



**Bridge #02671 (Routine)**  
**I 55 NO BND LNS over FLETCHER RD/I55 FR/BN RR**  
**Location: .30 MI N JCT OF I-40**  
**Team Lead: Rhett Franks Inspection Date: June 17, 2019**



Latitude:35.18064, Longitude:-90.19560

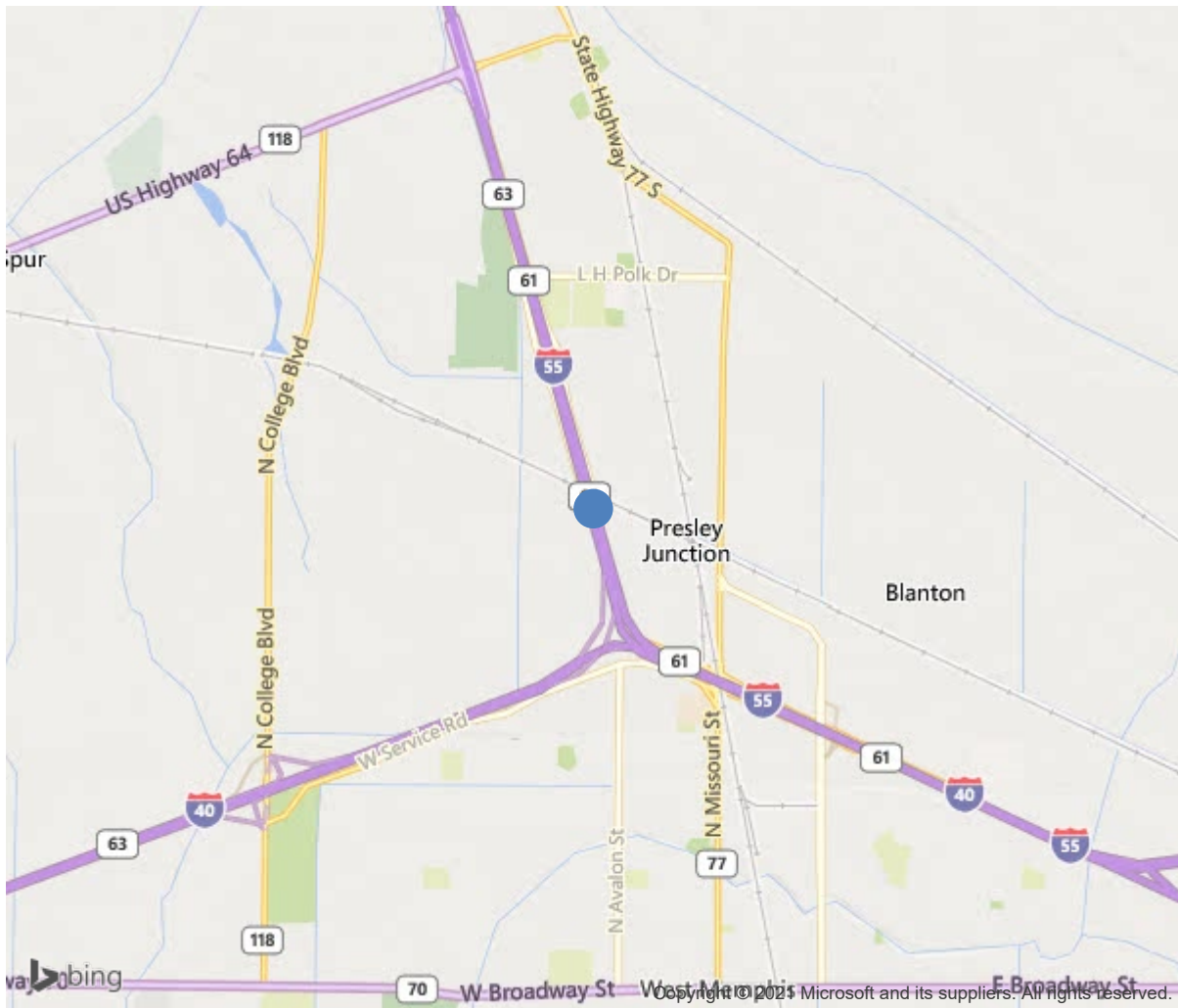
Route:55 Section:11 Log:7.888

Arnold Road ID:18x55x11xA, Arnold Log mile:7.888

District 01, Crittenden County

Owner: 1-State Highway Agency

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35.18064, -90.19560



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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	02671
(5) Inventory Route	55
(2) Highway Agency District	01
(3) County Code	35-Crittenden County, Arkansas
(4) Place Code	0
(6) Features Intersected	FLETCHER RD/I55 FR/BN RR
(7) Facility Carried	I 55 NO BND LNS
(9) Location	.30 MI N JCT OF I-40
(11) Mile Point	7.888 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0
(16) Latitude	35.18064
(17) Longitude	-90.1956
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	42
Material	4-Steel continuous
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	21
(46) No. of Approach Spans	0
(107) Deck Structure Type	1-Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	1-Monolithic Concrete (concurrently placed
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1951
(106) Year Reconstructed	1988
(42) Type of Service	14
On	1-Highway
Under	4-Highway-railroad
(28) Lane	
On	3
Under	2
(29) Average Daily Traffic	37000
(30) Year of ADT	2014
(109) Truck ADT	34 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	57 ft
(49) Structure Length	952 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	55.4 ft
(52) Deck Width Out to Out	58.5 ft
(32) Approach Roadway Width (W/Shoulders)	56.1 ft
(33) Bridge Median	0-No median
(34) Skew	0 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	41 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	23.3 ft
Ref:	
(55) Min Lat Underclear RT	5.6 ft
Ref:	
(56) Min Lat Underclear LT	5.6 ft
NAVIGATION DATA	
(38) Navigation Control	N-Not applicable, no waterway.
(111) Pier Protection	1-Navigation protection not requ
(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	1
(26) Functional Class	11-Urban Principal Arterial - Int
(100) Defense Highway	1-The inventory route is on a In
(101) Parallel Structure	R-The right structure of paralle
(102) Direction of Traffic	1 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0-N/A
(110) Designated National Network	1-The inventory route is part of the
(20) Toll	3-On free road. The structure is toll-
(21) Maintain	1-State Highway Agency
(22) Owner	1-State Highway Agency
(37) Historical Significance	5-Bridge is not eligible for the NRHP
CONDITION	
(58) Deck	6
(59) Superstructure	5
(60) Substructure	6
(61) Channel & Channel Protection	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	6-MS 18+Mod / HS 20+Mod
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	60
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	21
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	5
(68) Deck Geometry	6
(69) Clearances, Vertical/Horizontal	3
