

# Bridge Inspection Report

**A0460**  
**SH 22-Logan Co.**  
**over**  
**Shoal Creek**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

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Inspector:

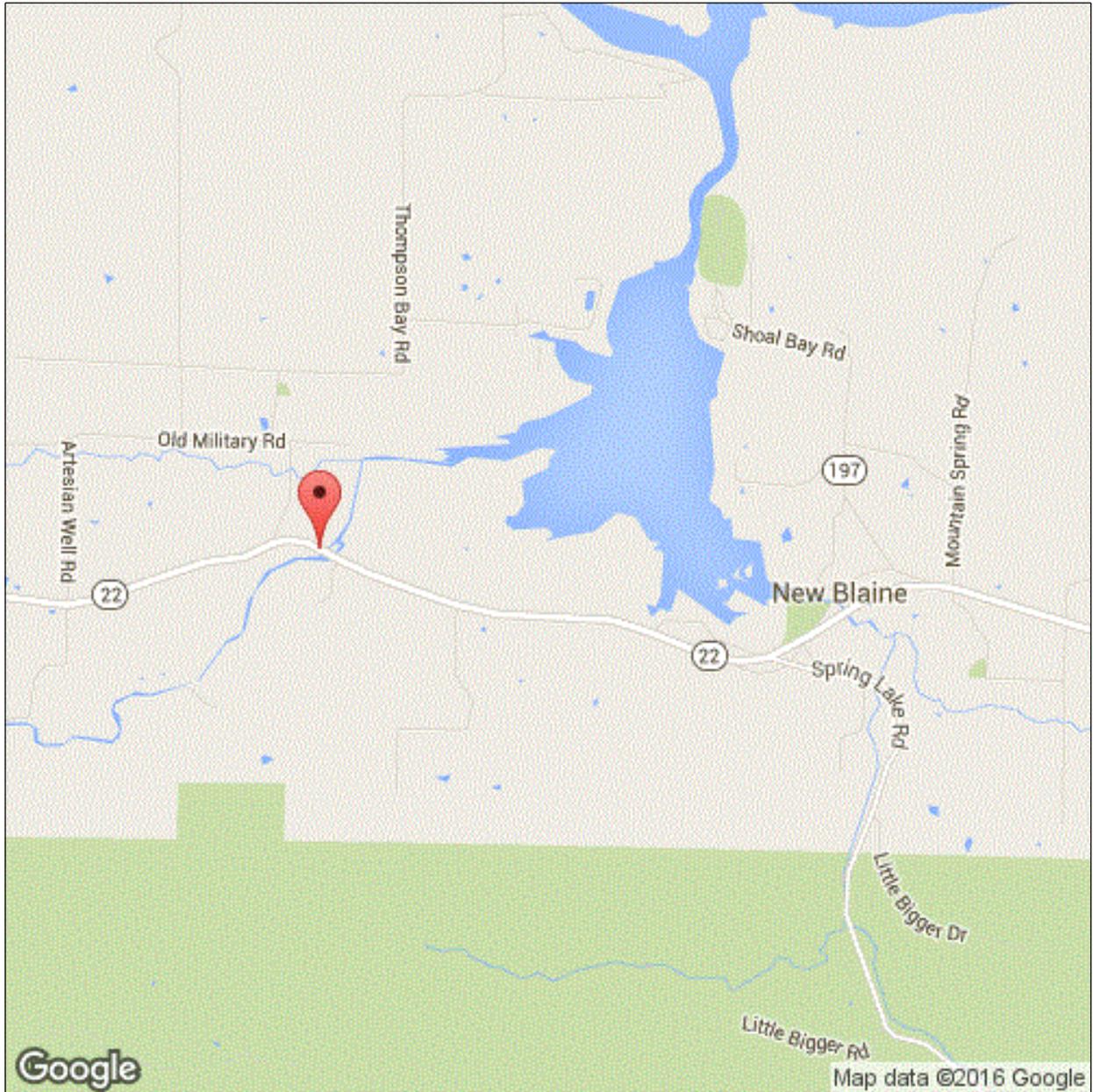
Structure Number: A0460

Inspection Date:

Facility Carried: SH 22-Logan Co.

