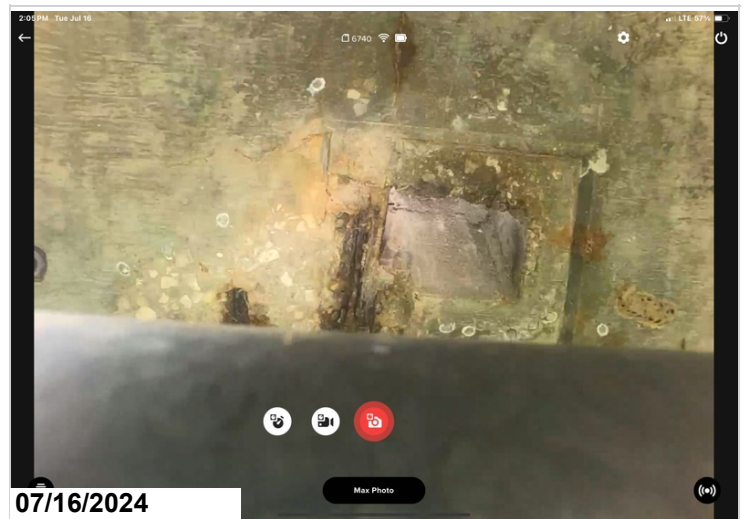
Bent 2 cap, back face, Right side.



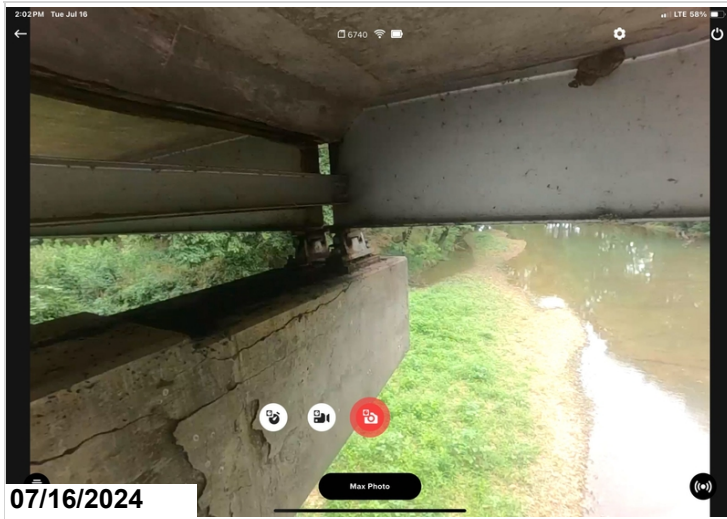
Bent 2 cap, Back Face, Open horizontal cracks indicating corrosion in the primary longitudinal reinforcing steel.



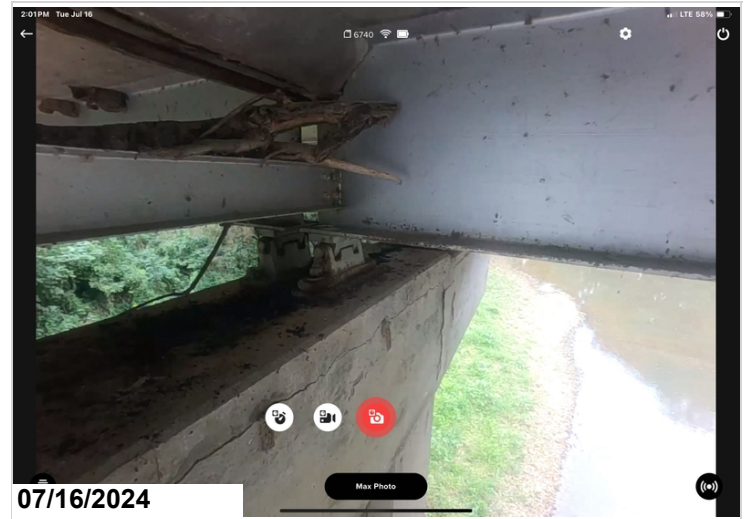
Bent 2 cap, Left end, Wire for monitoring water gauge.



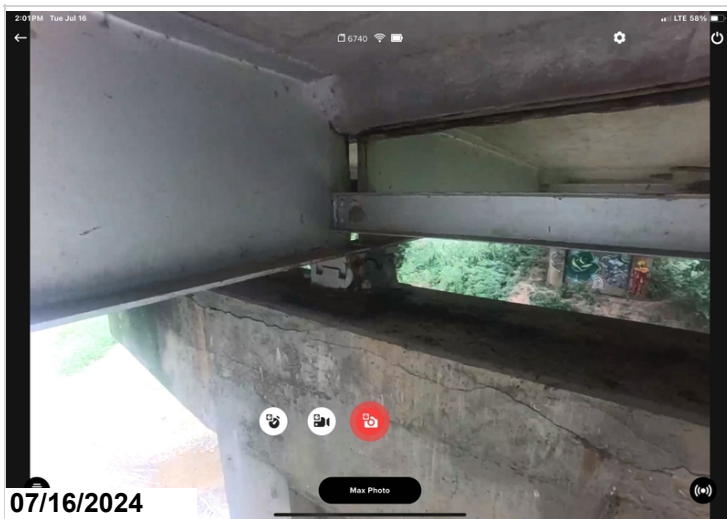
Span 3, Undersurface of the deck, Right overhang has spalling with exposed reinforcing steel adjacent to the deck drains.