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1-Inspected feature meets currently a
(36B) Transitions	1-Inspected feature meets currently a
(36C) Approach Guardrail	1-Inspected feature meets currently a
(36D) Approach Guardrail Ends	1-Inspected feature meets currently a
(113) Scour Critical Bridges	N-Bridge not over waterway.
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	19100
(115) Year of Future ADT	2029
INSPECTIONS	
(90) Inspection Date	06/2019
(91) Frequency	24 Months
(92) Critical Feature Inspection	Done Freq. (Mon) Date
A: Fracture Critical Detail	No
B: Underwater Inspection	No
C: Other Special Inspection	No

**Team Lead:** Rhett Franks, **Inspection Date:** June 17, 2019

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	55518	48508	2887	4123	0
1080	Delamination/Spall/Patched Area	SF	6	0	2	4	0
1120	Efflorescence/Rust Staining	SF	190	0	185	5	0
1130	Cracking (RC and Other)	SF	6814	0	2700	4114	0
(12)							
06/12/2019 - RWF & APW - Light wear with sealable transverse cracks in all spans. (4 foot spacing)							
Span 1 joint 1A: small spall with exposed rebar at the joint.							
107	Steel Open Girder/Beam	LF	8566	8383	3	180	0
1000	Corrosion	LF	180	0	0	180	0
1020	Connection	LF	3	0	3	0	0
515	Steel Protective Coating	SF	63474	63474	0	0	0
(107)							
06/12/2019 - RWF & APW - No apparent noteworthy changes since last inspection.							
The bridge was repainted in April 2012, the painted steel was still in good condition except the areas around the pin and hangers were beginning to show signs of corrosion.							
Span 7 Girder 2 the first diaphragm ahead on the right side: 5 of the 6 diaphragm connection bolts are loose.							
Joint 8A girder 6 right side: joint armor connection bolts are missing. 1 bolt is missing on the left side at this location. Girder 7 left side missing joint armor connection bolt.							
Span 3, girder 5: severe section loss to the bottom and top of the bottom flange and the lower web. This area was repainted which has blocked the corrosion. This location was the worst case.							
Most girders had measurable section loss to the bottom flange at the joints.							
MFF & APW - 06/12/17 - Section loss scars still exist. Paint is in good condition with no active corrosion apparent.							
161	Steel Pin, Pin and Hanger Assembly	EA	180	48	15	111	6
1000	Corrosion	EA	110	0	0	110	0
1020	Connection	EA	16	0	15	1	0
1900	Distortion	EA	6	0	0	0	6
515	Steel Protective Coating	SF	810	810	0	0	0
(161)							
06/12/2019 - RWF & APW - Each pin was inspected and tested for cracks or other abnormalities with an ultrasonic testing device. There were no deficiencies detected. Each joint throughout this bridge had measurable section loss to the hangers. Others were deformed from pack rust. The hangers in the worst condition have pictures and videos linked to the report. A list of deficiencies and locations are attached in the maintenance needs tab.							
Span 3 joint 3A girder 6 left side: the hanger bar has severe pack rust between it and the girder causing the bar to move away from the							