### Bridge Inspection Report

### Location Map



Latitude: 35.29223

Longitude: -93.46092

Inspector:

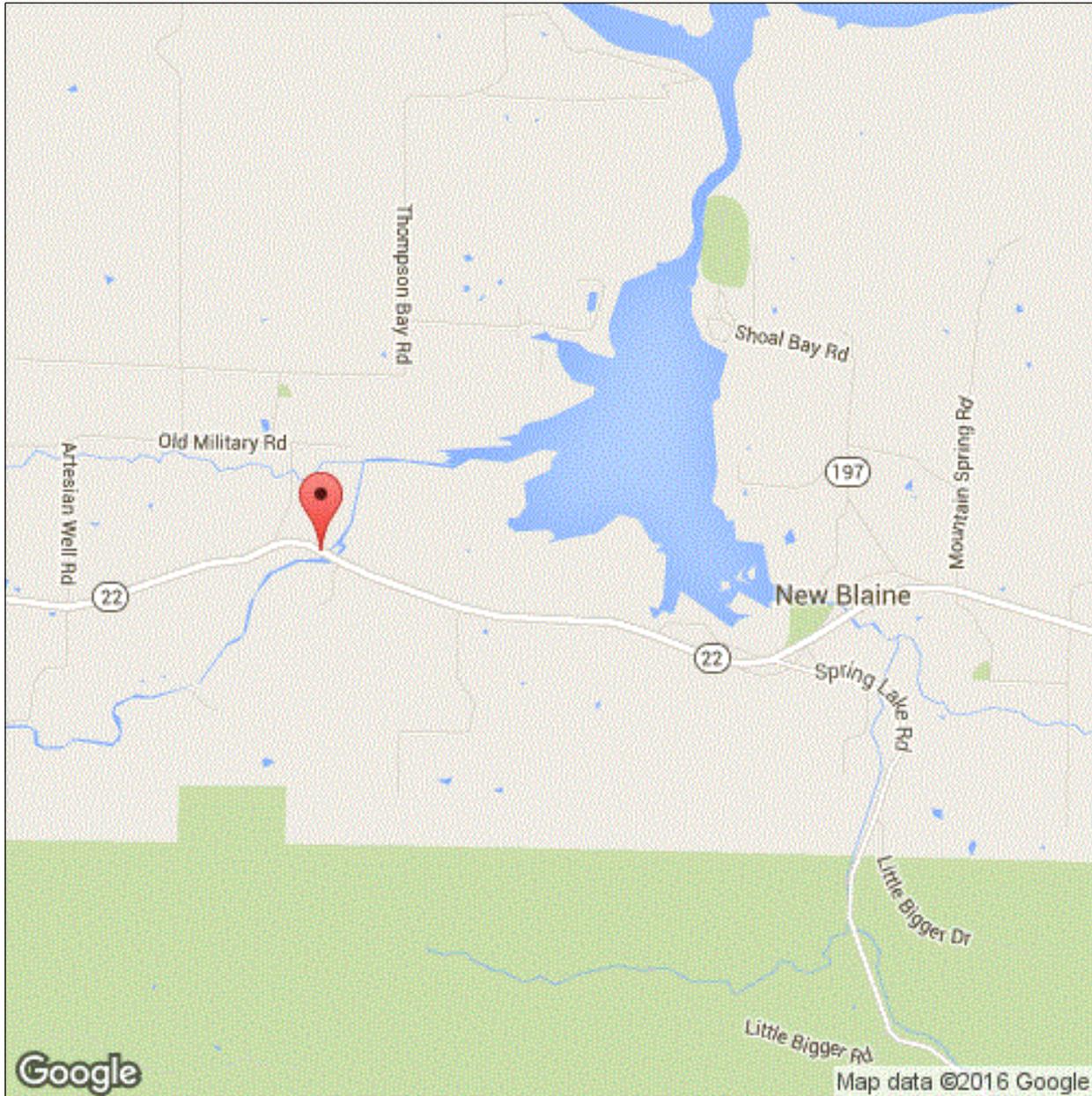
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### Bridge Inspection Report