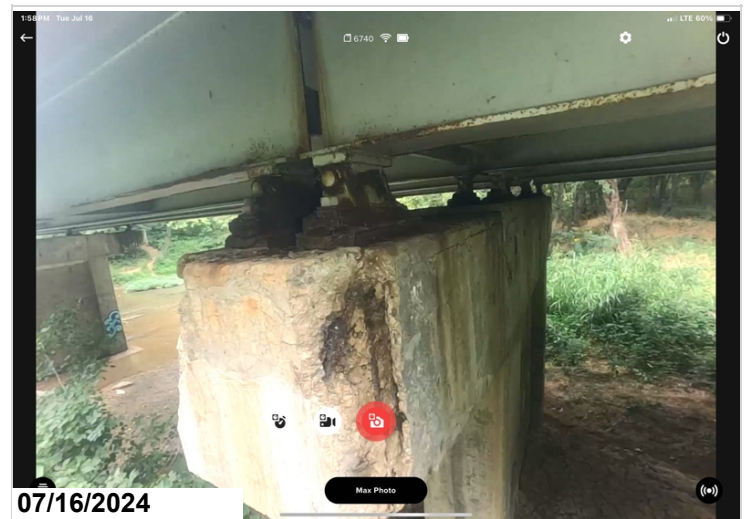
Bent 3 cap, Right end, Bearings for Girder 4.



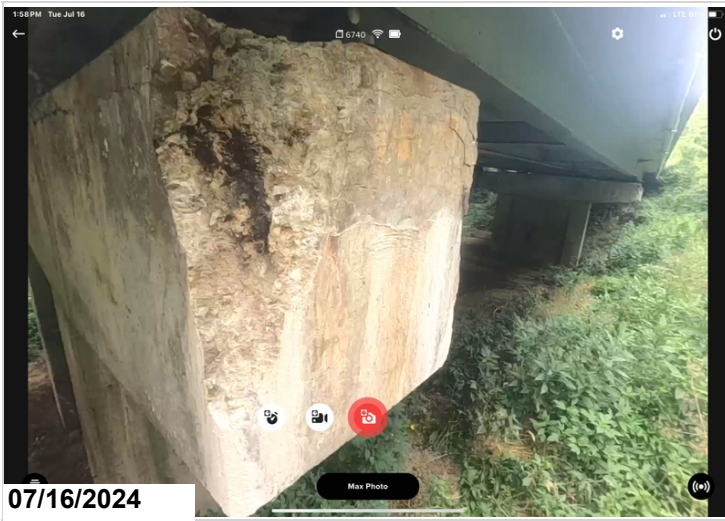
Bent 3 cap, Bearings for Girder 3, Open horizontal cracks indicating corrosion in the primary longitudinal reinforcing steel.



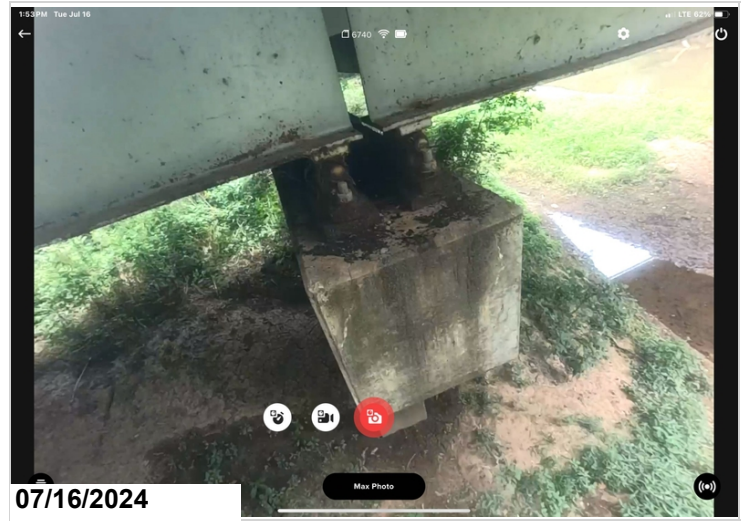
Bent 3 cap, Looking Left Open horizontal cracks indicating corrosion in the primary longitudinal reinforcing steel.



