

Bridge Inspection Report

B5977
I49 NBLN Benton 1
over
US 71-SEC 18B



Inspection Date:

Inspected By:

Inspection Type(s):

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Inspector:

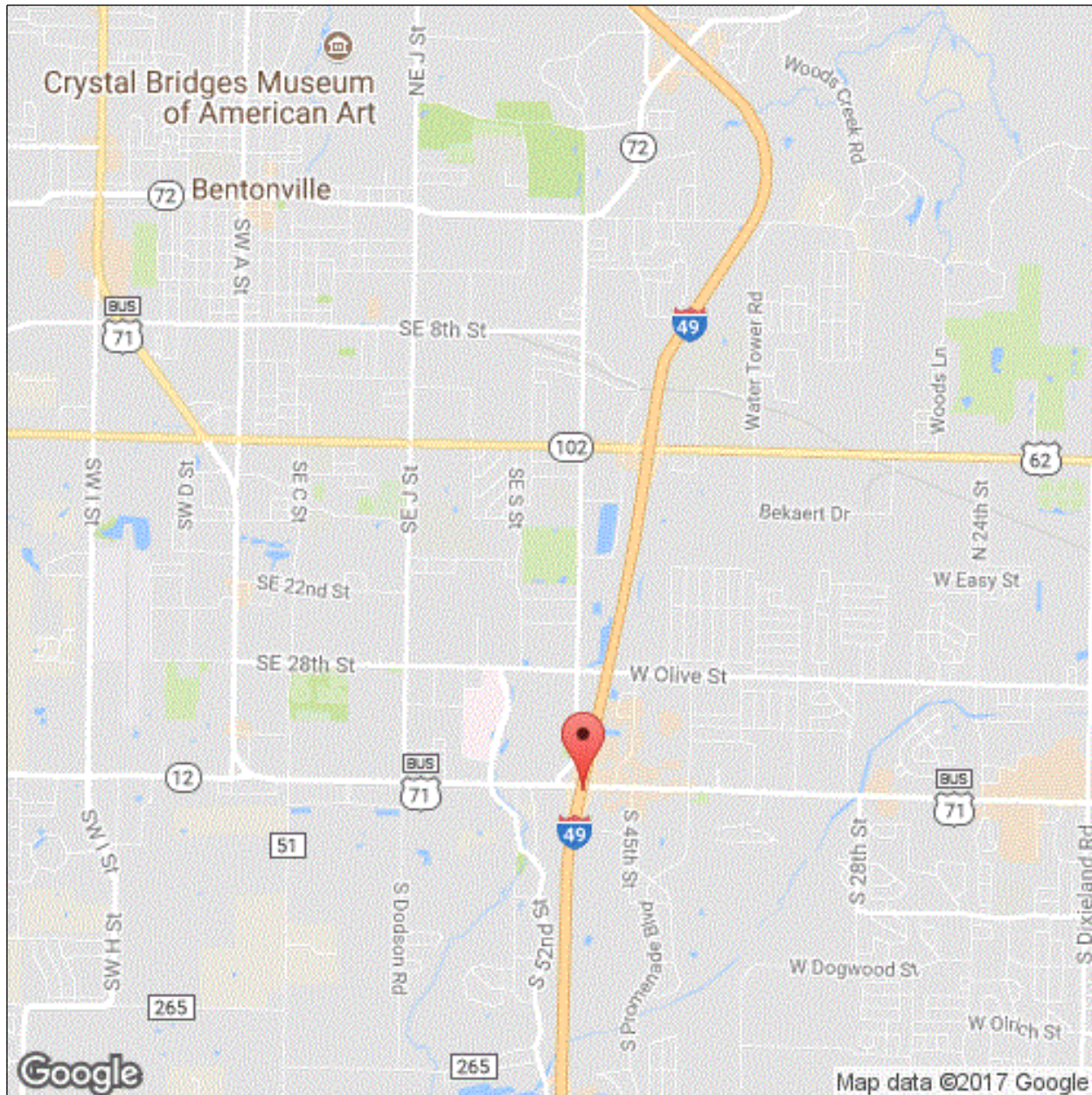
Structure Number: B5977

Inspection Date:

Facility Carried: I49 NBLN Benton 1

Bridge Inspection Report

Location Map



Latitude: 36.33479

Longitude: -94.18340

Inspector:

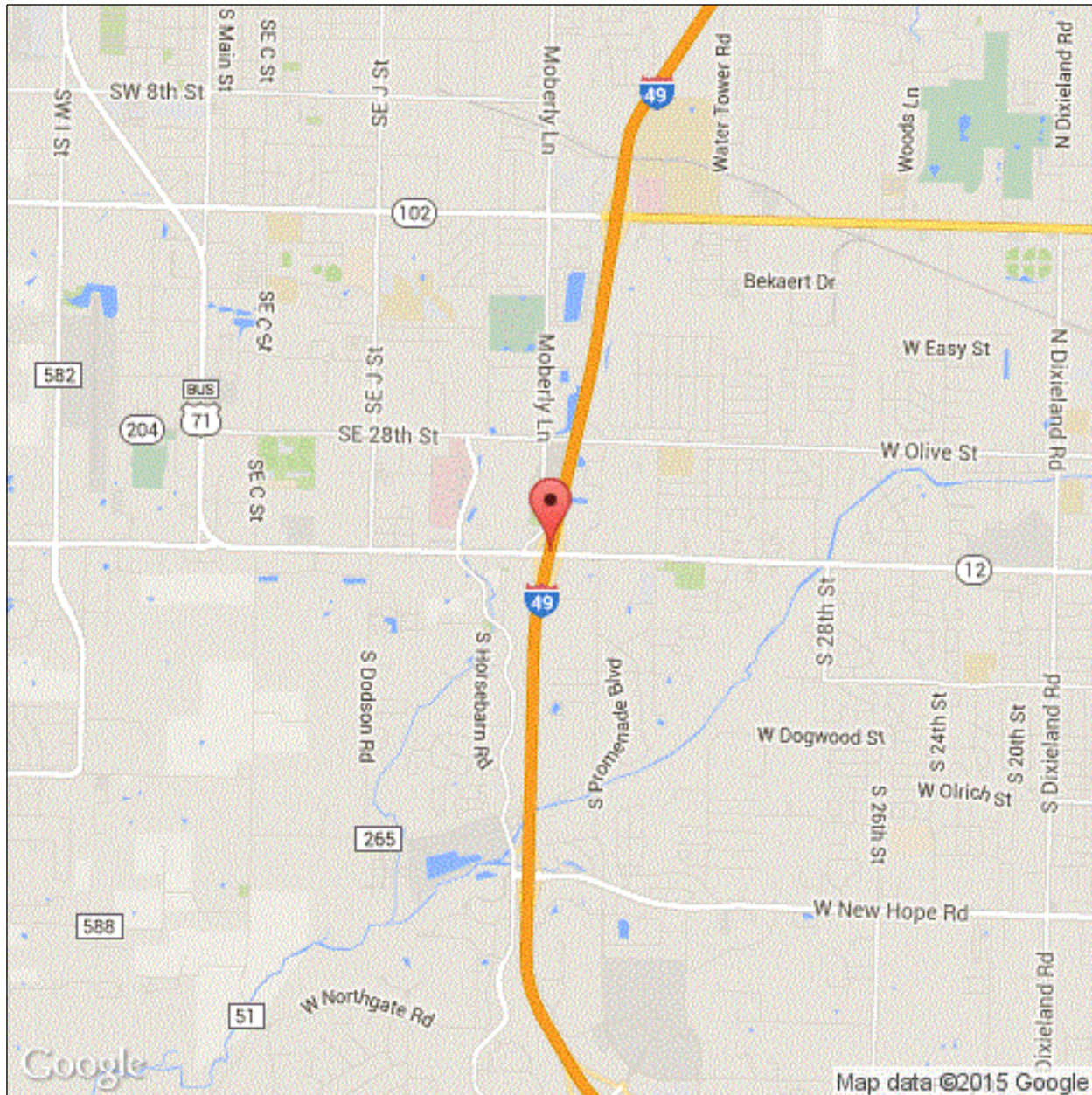
