



Latitude:34.36664, Longitude:-92.81603

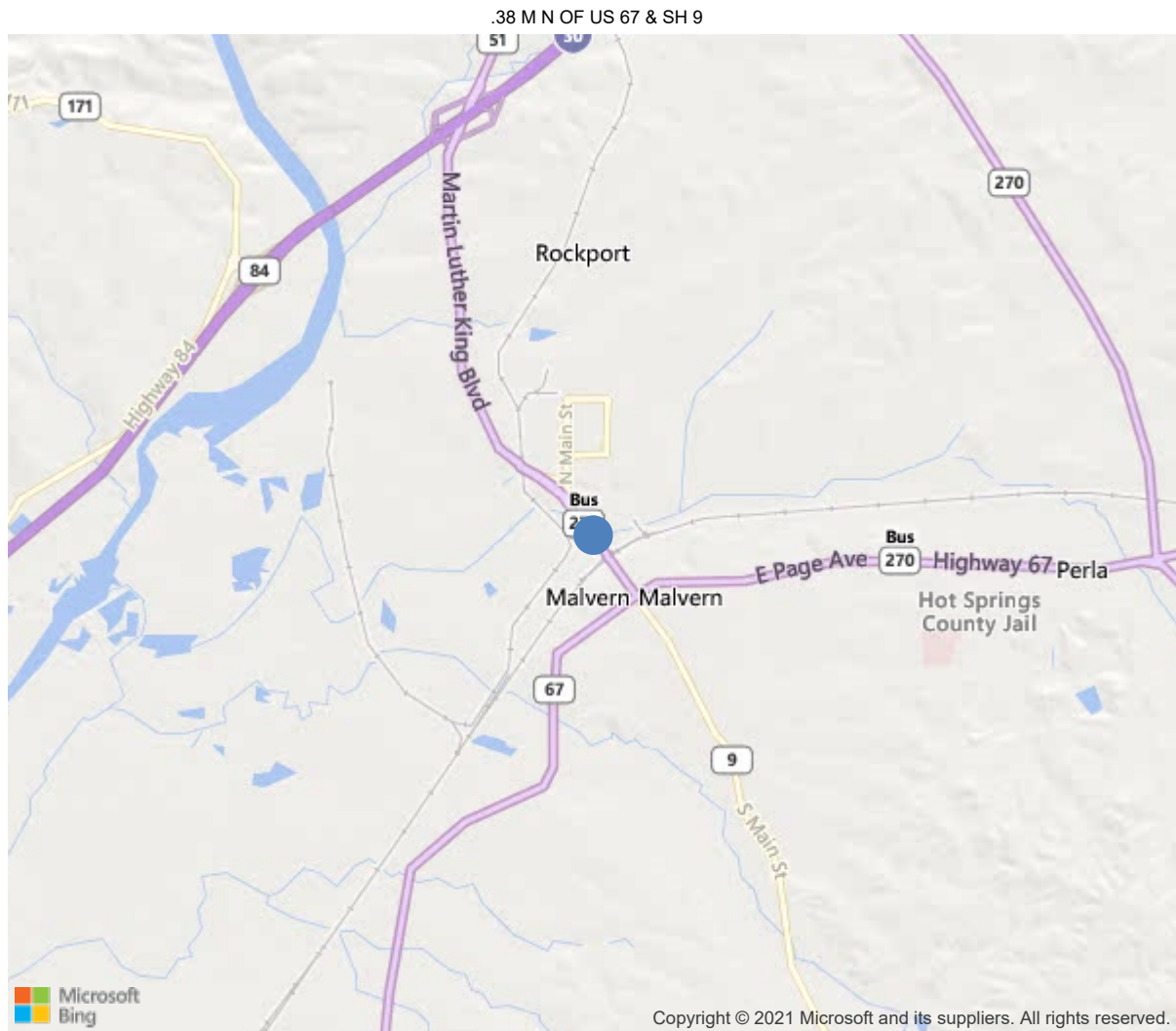
Route:270 Section:07 Log:2.23

Arnold Road ID:30x270x7BxA, Arnold Log mile:2.268

District 06, Hot Spring County

Owner: 1-State Highway Agency

Place Code: 40980 - MALVERN



34.36664, -92.81603



Bridge #02195(Routine)
US 270B Log 2.23 over FRONT ST, UPRR & 1ST

Location: .38 M N OF US 67 & SH 9

Team Lead: Bryan Saunders Inspection Date: October 23, 2019

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	02195
(5) Inventory Route	270
(2) Highway Agency District	06
(3) County Code	59-Hot Spring County, Arkansas
(4) Place Code	40980
(6) Features Intersected	FRONT ST, UPRR & 1ST
(7) Facility Carried	US 270B Log 2.23
(9) Location	.38 M N OF US 67 & SH 9
(11) Mile Point	2.23 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000270070
(16) Latitude	34.36664
(17) Longitude	-92.81603
(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	23
(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	1955
(106) Year Reconstructed	1980
(42) Type of Service	14
On	1-Highway
Under	4-Highway-railroad
(28) Lane	
On	4
Under	2
(29) Average Daily Traffic	19000
(30) Year of ADT	2014
(109) Truck ADT	1 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	57.5 ft
(49) Structure Length	937 ft
(50) Curb or Sidewalk Width	
Left	4 ft
Right	4 ft
(51) Bridge Roadway Width Curb to Curb	49.9 ft
(52) Deck Width Out to Out	60 ft
(32) Approach Roadway Width (W/Shoulders)	60 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	58.1 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	18.16 ft
Ref:	
(55) Min Lat Underclear RT	2.4 ft
Ref:	
(56) Min Lat Underclear LT	6.3 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	14-Urban Other Principal 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	4
(60) Substructure	6
(61) Channel & Channel Protection	N
(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	54.9
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	23
Rating	33
(70) Bridge Posting	5-Equal to or above legal loads
(41) Structure Open/Posted/Closed	A-Open, no restriction
APPRAISAL	
(67) Structural Evaluation	4
(68) Deck Geometry	3
(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	0-Inspected feature does not meet cur
(36C) Approach Guardrail	0-Inspected feature does not meet cur
