

Bridge Inspection Report

A5098
I-540 Southbound
over
Phoenix Street - Seb Co.



Inspection Date:

Inspected By:

Inspection Type(s):

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Inspector:

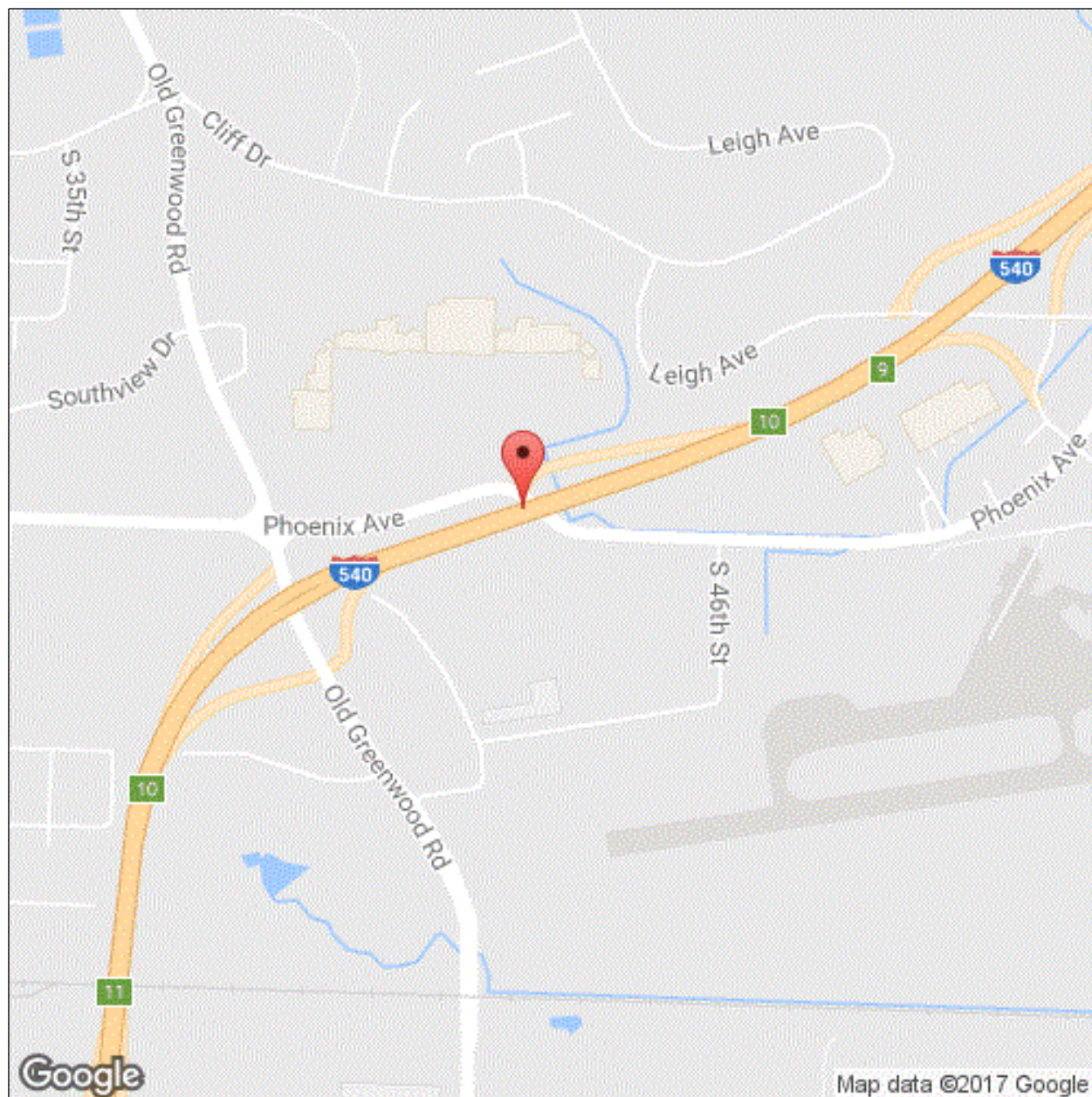
Structure Number: A5098

Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

Location Map



Latitude: 35.33857

Longitude: -94.38643

Inspector:

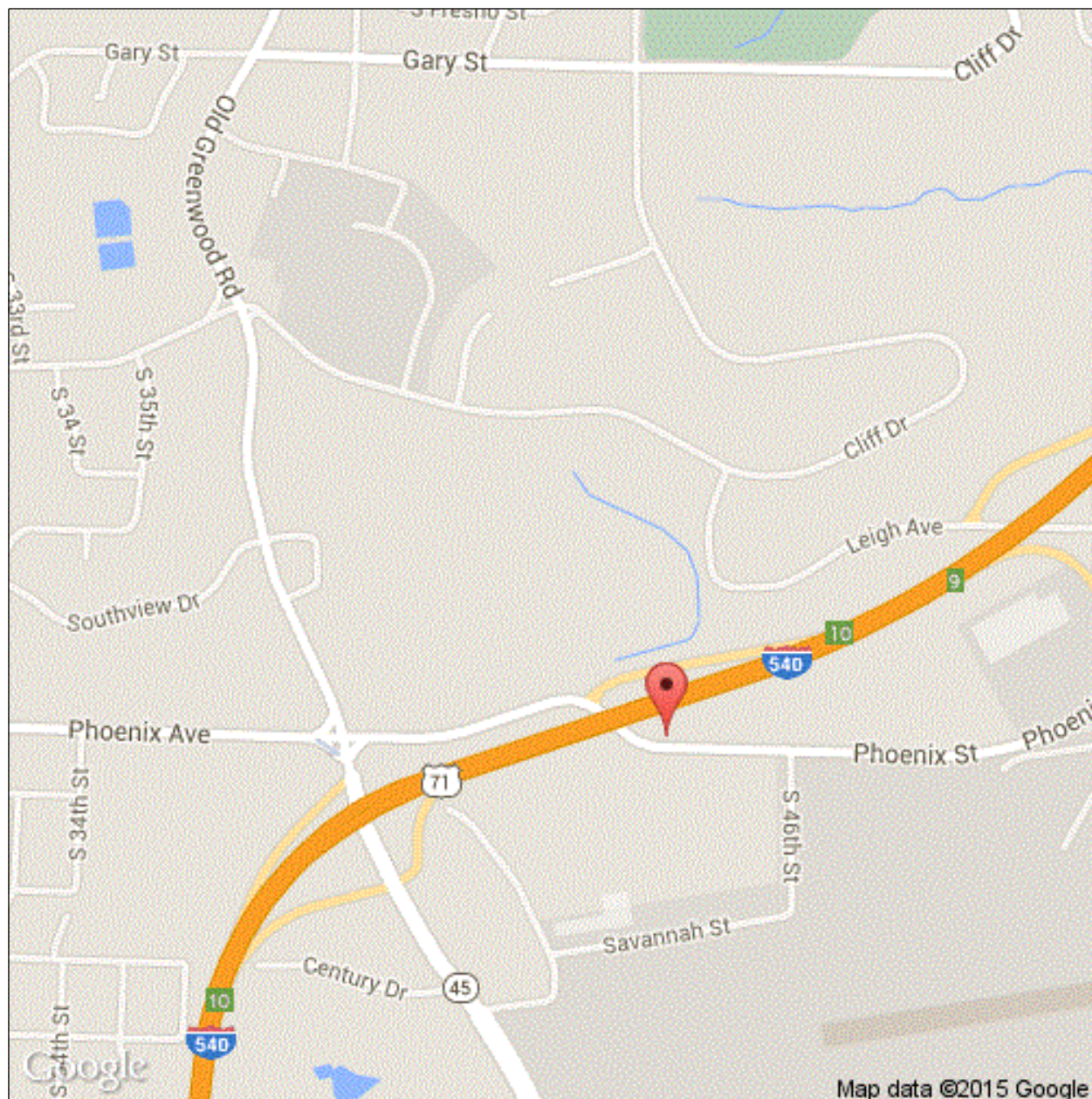
Structure Number: A5098

Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

Location Map



Latitude: 35.33857

Longitude: -94.38643

Inspector:

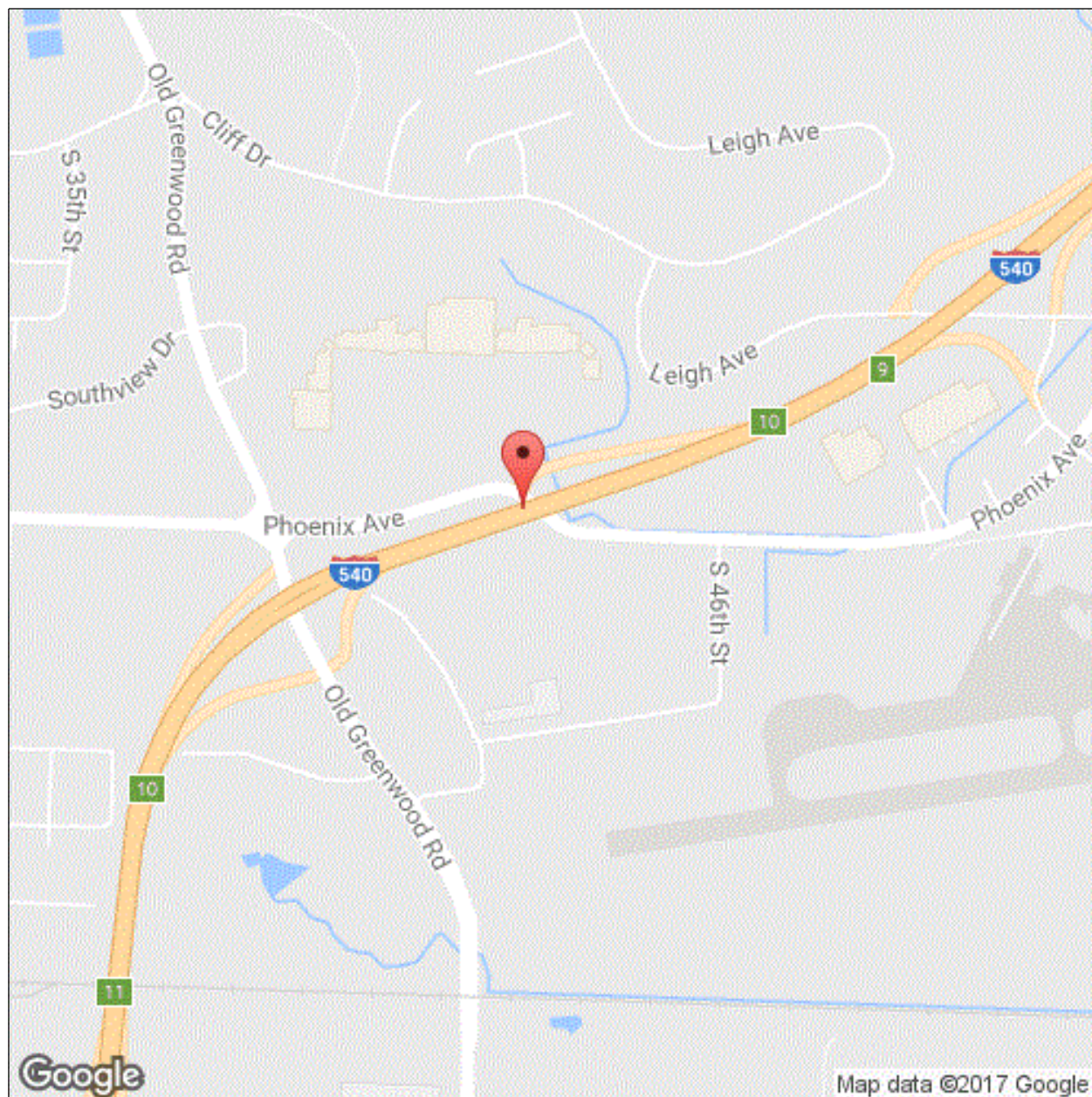
Structure Number: A5098

Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

Location Map



Latitude: 35.33857

Longitude: -94.38643

Inspector:

Structure Number: A5098

Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

Executive Summary

06/06/2017 - JCJ & JML - Vertical Underclearances were actual field verified this date.

Bridge A5098 Bents 2 & 3 , Column 4 is the same as Bridge B5098 Bents 2 & 3 column 1. The same column and cap located at the centerline median is shared by both bridges.

Inspector:

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Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	06/06/2017
(8) STRUCTURE NUMBER	A5098	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 1 1 540 4	(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	Phoenix Street - Seb Co.	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	I-540 Southbound		
(9) LOCATION	0.30 MI E OF SH 45		
(11) MILEPOINT 4.680	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000540010 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 35.33857	(17) LONGITUDE -94.38643		
(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 6	(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			
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 1968	(106) YEAR RECONSTRUCTED 1988	(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 04		(64) OPERATING RATING	60.0
(29) AVERAGE DAILY TRAFFIC 57312	(19) BYPASS DETOUR LENGTH 1	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2013		(66) INVENTORY RATING	36.0
(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.) 65	(49) STRUCTURE LENGTH (ft.) 159	(67) STRUCTURAL EVALUATION	6
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0 RIGHT 0.5		(68) DECK GEOMETRY	7
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.) 41.0		(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	3
(52) DECK WIDTH, OUT-TO-OUT (ft.) 44		(71) WATERWAY ADEQUACY	N
(32) APPROACH ROADWAY WIDTH (ft.) 41.0		(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 30	(36) TRAFFIC SAFETY FEATURE	
(35) STRUCTURE FLARED 0	(10) INV RTE, MIN VERT CLEAR (ft.) 16.5	36A) BRIDGE RAILINGS:	1
(47) TOTAL HORIZONTAL CLEARANCE (ft.) 42.0		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 2.5		(113) SCOUR CRITICAL BRIDGES	N
(56) MIN LATERAL UNDER CLEARANCE (ft.) 2.5		SUFFICIENCY RATING 2	STATUS 87.3
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	L
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(102) DIRECTION OF TRAFFIC	1
(114) FUTURE ADT 30970	(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	N
		(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:

Structure Number: A5098

Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

(1) STATE CODE	056 - Arkansas	(7) FACILITY CARRIED	I 540-SEC 1, WB LN
(3) COUNTY CODE	131	(8) STRUCTURE NUMBER	A5098
(4) PLACE CODE	24060	(9) LOCATION	0.30 MI E OF SH 45
(5) INV. ROUTE (ON/UNDER)	2 5 1 45140 0	(11) MILEPOINT	2.100 (12) BASE HIGHWAY NETWORK 0
(6) FEATURES INTERSECTED	Phoenix Street	(13A) LRS INVENTORY ROUTE	0000000000 (13B) SUBROUTE NUMBER 00
		(16) LATITUDE	35.33833333333333 (17) LONGITUDE -94.385

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN A) KIND OF MATERIAL/DESIGN: 3 - Steel
 B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder

AGE OF SERVICE

(19) BYPASS DETOUR LENGTH	1	(30) YEAR OF AVERAGE DAILY TRAFFIC	1983
(27) YEAR BUILT	1968	(42) TYPE OF SERVICE	ON 6 UNDER 1
(28) LANES	ON 02 UNDER 04	(109) AVERAGE DAILY TRUCK TRAFFIC	1
(29) AVERAGE DAILY TRAFFIC	4219		

GEOMETRIC DATA

(10) INV RTE, MIN VERT CLEARANCE	16.5	(48) LENGTH OF MAXIMUM SPAN	65 (49) STRUCTURE LENGTH 159
(47) TOTAL HORIZONTAL CLEARANCE	52.1		

CLASSIFICATION

(20) TOLL	3	(102) DIRECTION OF TRAFFIC	2
(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	16	(103) TEMP STRUCTURE	
(100) STRAHNET HIGHWAY DESIGNATION	0	(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	1
(101) PARALLEL STRUCTURE DESIGNATION	L	(110) DESIGNATED NATIONAL NETWORK	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.	6519	sq. ft.	38	5241	1240	0
	06/06/2017 - JCJ & JML - Span 1, Right side of deck has numerous Spalls and deteriorated repairs. Driving surface of the deck has areas with map cracking and sealable transverse cracks at variable spacing. Maintenance forces have sealed the cracks in the Right lane only. There is medium scale in the Left lane and Left shoulder. There are minor concrete spalls adjacent to the deck drains. The Left side of the deck joint over Bent # 3 is closed and makes contact at the exterior edge of deck at approximately 81 degrees Fahrenheit. The Left exterior edge of deck is offset approximately 1 1/2" at this inspection. The Right edge of deck where the structure was widened (Median) appears to be in good alignment with no apparent noteworthy offset.						
1080 - Delamination/Spall/Patched Area		981			821	160	
1130 - Cracking (RC and Other)		1800			720	1080	
1190 - Abrasion/Wear (PSC/RC)		3700			3700		
107 - Steel Open Girder/Beam	1- Ben.	1113	ft.	1090	22	1	0
	06/06/2017 - JCJ & JML - Span # 2, Beams # 1, 2, 3, 4, 5, & 6 have insignificant dents and scrape marks on the bottom flanges due to traffic impacts. No apparent out of plane bending caused by traffic impact at this inspection. Bent # 1 has debris accumulation that covers the bearing and end of Beam # 7 at this inspection. Minor paint deterioration with active corrosion in beam ends in random locations from apparent water leakage through the expansion joints. There are no visible cracks apparent in the beams at this inspection.						
1000 - Corrosion		23			22	1	
515 - Steel Protective Coating		7653	sq. ft.	7633	0	20	0
3420 - Peeling/Bubbling/Cracking (Steel Protective Coatings)		6				6	
7000 - Damage		14				14	
205 - Reinforced Concrete Column	1- Ben.	8	each	2	2	4	0
	06/06/2017 - JCJ & JML - Bent # 2, Columns 1 & 3 have light scale on exterior side of columns. Bent # 2, Column # 1 has a 12" X 5' delaminated area with spalls that have exposed reinforcing steel. Exposed reinforcing steel has initial section loss at this inspection. Bent # 3, Column # 1 has a 9' vertical crack and a 12" Wide X full height of Column delaminated area that has a spall with exposed reinforcing steel. Bent # 3, Centerline median column has a 24" spall with exposed reinforcing steel.						
1090 - Exposed Rebar		3				3	
1130 - Cracking (RC and Other)		3			2	1	