### Location Map



Latitude: 35.29223

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Inspector:

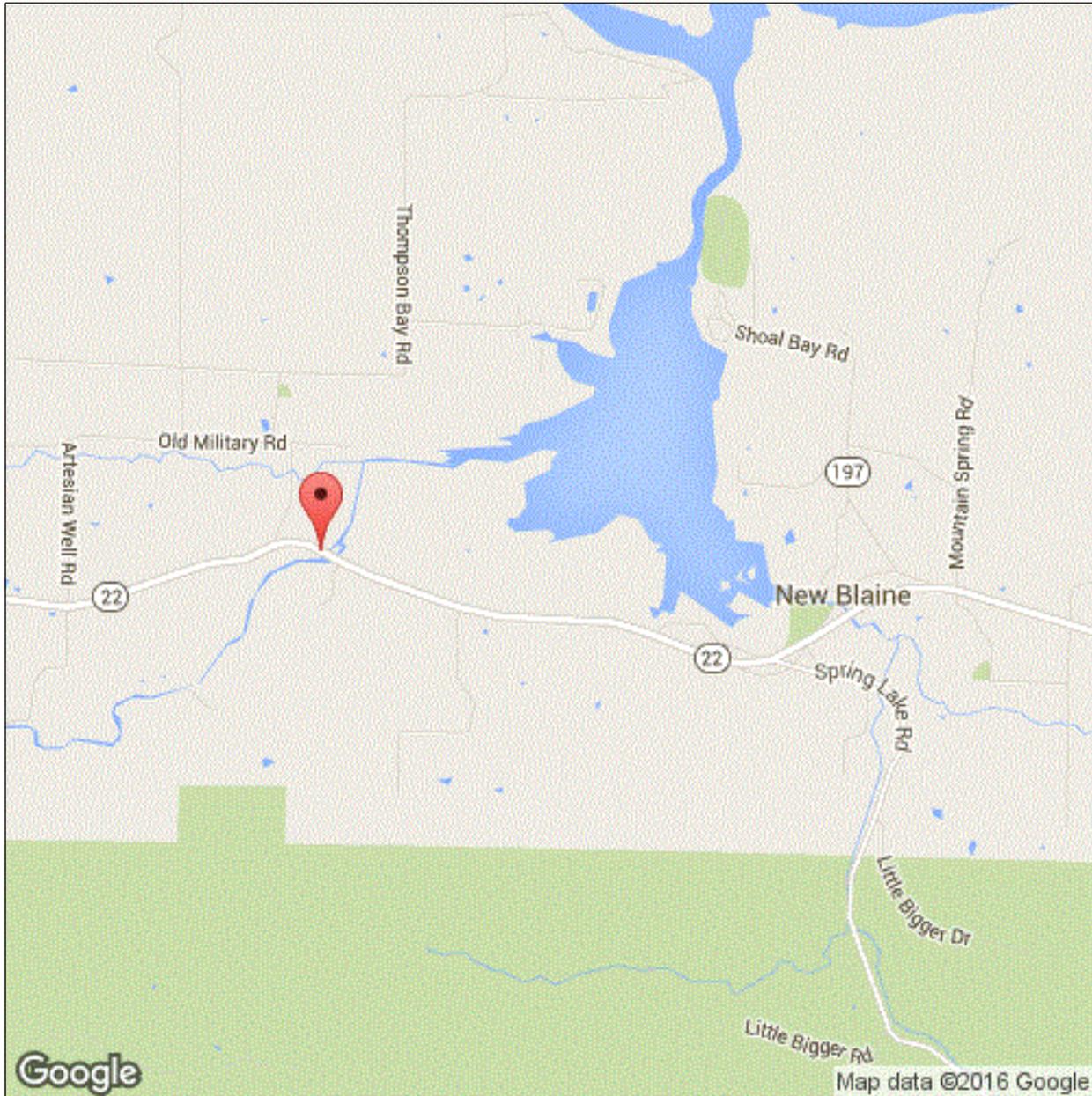
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### Bridge Inspection Report

