



Latitude:35.90638, Longitude:-94.48561

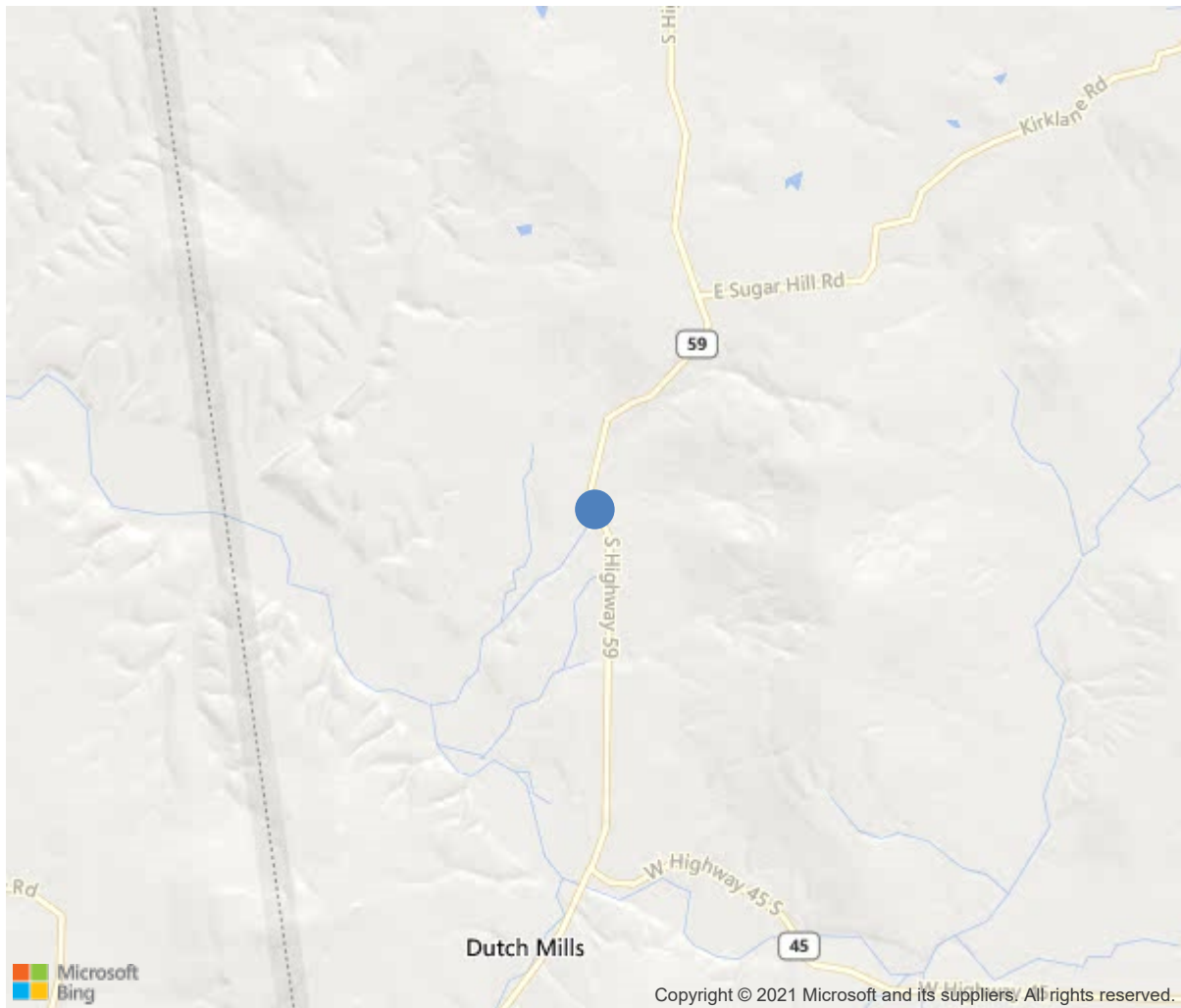
Route:59 Section:04 Log:4.269

Arnold Road ID:72x59x4xA, Arnold Log mile:4.266

District 04, Washington County

Owner: 1-State Highway Agency

1.80 MI N JCT OF SH 45



35.90638, -94.48561



Bridge #01649(Routine, Underwater type 2)