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girder. Span3 joint 3A girder 7: cotter pin has sheared and the hanger has moved out wards away from the girder 3/4". At the time of inspection the pin and hanger were both tight. I could not move them.							
Span 10 10A girder 5 left side: the hanger is distorted due to pack rust between the hanger ant girder. The hanger is pressed up against the joint armor restricting its movement. The other side of the pin has a washer that is welded onto the pin. Span 10, girder 8 left side: Pack rust between the hanger bar and the girder. The hanger has shifted away from the girder at the top 1". Span 10 girder 9 right side: the bottom pin is free to move also the hanger is loose.Added 6/17/2019 Span 1 Girder 6 Span 2 Girder 5 Span 3 Girder 3 Span 9 Girder 4 Span 10 Girder 6 are all missing there keepers. Added 6/17/2019 Span 5 Girder 6 Span 8 Girder 4 Span 9 Girder 6 Span 18 Girders 7 & 9 Span 20 Girder 4 Span 21 Girder 6 are all floating.							
Span 17 girder 5: Top pin is free to move. There is a loud rattle when impacted with a load.							
MFF & APW 06-12-2017 - Span 1, Joint 1A, Girder 6, Girder 7, Girder 9, Span 2, Joint 2A, Girder 4, Girder 5, Span 3, Joint 3A, Girder 4 ,Girder 5 ,Girder 6 ,Girder 7 ,Span 5, Joint 5A,Girder 7 ,Span 6, Joint 6A.,Girder 5 ,Girder 6. Has old section loss scars to hanger and web of girder. Paint system is in good condition. Corrosion is not active but because hanger bars still have section loss present, a condition state of 3 was given to these pin and hanger assemblies.							
205	Reinforced Concrete Column	EA	120	104	11	5	0
1080	Delamination/Spall/Patched Area	EA	10	0	10	0	0
1090	Exposed Rebar	EA	6	0	1	5	0
(205)							
06/12/2019 - RWF & APW - Columns have spalling with exposed reinforcing steel . See maintenance needs for locations. No apparent noteworthy changes since last inspection.							
Bent 2 col. 4 has spall with exposed rebar.							
Bent 3 col. 3 & 5 have Spalls with exposed rebar.							
Bent 6 col. 5 spall with exposed rebar.							
Bent 7 col. 3, 4 and 5 spall with exposed rebar that has measurable section loss.							
Bent 9 col. 4 has spall with exposed rebar.							
210	Reinforced Concrete Pier Wall	LF	145	141	2	2	0
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	2	0	0	2	0
(210)							
06/12/2019 - RWF & APW - No apparent noteworthy problems at this inspection.							
215	Reinforced Concrete Abutment	LF	129	108	21	0	0
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
1120	Efflorescence/Rust Staining	LF	19	0	19	0	0
(215)							
06/12/2019 - RWF & APW - Both abutments have hairline vertical cracks with efflorescence staining.							