(36D) Approach Guardrail Ends	0-Inspected feature does not meet cur
(113) Scour Critical Bridges	N-Bridge not over waterway.
PROPOSED IMPROVEMENTS	
(75) Type of Work	Bridge rehabilitation because
(76) Length of Structure Improvement	937 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 2522
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	23287
(115) Year of Future ADT	2028
INSPECTIONS	
(90) Inspection Date	10/2019
(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	Yes 10/2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	49502	45792	3664	46	0
1080	Delamination/Spall/Patched Area	SF	537	0	513	24	0
1090	Exposed Rebar	SF	44	0	22	22	0
1120	Efflorescence/Rust Staining	SF	940	0	940	0	0
1130	Cracking (RC and Other)	SF	2189	0	2189	0	0
510	Wearing Surfaces	SF	19206	18587	619	0	0
3210	Delam/Spall/Patched Area/Pothole	SF	2	0	2	0	0
3220	Crack (Wearing Surface)	SF	617	0	617	0	0
(12)							
Span 2 has spall filled with asphalt. All spans have scattered transverse and longitudinal cracks. All spans have spalls on soffit between beams 5-9							
107	Steel Open Girder/Beam	LF	8432	6596	1277	559	0
1000	Corrosion	LF	1835	0	1276	559	0
1020	Connection	LF	1	0	1	0	0
515	Steel Protective Coating	SF	57620	53652	1100	2297	571
3410	Chalking (Steel Protective Coatings)	SF	0	0	0	0	0
3420	Peeling/Bubbling/Cracking	SF	1120	0	1100	0	20
3440	Effectiveness (Steel Protective Coatings)	SF	2848	0	0	2297	551
(107)							
Beam ends corrosion, pitting and section loss on spans 1, 2, 3, Beam ends at Pin and Hanger assemblies and at bents have Measurable section loss on Span 2 beam 5,7,8 and 9 Span 3 beam 5,7,8 and 9 Span 4 beam 1,5,6,7,8 and 9, Span 6 beam 3,5,6,7,8 and 9 Span 7 beam 5,6,7 and 8, Span 8 beam 5, 6,7,8 and 9 Span 9 beam 5, 6,7,8 and 9 Span 11 beam 2,6,7,8 and 9 Span 12 beam 4,5,6,7,8 and 9, Span 13 beam 4,5,6 and 7, Span 14 beam 5,6,7,8 and 9, Span 15 beams 6 and 7, Span 16 beam 5,6,7 and 8, Span 17 beam 6 Span 18 beam 5,6,7,8 and 9, Span 19 beam 5,6,7,8 and 9 Span 20 beam 5,6,7,8 and 9, Span 21 beam 3,5,6,7,8 and 9 Span 22 beam 5,6,7,8 and 9 Span 23 beam 5,6,7,8 and 9							
Holes in the webs Holes in the webs at Span 4 beam 7, span 17 beam 7, span 18 beam 5, span 20 beam 6, span 20 beam 8, span 21 beam 5, & span 22 beam 5. Hole in the bottom flange of span 21 beam 7.							
Bolt missing at abutment 1 beam 6 diaphragm							