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Element Inspection

215 - Reinforced Concrete Abutment	1- Ben.	90	ft.	79	11	0	0
06/06/2017 - JCJ & JML - Bents # 1 & 2 have has vertical hairline cracks in the face of the backwall. Bent #1 backwall has diagonal crack on left side of bridge. Bent # 1 has debris accumulation that covers the bearing and end of Beam # 7 at this inspection. Bent 4 has shallow Spalls adjacent to the snap ties that were left in place during the construction process.							
1130 - Cracking (RC and Other)		11			11		
234 - Reinforced Concrete Pier Cap	1- Ben.	80	ft.	67	6	7	0
06/18/2015 - EJW & RWF - The intermediate bent caps have areas of medium / heavy scale / concrete deterioration were the expansion joints allow a free flow of water on the caps. Bent # 3 Column # 4 has a basketball size delaminated area in the cap face and a 1' spall with exposed reinforcing steel in the back face on cap. 06/11/2013 - JCJ - Both bent caps have water stains that indicate the deck joint seals leak. -Bent # 2 cap has light scale. The Span 1 side of Bent 2 has shallow spalling with exposed # 9 wire. There is a 10" X 18" delaminated area over Column 4. -Bent # 3 Centerline median cap has a 2' spall with exposed reinforcing steel, a 1' spall with exposed reinforcing steel, and a softball size spall with exposed reinforcing steel. Exposed reinforcing steel has up to initial section loss at this inspection.							
1080 - Delamination/Spall/Patched Area		10			6	4	
1090 - Exposed Rebar		3				3	
302 - Compression Joint Seal	1- Ben.	170	ft.	1	125	24	20
06/06/2017 - JCJ & JML - shallow Spalls adjacent to the expansion joint anchorage. Bents # 2 & 3 joints seals are deteriorated in the shoulders and missing in the driving lanes and allowing a free flow of water onto the bent caps.							
2310 - Leakage		144			100	24	20
2360 - Adjacent Deck or Header		25			25		
311 - Movable Bearing	1- Ben.	21	each	0	21	0	0
06/06/2017 - JCJ & JML - Some bearings have pack rust between the masonry plate and the bearing. Fretting is visible in some of the pin connections in the expansion bearings indicating minor movement. No significant changes are apparent since the last inspection.							
1000 - Corrosion		21			21		
313 - Fixed Bearing	1- Ben.	21	each	0	21	0	0
06/06/2017 - JCJ & JML - Bearings have minor pack rust between the masonry plate and the bearing. The most extreme case is Bent #4, Beam #6. No apparent noteworthy changes since last inspection. JPB 06152011-No significant changes since last inspection.							
1000 - Corrosion		21			21		
321 - Reinforced Concrete Approach Slab	1- Ben.	1836	sq. ft.	1818	18	0	0
06/06/2017 - JCJ & JML - Bent # 1 has small potholes filled with temporary asphalt patches. No apparent significant settlement problems at this inspection.							