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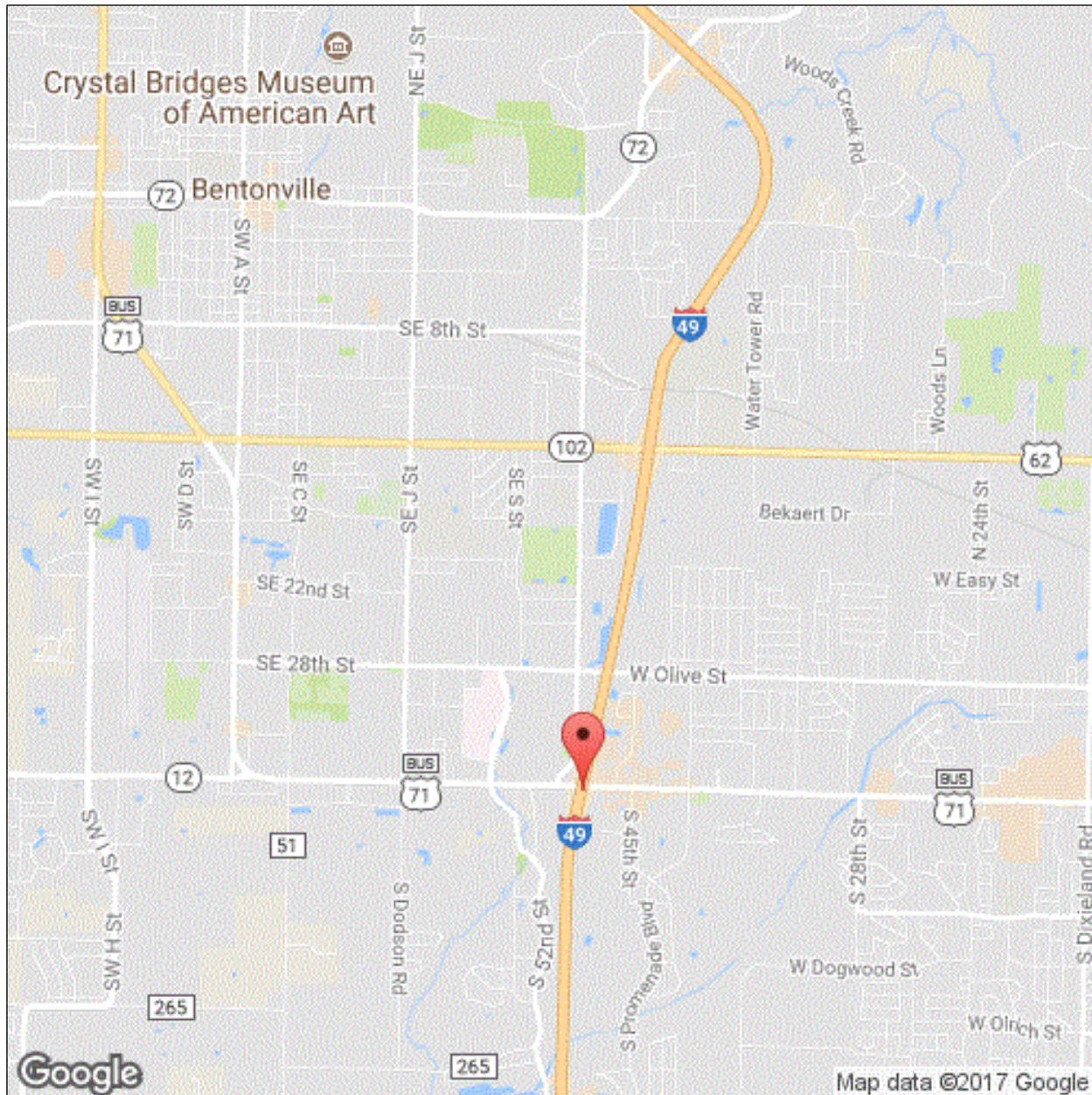
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Executive Summary