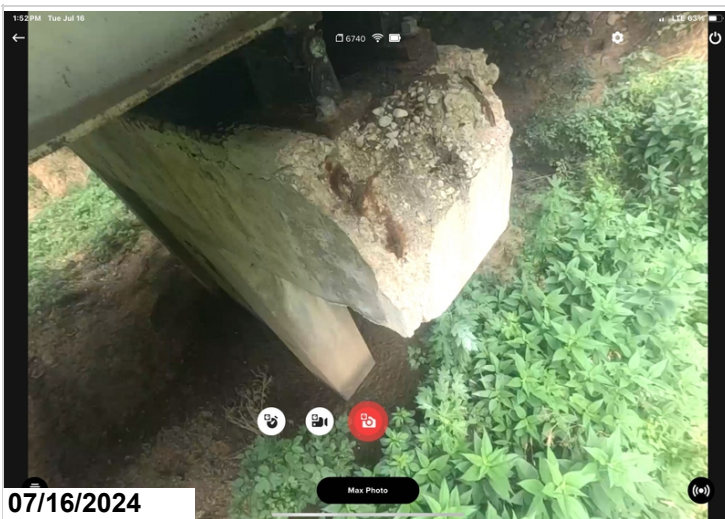
Bent 4 Right end of cap, concrete deterioration with exposed reinforcing steel.



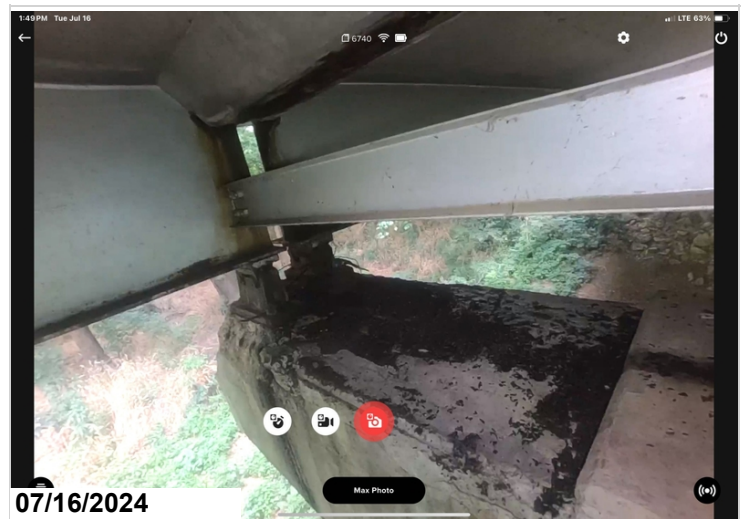
Bent 4 Right end of cap.



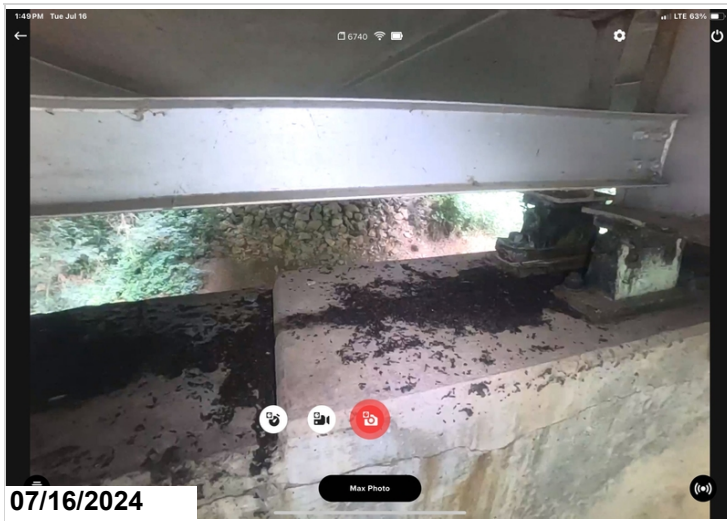
Bent 4 cap Left.



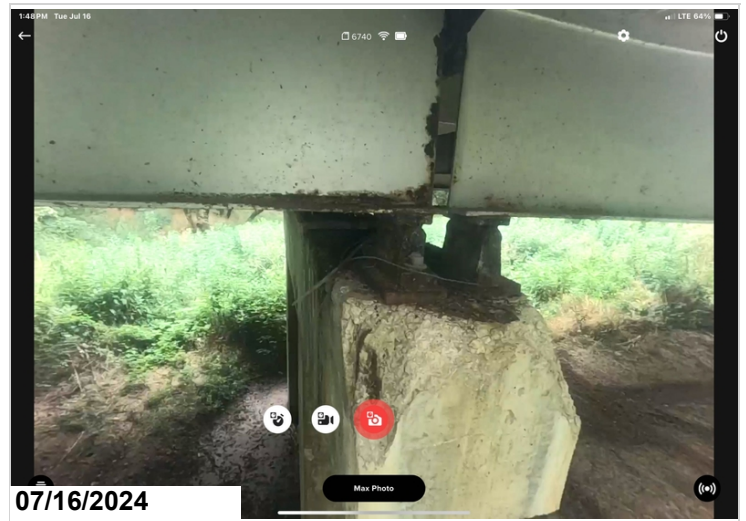
Bent 5 cap, Right side, Concrete deterioration.



