

Bridge Inspection Report

B5101
I 540-SEC 1, NB LN
over
SH 255 Sebastian Co.



Inspection Date:

Inspected By:

Inspection Type(s):

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Inspector:

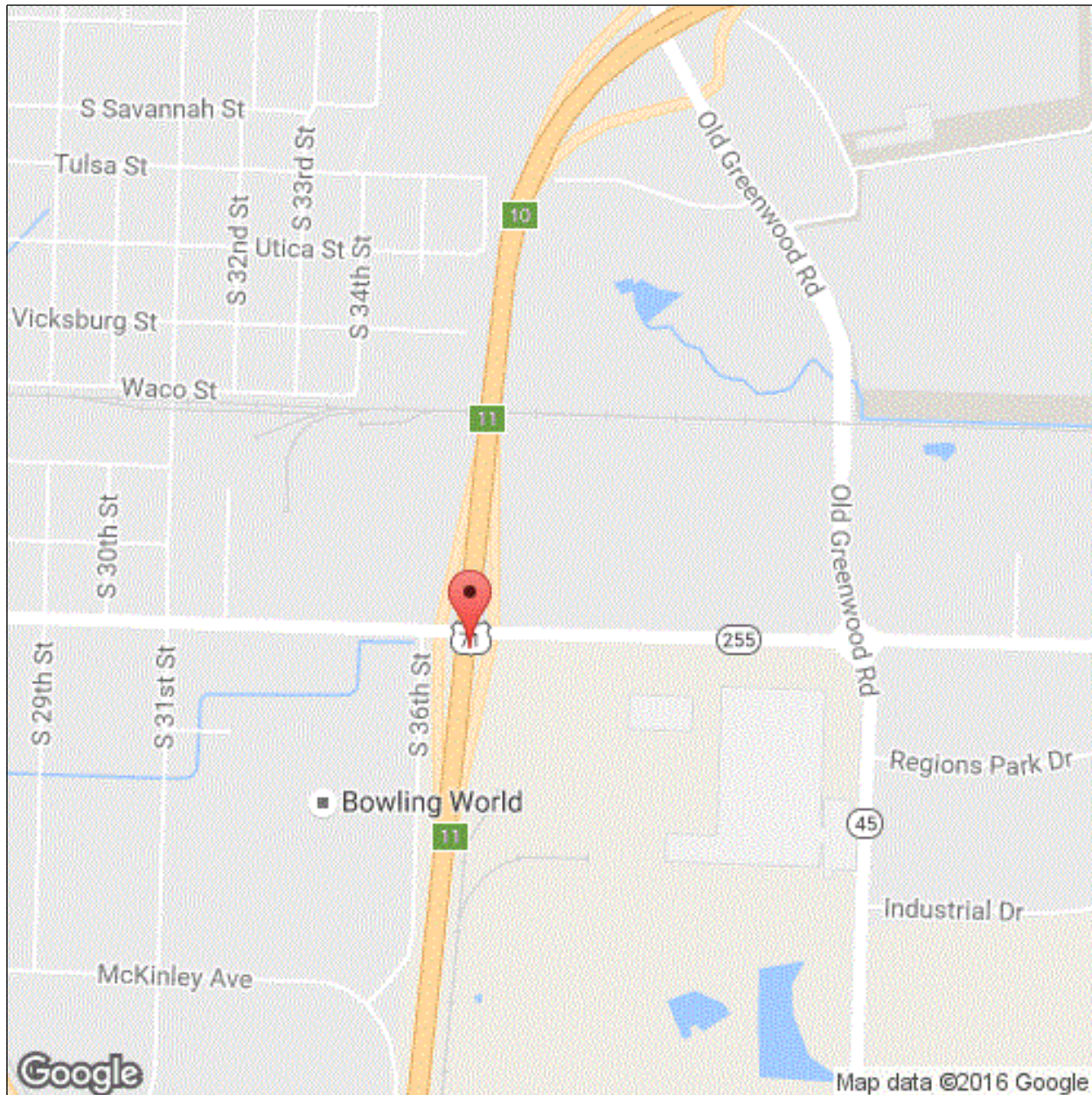
Structure Number: B5101

Inspection Date:

Facility Carried: I 540-SEC 1, NB LN

Bridge Inspection Report

Location Map



Latitude: 35.327179

Longitude: -94.394852

Inspector:

