

# Bridge Inspection Report

**A3957**  
**I 540 SB-Crawford**  
**over**  
**State Highway 162**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

## TABLE OF CONTENTS

	PAGE NUMBER
LOCATION MAP	3
NATIONAL BRIDGE INVENTORY	8
ELEMENTS	10
PICTURES	12
SKETCHES	13

Inspector:

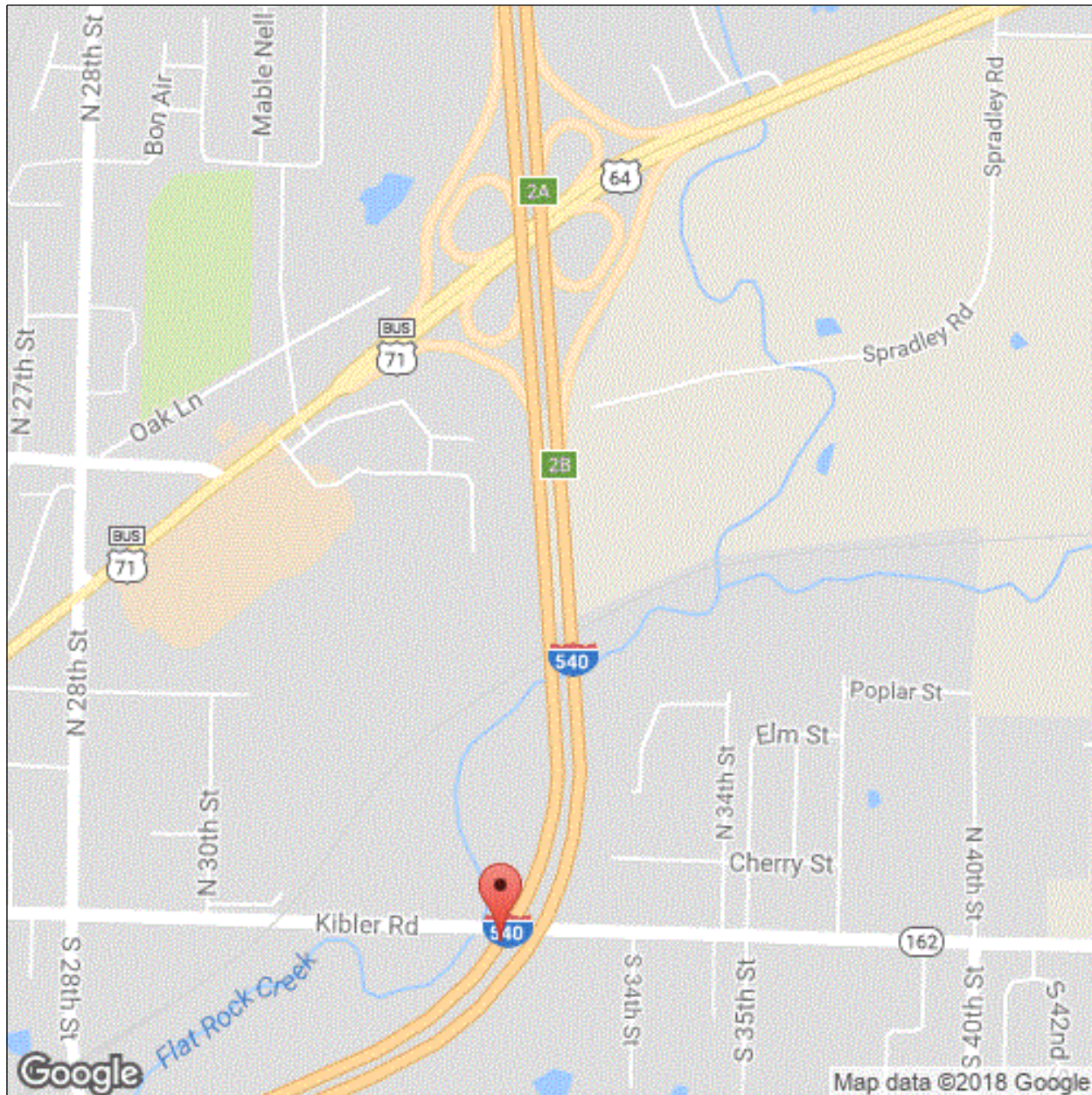
Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

### Location Map



Latitude: 35.436

Longitude: -94.3207777777778



Inspector:

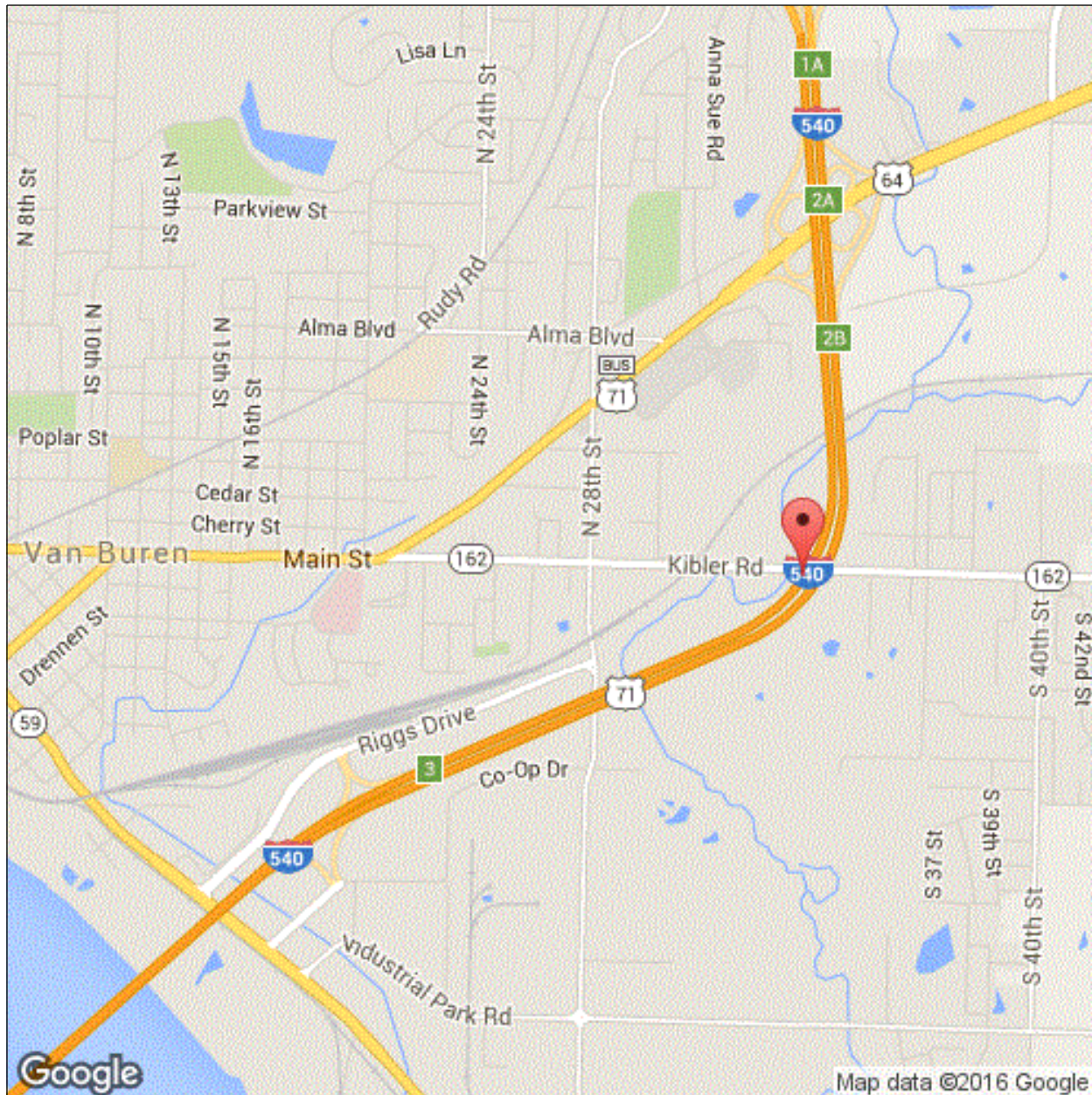
Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

### Location Map



Latitude: 35.436

Longitude: -94.3207777777778



Inspector:

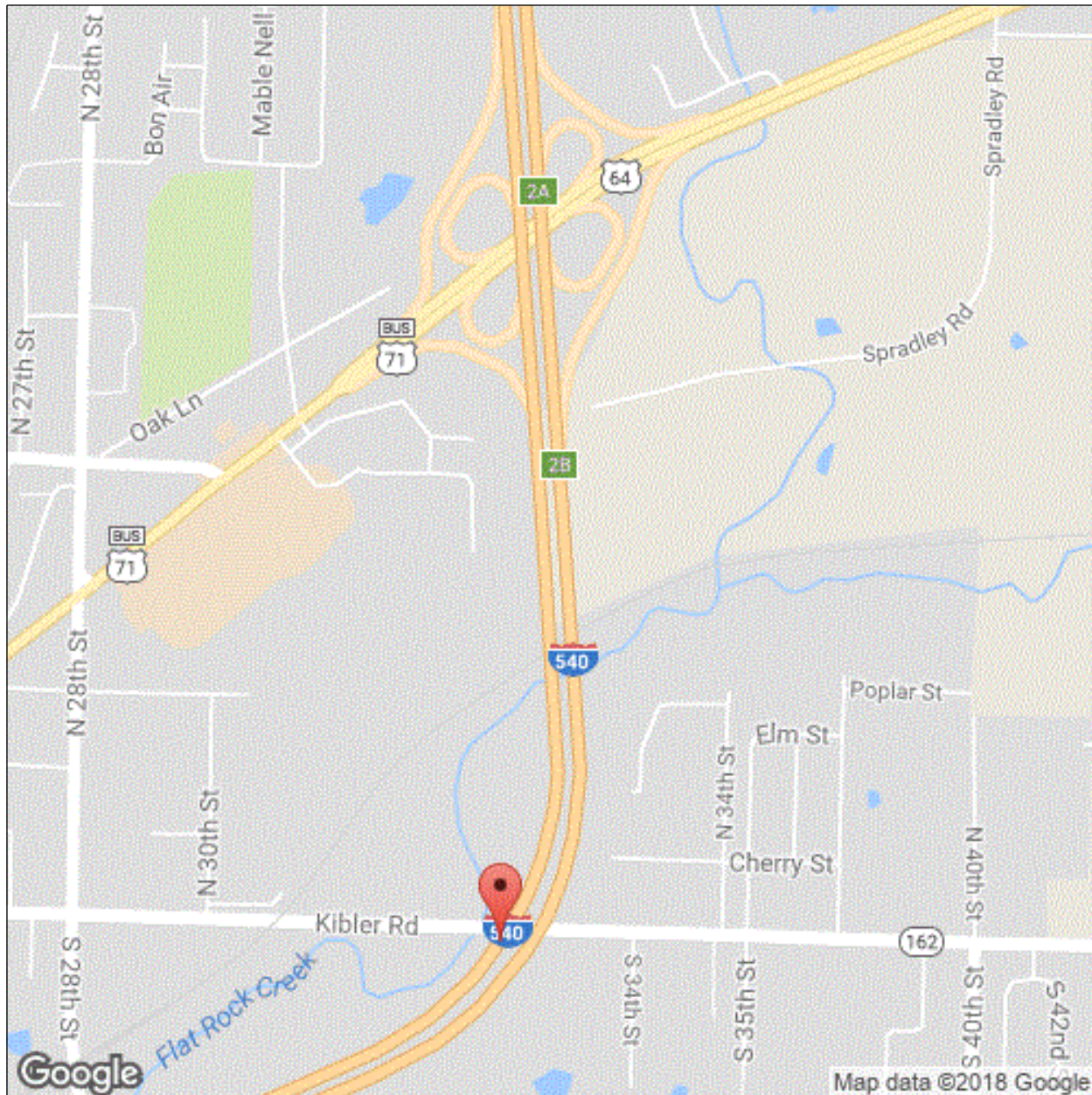
Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

### Location Map



Latitude: 35.436

Longitude: -94.3207777777778

Inspector:

Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

### Executive Summary

03/06/2018 - EJW - Routine Inspection conducted on this date. Underclearance measurements verified on this date.