09/25/2017 RSM & WNR: Routine inspection conducted this date. See Elements notes for documentation. Under clearance measurements were field measured and verified at an earlier date. See UC Drawing linked in "Other File" for clearance measurements. NBI Condition Rating for item 59 lowered from 7 to 6 due to initial section loss to webs of girders over abutments at the deck haunch area.

Logged South to North.

MFF & WNR - 09-08-2015 - Vertical under clearance conducted this date see drawing for measurement information.

MFF & WNR - 09-08-2015 - No apparent noteworthy change since last inspection.

Inspector:

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National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	09/25/2017
(8) STRUCTURE NUMBER	B5977	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 1 1 49 1	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	09 (3) COUNTY CODE 007	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	58180	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	US 71-SEC 18B	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	I49 NBLN Benton 1		
(9) LOCATION	10.14 MI N WASH CO LINE		
(11) MILEPOINT 84.330	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000004900 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 36.33479	(17) LONGITUDE -94.18340		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	7
A) KIND OF MATERIAL/DESIGN: 4 - Steel continuous		(59) SUPERSTRUCTURE	6 (60) SUBSTRUCTURE 7
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 1987	(106) YEAR RECONSTRUCTED 0000	(31) DESIGN LOAD	5
(42) TYPE OF SERVICE ON 1 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 80000	(19) BYPASS DETOUR LENGTH 0	(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 1		(70) BRIDGE POSTING	5
		(41) STRUCTURE OPEN/POSTED/CLOSED	A
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.) 95	(49) STRUCTURE LENGTH (ft.) 185	(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.) 40.0		(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	5
(52) DECK WIDTH, OUT-TO-OUT (ft.) 42.8		(71) WATERWAY ADEQUACY	N
(32) APPROACH ROADWAY WIDTH (ft.) 40.0		(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 11	(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.) 41.3		36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) 99.99		36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.) H 16.3		36D) APPROACH GUARDRAIL ENDS:	1
(55) LATERAL UNDER CLEARANCE RIGHT (ft.) H 11.2		(113) SCOUR CRITICAL BRIDGES	N
(56) MIN LATERAL UNDER CLEARANCE (ft.) 0		SUFFICIENCY RATING	0 STATUS 97.0
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 38078	(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:

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Bridge Inspection Report

National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

(1) STATE CODE	056 - Arkansas	(7) FACILITY CARRIED	I 49, NB LNS
(3) COUNTY CODE	007	(8) STRUCTURE NUMBER	B5977
(4) PLACE CODE	58180	(9) LOCATION	10.14 MI N WASH CO LINE
(5) INV. ROUTE (ON/UNDER)	2 2 6 71 0	(11) MILEPOINT	11.800 (12) BASE HIGHWAY NETWORK 1
(6) FEATURES INTERSECTED	US 71-SEC 18B	(13A) LRS INVENTORY ROUTE	000007118B (13B) SUBROUTE NUMBER 00
		(16) LATITUDE	36. 3348055555556
		(17) LONGITUDE	-94.1833333333333

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN A) KIND OF MATERIAL/DESIGN: 4 - Steel continuous
 B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder

AGE OF SERVICE

(19) BYPASS DETOUR LENGTH	2	(30) YEAR OF AVERAGE DAILY TRAFFIC	2014
(27) YEAR BUILT	1987	(42) TYPE OF SERVICE	ON 1 UNDER 1
(28) LANES	ON 04 UNDER 02	(109) AVERAGE DAILY TRUCK TRAFFIC	1
(29) AVERAGE DAILY TRAFFIC	34000		