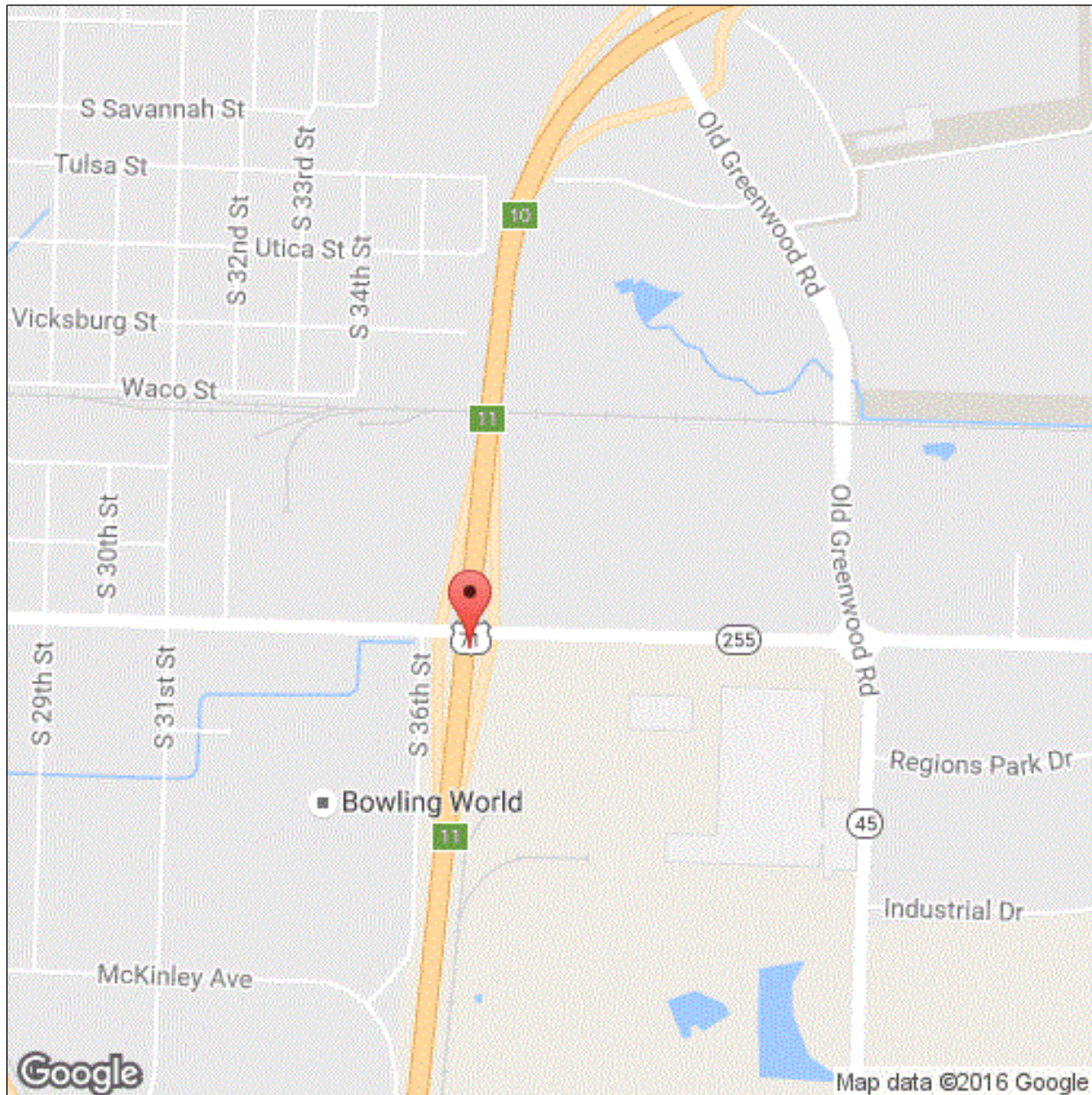
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Location Map



Latitude: 35.327179

Longitude: -94.394852

Inspector:

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Bridge Inspection Report

Executive Summary

09/21/2016 - JCJ & JML - The Minimum vertical underclearance was actual field measured this inspection. See MicroStation Drawing associated with this report for additional information.

