



Bridge #06831(Routine, Underwater type 2)
US 412-09- LM 8.09 over SAINT FRANCIS RIVER

Location: MO. State Line

Team Lead: James Adams **Inspection Date:** August 06, 2020



Latitude:36.04617, Longitude:-90.34620

Route:412 Section:09 Log:8.09

Arnold Road ID:28x412x9xA, Arnold Log mile:8.071

District 10, Greene County

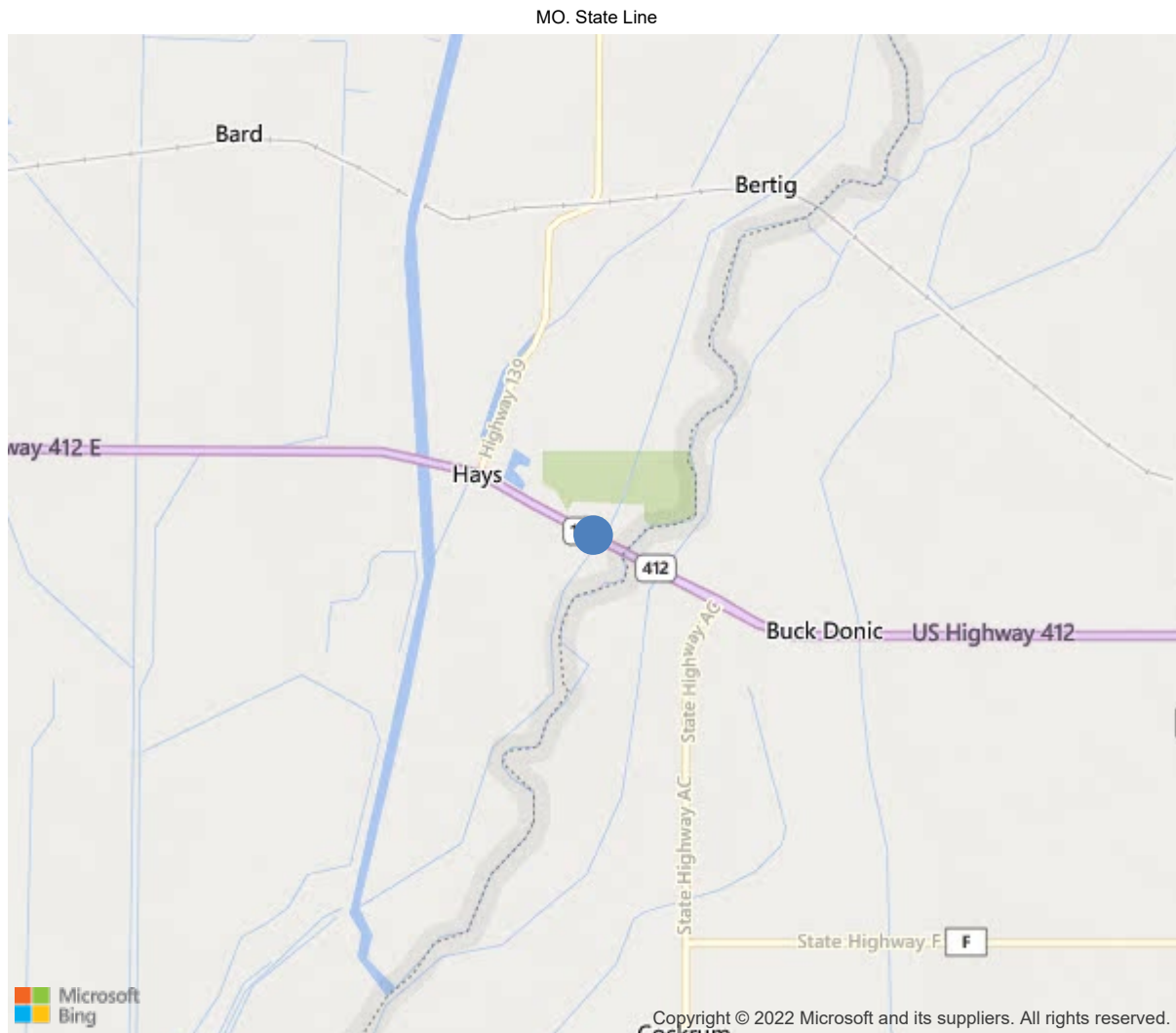
Owner: 1-State Highway Agency



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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	06831
(5) Inventory Route	412
(2) Highway Agency District	10
(3) County Code	55-Greene County, Arkansas
(4) Place Code	0
(6) Features Intersected	SAINT FRANCIS RIVER
(7) Facility Carried	US 412-09- LM 8.09
(9) Location	MO. State Line
(11) Mile Point	8.09 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000412090
(16) Latitude	36.04617
(17) Longitude	-90.3462
(98) Border Bridge State Code	297
(99) Border Bridge Structure No.	29331
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	52
Material	5-Prestressed concrete *
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	23
(46) No. of Approach Spans	0
(107) Deck Structure Type	2-Concrete Precast Panels
(108) Wearing Surface/Protective System	
Type of Wearing Surface	2-Integral Concrete (separate non-modified
Type of Membrane	9-Other
Type of Deck Protection	1-Epoxy Coated Reinforcing
AGE AND SERVICE	
(27) Year Built	2004
(106) Year Reconstructed	0
(42) Type of Service	15
On	1-Highway
Under	5-Waterway
(28) Lane	
On	4
Under	0
(29) Average Daily Traffic	8100
(30) Year of ADT	2014
(109) Truck ADT	1 %
(19) Bypass, Detour Length	30 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	85.3 ft
(49) Structure Length	1966.5 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	76.8 ft
(52) Deck Width Out to Out	79.6 ft
(32) Approach Roadway Width (W/Shoulders)	75.5 ft
(33) Bridge Median	3-Closed median with no
(34) Skew	0 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	37.4 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 water
(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	2-Rural Principal Arterial - Oth
(100) Defense Highway	0-The inventory route is not a S
(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	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	4-Historical significance is not dete