### Location Map



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**Bridge Inspection Report**

**Executive Summary**

06/06/2018 - TJL - Elements were plan verified on this date.

06/06/2018 - JCJ & TJL - Type 2 Underwater Inspection - Visual observation during low and clear water conditions indicate that all footings hair cover with no apparent scour problems at this inspection.

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Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	06/06/2018
(8) STRUCTURE NUMBER	A0460	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 3 1 22 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	04 (3) COUNTY CODE 083	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	00000	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	Shoal Creek	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	SH 22-Logan Co.	CONDITION	
(9) LOCATION	3.83 MI E JCT 109 MIDWAY	(58) DECK	7
(11) MILEPOINT 3.829	(12) BASE HIGHWAY NETWORK 1	(59) SUPERSTRUCTURE	6 (60) SUBSTRUCTURE 5
(13A) LRS INVENTORY ROUTE	0000022030 (13B) SUBROUTE NUMBER 00	(61) CHANNEL & CHANNEL PROTECTION	7 (62) CULVERT N
(16) LATITUDE 35.29223	(17) LONGITUDE -93.46092	LOAD RATING AND POSTING	
(98A) BORDER BRIDGE CODE		(31) DESIGN LOAD	4
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT	(63) METHOD USED TO DETERMINE OPERATING RATING	1
STRUCTURE TYPE AND MATERIAL		(64) OPERATING RATING	57.0
(43) STRUCTURE TYPE, MAIN		(65) METHOD USED TO DETERMINE INVENTORY RATING	1
A) KIND OF MATERIAL/DESIGN:	1 - Concrete	(66) INVENTORY RATING	34.0
B) TYPE OF DESIGN/CONSTR:	04 - Tee Beam	(70) BRIDGE POSTING	5
(44) STRUCTURE TYPE, APPROACH SPANS		(41) STRUCTURE OPEN/POSTED/CLOSED	A
A) KIND OF MATERIAL/DESIGN:	0 - Other	APPRAISAL	
B) TYPE OF DESIGN/CONSTR:	00 - Other	(67) STRUCTURAL EVALUATION	5
(45) NUMBER OF SPANS IN MAIN	10 (46) NUMBER OF APPROACH	(68) DECK GEOMETRY	4
(107) DECK STRUCTURE TYPE	1 (108A) WEARING SURFACE	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(108B) DECK MEMBRANE	0 (108C) DECK PROTECTION	(71) WATERWAY ADEQUACY	8
AGE OF SERVICE		(72) APPROACH ROADWAY ALIGNMENT	8
(27) YEAR BUILT	1928 (106) YEAR RECONSTRUCTED	(36) TRAFFIC SAFETY FEATURE	
(42) TYPE OF SERVICE	ON 1 UNDER 5	36A) BRIDGE RAILINGS:	1
(28) LANES	ON 02 UNDER 00	36B) TRANSITIONS:	1
(29) AVERAGE DAILY TRAFFIC	2300 (19) BYPASS DETOUR LENGTH	36C) APPROACH GUARDRAIL:	1
(30) YEAR OF AVERAGE DAILY TRAFFIC	2014	36D) APPROACH GUARDRAIL ENDS:	1
(109) AVERAGE DAILY TRUCK TRAFFIC	1	(113) SCOUR CRITICAL BRIDGES	8
GEOMETRIC DATA		SUFFICIENCY RATING	66.3 STATUS 0
(48) LENGTH OF MAX SPAN (ft.)	50 (49) STRUCTURE LENGTH (ft.)	388	
(50) CURB/SIDEWALK WIDTHS (ft.)	LEFT 1.5 RIGHT 1.5	CLASSIFICATION	
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	27.9	(112) NBIS BRIDGE LENGTH	Y
(52) DECK WIDTH, OUT-TO-OUT (ft.)	32	(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0
(32) APPROACH ROADWAY WIDTH (ft.)	40.0	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	06
(33) BRIDGE MEDIAN	0 (34) SKEW (DEG.)	(100) STRAHNET HIGHWAY DESIGNATION	0
(35) STRUCTURE FLARED	0 (10) INV RTE, MIN VERT CLEAR (ft.)	(101) PARALLEL STRUCTURE DESIGNATION	N
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	30.8	(102) DIRECTION OF TRAFFIC	2
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	(103) TEMP STRUCTURE	
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	(105) FEDERAL LANDS HIGHWAYS	0
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	(110) DESIGNATED NATIONAL NETWORK	0
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0	(20) TOLL	3
PROPOSED IMPROVEMENTS		(21) MAINTENANCE RESPONSIBILITY	01
(75A) TYPE OF WORK PROPOSED	35 (75B) WORK DONE BY	(37) HISTORICAL	5
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)	388.0	NAVIGATION DATA	
(94) BRIDGE IMPROVEMENT COST (\$)	0	(38) NAVIGATION CONTROL	0
(95) ROADWAY IMPROVEMENT COST (\$)	0	(111) PIER OR ABUTMENT PROTECTION	1
(96) TOTAL PROJECT COST	556	(39) NAV VERT CLEARANCE (ft.)	0
(97) YEAR OF IMPROVEMENT COST ESTIMATE	2000	(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0
(114) FUTURE ADT	3356 (115) YEAR OF FUTURE ADT	(40) NAV HORIZONTAL CLEARANCE (ft.)	0
	2028		