GEOMETRIC DATA

(10) INV RTE, MIN VERT CLEARANCE	16.6	(48) LENGTH OF MAXIMUM SPAN	95	(49) STRUCTURE LENGTH	185
(47) TOTAL HORIZONTAL CLEARANCE	85.2				

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	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.	7320	sq. ft.	6170	1150	0	0
	09/25/2017 RSM & WNR: -The driving surface of the deck has sealable full length longitudinal cracking in both lanes with short duration transverse cracking at random locations. The gutters have transverse cracking that corresponds with the joints in the bridge railing. -The overhang portion of the deck has transverse cracks with efflorescence visible in the undersurface that correspond with the joints in parapets.						
1120 - Efflorescence/Rust Staining		56			56		
1130 - Cracking (RC and Other)		362			362		
1190 - Abrasion/Wear (PSC/RC)		732			732		
107 - Steel Open Girder/Beam	1- Ben.	1098	ft.	1092	0	6	0
	09/25/2017 RSM & WNR: -The girders over abutment #1 have areas of corrosion with initial section loss to the webs adjacent to the deck haunch. -The undersurface of Girder #6 bottom flange has insignificant scrape marks over the East bound lanes. -The bottom flanges of girders #2 and #6 of span #2 have collision damage with an area approximately 12" long of out-of-plane bending to the bottom flange..						
1000 - Corrosion		6				6	
515 - Steel Protective Coating		10732	sq. ft.	1661	9000	0	71
3410 - Chalking (Steel Protective Coatings)		9000			9000		
3440 - Effectiveness (Steel Protective Coatings)		71					71
205 - Reinforced Concrete Column	1- Ben.	4	each	4			
	09/25/2017 RSM & WNR: No noteworthy deficiencies at this inspection.						
215 - Reinforced Concrete Abutment	1- Ben.	101	ft.	77	24	0	0
	09/25/2017 RSM & WNR: The top of abutment backwalls have transverse cracking at random spacing visible from the driving surface.						
1130 - Cracking (RC and Other)		24			24		
234 - Reinforced Concrete Pier Cap	1- Ben.	81	ft.	81			
	09/25/2017 RSM & WNR: No noteworthy deficiencies at this inspection.						
302 - Compression Joint Seal	1- Ben.	86	ft.	0	0	0	86
	09/25/2017 RSM & WNR: -The compression joint seal at abutment #1 is missing allowing water to free flow onto the substructure.. -The compression joint seal at abutment #2 is deteriorated and sticks up above the assembly in locations and has damage from traffic impact in locations. The assembly has debris impact in the gutters.						
2310 - Leakage		43					43

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Element Inspection

2320 - Seal Adhesion		43					43
310 - Elastomeric Bearing	1- Ben.	12	each	12			
	09/25/2017 RSM & WNR: No noteworthy deficiencies at this inspection.						
311 - Movable Bearing	1- Ben.	12	each	0	0	12	0
	09/25/2017 RSM & WNR: Bearings have a failed paint system with corrosion and flaking rust between the rockers and sole plates. -The bearings have red staining indicating wear. -The bearings have significant movement under live load in locations. The most notable case is bearings #2, #3 and #4 at abutment #1. -The bolts that attach the girders to the bearing devices are backing out in locations. One of the bolts at girder #6 is sheared off.						
1000 - Corrosion		5				5	
1020 - Connection		4				4	
2210 - Movement		3				3	
515 - Steel Protective Coating		36	sq. ft.	8	0	0	28
3440 - Effectiveness (Steel Protective Coatings)		28					28
321 - Reinforced Concrete Approach Slab	1- Ben.	1680	sq. ft.	1333	270	58	19
	09/25/2017 RSM & WNR: -The approach slabs have light abrasion in the wheel paths. -The South approach slab has two areas of longitudinal spalling / cracking approximately 4' long and 4" wide at the juncture of the South approach roadway. A portion of the slab approximately 4' x 4' in the right lane at the juncture of the approach roadway has settlement. The slab has longitudinal, transverse and diagonal meandering cracks. -The North approach slab has a transverse crack in the right lane.						
1080 - Delamination/Spall/Patched Area		1				1	
1130 - Cracking (RC and Other)		88			12	57	19
1190 - Abrasion/Wear (PSC/RC)		258			258		
331 - Reinforced Concrete Bridge Railing	1- Ben.	3701	ft.	3663	23	15	0
	09/25/2017 RSM & WNR: The concrete bridge railing has vertical cracks that correspond with the sawn joints and in other random locations. The left bridge railing has numerous shallow spalls that expose the reinforcing steel. Approach railing: The Southeast approach railing has minor collision damage.						
1080 - Delamination/Spall/Patched Area		10			10		
1090 - Exposed Rebar		15				15	
1130 - Cracking (RC and Other)		13			13		

