



Latitude:36.39639, Longitude:-94.44610

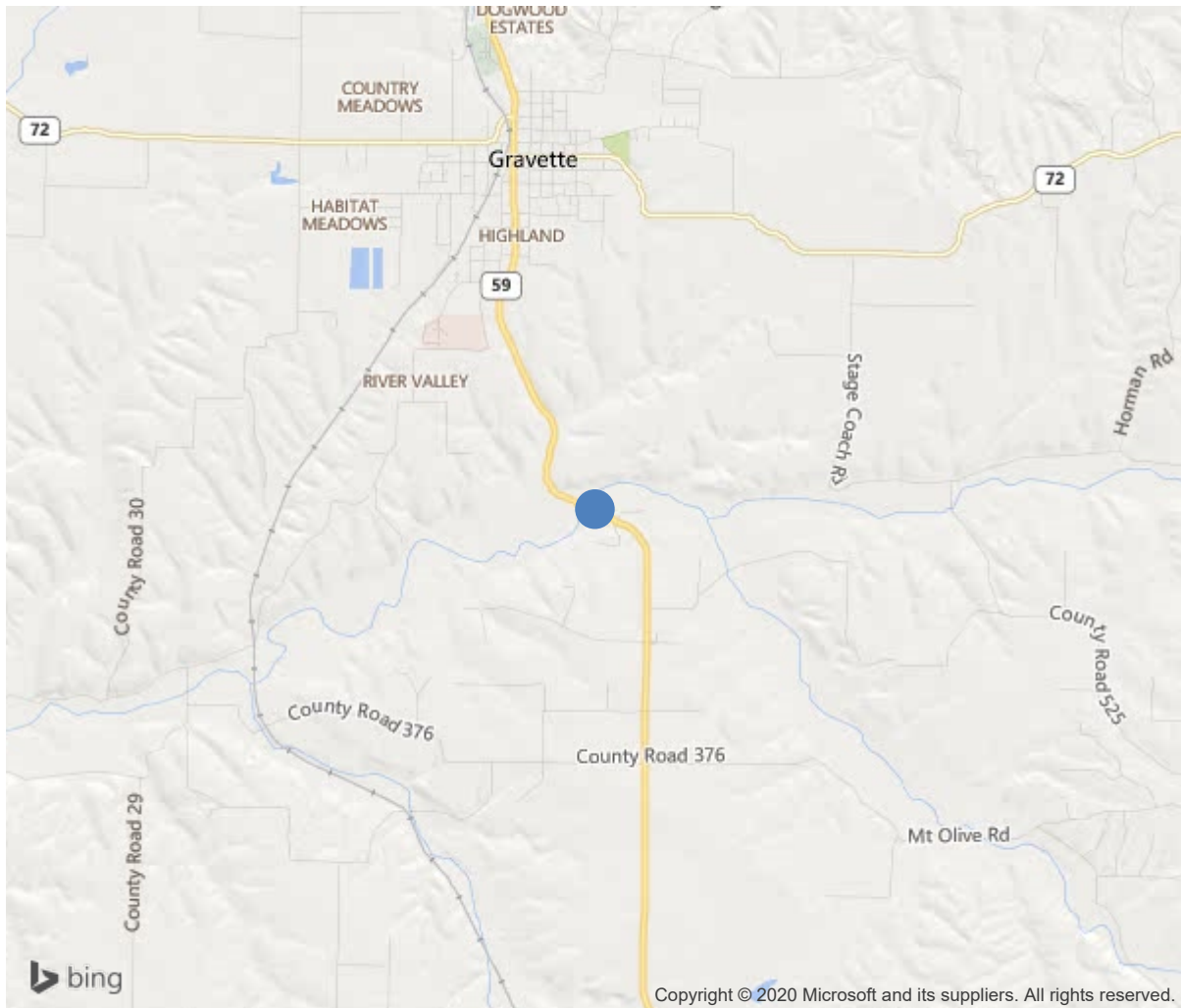
Route:59 Section:01 Log:8.67

Arnold Road ID:4x59x1xA, Arnold Log mile:8.688

District 09, Benton County

Owner: 1-State Highway Agency

1.90 MI S JCT OF SH 72



36.39639, -94.44610



Bridge #01100(Routine)
SH 59 Benton 2 over SPAVINAW CREEK
Location: 1.90 MI S JCT OF SH 72

