

# Bridge Inspection Report

**B5100**  
**I-540, EB LNS**  
**over**  
**Ft Smith Railroad Seb Co**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

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Inspector:

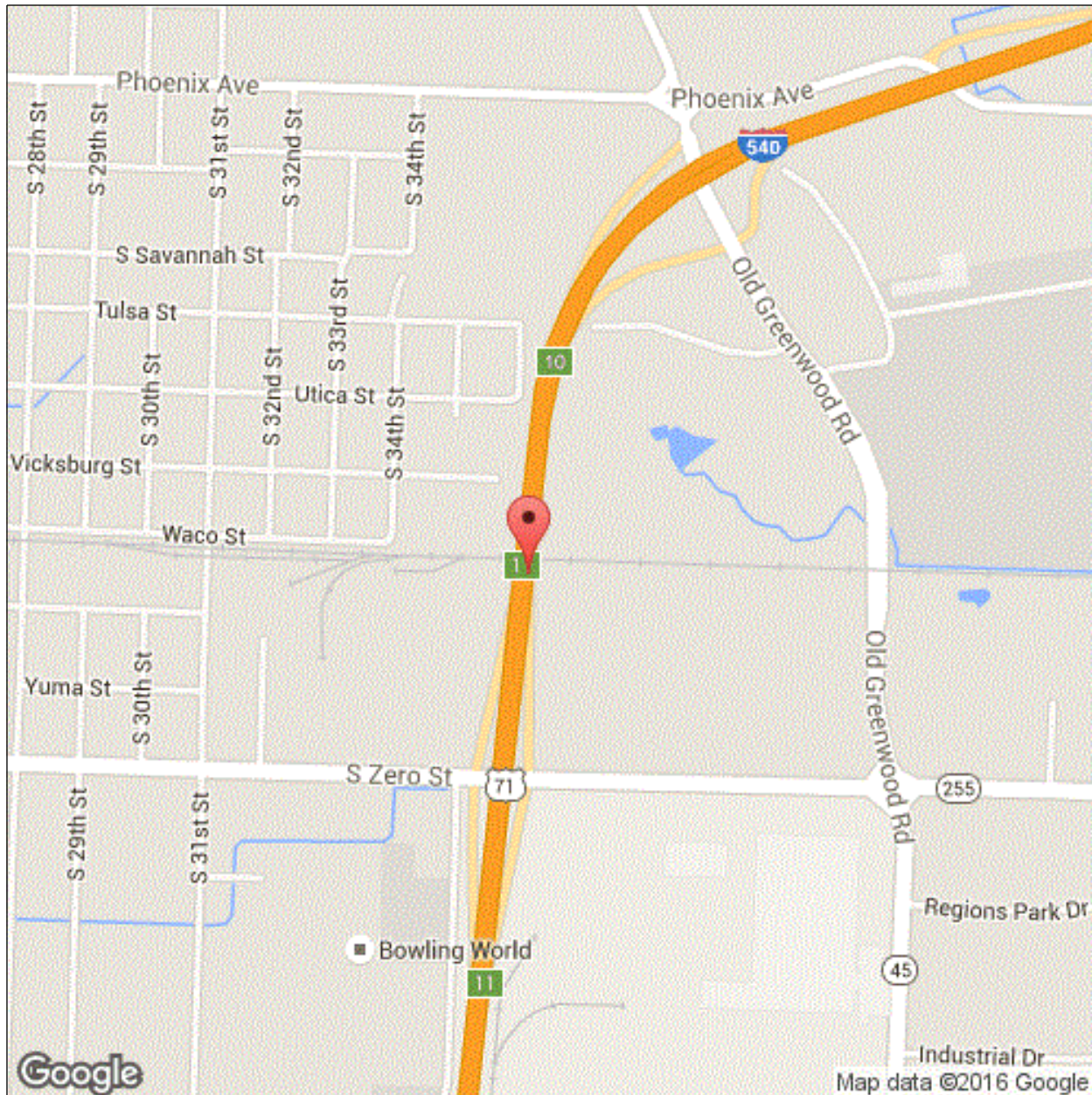
Structure Number: B5100

Inspection Date:

Facility Carried: I-540, EB LNS

## Bridge Inspection Report

### Location Map



Latitude: 35.33075

Longitude: -94.39438



Inspector:

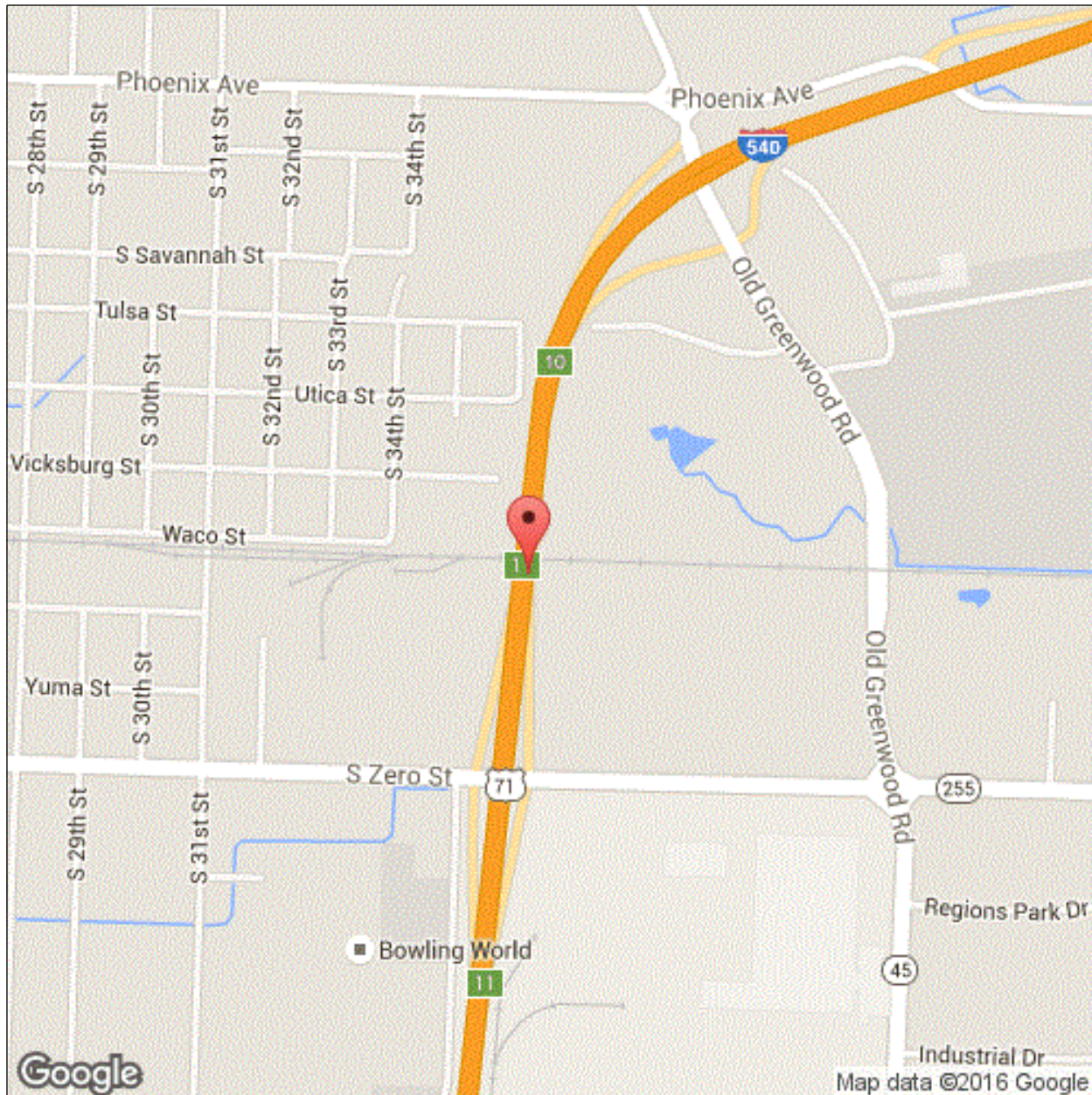
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## Bridge Inspection Report

### Location Map



Latitude: 35.33075

Longitude: -94.39438

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## Bridge Inspection Report

### Executive Summary

06/13/2016 - JCJ & JML - Vertical underclearances were actual field measured this inspection.

