



Bridge #06901(Routine)
State Highway 255 over Vache Grasse Creek
Location: 1.7 MI N OF 22&255 JCT

Team Lead: Jeff Jones **Inspection Date:** September 19, 2022



Latitude:35.33140, Longitude:-94.22688

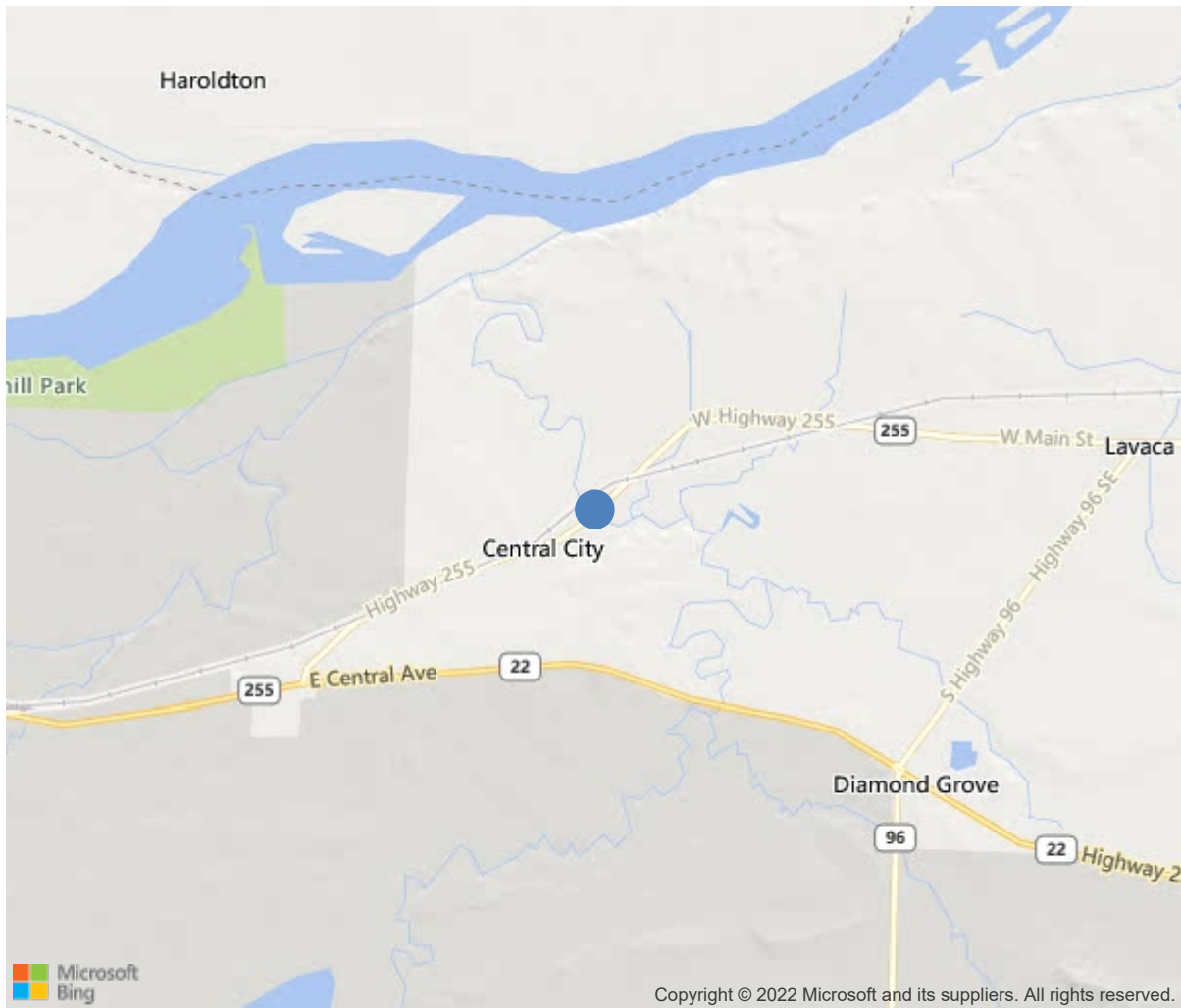
Route:255 Section:02 Log:2.86

Arnold Road ID:65x255x2xA, Arnold Log mile:2.867

District 04, Sebastian County

Owner: 1-State Highway Agency

1.7 MI N OF 22&255 JCT



35.33140, -94.22688

Inspection Direction : E to W



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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	06901
(5) Inventory Route	255
(2) Highway Agency District	04
(3) County Code	131-Sebastian County, Arkansas
(4) Place Code	0
(6) Features Intersected	Vache Grasse Creek
(7) Facility Carried	State Highway 255
(9) Location	1.7 MI N OF22&255 JCT
(11) Mile Point	2.86 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.3314
(17) Longitude	-94.22688
(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	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	8-Unknown
AGE AND SERVICE	
(27) Year Built	2003
(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	4100
(30) Year of ADT	2018
(109) Truck ADT	9 %
(19) Bypass, Detour Length	3 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	80 ft
(49) Structure Length	212 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	43.1 ft
(32) Approach Roadway Width (W/Shoulders)	40 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	40 ft
(53) Min Vert Clear Over Bridge Rdwy	99.9 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	7-Rural Major Collector
(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	4-Historical significance is not dete
CONDITION	
(58) Deck	7
(59) Superstructure	7
(60) Substructure	8
(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	8
(68) Deck Geometry	6
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(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	8-Bridge foundations determined to be
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$
(96) Total Project Cost	\$
(97) Year of Improvement Cost Estimate	
(114) Future ADT	5140
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			09/2022
(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: Jeff Jones, **Inspection Date:** September 19, 2022