CONDITION	
(58) Deck	7
(59) Superstructure	8
(60) Substructure	7
(61) Channel & Channel Protection	7
(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	60
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	23
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	7
(68) Deck Geometry	9
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(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	5-Bridge foundations determined to be
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	9236
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			08/2020
(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		
* 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.			



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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	156175	111537	1925	42713	0
1120	Efflorescence/Rust Staining	SF	2985	0	0	2985	0
1130	Cracking (RC and Other)	SF	41653	0	1925	39728	0
109	Prestressed Concrete Open Girder/Beam	LF	17658	17632	26	0	0
1080	Delamination/Spall/Patched Area	LF	5	0	5	0	0
1110	Cracking (PSC)	LF	21	0	21	0	0
215	Reinforced Concrete Abutment	LF	233	233	0	0	0
225	Steel Pile	EA	616	0	0	616	0
1000	Corrosion	EA	616	0	0	616	0
234	Reinforced Concrete Pier Cap	LF	1732	1691	40	1	0
1080	Delamination/Spall/Patched Area	LF	7	0	7	0	0
1120	Efflorescence/Rust Staining	LF	1	0	0	1	0
1130	Cracking (RC and Other)	LF	33	0	33	0	0
302	Compression Joint Seal	LF	156	54	75	15	12
2320	Seal Adhesion	LF	102	0	75	15	12
303	Assembly Joint with Seal	LF	312	312	0	0	0
310	Elastomeric Bearing	EA	90	90	0	0	0
321	Reinforced Concrete Approach Slab	SF	4177	3625	0	552	0
1130	Cracking (RC and Other)	SF	552	0	0	552	0
331	Reinforced Concrete Bridge Railing	LF	3932	2689	0	1243	0
1120	Efflorescence/Rust Staining	LF	1243	0	0	1243	0



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Location: MO. State Line

Team Lead: James Adams **Inspection Date:** August 06, 2020

Maintenance Needs

Date Reported: 08/01/2012

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Bridge rails have numerous vertical cracks with efflorescence.

Remarks



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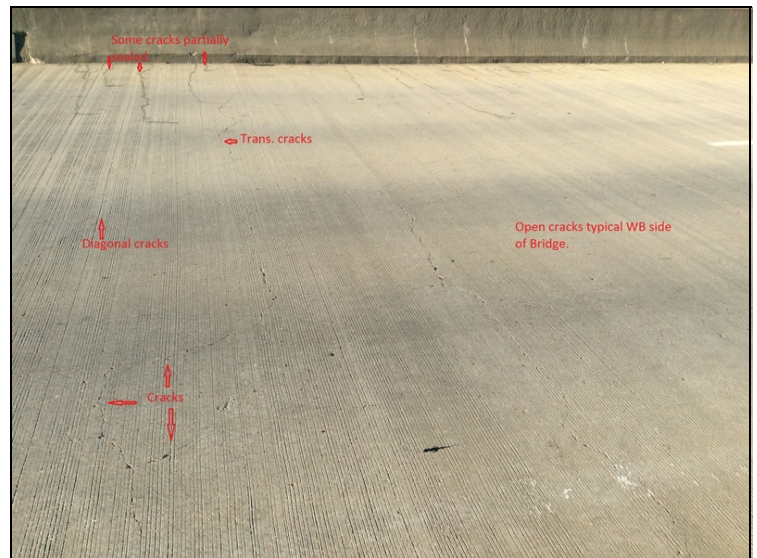
Date Reported: 08/01/2012
Priority: C - Important
Type of Work: None
Status: Open
Component:

Deficiency Description

Deck has numerous transverse, longitudinal, and diagonal unsealed cracks.
End units have transverse cracks on approximately 4 ft. spacing. Interior units have transverse cracks on approximately 4 ft. – 6 ft. spacing. Several cracks are up to .07" wide.

Remarks

reviewed with MO - Oct 2016





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Date Reported: 08/01/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Caps at bents 5, 10, 15, and 20 have dirt and debris buildup on cap, around bearings, and on ends of girders; especially near center line.

Remarks



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Date Reported: 08/01/2012

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Overhangs have numerous transverse cracks with efflorescence.

Remarks



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Date Reported: 08/01/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Steel shell piles have moderate corrosion and flaking rust near water level/ground line.

Remarks





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Date Reported: 08/01/2012

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Approach slabs have unsealed longitudinal cracks.

Remarks



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Team Lead: James Adams **Inspection Date:** August 06, 2020

Date Reported: 07/15/2014
Priority: G - General/ Preventive maintenance
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Precast stay in place deck panels have a few minor sized cracks with efflorescence. A few have efflorescence and leakage around edges.

Remarks

Date Reported: 07/15/2014
Priority: D- Routine
Type of Work: None
Status: Open
Component:

Deficiency Description

A few pre-stressed concrete girders have hairline cracks in web approximately 1 ft. long, starting at end of girder running down at a 45 degree angle:

Span 1 bent 2 girders 8 & 9.

Span 2 bent 2 girder 2

Span 7 bent 7 girder 2

Span 12 bent 12 girder 2

Span 13 bent 13 girder 1

Span 16 bent 16 girders 2 and 3

Span 17 bent 17 girder 2

Span 18 bent 19 girders 7 and 8

Span 20 bent 20 girder 1

Span 21 bent 21 girders 1 – 3

Span 22 bent 22 girders 1 – 3

A few pre-stressed concrete girders have hairline cracks in top flange & web approximately 1 ft. long, starting at top end of girder running down at a 45 degree angle:

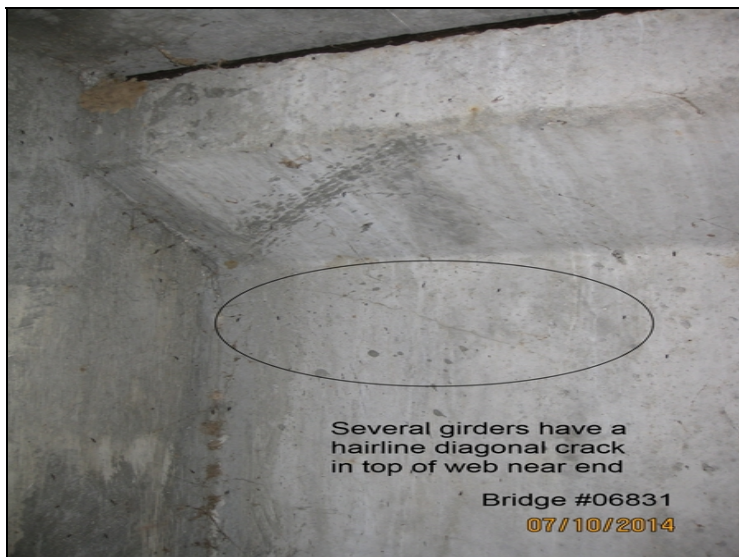
Span 6 bent 6 girder 1

Span 8 bent 9 girder 9 2020 photo.

Span 9 bent 10 girder 9

Span 11 bent 11 girder 9

Remarks



Span 8 bent 9 girder 9



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Date Reported: 07/15/2014
Priority: G - General/ Preventive maintenance
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Small drift lodged on bents 22 & 23 piling under bridge.