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Element Inspection

1080 - Delamination/Spall/Patched Area		18			18		
330 - Metal Bridge Railing	1- Ben.	159	ft.	159			
	06/06/2017 - JCJ & JML - There are no apparent noteworthy problems at this inspection.						
331 - Reinforced Concrete Bridge Railing	1- Ben.	159	ft.	149	10	0	0
	06/06/2017 - JCJ & JML - There are a few isolated vertical hairline cracks in the face of the parapet wall.						
1130 - Cracking (RC and Other)		10			10		

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Bridge Inspection Report

Pictures

Inspector:

Inspection Date:

Structure Number: A5098

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Bridge Inspection Report

Sketches

Inspector:

Structure Number: A5098

Inspection Date:

Facility Carried: I-540 Southbound

Bridge Inspection Report

Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Repair

Deficiency Description:

Bent #2, Columns 1 & 3 have light scale on exterior side of columns. Bent #2, Column #1 has a 12" X 6' delaminated area with spalls that have exposed reinforcing steel. Exposed reinforcing steel has initial section loss at this inspection. Bent #3, Column #1 has a 9' vertical crack and a 12" X 6' delaminated area that has a spall with exposed reinforcing steel. Bent #3, Centerline median column has a 24" spall with exposed reinforcing steel. Bent #1 has debris accumulation that covers the bearing and end of Beam #7 at this inspection. Bent #2 cap has light scale with water stains. Bent #3 Centerline median cap has a 2' spall with exposed reinforcing steel, a 1' spall with exposed reinforcing steel, and a softball size spall with exposed reinforcing steel. Exposed reinforcing steel has up to initial section loss at this inspection.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Bent #2 Column #1 Spalling with exposed reinforcing steel

Stage: Monitor



PHOTO 2 Description Bent #3 Column #4 Spalling with exposed reinforcing steel.

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/06/2017

Priority: D - Routine

Work Code:

Deficiency Description:

The West approach guardrail has collision damage with out of plane bending.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Repair

Deficiency Description:

Driving surface of the deck has areas with map cracking and sealable transverse cracks at approximately 5' centers. Maintenance forces have sealed the cracks in the Right lane only. There is medium scale in the Left lane and Left shoulder. There are minor concrete spalls adjacent to the deck drains. The Left side of the deck joint over Bent # 3 is closed and makes contact at the exterior edge of deck at approximately 81 degrees Fahrenheit. The Left exterior edge of deck is offset approximately 1 1/2" at this inspection. The Right edge of deck where the structure was widened (Median) appears to be in good alignment with no apparent noteworthy offset.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Span # 1 Pothole repairs

Stage: Monitor



PHOTO 2 Description Span # 1 Scale in the driving surface

Inspector:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description Span 1, Left gutter

Stage: Monitor

Stage: Monitor



PHOTO 5 Description Span 2. Typical

Stage: Monitor



PHOTO 4 Description Span 1, Typical



PHOTO 6 Description Span 3 deck. Typical

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Maintenance Needs

Stage: Monitor



PHOTO 7 Description Right side of Span 1

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Repair

Deficiency Description:

Span # 2, Beams # 1, 2, 3, 4, 5, & 6 have insignificant dents and scrape marks on the bottom flanges due to traffic impacts. No apparent out of plane bending caused by traffic impact at this inspection.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Span # 2 insignificant scrape marks.

Stage: Monitor



PHOTO 2 Description Span 2. Insignificant scrape marks due to traffic impacts.

Inspector:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description Span 2 scrape marks.

Stage: Monitor



PHOTO 4 Description Span 2 scrape marks.

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Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: C - Important

Work Code: Repair

Deficiency Description:

Deck joint seals are missing in locations.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Bent # 2 Joint leakage

Stage: Monitor



PHOTO 2 Description Bent # 2 Missing joint seal.

Inspector:

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Maintenance Needs

Stage: Assigned



PHOTO 3 Description Expansion joint over Bent 3.

Inspector:

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Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Clean

Deficiency Description:

Some bearings have pack rust between the masonry plate and the bearing. Fretting is visible in some of the expansion bearings indicating minor movement.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Bent # 1 Beam # 7 Active corrosion in the bearings

Stage: Monitor



PHOTO 2 Description Bent # 4 Beam # 6 Active corrosion in the bearings.

Inspector:

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Stage: Monitor



PHOTO 3 Description Bent 1, Beam 4.

Stage: Monitor



PHOTO 4 Description Bent 4, Beam 6 bearing.

Stage: Monitor



PHOTO 5 Description Bent 3 bearings. Column 4.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/18/2015

Priority: D - Routine

Work Code: Repair

Deficiency Description:

The south Concrete Approach Slab has Spalls with temporary asphalt patches.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Bent # 1 Approach slab spalling

Stage: Monitor



PHOTO 2 Description South approach slab.

Inspector:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description South approach slab