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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
234	Reinforced Concrete Pier Cap	LF	1147	1122	19	6	0
1080	Delamination/Spall/Patched Area	LF	18	0	13	5	0
1090	Exposed Rebar	LF	2	0	1	1	0
1130	Cracking (RC and Other)	LF	5	0	5	0	0
(234)	06/12/2019 - RWF & APW - Bent 8 Girder 4: has a spall with exposed rebar with measurable section loss. Ahead side bent 8 above col. 5 small spall.						
301	Pourable Joint Seal	LF	1276	1248	10	5	13
2310	Leakage	LF	28	0	10	5	13
(301)	06/12/2019 - RWF & APW - Bent 14 has a missing joint seal.						
311	Movable Bearing	EA	9	0	0	9	0
1000	Corrosion	EA	9	0	0	9	0
(311)	06/12/2019 - RWF & APW - The bearings were repainted in April 2012. All bearings have minor rust. Bents 1 and 20: the fixed bearings have pack rust. no apparent noteworthy changes since last inspection.						
313	Fixed Bearing	EA	189	162	1	26	0
1000	Corrosion	EA	26	0	0	26	0
1020	Connection	EA	1	0	1	0	0
(313)	06/12/2019 - RWF & APW - No apparent noteworthy changes since last inspection. Bent 7 girder 5: anchor bolt nut is missing. MFF & APW - 06/12/17 -. Fixed bearing at abutments are showing signs of rust worst case is at Abutment 1, Girders 2 through 9: Active corrosion to bearings with pack rust.						
321	Reinforced Concrete Approach Slab	SF	2378	2340	2	36	0
1080	Delamination/Spall/Patched Area	SF	2	0	2	0	0
1130	Cracking (RC and Other)	SF	36	0	0	36	0
(321)	06/12/2019 - RWF & APW -						
331	Reinforced Concrete Bridge Railing	LF	1904	1847	46	11	0
1080	Delamination/Spall/Patched Area	LF	10	0	0	10	0
1090	Exposed Rebar	LF	45	0	44	1	0
1130	Cracking (RC and Other)	LF	2	0	2	0	0

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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(331)	06/12/2019 - RWF & APW - Spans 14 and 15: Spalling with exposed reinforcing steel to the top of the rail due to traffic impact.						



Bent 4, Girder 6: Spalling with exposed reinforcing steel.



Span 20, Girder 4, Pin & Hanger: Floating.





Span 8: Sealable deck cracking.



Typical undersurface.



Bridge Rail: Typical exposed reinforcing steel.



Span 14, Joint: Missing.





Span 1, Girder 6, Bottom Pin: Keeper missing washer is loose.



Bent 13, Column 3: Spalling with exposed reinforcing steel.



Bent 2, Girder 7, Cap: Minor spalling with exposed reinforcing steel.



Span 3, Girder 6, Left, Hanger Bar: Out of plane bending.

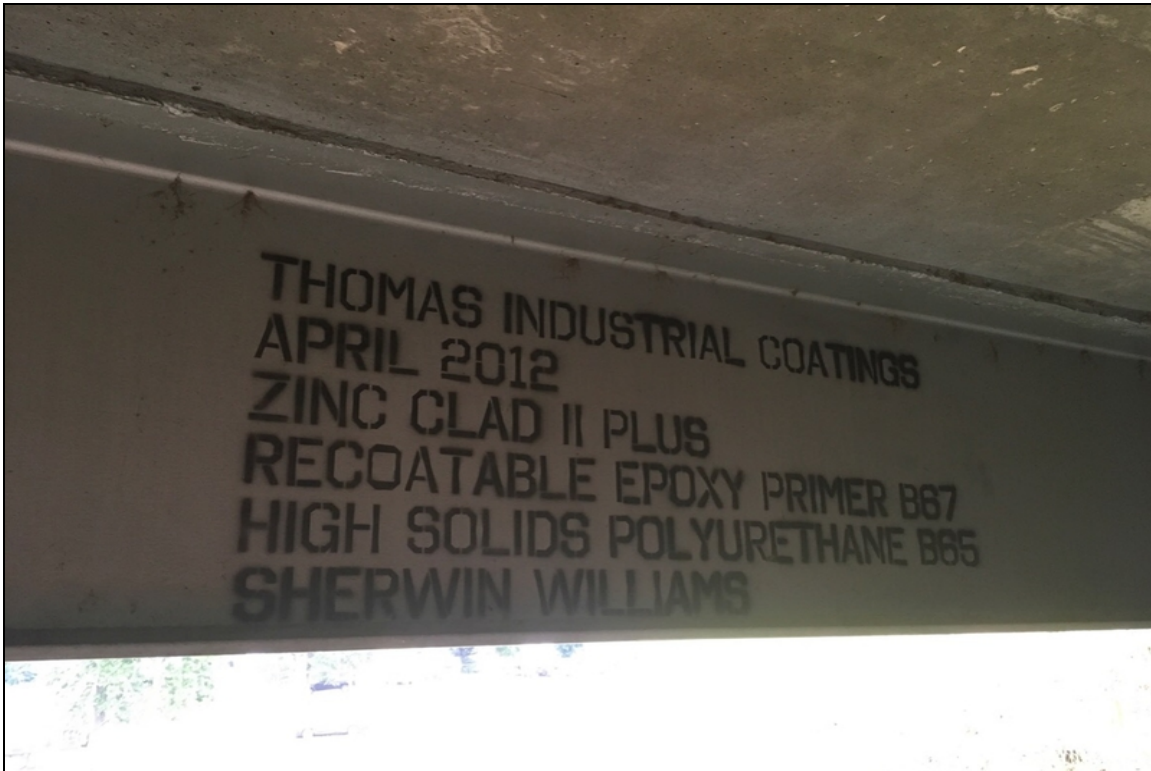




Bent 12, Column 3: Spalling with exposed reinforcing steel.