Inspector:

Structure Number: A0460

Inspection Date:

Facility Carried: SH 22-Logan Co.

Bridge Inspection Report

Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>16 - Reinforced Concrete Top Flange</b>	1- Ben.	12287	sq. ft.	12185	102	0	0
	06/06/2018 - JCJ & TJL - -Asphalt driving surface has map cracking with the asphalt breaking apart over the deck joints.  Deck Soffit - -Minor hairline transverse and longitudinal cracks with light efflorescence at variable spacing visible from the undersurface of the deck. -A few isolated spalls with exposed reinforcing steel adjacent to the deck drains. -Span # 7, Bay # 3 near Bent # 8 has a 4" spall with exposed reinforcing steel -There are several patched areas adjacent to the intermediate bents.						
1080 - Delamination/Spall/Patched Area		44			44		
1090 - Exposed Rebar		1			1		
1120 - Efflorescence/Rust Staining		46			46		
1130 - Cracking (RC and Other)		11			11		
510 - Wearing Surfaces		12287	sq. ft.	11266	0	1021	0
3210 - Delamination/Spall/Patched Area/Pothole (Wearing Surfaces)		221				221	
3220 - Crack (Wearing Surface)		800				800	
<b>110 - Reinforced Concrete Open Girder/Beam</b>	1- Ben.	1940	ft.	1864	72	3	1
	06/06/2018 - JCJ & TJL - Concrete deck girders - -Vertical hairline flexure cracks that range from 12" to 36" centers near mid-span of some girders. -There are areas of cracking and spalling in the (bearing area) bases of the girders where they make contact with the substructure in the expansion side of the spans. -Girder # 5, Span # 8 at Bent # 8 has concrete spalling in the end of the girder over the bearing area.						
1080 - Delamination/Spall/Patched Area		4			1	2	1
1090 - Exposed Rebar		1			1		
1120 - Efflorescence/Rust Staining		16			16		
1130 - Cracking (RC and Other)		55			54	1	