Remarks



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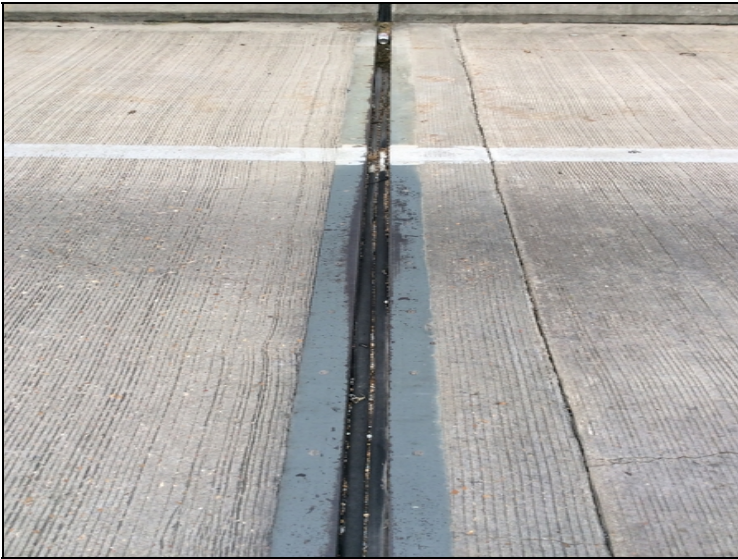
Team Lead: James Adams **Inspection Date:** August 06, 2020

Date Reported: 08/01/2018
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Compression seals at end bents have a few areas beginning to lose adhesion.
Bent 1 right end has 12 ft. dropped out.

Remarks





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Date Reported: 08/01/2018
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Several girders at fixed bents have up to a 1" gap between bottom flange of girder and top of cap. A few neoprene pads have shifted under girders.

Span 2 bent 2 girders 1 – 5 are missing neoprene pads.

Remarks





Inspection Comments

-

Deck Notes

Inspected with snoper.
Routine & underwater type 2 inspection performed this report.
Inspected late due to snooper breakdown.
Bridge rails have numerous vertical cracks with efflorescence.
Approach slabs have unsealed longitudinal cracks.
Deck has numerous transverse, longitudinal, and diagonal unsealed cracks.
End units have transverse cracks on approximately 4 ft. spacing. Interior units have transverse cracks on approximately 4 ft. – 6 ft. spacing. Several cracks are up to .07" wide.
Compression seals at end bents have a few areas beginning to lose adhesion. Bent 1 right end has 12 ft. dropped out.
Finger joints are in good condition.
Overhangs have numerous transverse cracks with efflorescence.
Precast stay in place deck panels have a few minor sized cracks with efflorescence. A few have efflorescence and leakage around edges.

Superstructure Notes

Concrete diaphragms at fixed bearing bents have a few minor cracks and spalls. A few cracks have light efflorescence.
Several girders at fixed bents have up to a 1 in. gap between bottom flange of girder and top of cap. A few neoprene pads have shifted under girders.
Span 2 bent 2 girders 1 – 5 are missing neoprene pads.
Span 5 bent 5 girder 3 has a minor spall on bottom flange. No strands are exposed.
A few pre-stressed concrete girders have hairline cracks in web approximately 1 ft. long, starting at end of girder running down at a 45 degree angle:
Span 1 bent 2 girders 8 & 9.
Span 2 bent 2 girder 2
Span 7 bent 7 girder 2
Span 12 bent 12 girder 2
Span 13 bent 13 girder 1
Span 16 bent 16 girders 2 and 3
Span 17 bent 17 girder 2
Span 18 bent 19 girders 7 and 8
Span 20 bent 20 girder 1
Span 21 bent 21 girders 1 – 3
Span 22 bent 22 girders 1 – 3
A few pre-stressed concrete girders have hairline cracks in top flange & web approximately 1 ft. long, starting at top end of girder running down at a 45 degree angle:
Span 6 bent 6 girder 1
Span 8 bent 9 girder 9 2020 photo.
Span 9 bent 10 girder 9
Span 11 bent 11 girder 9

A few girders have minor spalls on bottom flange over caps:
Span 12 girder 1 at bent 12.
Span 12 girder 9 at bent 13.
Span 20 girder 3 at bent 20.

Substructure Notes



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Several concrete caps have hairline vertical cracks.

Bents 9 & 18 cap both have a minor spall on right end.

Caps at bents 5, 10, 15, and 20 have dirt and debris buildup on cap, around bearings, and on ends of girders; especially near center line.

Steel shell piles have moderate corrosion and flaking rust near water level.

Small drift buildup at bent 23.

Dense vegetation and a few trees are growing under and adjacent to bridge.

Underwater type 2 inspection performed this report.