09/21/2016 - JCJ & JML - A Priority Maintenance Need - There are several delaminated areas separating from the undersurface of the deck over the traffic using State Highway 255.

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National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	09/21/2016
(8) STRUCTURE NUMBER	B5101	(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	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	24060	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	SH 255 Sebastian Co.	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	I 540-SEC 1, NB LN		
(9) LOCATION	0.73 MI SO OF SH 45		
(11) MILEPOINT 3.650	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000540010 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 35.327179	(17) LONGITUDE -94.394852		
(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: 4 - Steel continuous		(59) SUPERSTRUCTURE 7	(60) SUBSTRUCTURE 6
B) TYPE OF DESIGN/CONSTR: 07 - Frame (except frame culverts)		(61) CHANNEL & CHANNEL PROTECTION	N (62) CULVERT N
(44) STRUCTURE TYPE, APPROACH SPANS			
A) KIND OF MATERIAL/DESIGN: 0 - Other			
B) TYPE OF DESIGN/CONSTR: 00 - Other			
(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		LOAD RATING AND POSTING	
(27) YEAR BUILT 1969	(106) YEAR RECONSTRUCTED 0000	(31) DESIGN LOAD	6
(42) TYPE OF SERVICE ON 6 UNDER 1		(63) METHOD USED TO DETERMINE OPERATING RATING	1
(28) LANES ON 02 UNDER 06		(64) OPERATING RATING	47.0
(29) AVERAGE DAILY TRAFFIC 42000	(19) BYPASS DETOUR LENGTH 0	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2013		(66) INVENTORY RATING	28.0
(109) AVERAGE DAILY TRUCK TRAFFIC 1		(70) BRIDGE POSTING	5
		(41) STRUCTURE OPEN/POSTED/CLOSED	A
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.) 83	(49) STRUCTURE LENGTH (ft.) 185	(67) STRUCTURAL EVALUATION	6
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0.5 RIGHT 0		(68) DECK GEOMETRY	8
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.) 42.0		(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	3
(52) DECK WIDTH, OUT-TO-OUT (ft.) 44		(71) WATERWAY ADEQUACY	N
(32) APPROACH ROADWAY WIDTH (ft.) 40.0		(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 4	(36) TRAFFIC SAFETY FEATURE	
(35) STRUCTURE FLARED 0	(10) INV RTE, MIN VERT CLEAR (ft.) 99.99	36A) BRIDGE RAILINGS:	1
(47) TOTAL HORIZONTAL CLEARANCE (ft.) 43.0		36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) 99.99		36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.) H 16.33		36D) APPROACH GUARDRAIL ENDS:	1
(55) LATERAL UNDER CLEARANCE RIGHT (ft.) H 2.2		(113) SCOUR CRITICAL BRIDGES	N
(56) MIN LATERAL UNDER CLEARANCE (ft.) 2.2		SUFFICIENCY RATING	2 STATUS 87.0
PROPOSED IMPROVEMENTS		CLASSIFICATION	
(75A) TYPE OF WORK PROPOSED	(75B) WORK DONE BY	(112) NBIS BRIDGE LENGTH	Y
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.) 0		(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	1
(94) BRIDGE IMPROVEMENT COST (\$)	0	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	11
(95) ROADWAY IMPROVEMENT COST (\$)	0	(100) STRAHNET HIGHWAY DESIGNATION	1
(96) TOTAL PROJECT COST	0	(101) PARALLEL STRUCTURE DESIGNATION	R
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(102) DIRECTION OF TRAFFIC	1
(114) FUTURE ADT 31629	(115) YEAR OF FUTURE ADT 2028	(103) TEMP STRUCTURE	
		(105) FEDERAL LANDS HIGHWAYS	0
		(110) DESIGNATED NATIONAL NETWORK	1
		(20) TOLL	3
		(21) MAINTENANCE RESPONSIBILITY	01
		(22) OWNER	01
		(37) HISTORICAL	5
		NAVIGATION DATA	
		(38) NAVIGATION CONTROL	0
		(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

Inspector:

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National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