Bent 5 cap, Left side, Concrete deterioration, Bat droppings.



Bent 5 cap, Left side, Bat droppings.



Bent 5 cap, Left side, Concrete deterioration.



Bent 5 ahead face. Typical.



Bent 5. Right end of cap. Soft deteriorated concrete with exposed reinforcing steel.



Bent 4 cap, Ahead face, Right side.



Bent 5 back face.



Bent 4 cap. Back face.



Bent 4 back face. Typical.



Bent 3. Back face. Typical.



Bent 3. Back face.



Bent 2. Ahead face typical.



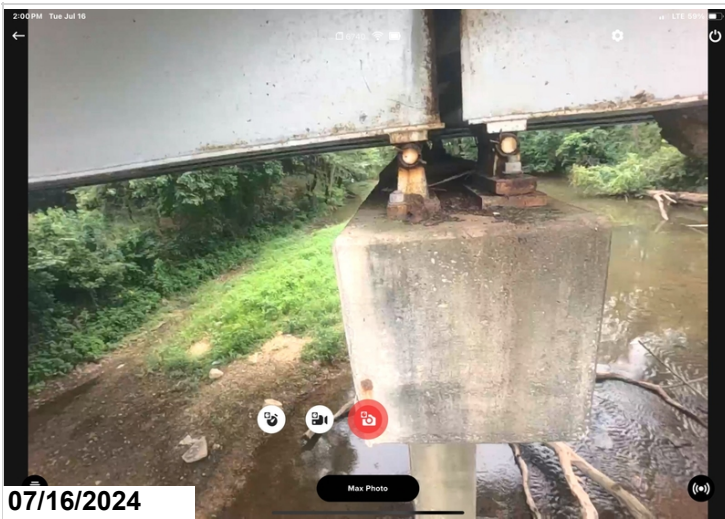
Right end of Bent 2 cap. Concrete deterioration with exposed reinforcing steel.



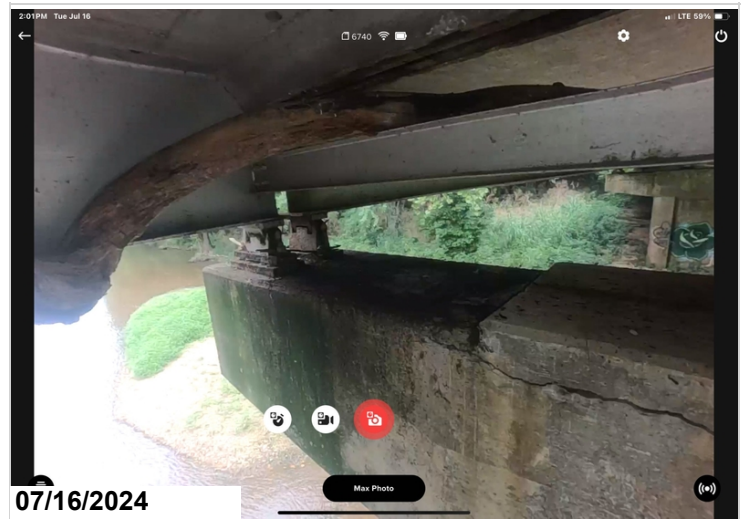
Expansion joint seal over Bent 4. Typical.



Abutment 1 expansion joint seal.



Bent 3 cap. Left. Bearings for Girder 1.



Bent 3 cap. Left Bearings for Girder 1.



Abutment 1 Girder 2, fixed bearings have active corrosion with flaking rust.



East approach slab. Typical.



West approach slab. New polymer wearing surface.



Right parapet. Typical.



Left Parapet. Spalls with exposed reinforcing steel.

Maintenance Needs

Date Reported: 07/25/2012

Priority: B - Pressing

Type of Work: Substructure Repair

Status: Assigned

Component: Element

Deficiency Description

Substructure Caps -

Bats are in the expansion joints with piles of guano on the cap of Bents 4 & 5 during the time of inspection.

The intermediate bent caps have wide horizontal cracks, delaminated concrete, concrete deterioration with significant section loss, map cracking, and spalling with exposed reinforcing steel.