Inspector:

Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

## National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	03/06/2018
(8) STRUCTURE NUMBER	A3957	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 1 1 540 3	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	04 (3) COUNTY CODE 033	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	69380	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	State Highway 162	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	I 540 SB-Crawford		
(9) LOCATION	JCT I-540 & SH 162		
(11) MILEPOINT 13.410	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000540020 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 35.436	(17) LONGITUDE -94.3207777777778		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	8
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			
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 1		
AGE OF SERVICE		LOAD RATING AND POSTING	
(27) YEAR BUILT 1968	(106) YEAR RECONSTRUCTED 2013	(31) DESIGN LOAD	6
(42) TYPE OF SERVICE ON 1 UNDER 1		(63) METHOD USED TO DETERMINE OPERATING RATING	1
(28) LANES ON 02 UNDER 02		(64) OPERATING RATING	60.0
(29) AVERAGE DAILY TRAFFIC 64018	(19) BYPASS DETOUR LENGTH 1	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2014		(66) INVENTORY RATING	36.0
(109) AVERAGE DAILY TRUCK TRAFFIC 12		(70) BRIDGE POSTING	5
		(41) STRUCTURE OPEN/POSTED/CLOSED	A
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.) 54	(49) STRUCTURE LENGTH (ft.) 164	(67) STRUCTURAL EVALUATION	6
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0 RIGHT 0		(68) DECK GEOMETRY	7
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.) 40.7		(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	5
(52) DECK WIDTH, OUT-TO-OUT (ft.) 43.2		(71) WATERWAY ADEQUACY	N
(32) APPROACH ROADWAY WIDTH (ft.) 38.1		(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 29	(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.) 40.7		36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) 99.99		36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.) H 16.08		36D) APPROACH GUARDRAIL ENDS:	1
(55) LATERAL UNDER CLEARANCE RIGHT (ft.) H 10.3		(113) SCOUR CRITICAL BRIDGES	N
(56) MIN LATERAL UNDER CLEARANCE (ft.) 000		SUFFICIENCY RATING	0 STATUS 90.9
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 28000	(115) YEAR OF FUTURE ADT 2032	(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	5
		(39) NAV VERT CLEARANCE (ft.)	000
		(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0
		(40) NAV HORIZONTAL CLEARANCE (ft.)	0000

Inspector:

Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

Bridge Inspection Report

National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

(1) STATE CODE	056 - Arkansas	(7) FACILITY CARRIED	I 540-Sec 2 SB Lns
(3) COUNTY CODE	033	(8) STRUCTURE NUMBER	A3957
(4) PLACE CODE	69380	(9) LOCATION	JCT I-540 & SH 162
(5) INV. ROUTE (ON/UNDER)	2 3 1 162 0	(11) MILEPOINT	1.030 (12) BASE HIGHWAY NETWORK 0
(6) FEATURES INTERSECTED	SH 162-Sec. 1	(13A) LRS INVENTORY ROUTE	0000000000 (13B) SUBROUTE NUMBER 00
		(16) LATITUDE	35.436 (17) LONGITUDE -94.3207777777778

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	4	(30) YEAR OF AVERAGE DAILY TRAFFIC	2014
(27) YEAR BUILT	1968	(42) TYPE OF SERVICE	ON 1 UNDER 1
(28) LANES	ON 02 UNDER 02	(109) AVERAGE DAILY TRUCK TRAFFIC	1
(29) AVERAGE DAILY TRAFFIC	9200		

GEOMETRIC DATA

(10) INV RTE, MIN VERT CLEARANCE	16.16	(48) LENGTH OF MAXIMUM SPAN	54 (49) STRUCTURE LENGTH	164
(47) TOTAL HORIZONTAL CLEARANCE	43.7			

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	0
(101) PARALLEL STRUCTURE DESIGNATION	L	(110) DESIGNATED NATIONAL NETWORK	0



Inspector:

Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## 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.	7093	sq. ft.	7073	20	0	0
	-No apparent problems or noteworthy deficiencies on the undersurface of the deck at this inspection. -History files indicate that the deck has numerous pop outs on the driving surface of the deck from shale inclusion during the construction process. -The driving surface has had an epoxy overlay since the last inspection with no apparent problems at this inspection. -Light cracking with minor efflorescence on the undersurface of the overhang in random areas. -The ends of the deck adjacent to the expansion joints have been cut out and replaced during the construction process due to lack of concrete consolidation with the anchorage for the expansion joints. The expansion joints appear sound at this inspection.						
1120 - Efflorescence/Rust Staining		20			20		
510 - Wearing Surfaces		6480	sq. ft.	6480			
107 - Steel Open Girder/Beam	1- Ben.	1148	ft.	1146	2	0	0
	-No visible cracks at this inspection. -Minor collision damage still exists in the bottom flange of Beam # 1 adjacent to Bent # 2.						
1900 - Distortion		2			2		
515 - Steel Protective Coating		9085	sq. ft.	0	9085	0	0
3440 - Effectiveness (Steel Protective Coatings)		9085			9085		
205 - Reinforced Concrete Column	1- Ben.	6	each	4	2	0	0
	-Bent 2, Column 1 has one base ball size spall with no exposed reinforcing steel at the base of column and light cracking near the base of the column. -Bent 3, Column 1 has a 4" spall with exposed reinforcing steel and a shallow 5" delamination adjacent to the undersurface of Left edge of the cap. -The caps are stained from previous water leakage through the deck joint.						
1080 - Delamination/Spall/Patched Area		1			1		
1090 - Exposed Rebar		1			1		
215 - Reinforced Concrete Abutment	1- Ben.	99	ft.	54	44	1	0
	-The abutments have vertical cracking and light / medium concrete deterioration. Minor areas of light longitudinal cracks at bent # 1. -Concrete pedestals have been constructed on the existing abutments to raise the superstructure. -Transverse cracks typical in the tops of the backwalls. -The top of the backwall at Bent # 1 has a 12" spall near the centerline.						
1080 - Delamination/Spall/Patched Area		1				1	
1130 - Cracking (RC and Other)		44			44		

Inspector:

Structure Number: A3957

Inspection Date:

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

## Element Inspection

234 - Reinforced Concrete Pier Cap	1- Ben.	90	ft.	64	16	10	0
-Bent 3 has water stains on the cap where the deck joint seals have leaked in the past. -The Left end of cap has shallow spalls that expose the ends of the primary reinforcing steel which has no apparent section loss. -The undersurface of the cap has numerous 12" delaminated areas and spalls with exposed secondary reinforcing steel. Exposed reinforcing steel has active corrosion with initial section loss. -Some vertical delaminated areas are visible in the North face of cap.							
1080 - Delamination/Spall/Patched Area		12			8	4	
1090 - Exposed Rebar		7			1	6	
1130 - Cracking (RC and Other)		7			7		
302 - Compression Joint Seal	1- Ben.	180	ft.	135	0	45	0
-The compression joint seals are in place at this inspection. -The compression joint seal at Bent 3 has adhesion failure and leaks water and debris. The seal has several areas with up to 1/2" wide gaps between the seal and the expansion joint.  Seal adhesion = 16'							
2310 - Leakage		45				45	
311 - Movable Bearing	1- Ben.	21	each	19	0	2	0
-Some of the bearings are set in the expanded position. -Bent 2, Beam 2 & 3 appears to be worst case with bearings being expanded approximately 65% at time of inspection. Approximately 50 degrees at the time of the inspection.							
1000 - Corrosion		2				2	
515 - Steel Protective Coating		42	sq. ft.	40		2	
313 - Fixed Bearing	1- Ben.	21	each	20	1	0	0
-The bolts that pass through the bottom flanges, sole plates and into the pedestals are loose over the intermediate bents. -Minor corrosion beginning to form at Bent # 1 Beam # 2.							
1000 - Corrosion		1			1		
515 - Steel Protective Coating		21	sq. ft.	20		1	
321 - Reinforced Concrete Approach Slab	1- Ben.	1680	sq. ft.	1670	10	0	0
-No apparent problems at this inspection.							
1130 - Cracking (RC and Other)		10			10		
331 - Reinforced Concrete Bridge Railing	1- Ben.	328	ft.	263	65	0	0
-Vertical cracks typical with areas of short duration longitudinal cracks.							
1130 - Cracking (RC and Other)		65			65		

Inspector:

Inspection Date:

Structure Number: A3957

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

Pictures



Inspector:

Inspection Date:

Structure Number: A3957

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

Sketches

Inspector:

Inspection Date:

Structure Number: A3957

Facility Carried: I 540 SB-Crawford

## Bridge Inspection Report

### Maintenance Needs

Date Reported: 10/13/2011 12:00:00 AM

Priority: D - Routine

Work Code:

---

Deficiency Description:

Substructure

The substructure has shallow spalling with exposed reinforcing steel, shallow concrete delamination's, vertical and horizontal cracking, and light surface scale that appears to have been caused from previous deck joint seal leakage.

Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Monitor



PHOTO 1      Description      Bent # 1 vertical and horizontal cracking.

Stage: Monitor



PHOTO 2      Description      Bent # 3 spalling on the undersurface of the bent cap that exposes reinforcing steel with active corrosion.