



Latitude:35.95777, Longitude:-93.69586

Route:23 Section:08 Log:17.64

Arnold Road ID:44x23x8xA, Arnold Log mile:17.548

District 09, Madison County

Owner: 1-State Highway Agency



Bridge #06408(Routine)

SH 23 Madison Co. over SEALS CREEK Madison Co

Location: 17.64 MI N OF FRANKLIN LN

Team Lead: Nathan Rowland Inspection Date: August 16, 2021

17.64 MI N OF FRANKLIN LN



35.95777, -93.69586

Inspection Direction : S to N



Bridge #06408(Routine)
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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	06408
(5) Inventory Route	23
(2) Highway Agency District	09
(3) County Code	87-Madison County, Arkansas
(4) Place Code	0
(6) Features Intersected	SEALS CREEK Madison Co
(7) Facility Carried	SH 23 Madison Co.
(9) Location	17.64 MI N OF FRANKLIN LN
(11) Mile Point	17.64 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000023080
(16) Latitude	35.957771
(17) Longitude	-93.695862
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3-Steel
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	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	1-Epoxy Coated Reinforcing
AGE AND SERVICE	
(27) Year Built	1993
(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	1100
(30) Year of ADT	2018
(109) Truck ADT	13 %
(19) Bypass, Detour Length	18 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	38 ft
(49) Structure Length	116 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	36.1 ft
(52) Deck Width Out to Out	38.8 ft
(32) Approach Roadway Width (W/Shoulders)	24 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	37.1 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	7
(59) Superstructure	7
(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	52
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	3
Rating	31
(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	6
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	9
(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	1152
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			08/2021
(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.			

Team Lead: Nathan Rowland, **Inspection Date:** August 16, 2021

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	4423	4275	148	0	0
1130	Cracking (RC and Other)	SF	148	0	148	0	0
(12)							
08/16/2021 WNR & DBM:							
-the deck driving surface has minor aggregate pop outs in the driving lanes.							
-The driving surface of the deck has short duration transverse cracks in the gutters that correspond with the sawn joints in the parapets.							
-The deck has areas of longitudinal cracking in random locations and diagonal cracking in the gutters adjacent to the expansion joint assemblies.							
107	Steel Open Girder/Beam	LF	570	570	0	0	0
515	Steel Protective Coating	SF	4650	4647	3	0	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	SF	3	0	3	0	0
(107)							
08/16/2021 WNR & DBM:							
-The end of beam #1 over abutment #1 has a small area of discoloration / abnormal weathering.							
205	Reinforced Concrete Column	EA	4	4	0	0	0
(205)							
08/16/2021 WNR & DBM:							
-No noteworthy deficiencies at this inspection.							
215	Reinforced Concrete Abutment	LF	116	98	18	0	0
1130	Cracking (RC and Other)	LF	18	0	18	0	0
(215)							
08/16/2021 WNR & DBM:							
-The top of abutment back walls have transverse cracks at random spacing visible from the driving surface.							
-The abutment breastwalls have short duration vertical cracks at the step downs in locations.							
-The abutments have staining from compression joint seal leakage.							
-The North embankment has minor rip-rap displacement due to recent high water event.							
234	Reinforced Concrete Pier Cap	LF	72	65	7	0	0
1080	Delamination/Spall/Patched Area	LF	3	0	3	0	0
1130	Cracking (RC and Other)	LF	4	0	4	0	0
(234)							
08/16/2021 WNR & DBM:							
-The bent caps have staining from compression joint seals leaking.							
-Bent #1 cap has a hairline vertical crack with short duration horizontal cracks in bay #3 visible on both sides of cap.							
-Bent #1 cap right has a vertical crack with minor efflorescence accumulation. Vertical crack propagates into bearing #1 span #1.							
-The span #2 side of bent #1 cap has a short duration vertical crack under beam #5 and at the step down in bay #1.							
-The left side of bent #2 cap has a delaminated area on the back face that is approximately 3' long and propagates diagonally under bearing #1.							