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	9057	7709	1348	0	0
1120	Efflorescence/Rust Staining	SF	154	0	154	0	0
1130	Cracking (RC and Other)	SF	1194	0	1194	0	0
(12)							
-The transverse saw joints have deteriorated sealant in localized areas. -The driving surface of the deck has hairline longitudinal and transverse cracks. The undersurface of the deck overhangs have transverse cracks with light efflorescence that appear to correspond with the joints in the parapet walls. -The driving surface has light abrasion that appears to be from mechanical grinding. -The driving surface has areas of pop outs due to shale inclusions in the concrete from the construction process. -There is minor spalling and delaminated areas in the deck adjacent to the expansion joints. -No significant changes since last inspection.							
107	Steel Open Girder/Beam	LF	1050	1046	4	0	0
1000	Corrosion	LF	4	0	4	0	0
515	Steel Protective Coating	SF	9540	3534	6000	6	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	SF	6006	0	6000	6	0
(107)							
09/19/2022 - JCJ & TJL - The weathering steel now has a light reddish color on the bottom flange and web of beams where they were inundated during a high water event.							
-The protective coating on the A588 weathering steel has abnormal weathering over the abutments due to failed expansion joint seals allowing water to leak onto the superstructure. The ends of beams over abutment # 2 are the most notable areas with corrosion starting to initiate on the ends of girders. The weathering steel patina has dark granular flaking.							
205	Reinforced Concrete Column	EA	4	2	2	0	0
1190	Abrasion/Wear (PSC/RC)	EA	2	0	2	0	0
(205)							
-The base of Bent # 3 columns in the channel have light abrasion. -Substructure columns have no other apparent noteworthy deficiencies during this inspection.							
215	Reinforced Concrete Abutment	LF	124	74	50	0	0
1080	Delamination/Spall/Patched Area	LF	9	0	9	0	0
1120	Efflorescence/Rust Staining	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	39	0	39	0	0
(215)							
-The top of abutment backwalls have several transverse cracks visible from the driving surface. Some of the cracks propagate down the vertical face of backwalls and are visible from the undersurface. -The top of abutment backwalls have a few shallow delaminated areas adjacent to the expansion joint assemblies. -Stains on the abutments indicate that the compression joint seals leak. -The right side of Abutment # 1 has minor earth settlement that has created a void approximately 2' long measured along the length of abutment that penetrates the full width of the bridge seat.							

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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
234 (234)	Reinforced Concrete Pier Cap	LF	80	80	0	0	0
-The intermediate bent caps have no apparent noteworthy deficiencies during this inspection.							
302	Compression Joint Seal	LF	86	0	56	30	0
2310	Leakage	LF	65	0	35	30	0
2360	Adjacent Deck or Header	LF	21	0	21	0	0
(302)	-Stains on the abutments indicate that the deck joint seals leak. -The compression joint assemblies have pack rust that is contributing to the adhesion failure. -The seal at Abutment # 2 has adhesion failure in areas and has dropped out of its intended position approximately 1" during this inspection. -The assemblies have dirt and debris in the gutters. -There is minor spalling and delaminated areas in the deck adjacent to the expansion joints.						
310	Elastomeric Bearing	EA	20	13	4	3	0
1000	Corrosion	EA	7	0	4	3	0
515	Steel Protective Coating	SF	60	36	6	18	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	SF	24	0	6	18	0
(310)	-The weathering steel patina on the external loading plates have abnormal weathering with dark granular flakes. -Corrosion is beginning to initiate in some locations.						
331	Reinforced Concrete Bridge Railing	LF	424	307	117	0	0
1130	Cracking (RC and Other)	LF	117	0	117	0	0
(331)	-The parapet walls have vertical hairline cracks at variable spacing.						



Elevation.



Approach roadway facing East.



Approach roadway facing West.



Deck soffit. Typical.



Deck Soffit. Span # 1. Typical.



Deck. Typical.



Bent # 3 footings are well keyed into solid shale.



Deck soffit. Typical. Right overhang of Span # 1.



Minor delaminated areas and spalls in the deck adjacent to the expansion joint at the West abutment.



Transverse cracks in the right gutter.



Deck. Span # 3. Typical.



Deteriorated transverse saw joint sealant.



Deck. Span # 2. Typical.



Deck. Pop outs. Typical.



Abnormal weathering (Reddish color) of the protective steel coating.



