



Bridge #05662(Routine, Underwater type 2)

State Highway 255 over Mill Creek

Location: 1.54 SO OF US 64

Team Lead: Eric West Inspection Date: April 29, 2020



Latitude:35.36780, Longitude:-94.42605

Route:255 Section:04 Log:3.03

Arnold Road ID:65x255x4xA, Arnold Log mile:3.029

District 04, Sebastian County

Owner: 1-State Highway Agency

Place Code: 24060 - FORT SMITH

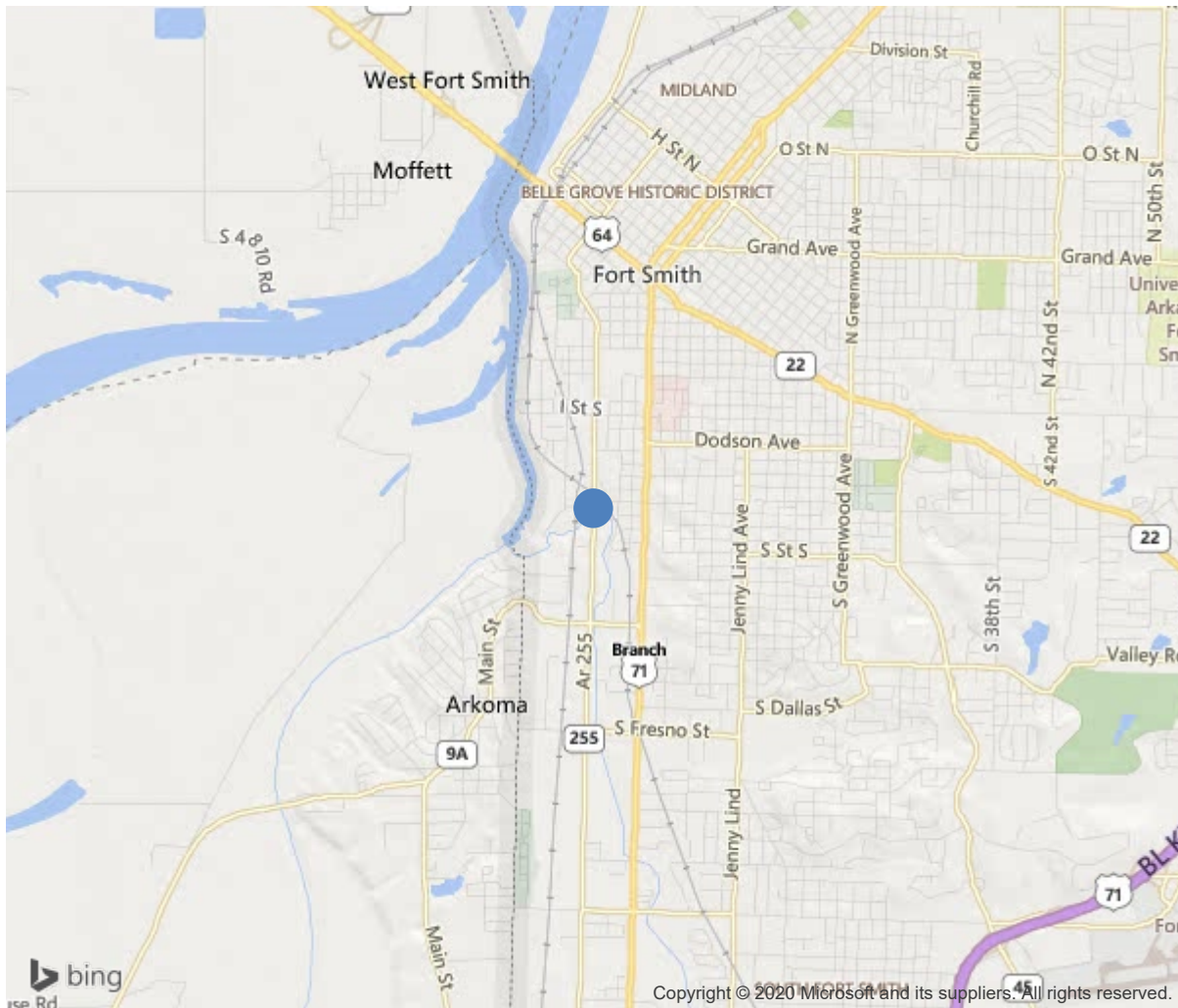
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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	05662
(5) Inventory Route	255
(2) Highway Agency District	04
(3) County Code	131-Sebastian County, Arkansas
(4) Place Code	24060
(6) Features Intersected	Mill Creek
(7) Facility Carried	State Highway 255
(9) Location	1.54 SO OF US 64
(11) Mile Point	3.03 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.36780
(17) Longitude	-94.42605
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	11
Material	1-Concrete
Type	1-Slab
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	3
(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	1977
(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	16000
(30) Year of ADT	2018
(109) Truck ADT	8 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	35 ft
(49) Structure Length	105 ft
(50) Curb or Sidewalk Width	
Left	4 ft
Right	4 ft
(51) Bridge Roadway Width Curb to Curb	44 ft
(52) Deck Width Out to Out	54 ft
(32) Approach Roadway Width (W/Shoulders)	44 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	51.8 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	99.9 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			0