Team Lead: Nathan Rowland Inspection Date: March 02, 2020

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	01100
(5) Inventory Route	59
(2) Highway Agency District	09
(3) County Code	7-Benton County, Arkansas
(4) Place Code	0
(6) Features Intersected	SPAVINAW CREEK
(7) Facility Carried	SH 59 Benton 2
(9) Location	1.90 MI S JCT OF SH 72
(11) Mile Point	8.67 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000
(16) Latitude	36.39639
(17) Longitude	-94.44610
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	24
Material	2-Concrete continuous
Type	4-Tee beam
(44) Approach Structure Type	14
Material	1-Concrete
Type	4-Tee beam
(45) No. of Spans in Main Unit	2
(46) No. of Approach Spans	9
(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	1929
(106) Year Reconstructed	1979
(42) Type of Service	15
On	1-Highway
Under	5-Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	6200
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	14 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	52 ft
(49) Structure Length	418 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	40 ft
(52) Deck Width Out to Out	43.4 ft
(32) Approach Roadway Width (W/Shoulders)	41 ft
(33) Bridge Median	0-No median
(34) Skew	20 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	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	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	44
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	2
Rating	27
(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	5
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36) Traffic Safety Features	1001
A) Bridge Railings	1-Inspected feature meets currently a
B) Transitions	0-Inspected feature does not meet cur
C) Approach Guardrail	0-Inspected feature does not meet cur
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	
(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	7192
(115) Year of Future ADT	2027
INSPECTIONS	
(90) Inspection Date	202003
(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 201803

SUFFICIENCY RATING	83.1
STATUS (SD/FO/None)	Not Deficient



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Location: 1.90 MI S JCT OF SH 72

Team Lead: Nathan Rowland, **Inspection Date:** March 02, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	18260	18195	50	15	0
1080	Delamination/Spall/Patched Area	SF	0	0	0	0	0
1090	Exposed Rebar	SF	3	0	0	3	0
1120	Efflorescence/Rust Staining	SF	12	0	12	0	0
1130	Cracking (RC and Other)	SF	0	0	0	0	0
510	Wearing Surfaces	SF	4558	4558	0	0	0
(12)							
3/02/2020 WNR & DBM:							
-Driving surface had a chip/seal overlay							
-Typical spalling that exposes the reinforcing steel with initial section loss visible from the undersurface of the deck.							
-Typical transverse cracking with efflorescence leaching through visible from the undersurface of the deck.							
38	RC Slab	SF	6396	6350	38	8	0
1090	Exposed Rebar	SF	8	0	0	8	0
1120	Efflorescence/Rust Staining	SF	38	0	38	0	0
(38)							
3/02/2020 WNR & DBM:							
-There are a few isolated areas with spalling that exposes the reinforcing steel with initial section loss, visible from the undersurface of the deck.							
-Typical transverse cracking with efflorescence leaching though, visible from the undersurface of the deck.							
-Span #9 has a full width exposed rebar in deck soffit 20' back of bent #8.							
-Spans #2 #5 #7 & #9 have mild efflorescence cracking to soffit with areas of exposed rebar.							
107	Steel Open Girder/Beam	LF	319	319	0	0	0
515	Steel Protective Coating	SF	28665	28665	0	0	0
110	Reinforced Concrete Open Girder/Beam	LF	830	798	32	0	0
202	Steel Column	EA	24	22	2	0	0
1000	Corrosion	EA	2	0	2	0	0
515	Steel Protective Coating	SF	480	480	0	0	0
(202)							
3/02/2020 WNR & DBM:							
-The Steel piling are at bents #4 - #8.							
-Bottom 3' of steel piling is encased in concrete.							
-Typical active corrosion on the steel piling with pitting and some flaking rust exists at bents #5 and #7.							
-Bent #8 steel column #6 has distortion and mild section loss to angle bracing due to pack rust.							
-Bent #5 at steel column #3 has 1/16" section loss at top and midsection of bent.							
-Bent #3 steel column #5 concrete encasement has broken away exposing 1/8" section loss to steel pile face.							
205	Reinforced Concrete Column	EA	43	29	8	6	0
1090	Exposed Rebar	EA	1	0	0	1	0
1120	Efflorescence/Rust Staining	EA	1	0	0	1	0
1130	Cracking (RC and Other)	EA	5	0	4	1	0