Bent 11, Pier Wall: Vertical cracking.



Paint details.



Bent 17, Column 3: Repaired.





Bent 14, Column 5: Spalling with exposed reinforcing steel.



Bent 3, Column 3: Repaired.



Span 3, Girder 5, Bottom Flange: Section loss.



Span 21, Girder 4, Pin & Hanger: Floating.





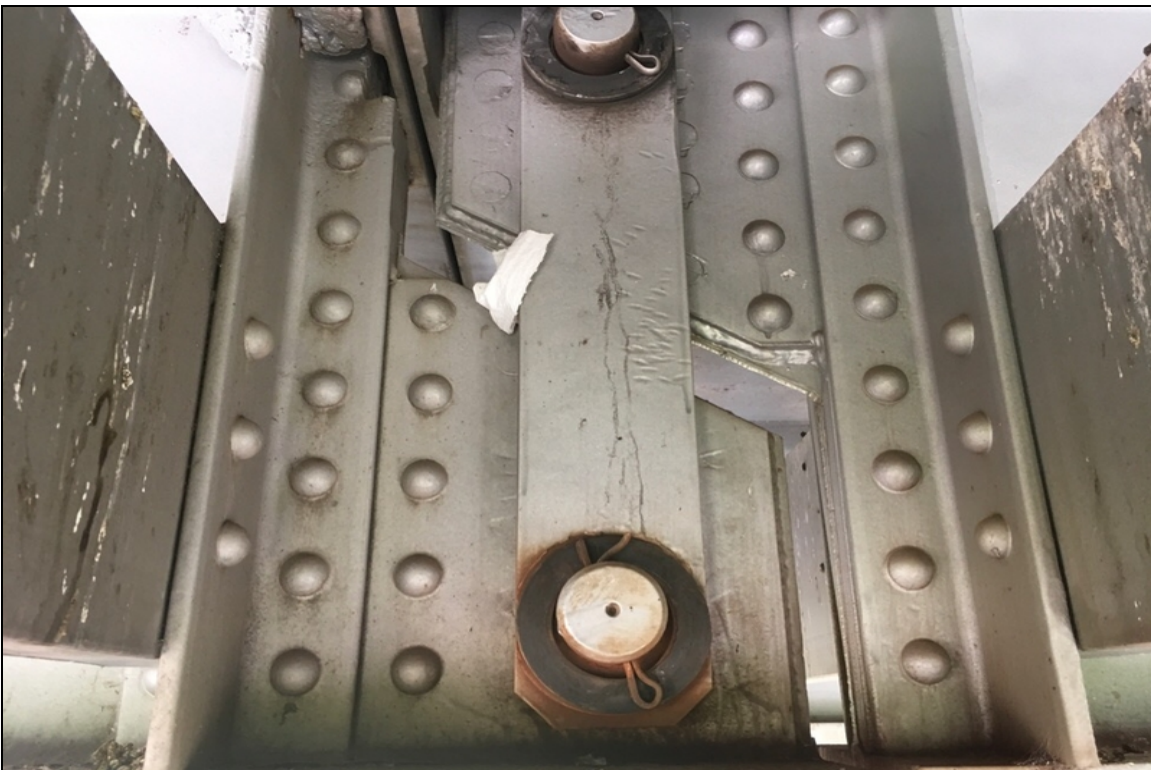
Bent 9, Girder 8, Web: Section loss.



Bent 2, Footing: Spalling.



Span 17, Overhang, Left: Cracking with efflorescence.



Span 5, Girder 6, Pin & Hanger: Floating.





Bent 1, Girder 9, Bearings: Typical.



Bent 12, Column 5: Spalling.



Span 10, Girder 6, Bottom Pin, Washer: Rusted through.



Bent 7, Column 3, 4 & 5: Repaired.