SH 59-Washington over Little Branch

Location: 1.80 MI N JCT OF SH 45

Team Lead: Eric West Inspection Date: October 28, 2021

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	01649
(5) Inventory Route	59
(2) Highway Agency District	04
(3) County Code	143-Washington County, Arkansas
(4) Place Code	0
(6) Features Intersected	Little Branch
(7) Facility Carried	SH 59-Washington
(9) Location	1.80 MI N JCT OF SH 45
(11) Mile Point	4.269 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000059040
(16) Latitude	35.90638
(17) Longitude	-94.48561
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	14
Material	1-Concrete
Type	4-Tee beam
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	1
(46) No. of Approach Spans	0
(107) Deck Structure Type	1-Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6-Bituminous
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1931
(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	840
(30) Year of ADT	2018
(109) Truck ADT	1 %
GEOMETRIC DATA	
(48) Length of Maximum Span	34 ft
(49) Structure Length	34 ft
(50) Curb or Sidewalk Width	
Left	0.4 ft
Right	0.4 ft
(51) Bridge Roadway Width Curb to Curb	24.3 ft
(52) Deck Width Out to Out	27 ft
(32) Approach Roadway Width (W/Shoulders)	29.9 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	24.9 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	6-Rural 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	5
(59) Superstructure	5
(60) Substructure	5
(61) Channel & Channel Protection	8
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	2-M 13.5 / H 15
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	59
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	1
Rating	35.1
(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	4
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	6
(36A) Bridge Railings	0-Inspected feature does not meet cur
(36B) Transitions	0-Inspected feature does not meet cur
(36C) Approach Guardrail	0-Inspected feature does not meet cur
(36D) 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	
(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	1688
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			10/2021
(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.			

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
16	Reinforced Concrete Top Flange	SF	945	492	86	367	0
1090	Exposed Rebar	SF	1	0	0	1	0
1120	Efflorescence/Rust Staining	SF	366	0	0	366	0
1130	Cracking (RC and Other)	SF	86	0	86	0	0
510	Wearing Surfaces	SF	840	840	0	0	0
(16)							
-Asphalt driving surface. -The undersurface of the overhangs have map cracking with heavy efflorescence and leaching with soft deteriorated concrete. -There are diagonal cracks with efflorescence in the corners of the deck that are visible from the undersurface of the deck. -There are transverse cracks with efflorescence at variable spacing that are visible from the undersurface of the deck. -There are areas with map cracking with efflorescence visible from the undersurface of the deck. -There is a 2' delaminated area visible from the undersurface of bay # 2 located approximately 5' from bent # 2 and at midspan with a 6" shallow spall with exposed reinforcing steel.							
110	Reinforced Concrete Open Girder/Beam	LF	105	46	59	0	0
1120	Efflorescence/Rust Staining	LF	46	0	46	0	0
1130	Cracking (RC and Other)	LF	13	0	13	0	0
(110)							
-Girder # 1 has an area of map cracking visible in the bottom of girder located near abutment #2 and extending approximately 8' in length toward mid-span and a 3' long section of map cracking near mid-span, both of these areas have efflorescence buildup. The bottom surface has a 2' long section of map cracking adjacent to abutment #1 without efflorescence buildup. The top edge of the girder has longitudinal cracking with efflorescence buildup adjacent to the top flange of the deck.							
215	Reinforced Concrete Abutment	LF	130	80	20	30	0
1080	Delamination/Spall/Patched Area	LF	3	0	1	2	0
1120	Efflorescence/Rust Staining	LF	24	0	6	18	0
1130	Cracking (RC and Other)	LF	23	0	13	10	0
(215)							
-Abutments both have several full height vertical cracks. -Abutment #1 has moderate width vertical cracks at the wing wall juncture. -Abutment #2 Lt wing wall has 2 - 6" spalls at the end of the wing. The Rt wing wall has a few small spalls without exposed reinforcing steel. -Diagonal cracking with efflorescence adjacent to the exterior girder / backwall junctures typical at both abutments. -The southeast corner being the worst case with map cracking that has efflorescence in the stem wall adjacent to the exterior girder. -Diagonal cracking with efflorescence in the wing walls.							
220	Reinforced Concrete Pile Cap/Footing	LF	136	111	25	0	0
1190	Abrasion/Wear (PSC/RC)	LF	25	0	25	0	0
(220)							
-Abutment # 1 footing is partially exposed with minor concrete deterioration with no apparent undermining. -Abutment # 2 top of footing is partly exposed with no apparent undermining.							