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Element Inspection

<b>205 - Reinforced Concrete Column</b>	1- Ben.	37	each	16	20	1	0
<p>06/06/2018 - JCJ &amp; TJL -</p> <p>Abutments - Bents # 1 &amp; 11 - Earth settlement under the abutment caps expose the concrete columns. Bent # 11 - Left Column, under Girder # 2 has a 13" spall with exposed reinforcing steel. Exposed reinforcing steel has active corrosion with approximately 1/8" section loss.</p> <p>Intermediate Bents - -There are a few isolated shallow softball size spalls with no exposed reinforcing steel in the columns from apparent maintenance activities. - Column # 1 of Bent # 10 has soft deteriorated concrete with 8" of concrete section loss at the ground elevation. -Some columns adjacent to the channel have light / medium abrasion at the base of the columns.</p>							
1080 - Delamination/Spall/Patched Area		6			5	1	
1130 - Cracking (RC and Other)		2			2		
1190 - Abrasion/Wear (PSC/RC)		13			13		
<b>210 - Reinforced Concrete Pier Wall</b>	1- Ben.	108	ft.	71	37	0	0
<p>06/06/2018 - JCJ &amp; TJL -</p> <p>This element is used to document deficiencies in the Web walls in accordance with the current Arkansas Bridge Inspection manual guidelines.</p> <p>-Web Walls adjacent to the channel have light abrasion at the base of the walls. -There is a 4" spall with exposed reinforcing steel in the web wall of Bent # 9 between Columns # 4 &amp; 5.</p>							
1090 - Exposed Rebar		1			1		
1190 - Abrasion/Wear (PSC/RC)		36			36		
<b>225 - Steel Pile</b>	1- Ben.	12	each	0	6	5	1
<p>06/06/2018 - JCJ &amp; TJL -</p> <p>Abutments - -Abutments have earth settlement under the widened portions that expose the steel pilings. -Two pilings at each abutment have active corrosion with 1/4" slabs of rust. -The Left piling of Bent # 11 has knife edge section loss with the exposed flange reduced to 11 1/2".</p> <p>Intermediate Bents - -The top of the steel piling used as columns to support the widened portions of some bents have active corrosion and layers of rust at the cap juncture with approximately 1/8" section loss. -The paint system is beginning to fail in areas with a superficial rust coating in areas.</p>							
1000 - Corrosion		12			6	5	1
515 - Steel Protective Coating		720	sq. ft.	40	250	250	180