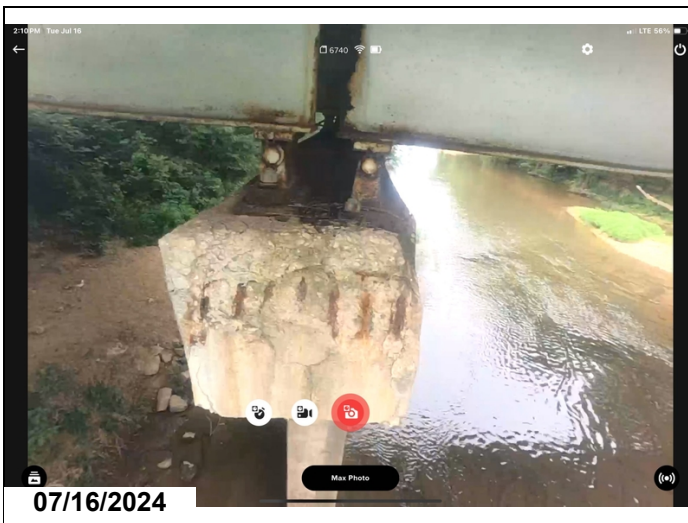
The delaminated areas appear to stem from the wide horizontal cracking, the top of the bent caps appear to be delaminating from the top mat of reinforcing steel.

The intermediate bents have delaminated concrete under the masonry plates of the exterior girders.

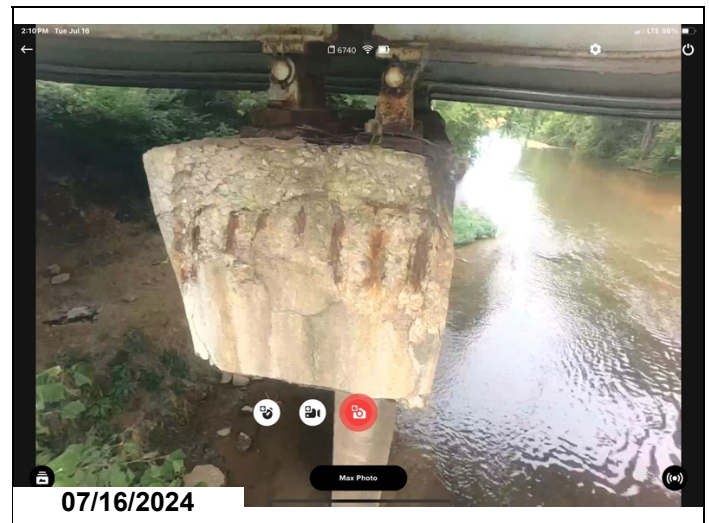
Remarks

07/16/2024 - JCJ & TJL - Bats are in the expansion joints with piles of guano on the cap of Bents 4 & 5 during the time of inspection.

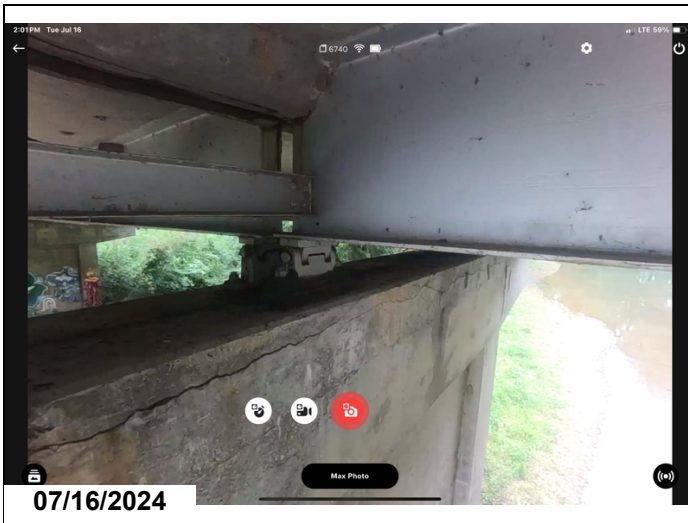
08/18/2022 - EJW - Updated deficiency description and priority code on this date to reflect current conditions.



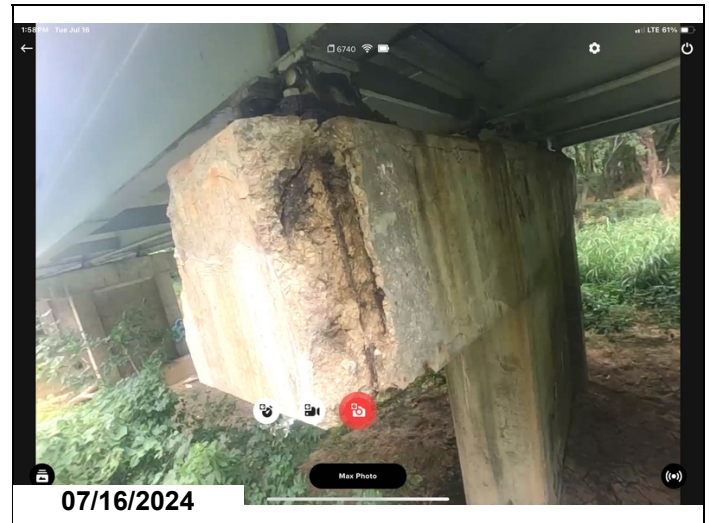
Bent 2 cap Right end.