Location: 17.64 MI N OF FRANKLIN LN

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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
302	Compression Joint Seal	LF	155	0	22	133	0
2310	Leakage	LF	128	0	0	128	0
2330	Seal Damage	LF	5	0	0	5	0
2340	Seal Cracking	LF	22	0	22	0	0
(302)							
08/16/2021 WNR & DBM:							
-The compression joint seals have areas of cracking and adhesion failure due to pack rust in the assemblies that appear to be causing adhesion failure and leakage.							
-The compression joint seal at bent #2 is sticking up above the assembly in the left lane and has damage due to traffic impact.							
311	Movable Bearing	EA	15	9	6	0	0
1000	Corrosion	EA	6	0	6	0	0
515	Steel Protective Coating	SF	15	9	0	6	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	SF	6	0	0	6	0
(311)							
08/16/2021 WNR & DBM:							
-The movable bearings have abnormal weathering with flaking rust in locations due to leaking expansion joint seals.							
313	Fixed Bearing	EA	15	8	6	1	0
1000	Corrosion	EA	7	0	6	1	0
515	Steel Protective Coating	SF	15	10	0	4	1
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	SF	5	0	0	4	1
(313)							
08/16/2021 WNR & DBM:							
- Abutment #1, Span #1, bearings #1 and #5 have abnormal weathering with flaking rust.							
-The fixed and moveable bearings have abnormal weathering with flaking rust in locations over the intermediate bents due to expansion joint seal leakage.							
-The fixed bearings over abutment #2 have abnormal weathering with flaking rust due to leaking expansion joints.							
331	Reinforced Concrete Bridge Railing	LF	228	156	72	0	0
1130	Cracking (RC and Other)	LF	72	0	72	0	0
(331)							
08/16/2021 WNR & DBM:							
-The concrete bridge railing has vertical cracking that corresponds with the sawn joints and at other random locations. The bases of parapets have areas of superficial map-cracking in spans #2 and #3.							



Inventory looking north



View of span #2 superstructure



View of bent #1 behind side.



View of joint at bent #2.



Upstream view



Downstream view



View joint at abutment #1.



General view of deck



Bent #1 span #1 Typical minor typical minor flaking rust to bearings.



Abutment #1 expansion joint.



Abutment #2 joint material.



Bent #2 expansion joint material is cracking and tearing largely due to vehicle impactation.



Bent #1 expansion joint.



Inventory looking North



Bent #1 cap right has a vertical crack with minor efflorescence accumulation.



Elevation looking West.



General view of deck



Substructure - The left side of bent #2 cap has a delaminated area on the back face that is approximately 3' long and propagates diagonally under bearing #1.



Embankment adjacent to abutment #2 has rip rap that has been displaced.



Bent #2 expansion joint is backing out.



Abutment #1 road irons pack rust causing adhesion failure



General view of abutment #1.

Maintenance Needs

Date Reported: 08/08/2011

Priority: D- Routine

Type of Work: None

Status: Assigned

Inspection Direction S to N

Component:

Deficiency Description

North abutment - The North embankment has minor rip-rap displacement due to high water events.

Remarks



Embankment adjacent to abutment #2 has rip rap that has been displaced.



North embankment-Rip-rap displacement.

Date Reported: 08/07/2017

Priority: D- Routine

Type of Work: None

Status: Monitor

Inspection Direction S to N

Component:

Deficiency Description

Expansion joint seals - The compression joint seals are deteriorated with areas of cracking and adhesion failure. The assemblies have pack rust that appears to be contributing to the adhesion failure. The compression joint seal at bent #2 is sticking up above the assembly in the left lane and has damage due to traffic impact.

Remarks



Abutment #1 road irons pack rust causing adhesion failure



Bent #2 expansion joint material is cracking and tearing largely due to vehicle impact.



Pack rust in compression joint assembly.



Bent #2 expansion joint is backing out.



Abutment #1-Deteriorated compression joint seal.

Date Reported: 08/07/2017

Priority: D- Routine

Type of Work: None

Status: Monitor

Inspection Direction S to N

Component:

Deficiency Description

Substructure - The left side of bent #2 cap has a delaminated area on the back face that is approximately 3' long and propagates diagonally under bearing #1.

Remarks



Substructure - The left side of bent #2 cap has a delaminated area on the back face that is approximately 3' long and propagates diagonally under bearing #1.



Bent #2, Left side-Delaminated area under beam #1.



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Inspection Comments

8/16/2021 - WNR &DBM: Routine inspection conducted this date. See element notes for documentation.

Logged South to North.