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Element Inspection

<b>234 - Reinforced Concrete Pier Cap</b>	1- Ben.	313	ft.	249	29	35	0
<p>06/06/2018 - JCJ &amp; TJL -                      The abutments on this structure do not have back walls and are considered pier caps in accordance with the current Arkansas bridge inspection manual guidelines.                      Bent # 1 has a couple of vertical hairline cracks and 1 spall with exposed number 9 wire in the haunch under Girders # 2 &amp; 4.                      Bent # 11 has no apparent noteworthy deficiencies in the cap during this inspection.</p> <p>Intermediate bent caps -                      -Areas of shallow spalling are visible in the bearing area of numerous caps.                      -Vertical cracking in the construction joints here the bents were widened are typical.                      -There is cracking and delaminated areas visible from the undersurface of the exterior edges of the caps adjacent to the steel piling where the bents have been widened in the past.                      -Bent # 2 has a 3' of spall with exposed reinforcing steel in the Left end of the cap.                      -The Span # 2 side of Bent # 3 has shallow spalls with no exposed reinforcing steel in the bearing area of Girders # 3 &amp; 4.                      -Repairs at the Span # 4 side of Bent # 5 in the bearing area of Girder # 2 is delaminated at this inspection.                      -Repairs at Bent # 6 with exposed reinforcing steel and delaminated areas in the haunches in the bearing area of Girders # 2 and # 3 are still holding at this inspection.                      -The Right side of Bent # 6 has spalling and delaminated areas adjacent to the Right construction joint where the bent was widened.                      -The Left end of Bent # 6 has two 6" spalls with exposed reinforcing steel.                      -The Span # 6 side of Bent # 7 has cracking and delaminated areas in the haunches under Girder # 2, 3, and 4.                      -Bent # 9 has a 3' delaminated area in the bearing area of Girders # 2 &amp; 4.</p>							
1080 - Delamination/Spall/Patched Area		22			1	21	
1090 - Exposed Rebar		9			3	6	
1120 - Efflorescence/Rust Staining		19			14	5	
1130 - Cracking (RC and Other)		14			11	3	
<b>301 - Pourable Joint Seal</b>	1- Ben.	140	ft.	0	140	0	0
<p>06/06/2018 - JCJ &amp; TJL -                      -The expansion joint seals are covered with asphalt and not visible at this inspection.                      -The asphalt is breaking apart over the joints with numerous asphalt patches.                      -The joint is partially visible over Bent # 3 where the asphalt is missing.</p>							
2310 - Leakage		140			140		
<b>305 - Assembly Joint without Seal</b>	1- Ben.	112	ft.	112			
<p>06/06/2018 - JCJ &amp; TJL - Sliding plates over Bents # 4, 6, 8, &amp; 9. Sliding plates have a superficial rust coating with no apparent noteworthy problems at this inspection.</p>							

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**Bridge Inspection Report**

**Element Inspection**

<b>330 - Metal Bridge Railing</b>	1- Ben.	776	ft.	776		
06/06/2018 - JCJ & TJL - -Minor scrape marks from apparent traffic impacts.						

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**Bridge Inspection Report**

**Pictures**

PHOTO 1

Description

PHOTO 2

Description

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**Bridge Inspection Report**

**Sketches**

Inspector:

Structure Number: A0460

Inspection Date:

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**Bridge Inspection Report**

**Maintenance Needs**

Date Reported: 05/26/2016

Priority: C - Important

Work Code:

**Deficiency Description:**

Substructure. Steel columns at the intermediate bents.  
Steel columns have a failing paint system with active corrosion, flaking rust, and section loss at the cap juncture.

**Work Description:**

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Left column of Bent # 4.

Stage: Monitor



PHOTO 2 Description Left piling. Bent # 5.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/10/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Deck.  
Asphalt is breaking apart over the expansion joints.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned

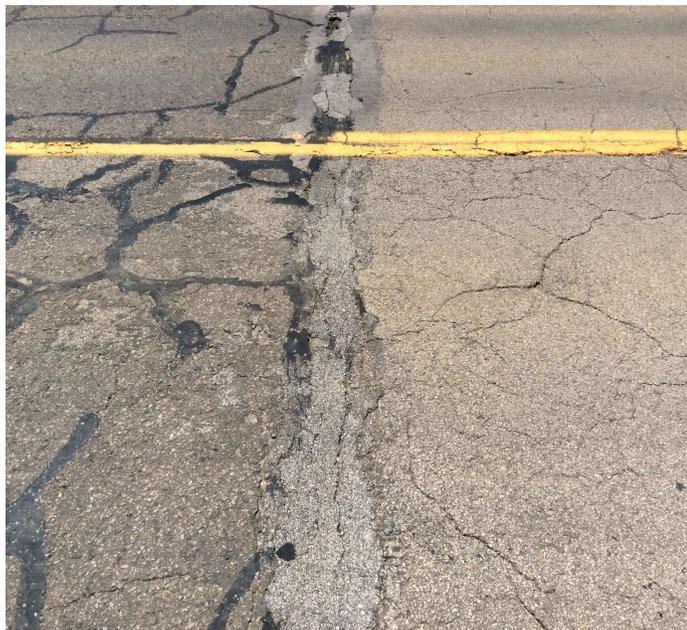


PHOTO 1 Description Expansion joint over Bent # 11. East abutment.