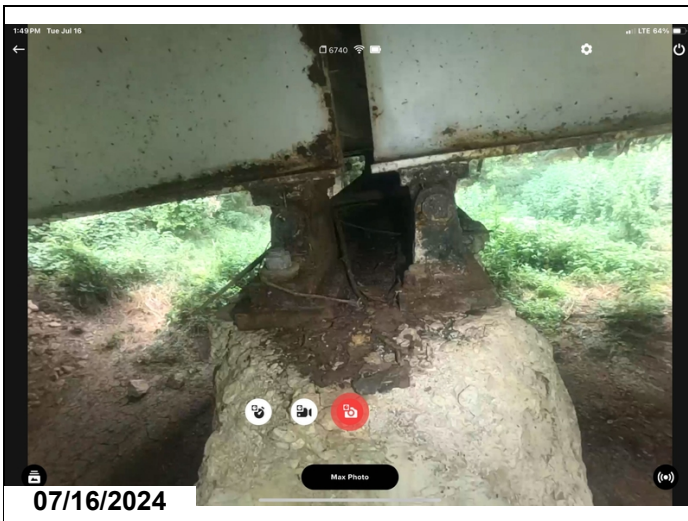
Bent 2 cap Right end.



Bent 3 cap, Looking Right Open horizontal cracks indicating corrosion in the primary longitudinal reinforcing steel.



Bent 4 Right end of cap, concrete deterioration with exposed reinforcing steel.



Bent 5 cap, Left side, Concrete deterioration.



Bent 5 Rt top of the cap delaminating with loss of bearing area and exposed reinforcing steel.



08/22/2022

Bent 5 Rt concrete deterioration with exposed reinforcing steel.



08/22/2022

Bent 4 Rt cracking and delaminating concrete in the top of the cap.



07/08/2020

Abutment 2 cap has delaminated areas and spalls with exposed reinforcing steel.



07/08/2020

The intermediate bent caps have moderate width horizontal cracking, concrete deterioration with map cracking, and spalling with exposed reinforcing steel.



The intermediate bent caps have moderate width horizontal cracking, concrete deterioration with map cracking, and spalling with exposed reinforcing steel.



The intermediate bent caps have moderate width horizontal cracking, concrete deterioration with map cracking, and spalling with exposed reinforcing steel.



Bent 2 cap-Wide horizontal cracking.

Maintenance Needs

Date Reported: 08/19/2022

Priority: B - Pressing

Type of Work: Bearing Repair/Replacement

Status: Assigned

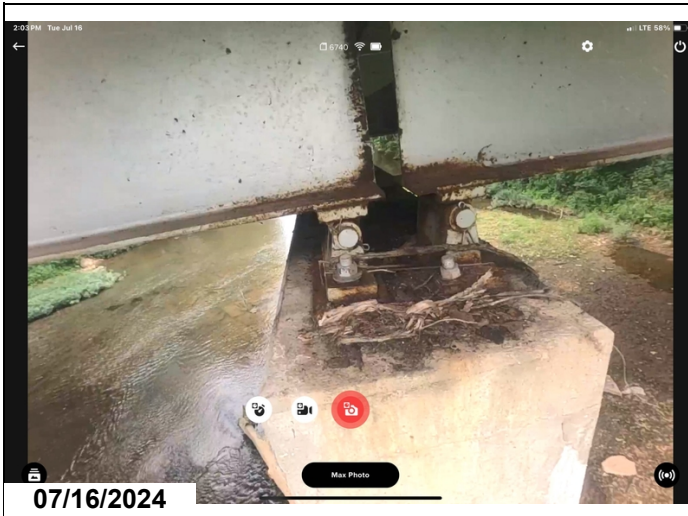
Component: Element

Deficiency Description

Bearings-

The bearings have active corrosion and pack rust. The pack rust appears to be causing a height differential in the deck between the spans over the intermediate bents.

Remarks



Bent 3 cap, Right end, Bearings for Girder 4.



Bent 4 bearings with active corrosion and pack rust.



Bent 3 bottom flange misalignment from active corrosion between the masonry plate and the expansion bearings.