Abnormal weathering (Reddish color) of the protective steel coating.



Span # 1 superstructure. Typical.



Span # 2 superstructure. Typical.



Span # 3 superstructure. Typical.



Steel protective coating. Superstructure. Typical.



Right column of Bent # 2. Typical.



The base of Bent # 3 columns in the channel have light abrasion.



Bent # 1. Typical.



Minor earth settlement under the right side of Bent # 1.



Bent # 4. Typical. West abutment.



Bent # 4. West abutment. Typical.



Bent # 2 back face. Typical.



Bent # 3 back face. Typical.



Bent # 2 ahead face. Typical.



Bent # 3 ahead face. Typical.



Expansion joint seal at the West abutment.



East abutment expansion joint seal.



Bent # 1 bearings. Typical.



Beam # 4. Bent # 4. Minor corrosion with flaking rust.



Parapet wall. Typical.

Maintenance Needs

Date Reported: 09/11/2018
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction E to W
Component: Channel

Deficiency Description

East embankment -

The embankment on the right side of abutment # 1 has minor earth settlement that has created a void approximately 2' long that penetrates the full width of the bridge seat.

Remarks



The right side of abutment #1 has minor earth settlement that has created a void approximately 2' long that penetrates the full width of the bridge seat.



Minor earth settlement under the Right side of Bent # 1.

Date Reported: 09/11/2018
Priority: G - General/ Preventive maintenance
Type of Work: Clean
Status: Repair Documented
Inspection Direction E to W
Component: Channel

Deficiency Description

Channel -
The channel has vegetation growing over the parapet on the North side of structure.

Remarks

09/19/2022 - JCJ & TJL - Maintenance forces have cut the brush that extended over the North bridge railing since the last inspection.



The channel has vegetation growing over the parapet on the North side of structure.



09/19/2022 - JCJ & TJL - Maintenance forces have cut the brush that extended over the North bridge railing since the last inspection.

Date Reported: 10/01/2014
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction E to W
Component: 12 - Reinforced Concrete Deck

Deficiency Description

Deck -
The driving surface of the deck has sealable transverse and longitudinal cracking in all spans.

Remarks



Span #1-Longitudinal and transverse deck cracking.



Deck. Sealable Longitudinal crack.

Date Reported: 10/01/2014
Priority: D- Routine
Type of Work: Replace
Status: Monitor
Inspection Direction E to W
Component: 12 - Reinforced Concrete Deck

Deficiency Description

Deck -
The saw joint sealant is deteriorating and missing in areas.

Remarks



Span #2-Missing sealant in sawn deck joint.



Deteriorated transverse saw joint sealant.

Date Reported: 10/01/2014
Priority: D- Routine
Type of Work: Replace
Status: Monitor
Inspection Direction E to W
Component: 12 - Reinforced Concrete Deck

Deficiency Description

Compression joint seals -

The compression joint seals have adhesion failure and leak water on the substructure. The joint assemblies have pack rust that is contributing to the adhesion failure. The compression joint seal at abutment # 2 has dropped out of its intended position approximately 1".

Remarks



Abutment #1 compression joint seal-Adhesion failure.



Abutment #2-Pack rust in expansion joint assembly.



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West abutment. Settlement of the expansion joint seal.

Date Reported: 09/14/2016
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction E to W
Component: Approach

Deficiency Description

Approach railing -

The West approach railing has minor collision damage that has caused out of plane bending to the railing. The Southwest approach railing is missing one of the timber spacing blocks.

The Northeast approach guardrail is missing one timber spacer block and has a loose bolted connection.

Remarks



Abutment # 2 Rt approach guardrail damage.



Abutment # 2 Lt approach guardrail damage.



The Northeast approach guardrail is missing one timber spacer block and has a loose bolted connection.

Loose bolted connection pointed out.
Missing spacer block in the background.



Minor collision damage to the Northwest approach guardrail.



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Southwest approach guardrail is missing a timber spacer block.



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Date Reported: 09/19/2022
Priority: D- Routine
Type of Work: Repair
Status: Open
Inspection Direction: E to W
Component: Channel

Deficiency Description

There is minor displacement of the dumped riprap with exposed filter fabric adjacent to the East abutment.

Remarks



There is minor displacement of the dumped riprap with exposed filter fabric adjacent to the East abutment.



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Date Reported: 09/19/2022
Priority: C - Important
Type of Work: Repair
Status: Open
Inspection Direction: E to W
Component: Approach

Deficiency Description

There is settlement in the asphalt at both bridge ends.

Remarks



Approach roadway at the West bridge end. Asphalt settlement.



Approach roadway at the East abutment. Asphalt settlement.



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Inspection Comments

09/12/2018 - RSM - Element quantities plan verified this date.

09/19/2022 - JCJ & TJL - Routine Inspection conducted this date.

Substructure Notes

09/17/2020 - EJW, TJL & JPW - Type 2 Underwater Inspection - Visual observation during low water conditions indicate that the footings have cover with no apparent scour problems at this inspection. Footings are well keyed into a solid shale channel that is exposed in the channel.