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## Bridge Inspection Report

## National Bridge Inventory

IDENTIFICATION				INSPECTIONS			
(1) STATE CODE	056 - Arkansas			(90) INSPECTION DATE	06/13/2016		
(8) STRUCTURE NUMBER	B5100			(91) DESIGNATED INSPECTION FREQUENCY	24		
(5) INV. ROUTE (ON/UNDER)	1	1	1	540	2	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	04	(3) COUNTY CODE	131				
(4) PLACE CODE	24060						
(6) FEATURES INTERSECTED	Ft Smith Railroad Seb Co						
(7) FACILITY CARRIED	I-540, EB LNS						
(9) LOCATION	0.49 MI SO OF SH 45						
(11) MILEPOINT	3.890	(12) BASE HIGHWAY NETWORK	1				
(13A) LRS INVENTORY ROUTE	0000540010		(13B) SUBROUTE NUMBER	00			
(16) LATITUDE	35.33075	(17) LONGITUDE	-94.39438				
(98A) BORDER BRIDGE CODE							
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT						
STRUCTURE TYPE AND MATERIAL				CONDITION			
(43) STRUCTURE TYPE, MAIN				(58) DECK	5		
A) KIND OF MATERIAL/DESIGN:	3 - Steel			(59) SUPERSTRUCTURE	7	(60) SUBSTRUCTURE	6
B) TYPE OF DESIGN/CONSTR:	02 - Stringer/Multi-beam or Girder			(61) CHANNEL & CHANNEL PROTECTION	N (62) CULVERT N		
(44) STRUCTURE TYPE, APPROACH SPANS				LOAD RATING AND POSTING			
A) KIND OF MATERIAL/DESIGN:	0 - Other			(31) DESIGN LOAD	6		
B) TYPE OF DESIGN/CONSTR:	00 - Other			(63) METHOD USED TO DETERMINE OPERATING RATING	1		
(45) NUMBER OF SPANS IN MAIN	3	(46) NUMBER OF APPROACH	0				
(107) DECK STRUCTURE TYPE	1	(108A) WEARING SURFACE	1				
(108B) DECK MEMBRANE	0	(108C) DECK PROTECTION	0				
AGE OF SERVICE				APPRAISAL			
(27) YEAR BUILT	1969	(106) YEAR RECONSTRUCTED	0000				
(42) TYPE OF SERVICE	ON 1	UNDER 2					
(28) LANES	ON 03	UNDER 00					
(29) AVERAGE DAILY TRAFFIC	52000	(19) BYPASS DETOUR LENGTH	1				
(30) YEAR OF AVERAGE DAILY TRAFFIC	2013						
(109) AVERAGE DAILY TRUCK TRAFFIC	1						
GEOMETRIC DATA				CLASSIFICATION			
(48) LENGTH OF MAX SPAN (ft.)	53	(49) STRUCTURE LENGTH (ft.)	155				
(50) CURB/SIDEWALK WIDTHS (ft.)	LEFT 0	RIGHT 0.4					
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	49.9						
(52) DECK WIDTH, OUT-TO-OUT (ft.)	52						
(32) APPROACH ROADWAY WIDTH (ft.)	49.9						
(33) BRIDGE MEDIAN	0	(34) SKEW (DEG.)	4				
(35) STRUCTURE FLARED	0	(10) INV RTE, MIN VERT CLEAR (ft.)	99.99				
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	50.5						
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99						
(54) VERTICAL UNDER CLEARANCE (ft.)	R	23.75					
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	R	33.3					
(56) MIN LATERAL UNDER CLEARANCE (ft.)	16.8						
PROPOSED IMPROVEMENTS				NAVIGATION DATA			
(75A) TYPE OF WORK PROPOSED	(75B) WORK DONE BY			(38) NAVIGATION CONTROL	0		
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)	0						
(94) BRIDGE IMPROVEMENT COST (\$)	0						
(95) ROADWAY IMPROVEMENT COST (\$)	0						
(96) TOTAL PROJECT COST	0						
(97) YEAR OF IMPROVEMENT COST ESTIMATE							
(114) FUTURE ADT	34924	(115) YEAR OF FUTURE ADT	2028				
(20) TOLL	3						
(21) MAINTENANCE RESPONSIBILITY	01						
(37) HISTORICAL	5						
(111) PIER OR ABUTMENT PROTECTION	1						
(39) NAV VERT CLEARANCE (ft.)	0						
(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0						
(40) NAV HORIZONTAL CLEARANCE (ft.)	0						