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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
161	Steel Pin, Pin and Hanger Assembly	EA	135	0	104	31	0
1000	Corrosion	EA	135	0	104	31	0
(161)	Pack rust behind hanger bars at the following locations. Span 2 beams 2,3, 5 and 9, span 3,4 and 7 beam 5, span 11 beam 6, span 16 beam 7, span 18 beam 1, span 20 beams 5 thru 9, span 21 beams 5 thru 9, span 22 beams 5 and 7.						
205	Reinforced Concrete Column	EA	88	75	13	0	0
1080	Delamination/Spall/Patched Area	EA	3	0	3	0	0
1090	Exposed Rebar	EA	10	0	10	0	0
(205)	Bt 7 column 1, Bt 8 columns 1&2, Bt 9 column 1, Bt 10 column 2, Bt 11 column 2, Bt 12 column 3, Bt 14 column 4, Bt 17 column 1 & Bt 19 column 4 all have small spalls with exposed rebar. Bt 13 column 1, Bt 14 column 2 & Bt 19 column 1 all have small spalls.						
210	Reinforced Concrete Pier Wall	LF	579	579	0	0	0
215	Reinforced Concrete Abutment	LF	120	109	11	0	0
1130	Cracking (RC and Other)	LF	11	0	11	0	0
(215)	Both abutments have small cracks.						
234	Reinforced Concrete Pier Cap	LF	1155	1150	2	3	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	4	0	1	3	0
(234)	Cap at bent 4 has a large spall with rebar exposed.						
300	Strip Seal Expansion Joint	LF	1440	472	0	0	968
2310	Leakage	LF	168	0	0	0	168
2320	Seal Adhesion	LF	800	0	0	0	800
(300)	All joint seals are torn, leaking and missing.						
311	Movable Bearing	EA	54	3	39	12	0
1000	Corrosion	EA	49	0	39	10	0
2220	Alignment	EA	2	0	0	2	0

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(311)							
All prior deficiency still exist. span 10 bent 9 bearing 6 and 8 gap between bearing and masonry plates. Bent 4 bearings 5-9 & abutment 2 bearings 5-9 have heavy corrosion							
313	Fixed Bearing	EA	216	127	84	5	0
1000	Corrosion	EA	89	0	84	5	0
(313)							
All prior deficiency still exist. Bent 4 bearings 5-9 have heavy corrosion							
321	Reinforced Concrete Approach Slab	SF	2000	1783	0	217	0
1130	Cracking (RC and Other)	SF	217	0	0	217	0
(321)							
Very large cracks.							
330	Metal Bridge Railing	LF	1874	1874	0	0	0
515	Steel Protective Coating	SF	1874	1874	0	0	0
331	Reinforced Concrete Bridge Railing	LF	1874	1756	118	0	0
1130	Cracking (RC and Other)	LF	118	0	118	0	0
(331)							
Scattered cracks in concrete bridge rail							



Span 18 girder 5 section loss at lower web and bottom flange



Large cracks in Approach slab at abutment 1



Span 12 Beam 5 lt side 3/16 section loss to lower web



Deck view looking North



transverse Deck cracks in span 23



Potholes at the approach slabs at abutment 2



Pothole at the joint in span 22 joint 23



Bt 9 bearings



Bearing at abutment 1 beam 7 is corroded with laminating rust



Span 6 beam 3 left side ahead of pin and hanger section loss to lower web and bottom flange



Bent 4 cap has a spall with exposed rebar



Joint seal at bent 14 is full of debris has lost bond and is leaking



Span 6 beam 7 lower web and bottom flange section loss



Bent 9 bearings 6 and 8 have an 1/8" gap



Span 6 beam 5



Beam end at Span 22, girder 7, is down to a knife edge in the flange with heavy pitting in the lower web



1 inch hole at beam end in span 22 beam 5



Span 18 beam 5 has 5/16 section loss to bottom flange and two holes, 1 1/2 inch; and 3/4 inch; that are 36 inch; back from beam end