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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(205) 3/02/2020 WNR & DBM: -Typical spalling with exposed reinforcing steel on the columns. -Typical cracking with some efflorescence leaching through. See maintenance need items for locations.							
215	Reinforced Concrete Abutment	LF	130	75	37	18	0
1080	Delamination/Spall/Patched Area	LF	2	0	0	2	0
1090	Exposed Rebar	LF	3	0	1	2	0
1120	Efflorescence/Rust Staining	LF	15	0	15	0	0
(215) 3/02/2020 WNR & DBM: -Typical spalling that exposes the reinforcing steel with initial section loss. -Typical map cracking with efflorescence leaching through.							
234	Reinforced Concrete Pier Cap	LF	436	417	0	19	0
1090	Exposed Rebar	LF	2	0	0	2	0
(234) 3/02/2020 WNR & DBM: -Typical vertical hairline cracking on the caps. -Typical spalling with exposed reinforcing steel. See maintenance need items for locations.							
301	Pourable Joint Seal	LF	86	40	0	46	0
2320	Seal Adhesion	LF	0	0	0	0	0
(301) 3/02/2020 WNR & DBM: -Pourable joint seals had seal adhesion failure allowing water and debris to accumulate on top of caps.							
302	Compression Joint Seal	LF	40	0	0	0	40
2320	Seal Adhesion	LF	40	0	0	0	40
(302) Abutment #1 compression joint seal has seal adhesion failure allowing water and debris to accumulate on top of caps.							
311	Movable Bearing	EA	24	24	0	0	0
313	Fixed Bearing	EA	8	8	0	0	0
331	Reinforced Concrete Bridge Railing	LF	836	836	0	0	0



Channel at bent #10 right has a localized scour since last inspection due to high water event.



View of channel under structure.



Pier 2 has drift accumulation



Spalling with exposed reinforcing steel in span 9



Approach spans typical driving surface



Erosion behind left wing wall at Abutment 2



Main span under surface



Typical cracking in the columns



Bent 7 has exposed reinforcing steel on the under surface of cap



Adhesion failure



Inventory



Centerline of abutment 2 breastwall has spalling with exposed reinforcing steel with initial section loss.



Elevation



Bent 9 has spalling with exposed reinforcing steel



Bent 3 Column 1 has Spalling with exposed reinforcing steel



Span 10 has cracking with efflorescence



Span 1 patched areas



Debris accumulation on abutment 1



Haunches have exposed reinforcing steel



Approach span typical under surface



Main span typical driving surface



Beam ends have paint failure with active corrosion



Bent 2 Column 2 has Spalling with exposed reinforcing steel



Bent 9 column 2 have spalling with exposed reinforcing steel.



Abutment 2 right wingwall juncture has spalling that exposes the reinforcing steel with initial section loss.



Steel piles have Active corrosion with Section loss



Bent 5 column 1 have cracking with efflorescence



Abutment 1 has efflorescence build up



Span 7 has transverse cracking with efflorescence



Abutment 1 pourable joint Seal is missing allowing dirt and debris on top of bridge seat



Failed patched area in the approach spans



The reinforced concrete is Spalling and cracking at the base of the steel piles



Bent 5 has Spalling with exposed reinforcing steel



Bent 7 Cap has dirt and debris accumulation



Bearings have Active corrosion with flaking rust



Inventory looking south.