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Team Lead: Eric West, **Inspection Date:** October 28, 2021

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
-Exposed portions of the footings have light abrasion.							
331	Reinforced Concrete Bridge Railing	LF	70	11	51	8	0
1080	Delamination/Spall/Patched Area	LF	41	0	35	6	0
1130	Cracking (RC and Other)	LF	18	0	16	2	0
(331)							
-Concrete end post and railing on the right side of structure appears to have been replaced by maintenance forces in the past. -Numerous areas of horizontal map cracking typical in the horizontal concrete railing due to insufficient concrete coverage of reinforcing steel. -Northwest end post has visible cracks and spalls at the curb juncture but is still in place during this inspection. -There are spalled areas on the horizontal bridge rails that have exposed reinforcing steel with no apparent section loss. -The curbs have soft deteriorated concrete with section loss in areas. -The left curb has horizontal cracking with spalling.							



Roadway



Typical driving surface of the deck.



Typical undersurface of the deck.



Bay #2 concrete delamination's and spalling with exposed reinforcing steel.



Left overhang and edge of the deck.



Left overhang and bay #1 cracking with efflorescence buildup.



Girder #1 cracking with efflorescence buildup.



Abutment #2 typical.



Abutment #1 typical.



Abutment #1 Lt exposed footing.



Left curb concrete deterioration.



Abutment #1 Rt fractured end post.



Right bridge rail with exposed reinforcing steel.



Right bridge rail cracking and spalling with exposed reinforcing steel.

Maintenance Needs

Date Reported: 10/02/2013
Priority: D- Routine
Type of Work: Repair
Status: Open
Component: 16 - Reinforced Concrete Top Flange

Deficiency Description**R.C. Deck-**

The undersurface of the overhangs have map cracking with efflorescence and leaching with soft deteriorated concrete. The curbs have soft deteriorated concrete. There are diagonal cracks with efflorescence in the corners of the deck that are visible from the undersurface of the deck. There are transverse cracks with efflorescence at variable spacing that are visible from the undersurface of the deck.

Remarks

Right overhang.



Deck soffit. Left overhang.



Right overhang.



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Team Lead: Eric West **Inspection Date:** October 28, 2021

Date Reported: 10/02/2013
Priority: G - General/ Preventive maintenance
Type of Work: Repair
Status: Monitor
Component: 110 - Reinforced Concrete Open Girder/Beam

Deficiency Description

R.C. Tee Beams-

Girder # 1 has map cracking with efflorescence in the edges and base of girder.

Map cracking is most prominent adjacent to Bent # 2.

Remarks



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Location: 1.80 MI N JCT OF SH 45

Team Lead: Eric West **Inspection Date:** October 28, 2021

Date Reported: 10/05/2015
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Component: 331 - Reinforced Concrete Bridge Railing

Deficiency Description

R.C. Bridge Railing-
Spalling with exposed reinforcing steel in the horizontal bridge railing.

Remarks

Date Reported: 10/28/2021
Priority: C - Important
Type of Work: Replace
Status: Open
Component: Approach

Deficiency Description

South Approach Guardrail-

The east approach guardrail has collision damage. The west approach guardrail has minor collision damage.

Remarks



Abutment #2 Lt approach guardrail damage.



Southwest approach guardrail with minor collision damage.



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Team Lead: Eric West **Inspection Date:** October 28, 2021

Inspection Comments

10/17/2019 - TJL - Elements were plan verified on this date.

Substructure Notes

10/28/2021 - EJW & JPW - Underwater Type II inspection conducted this date. Wading and probing indicates no apparent significant scour problems at this inspection. See element notes for documentation. The footings are partially exposed but not undermined. Channel sounded / profiled this inspection. See MicroStation sketch linked in "Files" tab for sounding measurements.