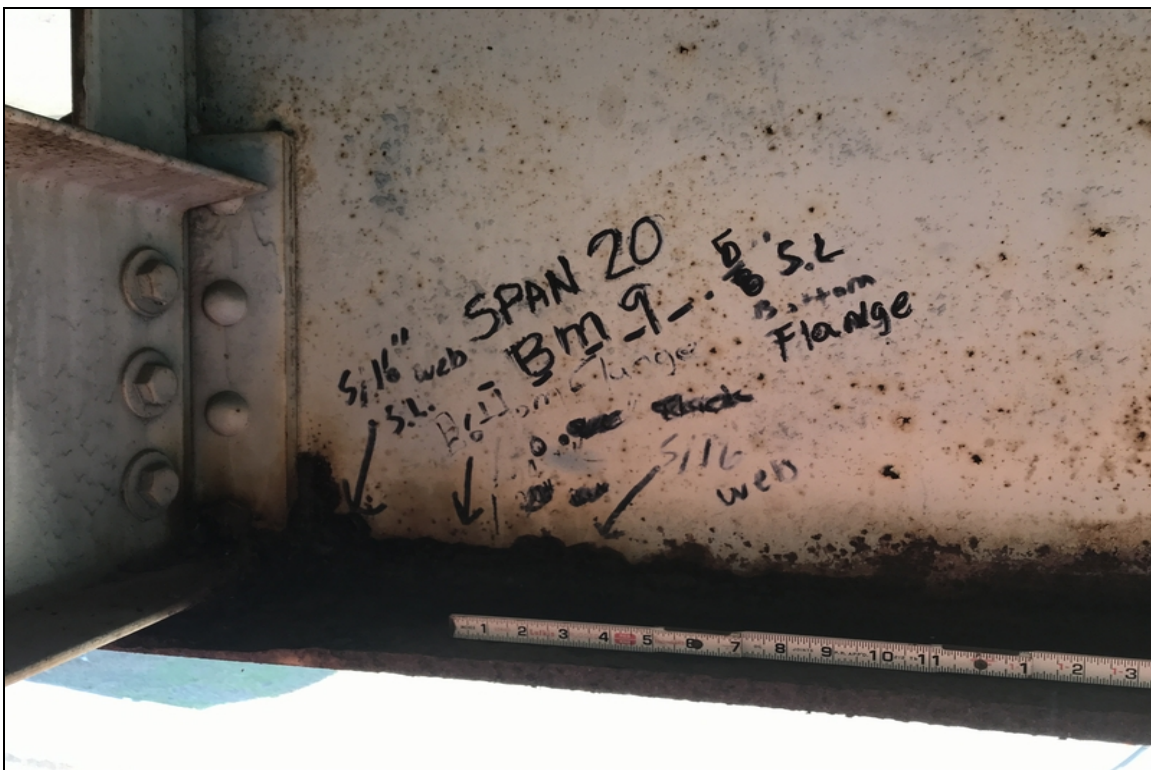
Dirt and debris build up around bearings on the cap at abutment 2



Span 18 beam 8 has 1/4" section loss at the bottom flange



5/16 section loss to hanger at span 21 beam 5



Span 20 beam 9 has 5/16 section loss to lower web and up to 5/8 section loss to the bottom flange



span 13 beam 6 joint 14 has a 3/4\"/>



Soffit view



Bearings at Abutment 2 are heavily corroded with the bearing at beam 6 being the worst case



Span 21 beam 9 has 1/8 section loss to the lower web



Deck cracks in span 13



Joint seal at abutment 2 has lost bond and fallen out.



Span 12 Beam 5 lt side 3/16 section loss to lower web



Approach slabs at abutment 2 have large Transverse and longitudinal cracks



Abutment 1 beam 6 right side at the diaphragm has a missing bolt



3.5 x2 hole at span 20 beam 6



Lower web at span 5 beam 6t



span 19 beam 8 joint 20 has 1/8" section loss



Transverse Deck cracks in span 4



Span 7 beam 5 ahead hanger at lower pin has section loss up to 1/8" behind washer



Deck view looking North



Bent 9 bearing 6



span 8 bent 8 beam 5



Span 21 beam 7 has 1/2" section loss to bottom flange and 5/16" section loss to lower web



11" x 1.5 hole at span 20 beam 8 joint 21



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Location: .38 M N OF US 67 & SH 9

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Inspection Comments

Inspected West/East by plans bent numbering.

Job 060900 dwg 46176, layout 23150, 23151, 23152

approach looking southeastSpecial inspection required due to item 59 rating of 4.