(26) Functional Class		16-Urban Minor Arterial	
(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		0-The inventory route is not part of	
(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			6
(60) Substructure			6
(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			60
(65) Inventory Rating Method		1-Load Factor(LF)	
(66) Inventory Rating			
Type			3
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			6
(68) Deck Geometry			2
(69) Clearances, Vertical/Horizontal			N
(71) Waterway Adequacy			8
(72) Approach Roadway Alignment			8
(36) Traffic Safety Features			1111
A) Bridge Railings		1-Inspected feature meets currently a	
B) Transitions		1-Inspected feature meets currently a	
C) Approach Guardrail		1-Inspected feature meets currently a	
D) Approach Guardrail Ends		1-Inspected feature meets currently a	
(113) Scour Critical Bridges		8-Bridge foundations determined to be	
PROPOSED IMPROVEMENTS			
(75) Type of Work		Replacement of bridge or other	
(76) Length of Structure Improvement			132 ft
(94) Bridge Improvement Cost			\$ 0
(95) Roadway Improvement Cost			\$ 362
(96) Total Project Cost			\$ 861
(97) Year of Improvement Cost Estimate			2002
(114) Future ADT			23327
(115) Year of Future ADT			2027
INSPECTIONS			
(90) Inspection Date			201804
(91) Frequency			24 Months
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No	24	
B: Underwater Inspection	No	0	
C: Other Special Inspection	No	0	