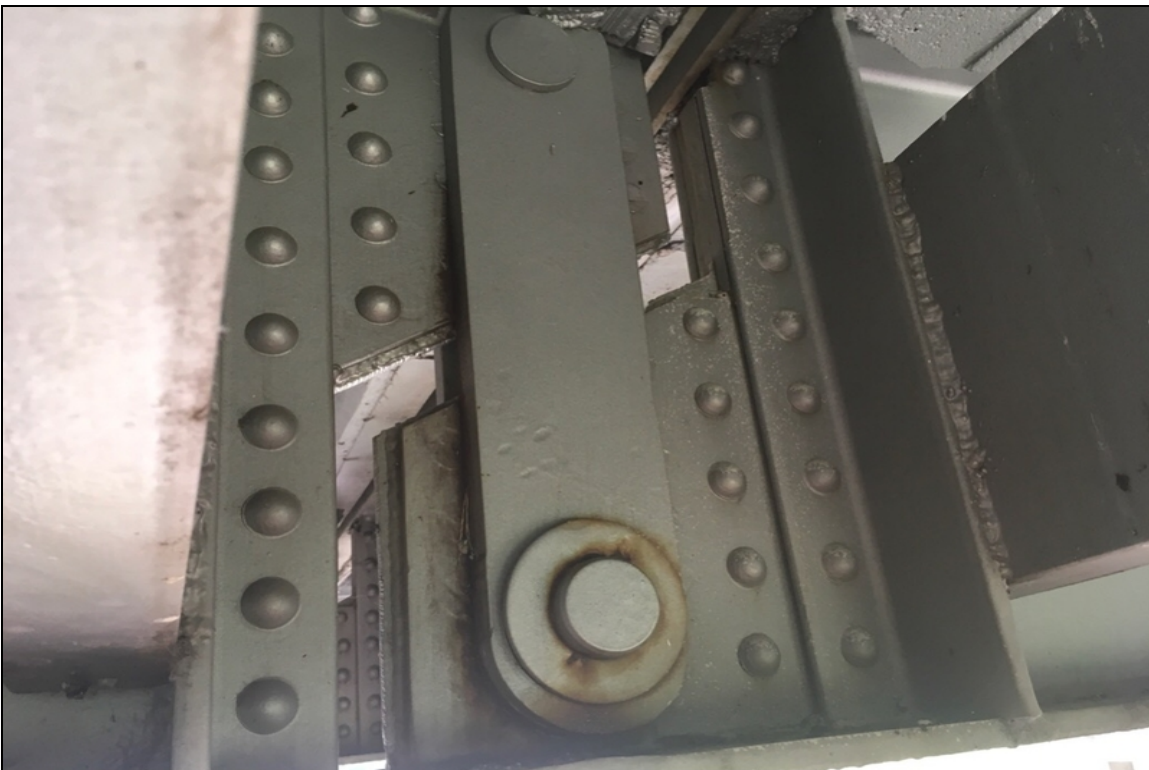
Typical deck.



Span 18, Girder 9, Pin & Hanger: Floating.



Bent 21, Girder 4: Delaminated repair.



Span 9, Girder 4: Keeper missing washer is loose.





Typical map cracking.



Span 9, Girder 6, Pin & Hanger: Floating.



Span 18, Girder 7, Pin & Hanger: Floating.



Bent 19, Column 3: Spalling with exposed reinforcing steel.





Bent 14, Column 5: Spalling with exposed reinforcing steel with section loss.



Bent 5, Column 5: Minor spalling.





Bent 22, Bearings: Typical.



Span 17: Sealable transverse cracks.



Span 1: Failing repairs.



Span 21: Diagonal cracking.





Span 3, Girder 4, Keeper: Sheared.



Span 3, Bay 4: Spalling.





Span 6: Sealable deck cracking.



Bent 1: Spalling.



Bent 2, Column 4: Spalling with exposed reinforcing steel.



Span 3, Girder 8: Old section loss up to 1/4".





Pier Walls: Typical cracking.



Approach 1: Spalling.





Span 4, Joint: 2' leakage.



Span 21, Girder 6, Pin & Hanger: Floating.



Span 8, Girder 8, Pin & Hanger: Floating.



Span 10, Girder 5, Hanger Bar: Bulging.





Span 3, Girder 6, Left, Hanger Bar: Out of plane bending.



Inventory with direction of log mile.



Span 2, Girder 5, Bottom Pin: Keeper missing washer is welded.





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## **Maintenance Needs**



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### **Inspection Comments**

The inspection was performed by using Genie lift. All pins at the pin and hanger assemblies were cleaned of paint and inspected with a D-meter to insure no cracks were present.