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Pictures

Inspector:

Inspection Date:

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Bridge Inspection Report

Sketches

Inspector:

Structure Number: B5977

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Facility Carried: I49 NBLN Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/25/2017

Priority: D - Routine

Work Code:

Deficiency Description:

Southeast approach railing has minor collision damage.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Southeast approach railing-Collision damage.

Inspector:

Structure Number: B5977

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 09/25/2017

Priority: G - General/ Preventive maintenance

Work Code:

Deficiency Description:

Deck - The right gutter has moderate dirt and debris accumulation.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Right gutter-Moderate dirt and debris accumulation.

Inspector:

Structure Number: B5977

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Maintenance Needs

Date Reported: 09/25/2017

Priority: D - Routine

Work Code:

Deficiency Description:

Approach slabs - The North and South approach slabs have wide sealable cracking in both lanes.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description North approach slab-Transverse cracking.

Inspector:

Structure Number: B5977

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Maintenance Needs

Date Reported: 9/8/2011 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Deck -

The compression joint seal at abutment #1 is missing and is allowing water to free flow onto the substructure..

The compression joint seal at abutment #2 is deteriorated and sticks up above the assembly in locations and has areas of damage from traffic impacts. The assembly has debris impaction in the gutters.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Bent #1 - joint sealant is missing.

Stage: Monitor



PHOTO 2 Description Abutment #1-Expansion joint seal displaced.

Inspector:

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Maintenance Needs

Date Reported: 9/8/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Bearings - The moveable bearings at both abutments have corrosion with flaking rust between the rockers and sole plates.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Corrosion / pack rust to bearing device.

Inspector:

Structure Number: B5977

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Maintenance Needs

Date Reported: 9/8/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Moveable bearings - The bolts that attach the girders to the bearings at abutments #1 and #2 have backed out in several locations. One of the bolts for Girder #6 at abutment #1 has sheared off.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Abutment #1, BM #6-Bolt sheared off.

Stage: Assigned



PHOTO 2 Description Abutment #2, bearing #2-Bolt backing out.

Inspector:

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Maintenance Needs

Date Reported: 9/8/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Deck / North approach roadway - The driving surface of the deck has sealable cracking in all spans. The North approach roadway has a pothole developing at the juncture of the approach slab.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description North approach roadway-Pothole at juncture of approach slab.

Stage: Monitor



PHOTO 2 Description Longitudinal deck cracking.

Inspector:

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Stage: Monitor



PHOTO 3 Description Transverse deck cracking.

Inspector:

Structure Number: B5977

Inspection Date:

Facility Carried: I49 NBLN Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 9/8/2011 12:00:00 AM

Priority: A - Safety deficiency; requires prompt action

Work Code:

Deficiency Description:

South approach roadway - The South approach roadway has a large pothole in the right lane due to the ACHM coming apart at the juncture of the approach slab and an area of spalling in the end of the approach slab.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description South approach slab-Spalling.

Stage: Open



PHOTO 2 Description South approach slab-Spalling.

Inspector:

Inspection Date:

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Maintenance Needs

Stage: Open



PHOTO 3 Description South approach roadway-Pothole in ACHM at juncture of approach slab.