Maintenance Needs

Date Reported: 07/23/2018

Priority: C - Important

Type of Work: Superstructure Repair

Status: Monitor

Component: Element

Deficiency Description

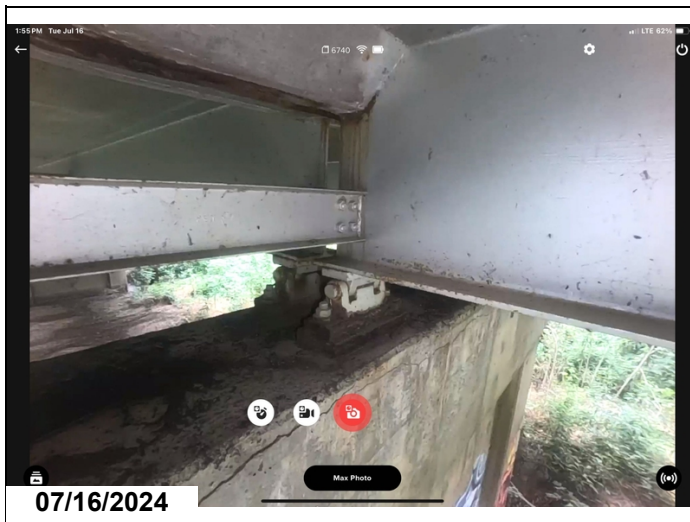
Superstructure -

The girder ends have areas of active corrosion where failing expansion joint seals have allowed water to leak onto the Superstructure in the past. The girder ends have flaking rust with initial section loss in the upper portion of the webs at the expansion dam juncture in some locations.

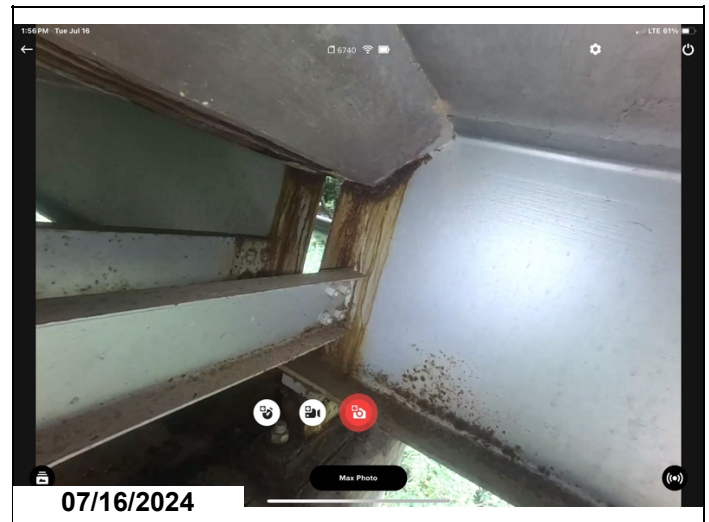
The bearings have areas with active corrosion. The most notable areas are over bents 4 and 5 which have corrosion with thick flaking rust in some of the bearings.

Remarks

08/18/2022 - EJW - Priority code changed to reflect current conditions.



Bent 4 cap, horizontal open crack in the cap. Girder 2
Bearing corrosion.



Bent 4 cap, Girder 2 corrosion in the web at the
expansion dam juncture.



08/22/2022

Bent 4 beam 4 active corrosion with approximately 3/16" section loss at the expansion dam juncture.



07/08/2020

The bearings have areas with active corrosion. The most notable areas are over bents 4 and 5 which have areas of corrosion with thick flaking rust.



07/08/2020

The bearings have areas with active corrosion. The most notable areas are over bents 4 and 5 which have areas of corrosion with thick flaking rust.



07/08/2020

The ends of beams have areas of active corrosion where failing expansion joint seals have allowed water to leak onto the Superstructure in the past. The beam ends have flaking rust with initial section loss in the upper portion of the webs at the expansion dam juncture in some locations.

Maintenance Needs

Date Reported: 07/23/2018

Priority: D- Routine

Type of Work: Channel Work/Drift Removal

Status: Monitor

Component: Channel

Deficiency Description

Channel -
The channel has a tree wedged against bent 3.

Remarks

08/18/2022 - EJW - Drift is no longer at Bent # 2. Updated deficiency to reflect current conditions.



Bent 3. Drift accumulation.



Bent 3 drift accumulation.



The channel has a tree wedged against bent 2.

Maintenance Needs

Date Reported: 08/23/2022

Priority: D- Routine

Type of Work: Deck Repair

Status: Monitor

Component: Element

Deficiency Description

R.C. Deck-

The undersurface of the deck has delaminated and spalled areas with exposed reinforcing steel adjacent to the deck drains in several locations.

Remarks



Spalls with exposed reinforcing steel next to the drains.
Span 3 Right.



Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is Recommended?
A-54 - Sealable Deck Cracks	No
A-55 - Deck Washing Needed	No
A-56 - Joint Cleaning/Flushing Needed	No
A-57 - Beam End and Bearing Paint Needed	No
A-58 - Cap Cleaning/Flushing Needed	Yes
A-59 - Joint Repair Needed	No
A-60 - Full Beam Painting Needed	No
A-61 - Polymer Overlay Advised	No
A-62 - Hydro and LMC Advised	No
A-63 - Missing/Incorrect Log Mile Signage	No
A-64 - Vegetation Removal Requested	No
A-65 - Clogged deck drains?	
A-66 - Approach minor pothole/leveling needed	

A-54 - Sealable Deck Cracks (No)

A-55 - Deck Washing Needed (No)

A-56 - Joint Cleaning/Flushing Needed (No)

A-57 - Girder End and Bearing Painting Needed (No)

A-58 - Cap Cleaning/Flushing Needed (Yes)
Debris on the caps.



Abutment 1. Debris on cap.

A-59 - Joint Repair Needed (No)

A-60 - Full Girder Painting Needed (No)

A-61 - Polymer Overlay Advised (No)

A-62 - Hydro and LMC Advised (No)

A-63 - Missing/Incorrect Log Mile Signage (No)



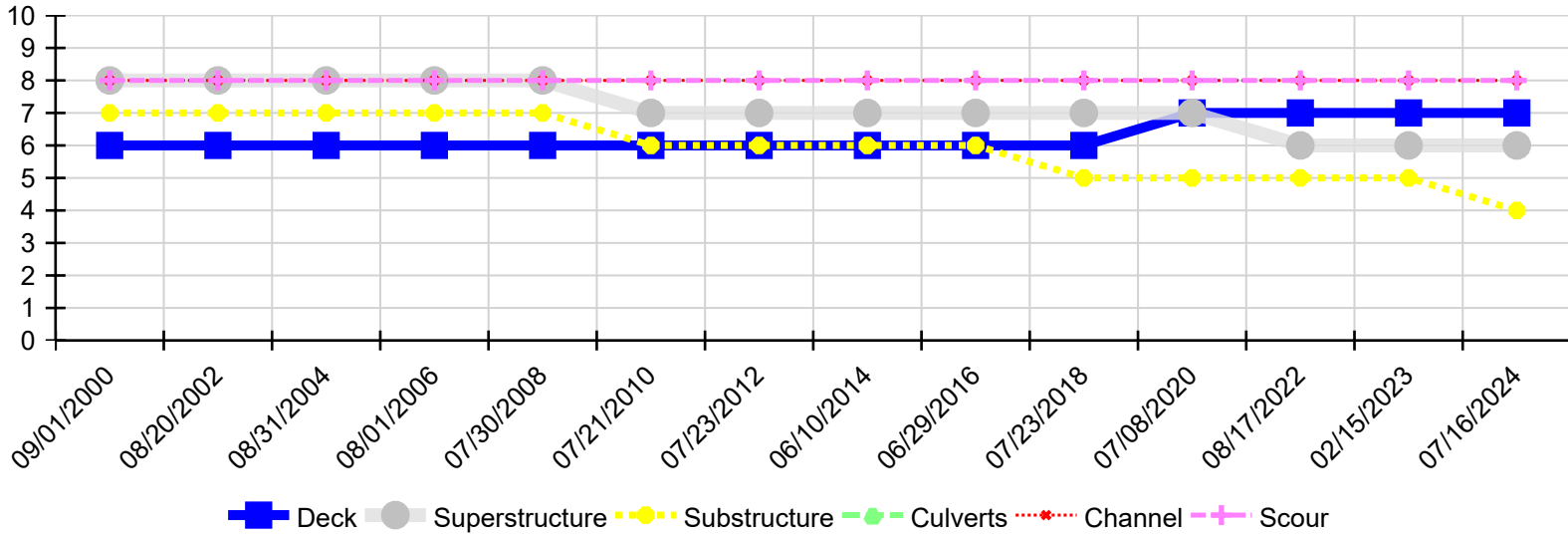
Asset #05464(Routine, Underwater type 2)
State Highway 16 over Illinois River-Wash Co.
Location: 3.93 MI E BENTON CO LN
Team Lead: Jeff Jones Inspection Date: 07/16/2024

A-64 - Vegetation Removal Requested (No)

A-65 - Clogged deck drains?

A-66 - Approach minor pothole/leveling needed

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
07/16/2024	7	6	4	N	8	8
02/15/2023	7	6	5	N	8	8
08/17/2022	7	6	5	N	8	8
07/08/2020	7	7	5	N	8	8
07/23/2018	6	7	5	N	8	8
06/29/2016	6	7	6	N	8	8
06/10/2014	6	7	6	N	8	8
07/23/2012	6	7	6	N	8	8
07/21/2010	6	7	6	N	8	8
07/30/2008	6	8	7	N	8	8
08/01/2006	6	8	7	N	8	8
08/31/2004	6	8	7	N	8	8
08/20/2002	6	8	7	N	8	8
09/01/2000	6	8	7	N	8	8

Measurements taken from top of parapet

Abutment 1