(1) STATE CODE	056 - Arkansas	(7) FACILITY CARRIED	I 540-SEC 1, EB LN
(3) COUNTY CODE	131	(8) STRUCTURE NUMBER	B5101
(4) PLACE CODE	24060	(9) LOCATION	0.73 MI SO OF SH 45
(5) INV. ROUTE (ON/UNDER)	2 3 1 255 0	(11) MILEPOINT	5.289 (12) BASE HIGHWAY NETWORK 1
(6) FEATURES INTERSECTED	SH 255-SEC 3	(13A) LRS INVENTORY ROUTE	0000255030 (13B) SUBROUTE NUMBER 00
		(16) LATITUDE	35.3271666666667 (17) LONGITUDE -94.3947777777778

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN A) KIND OF MATERIAL/DESIGN: 4 - Steel continuous
B) TYPE OF DESIGN/CONSTR: 07 - Frame (except frame culverts)

AGE OF SERVICE

(19) BYPASS DETOUR LENGTH	1	(30) YEAR OF AVERAGE DAILY TRAFFIC	2014
(27) YEAR BUILT	1969	(42) TYPE OF SERVICE	ON 6 UNDER 1
(28) LANES	ON 02 UNDER 06	(109) AVERAGE DAILY TRUCK TRAFFIC	1
(29) AVERAGE DAILY TRAFFIC	17000		

GEOMETRIC DATA

(10) INV RTE, MIN VERT CLEARANCE	17.2	(48) LENGTH OF MAXIMUM SPAN	83 (49) STRUCTURE LENGTH 185
(47) TOTAL HORIZONTAL CLEARANCE	68.9		

CLASSIFICATION

(20) TOLL	3	(102) DIRECTION OF TRAFFIC	2
(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	14	(103) TEMP STRUCTURE	
(100) STRAHNET HIGHWAY DESIGNATION	0	(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	1
(101) PARALLEL STRUCTURE DESIGNATION	R	(110) DESIGNATED NATIONAL NETWORK	0

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Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	1- Ben.	8052	sq. ft.	1587	2009	4456	0
	09/21/2016 - JCJ & JML - -Driving surface of the deck has areas of shallow spalls / potholes in random areas. -Light to medium scale in the gutters. -Numerous sealable cracks visible in the driving surface of the deck. -Span 1, Bay 3 has an area of shallow spalling with exposed reinforcing steel near Bent 1 on the undersurface of the deck. -Span 2, Bay 6 and the Right soffit have delaminated areas, up to 4' over the Westbound lanes. -Span 3, Bay 3 has an area of shallow spalling with exposed reinforcing steel near Bent 4 on the undersurface of the deck.. -Span 3, Bay 6 has one 12" spall and one 18" spall with exposed reinforcing steel adjacent to Bent 3. -Light map cracking and leaching is visible in areas from the undersurface of the deck.						
1080 - Delamination/Spall/Patched Area		618			417	201	
1090 - Exposed Rebar		10			8	2	
1120 - Efflorescence/Rust Staining		120			120		
1130 - Cracking (RC and Other)		4093				4093	
1190 - Abrasion/Wear (PSC/RC)		1624			1464	160	
107 - Steel Open Girder/Beam	1- Ben.	1295	ft.	1220	75	0	0
	09/21/2016 - JCJ & JML - This structure has had a history of collision damage (See 08/17/1978 Form II Inspection documentation and history files) Collision damage has since been repaired. Sweep is still visible in Span # 2. No significant collision damage apparent since repairs. Span # 2, Exterior beam at the East side of structure has insignificant scrape marks. Paint is peeling at the base of web and bottom flanges of beams in Span # 2. K-Frame legs - There are no visible cracks apparent with the paint peeling in a few isolated areas.						
1000 - Corrosion		75			75		
515 - Steel Protective Coating		10653	sq. ft.	7565	2500	100	488
3440 - Effectiveness (Steel Protective Coatings)		3088			2500	100	488
215 - Reinforced Concrete Abutment	1- Ben.	95	ft.	81	14	0	0
	Minor dirt and debris accumulation on the abutments. Debris accumulation on the abutments near the center line median.						
1120 - Efflorescence/Rust Staining		3			3		
1130 - Cracking (RC and Other)		11			11		