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## Bridge Inspection Report

## Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	1- Ben.	7750	sq. ft.	2017	2418	3315	0
	06/13/2016 - JCJ & JML - Span 1 has up to 1" deep scale in the Right gutter. Spans 2 & 3 have light scale in the Right gutter. Sealable transverse and map cracking is typical in all Spans. Cracking appears to be most evident in the Right side of the deck. There is diagonal cracking in the deck adjacent to the East abutment. There are numerous delaminated areas and several spalls with temporary asphalt patches. The undersurface of the deck has areas with map cracking, leeching, and light scale. The abutment expansion joints appear to be closed and make contact with the abutment backwalls. Spalling with temporary asphalt patches adjacent to the expansion joints are typical.						
1080 - Delamination/Spall/Patched Area		152			17	135	
1090 - Exposed Rebar		1			1		
1130 - Cracking (RC and Other)		2580				2580	
1190 - Abrasion/Wear (PSC/RC)		3000			2400	600	
107 - Steel Open Girder/Beam	1- Ben.	1240	ft.	1180	60	0	0
	06/13/2016 - JCJ & JML - The paint is peeling in isolated areas.						
1000 - Corrosion		60			60		
515 - Steel Protective Coating		8886	sq. ft.	811	2000	6000	75
3440 - Effectiveness (Steel Protective Coatings)		8075			2000	6000	75
205 - Reinforced Concrete Column	1- Ben.	6	each	2	4	0	0
	06/13/2016 - JCJ & JML - Bent 2, Column 1 has a shallow spall with exposed reinforcing steel in the base of the column at the strut juncture and Column 2 has a spall with exposed # 9 wire. Bent 3 column 3 has a 6" delaminated area at the cap juncture.						
1080 - Delamination/Spall/Patched Area		3			3		
1090 - Exposed Rebar		1			1		
215 - Reinforced Concrete Abutment	1- Ben.	110	ft.	43	67	0	0
	06/13/2016 - JCJ & JML - There are vertical hairline cracks in both abutments. Top of Bent 4 backwall is covered with asphalt patches on the driving surface of the deck. The expansion joint anchorage attached to the deck and superstructure make contact with the face of both abutment backwalls on the Right side of structure. There are cracks with light efflorescence in the Right side of Bent 4 backwall that appear to propagate from the point of contact of the expansion joint.						
1080 - Delamination/Spall/Patched Area		48			48		
1130 - Cracking (RC and Other)		19			19		
234 - Reinforced Concrete Pier Cap	1- Ben.	100	ft.	96	2	2	0
	06/13/2016 - JCJ & JML - The Left side of Bent # 2 cap has a spall with exposed reinforcing steel, delaminated areas, and light map cracking in the bearing area of Beam # 1. The Right side of Bent # 3 has light scale on the end of the cap. There are no apparent or significant changes since the last inspection.						

Inspector:

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## Bridge Inspection Report

## Element Inspection

1080 - Delamination/Spall/Patched Area		2				2	
1090 - Exposed Rebar		1			1		
1130 - Cracking (RC and Other)		1			1		
302 - Compression Joint Seal	1- Ben.	208	ft.	50	0	116	42
06/13/2016 - JCJ & JML - Portions of the expansion joint anchorage is missing at the abutments with asphalt patches. The expansion joints appear to be closed tight with the rubber gaskets only visible protruding from the exterior edges of the deck. The abutment expansion joints appear to be closed and make contact with the abutment backwalls. Spalling with temporary asphalt patches adjacent to the expansion joints are typical. Debris accumulation on the substructure indicate that the joints leak.							
2310 - Leakage		80				80	
2360 - Adjacent Deck or Header		78				36	42
311 - Movable Bearing	1- Ben.	24	each	0	24	0	0
06/13/2016 - JCJ & JML - Bearings have debris accumulation with areas that have minor corrosion. Deck joint seals leak.							
1000 - Corrosion		24			24		
313 - Fixed Bearing	1- Ben.	24	each	0	24	0	0
06/13/2016 - JCJ & JML - Bearings have debris accumulation with areas that have minor corrosion. Deck joint seals leak.							
1000 - Corrosion		24			24		
330 - Metal Bridge Railing	1- Ben.	155	ft.	153	0	2	0
06/13/2016 - JCJ & JML - The aluminum bridge rail on the Right side of the structure at Bent # 1 has the anchor bolt nuts missing on the first bridge rail mounting bracket and is missing the connection sleeve on the top rail near Bent 2. There are no apparent repairs or changes since the last inspection.							
1020 - Connection		2				2	
331 - Reinforced Concrete Bridge Railing	1- Ben.	155	ft.	150	5	0	0
06/13/2016 - JCJ & JML - There are a few isolated vertical hairline cracks. The paint coating on the New Jersey Parapet wall is cracking and peeling in areas.							
1130 - Cracking (RC and Other)		5			5		



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## Bridge Inspection Report

Pictures

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Facility Carried: I-540, EB LNS

## Bridge Inspection Report

Sketches

Inspector:

Inspection Date:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 06/13/2016

Priority: D - Routine

Work Code:

---

#### Deficiency Description:

The superstructure paint system is peeling in areas.

#### Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Open



PHOTO 1      Description      Paint. Span 1. Beam 5.

Stage: Open



PHOTO 2      Description      Span 3 paint system.

Inspector:

Structure Number: B5100

Inspection Date:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 06/13/2016

Priority: G - General/ Preventive maintenance

Work Code:

---

#### Deficiency Description:

Portions of the expansion joint anchorage is missing at the abutments with asphalt patches. The expansion joints appear to be closed tight with the rubber gaskets only visible protruding from the exterior edges of the deck. The abutment expansion joints appear to be closed and make contact with the abutment backwalls. There are cracks with light efflorescence propagating from the point of contact in the Backwall of Bent 4, Right side of structure.

#### Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Open



PHOTO 1 Description

Stage: Open



PHOTO 2 Description



Inspector:

Structure Number: B5100

Inspection Date:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 06/13/2016

Priority: D - Routine

Work Code:

---

#### Deficiency Description:

The substructure has isolated spalls with exposed reinforcing steel and delaminated areas.

Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Open



PHOTO 1 Description

Stage: Open



PHOTO 2 Description

Inspector:

Inspection Date:

Structure Number: B5100

Facility Carried: I-540, EB LNS

## Bridge Inspection Report

### Maintenance Needs

Stage: Open



PHOTO 3 Description

Stage: Open



PHOTO 4 Description

Inspector:

Inspection Date:

Structure Number: B5100

Facility Carried: I-540, EB LNS

## Bridge Inspection Report

### Maintenance Needs

Date Reported: 7/24/2012 12:00:00 AM

Priority: D - Routine

Work Code:

---

#### Deficiency Description:

The compression deck joint seals leak water and debris on the caps.

#### Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Assigned



PHOTO 1      Description      Bent 1 cap.

Stage: Assigned



PHOTO 2      Description      Debris on bent 2 cap.



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### Maintenance Needs

Date Reported: 7/8/2014 12:00:00 AM

Priority: C - Important

Work Code:

---

Deficiency Description:

Deck

Driving surface of the deck has sealable cracks on all Spans and the Right gutterline on Span 1 has up to 1" scaling. There are delaminated areas and spalls with temporary asphalt patches on the driving surface of the deck.

Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Assigned



PHOTO 1      Description      Span 3.

Stage: Assigned



PHOTO 2      Description      Span 2. Right



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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 3    Description    Span 2 right gutter

Stage: Assigned



PHOTO 4    Description    Span 1. Right

Stage: Assigned



PHOTO 5    Description    Span 1. Right



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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 7/8/2014 12:00:00 AM

Priority: C - Important

Work Code:

---

Deficiency Description:

Deck

Asphalt repairs to the top of the head wall at Bents 1 & 4 are deteriorating.

Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Assigned



PHOTO 1      Description      Bent 1. Typical top of backwall

Stage: Assigned



PHOTO 2      Description      Bent 4. Top of Backwall