Stage: Assigned

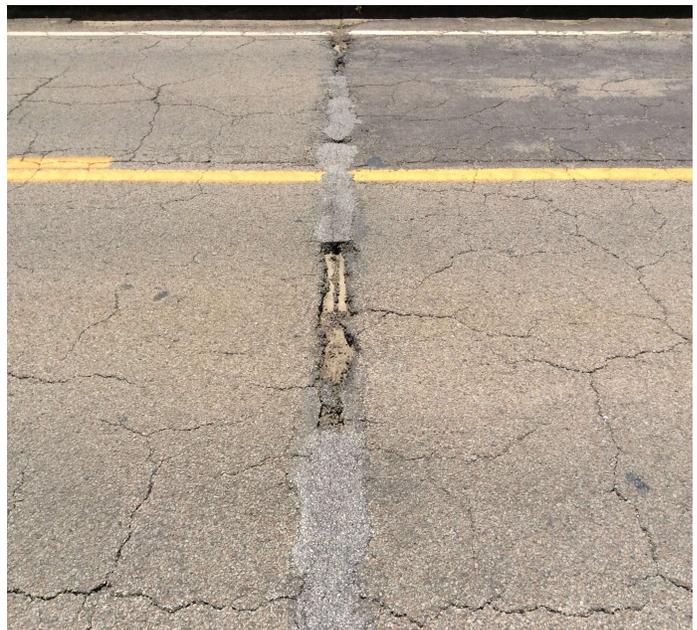


PHOTO 2 Description Expansion joint over Bent # 3.

Inspector:

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**Bridge Inspection Report**

**Maintenance Needs**

**Stage: Assigned**



PHOTO 3 Description Expansion joint over Bent # 7.

**Stage: Assigned**



PHOTO 4 Description Expansion joint over Bent # 1.

Inspector:

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Inspection Date:

Facility Carried: SH 22-Logan Co.

**Bridge Inspection Report**

**Maintenance Needs**

Date Reported: 5/10/2012 12:00:00 AM

Priority: C - Important

Work Code:

**Deficiency Description:**

Substructure. Abutments.

There is Earth settlement under abutments that expose the steel piling. Steel piling has active corrosion and flaking rust. There is knife edge section loss with reduction in flange width.

**Work Description:**

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent # 11. Left piling . Knife edge section loss.

Stage: Assigned



PHOTO 2 Description Bent # 11. Typical.

Inspector:

Inspection Date:

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**Bridge Inspection Report**

**Maintenance Needs**

Stage: Assigned



PHOTO 3    Description    Bent # 1. Left side. Exposed Piling.

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**Bridge Inspection Report**

**Maintenance Needs**

Date Reported: 5/10/2012 12:00:00 AM

Priority: D - Routine

Work Code:

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**Deficiency Description:**

The Northeast Approach Guard Rail.  
The Northeast Approach guard rail has fractured posts.

**Work Description:**

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**Date Repairs Completed:**

**Maintenance Comments:**

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**Stage: Monitor**



PHOTO 1 Description Northeast approach guardrail.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 4/3/2014 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Substructure caps -

The caps and cap haunches have cracking, spalling and delaminations. A few of the spalls expose reinforcing steel that has active corrosion and initial section loss.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description

Stage: Assigned



PHOTO 2 Description Repair delaminated under Girder # 2. Bent # 5.

Inspector:

Inspection Date:

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**Bridge Inspection Report**

**Maintenance Needs**

**Stage: Assigned**



PHOTO 3 Description Span # 6 side of Bent # 7 cap.

**Stage: Assigned**



PHOTO 4 Description Delaminated area in Span # 8 side of Bent # 9 cap under Girder # 4.