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Element Inspection

234 - Reinforced Concrete Pier Cap	1- Ben.	90	ft.	80	10	0	0
Bent # 2 has a baseball size spall with exposed reinforcing steel in the pedestal at Beam # 1. No apparent section loss to the exposed reinforcing steel.							
1080 - Delamination/Spall/Patched Area		1			1		
1090 - Exposed Rebar		2			2		
1130 - Cracking (RC and Other)		7			7		
302 - Compression Joint Seal	1- Ben.	90	ft.	2	0	43	45
Joint seals at Bents 1 & 4 have failed and leak water on to the substructure.							
2310 - Leakage		20				20	
2330 - Seal Damage		68				23	45
311 - Movable Bearing	1- Ben.	14	each	2	12	0	0
Masonry plates have a failing paint system with active corrosion. Dirt accumulation with masonry plates beginning to rust.							
1000 - Corrosion		7			7		
2210 - Movement		5			5		
313 - Fixed Bearing	1- Ben.	14	each	10	4	0	0
Bent # 2 Columns # 6 & 7 and Bent # 3 Columns # 3 & 6 have red rust leaching out from the pin connection. The base of the bearing has active corrosion and flaking rust beginning to form at the anchor bolts. Bearing pins are beginning to show signs of wear with red rust at the pin connections.							
2210 - Movement		4			4		
330 - Metal Bridge Railing	1- Ben.	185	ft.	185			
09/21/2016 - JCJ & JML - There are no apparent noteworthy deficiencies at this inspection.							
331 - Reinforced Concrete Bridge Railing	1- Ben.	185	ft.	176	9	0	0
09/21/2016 - JCJ & JML - The median parapet wall has a few isolated vertical hairline cracks at variable spacing. There is one 6" spall with exposed reinforcing steel and a couple of delaminated areas as well as scrape marks / shallow spalls with no exposed reinforcing steel from apparent traffic impacts.							
1080 - Delamination/Spall/Patched Area		5			5		
1090 - Exposed Rebar		1			1		
1130 - Cracking (RC and Other)		3			3		

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Pictures

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Bridge Inspection Report

Sketches

Inspector:

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Maintenance Needs

Date Reported: 9/17/2012 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Deck -

The driving surface of the deck has cracking with areas of scaling that has created potholes in the driving surface. The gutters have light to medium scaling with numerous delaminated areas.

The undersurface of the deck has spalling with exposed reinforcing steel in span # 1 bay # 3, and span 3 bay # 6. The undersurface of span # 3 bay # 3 has a delaminated area. The overhang portion of the deck on the right side of span # 1 has shallow spalling with exposed reinforcing steel adjacent to the south abutment.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Span 3.

Stage: Assigned



PHOTO 2 Description Span 2. Typ

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Maintenance Needs

Stage: Assigned



PHOTO 3 Description Span 1. Typical

Stage: Assigned



PHOTO 4 Description Span 3. Typical

Stage: Assigned



PHOTO 5 Description Span 2

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Maintenance Needs

Date Reported: 9/17/2012 12:00:00 AM

Priority: G - General/ Preventive maintenance

Work Code:

Deficiency Description:

Bearings -

The pins are showing signs of fretting and have red rust leaching from the pin connections.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent 3. Column 3. Fretting

Stage: Assigned



PHOTO 2 Description Bent 1. Bearings at beams 3 & 3. Fretting.

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Maintenance Needs

Date Reported: 9/17/2012 12:00:00 AM

Priority: G - General/ Preventive maintenance

Work Code:

Deficiency Description:

Superstructure -

The superstructure paint system is beginning to deteriorate and has areas that are peeling and flaking. The top flanges of beams have active corrosion in random locations. The end of beam # 7 of span # 1 at the south abutment has active corrosion to the top flange and upper portion of the web adjacent to the expansion joint assembly.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Bent 3. Column 3 & 4. Paint peeling.

Stage: Monitor



PHOTO 2 Description

Inspector:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description Span 2 Deck soffit over Eastbound lanes.

Stage: Monitor



PHOTO 4 Description Delaminated areas over Eastbound lanes.

Stage: Monitor



PHOTO 5 Description Bent 2, Beam 6. Corrosion.

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Maintenance Needs

Date Reported: 9/18/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Expansion joints -

The expansion joint seals at the north and south abutments are deteriorated / partially missing and allow water, dirt and debris to leak onto the substructure.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent 4. Expansion joint

Stage: Assigned



PHOTO 2 Description Bent 1. Expansion joint