SUFFICIENCY RATING	78.3
STATUS (SD/FO/None)	Functionally Obsolete

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
38	RC Slab	SF	4883	3394	900	589	0
1120	Efflorescence/Rust Staining	SF	12	0	12	0	0
1130	Cracking (RC and Other)	SF	1477	0	888	589	0
(38)							
Driving Surface:							
-The corner of the deck is delaminated on the left edge of the slab over Bent # 3 in Span # 2.							
-The corners of the slab adjacent to Bent # 3 have approximately 6' long radial cracks in Span # 2.							
-Superficial map cracking in the wheel paths.							
-The deck has longitudinal cracking in all spans.							
-Vertical hairline flexure cracks are visible in the edge of deck.							
Undersurface:							
-The right overhang of Span #1 has a softball sized spall with exposed reinforcing steel near bent #2.							
-Shallow baseball size spalls with no exposed reinforcing steel are visible in the edge of deck in span # 3, Right side. Spalls appear to be the result of equipment impacts caused by maintenance operations.							
-Hairline map cracking is visible from the undersurface of Span # 3. Longitudinal cracking with light efflorescence is visible from the undersurface of all spans near the centerline of the structure.							
-Span # 2 & 3 Lt edge of the slab is delaminated over Bent # 3.							
-The right edge of Span #3 has a vertical crack over bent #3.							
-Span #3 undersurface has a full width hairline transverse crack located approximately 12' from abutment #2. The right overhang has two diagonal cracks near abutment #2.							
205	Reinforced Concrete Column	EA	6	0	3	3	0
1130	Cracking (RC and Other)	EA	1	0	0	1	0
1190	Abrasion/Wear (PSC/RC)	EA	5	0	3	2	0
(205)							
-The base of the columns of intermediate bents have light abrasion typical.							
-Concrete deterioration with up to 1" concrete section loss to the base of Bent # 3, Columns # 2 & 3, with no exposed reinforcing steel apparent.							
-Vertical shallow spalling with exposed # 9 wire from the construction process is visible in Bent # 2, Column # 2.							
-Bent #3, column #1 has two vertical cracks in the upper portion of column visible on the ahead face of column.							
215	Reinforced Concrete Abutment	LF	116	58	58	0	0
4000	Settlement	LF	58	0	58	0	0
(215)							
End Bents:							
-The abutment caps have staining where the failed joint seals allow water to leak onto the substructure.							
-Bent # 4 has minor earth settlement under the abutment cap.							
220	Reinforced Concrete Pile Cap/Footing	LF	30	30	0	0	0
(220)							
-Footings are exposed at the intermediate bents.							
-Footings are constructed on a solid rock channel with no apparent scour problems.							
234	Reinforced Concrete Pier Cap	LF	94	88	6	0	0
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	4	0	4	0	0
(234)							

Team Lead: John Wilson, **Inspection Date:** April 29, 2020

[illegible]



Elevation



Roadway



Typical driving surface of the slab.



Typical undersurface of the slab.



Bent # 3 Column # 1 vertical cracking at the cap juncture.



Bent # 4 earth settlement under the abutment cap.



Bent # 2 Lt cap large delamination



Sealable deck cracking.



Longitudinal cracking on the driving surface of the slab.



Span # 1 Rt shallow spalling with exposed reinforcing steel on the undersurface of the overhang.



Span # 2 longitudinal cracking with light efflorescence buildup.



Bent # 1 joint seal with debris accumulation/ impaction.



Bent # 2 joint seal with debris impaction.



Bent # 3 joint seal deterioration with debris impaction.



South approach slab cracking.

Maintenance Needs

Date Reported: 05/31/2012
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Component: 301 - Pourable Joint Seal

Deficiency Description

Deck -
Compression deck joint seals are deteriorated and full of incompressible material.

Remarks



Bent #3 expansion joint-Debris impaction.

Date Reported: 05/31/2012
Priority: G - General/ Preventive maintenance
Type of Work: Repair
Status: Monitor
Component: 38 - RC Slab

Deficiency Description

Deck -
The driving surface of the deck has sealable cracking and dirt and debris in the gutters.

Remarks



Span #1, left lane-Cracking.



Span #2, left lane-Diagonal cracking.

Date Reported: 05/31/2012
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Component: Substructure

Deficiency Description

Substructure -

The base of Columns # 1 and # 2 of Bent # 3 has concrete deterioration / section loss.

Remarks



Bent #3, column #2-Concrete deterioration with section loss.

Date Reported: 05/31/2012

Priority: D- Routine

Type of Work: Repair

Status: Monitor

Component: Approach

Deficiency Description

Approach Roadway -

The North approach slab has settled approximately 1 1/2" and has sealable cracking.

The South approach slab has wide sealable cracking.

Remarks



North approach slab-Cracking.



North approach slab settlement.



South approach slab-Transverse cracking



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Inspection Comments

Superstructure Notes

Girders/Beams: 04/27/2016 - JCJ & JML - Concrete slab span. The corner of the deck is delaminated on the left edge of the slab over Bent # 3 in Span # 2. No apparent change since the last inspection.

Substructure Notes

04/29/2020 - EJW & JPW - Type 2 Underwater Inspection - Wading and probing during turbid water conditions indicate that the footings are exposed at the intermediate bents. Footings appear to be constructed on a solid rock channel with no apparent scour problems at this inspection.