Downstream view



Upstream view



General view of deck



Main span typical driving surface

Maintenance Needs

Date Reported: 03/26/2018
Priority: B - Pressing; 6 month completion goal
Type of Work: None
Status: Repair Documented
Component:

Deficiency Description

The driving surface of the deck has an area with concrete deterioration that is located in the wheel path and The has loose concrete in the spall. B priority for safety.

Remarks

Maintenance forces have repaired this area since last inspection WNR 03/02/2020.



Span #8 Failed patched area in the approach span.



Span #8 Failed patched area in the approach span has been repaired since las inspection.

Date Reported: 03/26/2018
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Bents #2 and #3 have Large trees and drift accumulation causing localized scour.

Remarks



Minor drift accumulation at bent 2.



Pier 2 has drift accumulation



Bents #2 and #3 have Large trees and drift accumulation causing localized scour.

Date Reported: 03/23/2016
Priority: D- Routine
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Spall with rebar exposed at abutment #2 upper right corner at wing wall connection. Rebar exposed in deck soffit in spans #2,7,9

No apparent noteworthy changes since last inspection.

Remarks



Abutment 2 right wingwall juncture has spalling that exposes the reinforcing steel with initial section loss.



Spalling with exposed reinforcing steel in spans #2, 7, and 9.

Date Reported: 03/13/2014
Priority: D- Routine
Type of Work: None
Status: Assigned
Component:

Deficiency Description

Bents #5,7 steel columns #1 thru #4 at top of concrete encasement- cracking. also mild section loss to steel piling
no apparent noteworthy changes to steel piles since last inspection.

Remarks



The reinforced concrete is spalling and cracking at the base of the steel piles



Steel piles have active corrosion with section loss

Date Reported: 03/22/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Bents #1,3,6,9 concrete caps and columns have delaminations and spalls with rebar exposed.

R.C. Bents

Bents #1, 2, 3, 5, 6, 7, & 9 has concrete delaminations and spalling that exposes the reinforcing steel with measurable section loss. Bent 5 left cap spall has now propagated under bearing areas. (see photo 4).

R.C. Columns

Bent 9 (column 2), bent 2 (column 2), bent 3 (column 1), has concrete delaminations and spalling that is exposing the reinforcing steel with measurable section loss.

Remarks



Bents #1, 2, 3, 5, 6, 7, & 9 has concrete delaminations and spalling that exposes the reinforcing steel with measurable section loss.



Bents #1, 2, 3, 5, 6, 7, & 9 has concrete delaminations and spalling that exposes the reinforcing steel with measurable section loss.



Bent 9 (column 2), bent 2 (column 2), bent 3 (column 1), has concrete delaminations and spalling that is exposing the reinforcing steel with measurable section loss.



Bent 9 (column 2), bent 2 (column 2), bent 3 (column 1), has concrete delaminations and spalling that is exposing the reinforcing steel with measurable section loss.

Date Reported: 03/22/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Deck joint at abutment #1-
Joint filler missing allowing free flow of water.
Pourable and compression joint seals have heavy adhesion failure that is allowing water and debris to accumulate on to the caps at all of the intermediate bents and abutments.

Remarks



Adhesion failure



Abutment 1 pourable joint Seal is missing allowing dirt and debris on top of bridge seat



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Location: 1.90 MI S JCT OF SH 72

Team Lead: Nathan Rowland **Inspection Date:** March 02, 2020

Inspection Comments

3/02/2020 WNR & DBM: Routine inspection conducted this date. See element notes for documentation.

Confirm elements next inspection* WNR 03/02/2020

- Route log and plan log is reversed, used Plan log for Pontis description.
 - Chip-N-seal overlay placed on structure in fall 2013. See channel soundings, inventory & deficiency pictures dated 3/12/2014.
 - Heavy bridge maintenance made repairs to substructure & superstructure, see digital photos.
 - Raised condition rating Item # 59 to 6. See deficiency sketches, channel soundings & inventory photos dated 3/24/2010.
 - Changed logmile from 8.700 to 8.67 per straight line from Tech Services dated 7/2008.
 - DMH 8/4/2011 Structure is in fair condition, several partial depth failures exist in deck, see bridge pictures dated 3/22/2012.
-