

# Bridge Inspection Report

**06340**  
**SH 23 Madison Co.**  
**over**  
**HOLMAN CREEK**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

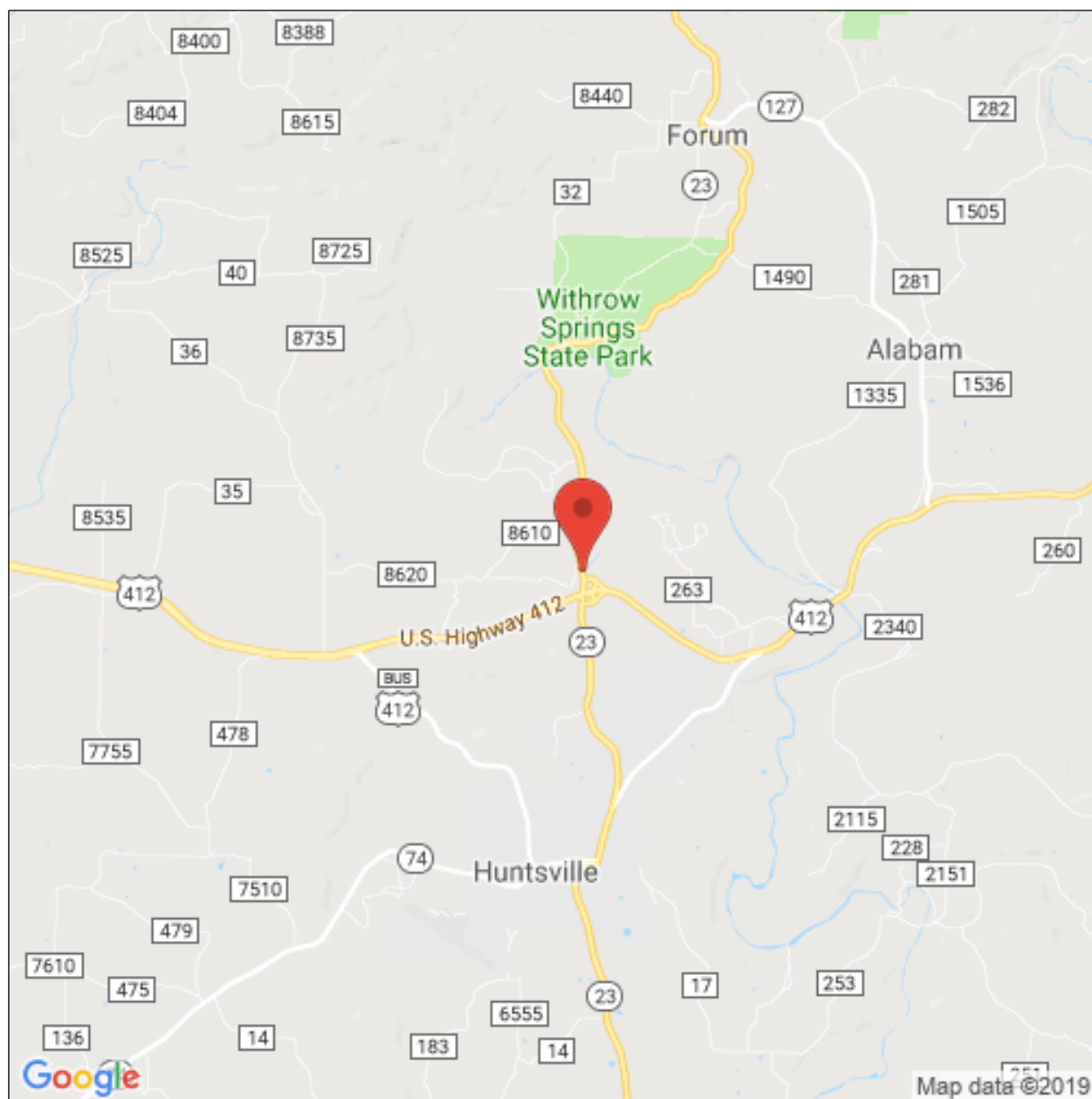
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**Structure Number:** 06340

**Facility Carried:** SH 23 Madison Co.

### Location Map



**Longitude: -93.73388**

Inspector:

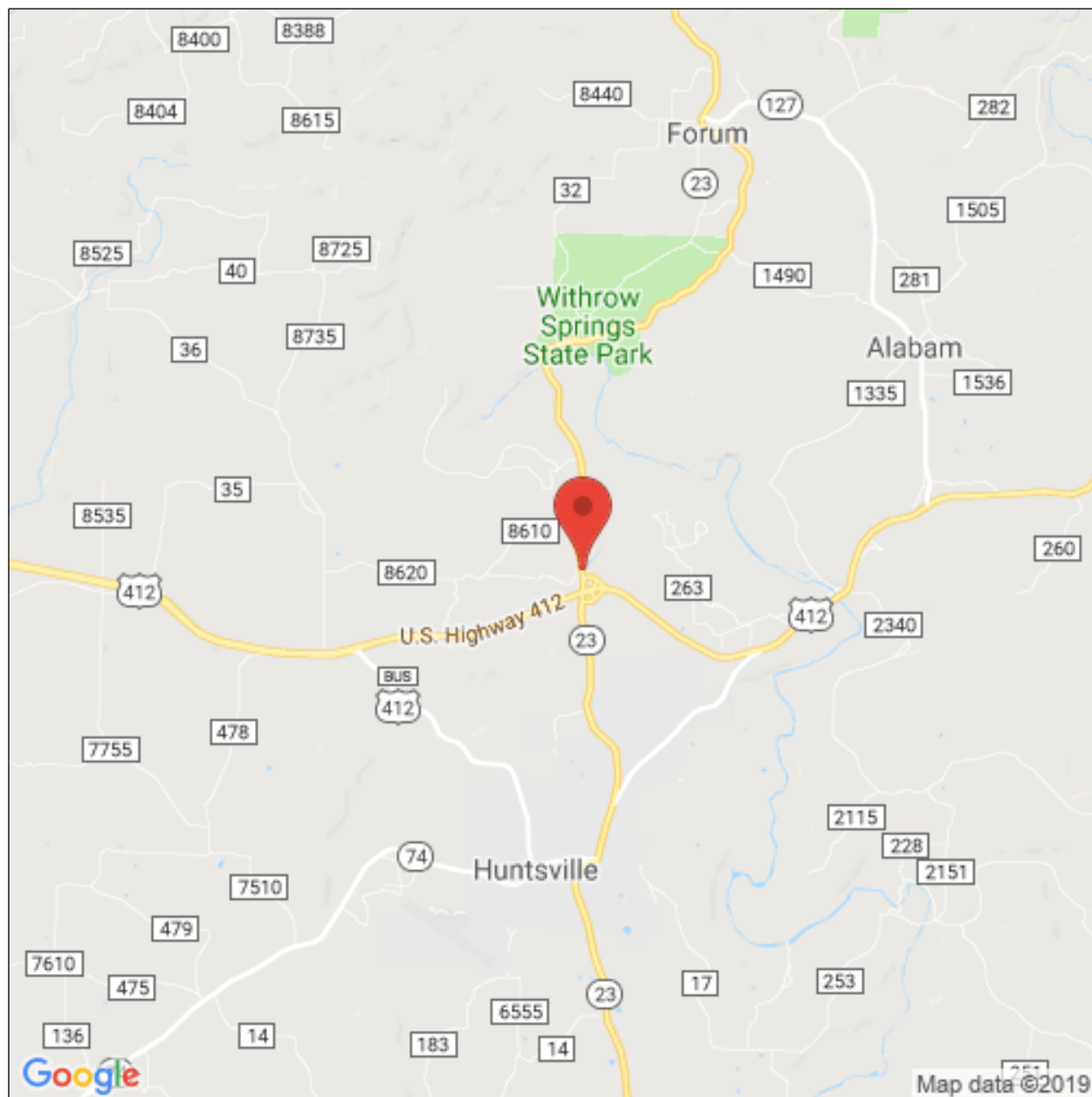
Structure Number: 06340

Inspection Date:

Facility Carried: SH 23 Madison Co.

## Bridge Inspection Report

### Location Map



Latitude: 36.12430

Longitude: -93.73388



Inspector:

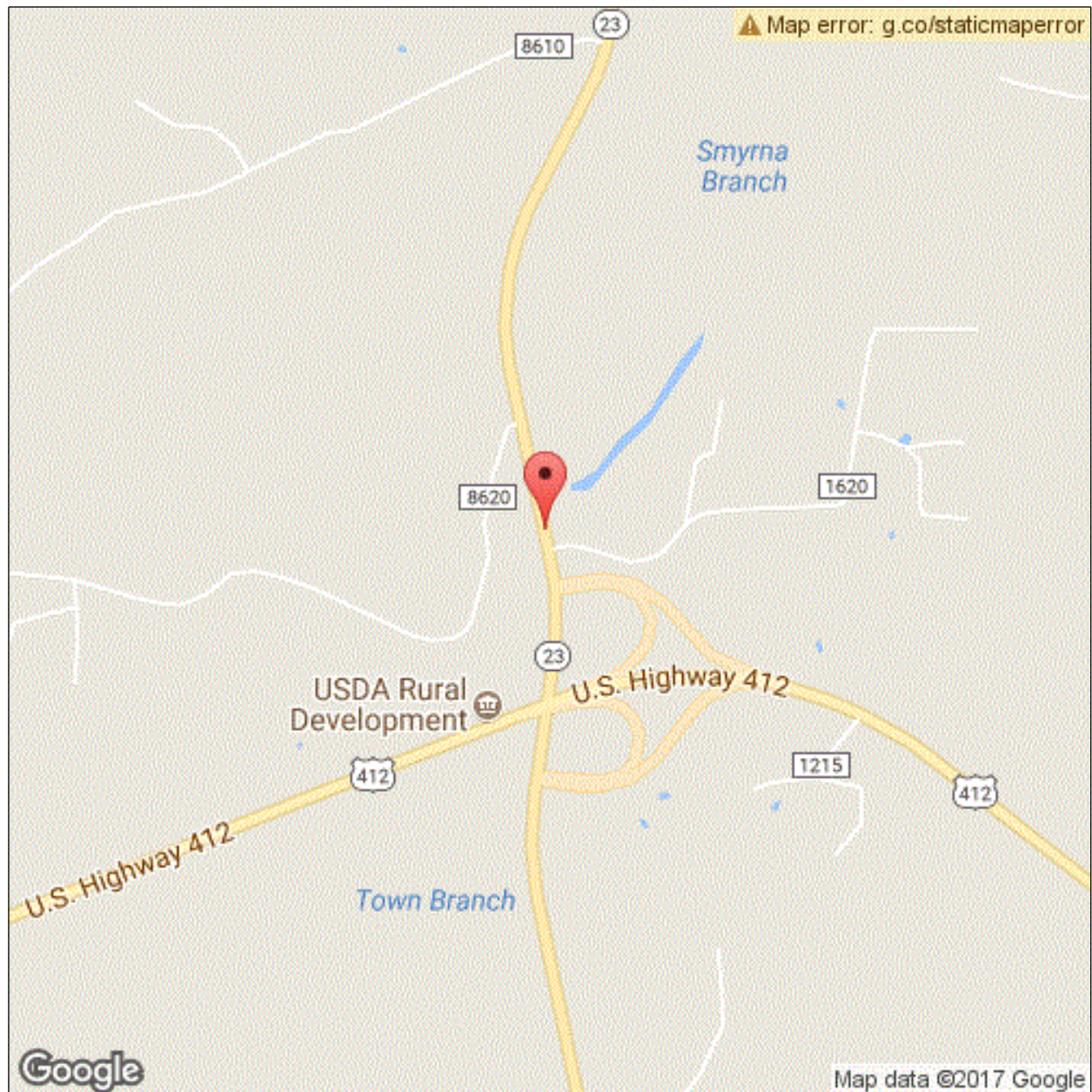
Structure Number: 06340

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## Bridge Inspection Report

### Location Map



Latitude: 36.12430

Longitude: -93.73388



Inspector:

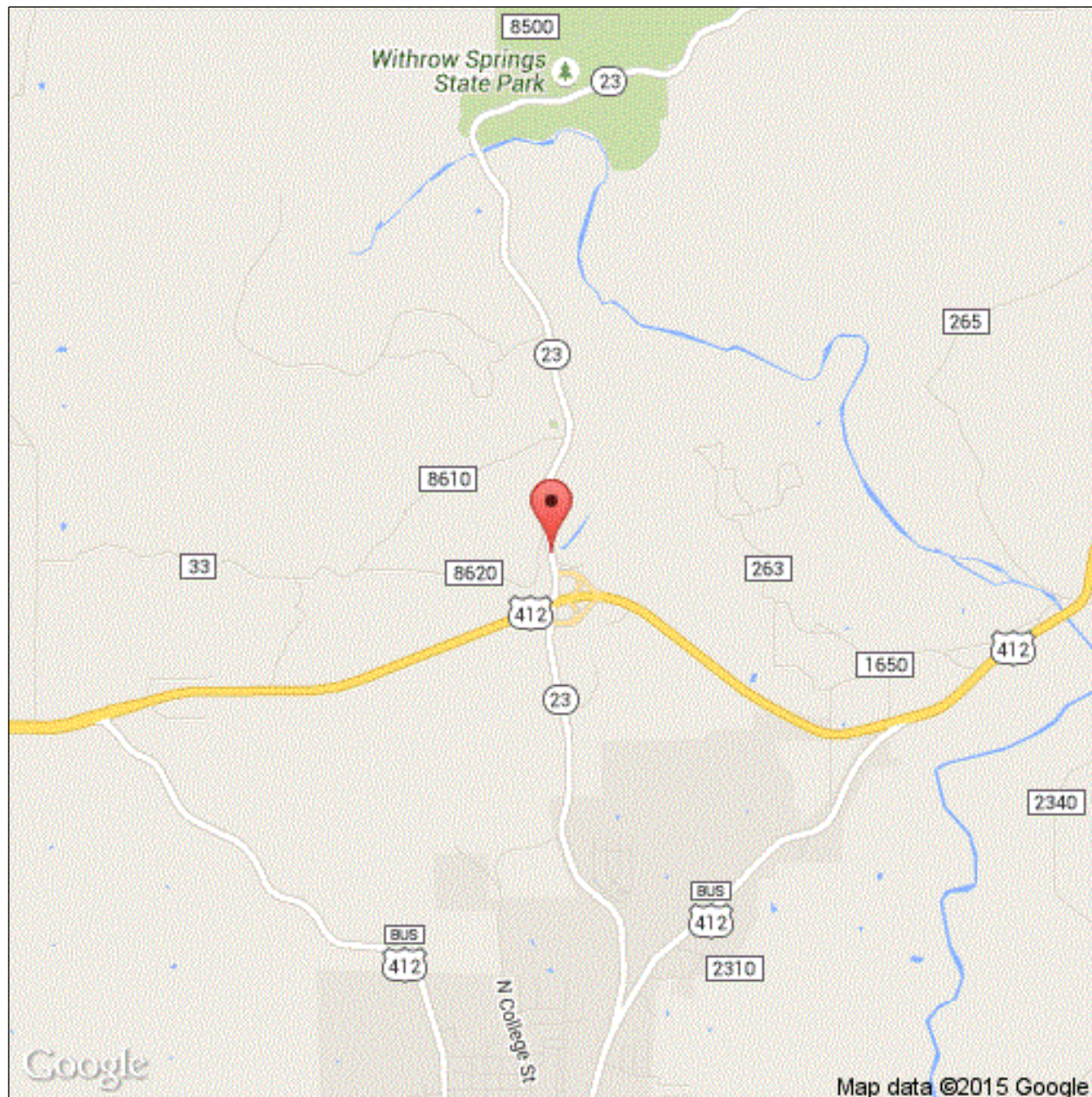
Structure Number: 06340

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### Bridge Inspection Report

### Location Map



Latitude: 36.12430

Longitude: -93.73388

**Inspector:**

**Inspection Date:**

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## **Bridge Inspection Report**

### **Executive Summary**

Logged South to North.

Inspector:

Structure Number: 06340

Inspection Date:

Facility Carried: SH 23 Madison Co.

## Bridge Inspection Report

## National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	08/14/2019
(8) STRUCTURE NUMBER	06340	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 3 1 23 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	09 (3) COUNTY CODE 087	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	00000	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	HOLMAN CREEK	C. OTHER SPECIAL	N 08/06/2015
(7) FACILITY CARRIED	SH 23 Madison Co.		
(9) LOCATION	2.18 MI NO JCT US 412& 23		
(11) MILEPOINT 2.190	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000023090 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE	36.12430 (17) LONGITUDE -93.73388		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	6
A) KIND OF MATERIAL/DESIGN: 3 - Steel		(59) SUPERSTRUCTURE	6 (60) SUBSTRUCTURE 5
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder		(61) CHANNEL & CHANNEL PROTECTION	7 (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	6 (46) NUMBER OF APPROACH		
(107) DECK STRUCTURE TYPE	1 (108A) WEARING SURFACE		
(108B) DECK MEMBRANE	0 (108C) DECK PROTECTION		
	0		
AGE OF SERVICE		LOAD RATING AND POSTING	
(27) YEAR BUILT	1991 (106) YEAR RECONSTRUCTED	(31) DESIGN LOAD	5
(42) TYPE OF SERVICE	ON 1 UNDER 5	(63) METHOD USED TO DETERMINE OPERATING RATING	1
(28) LANES	ON 02 UNDER 00	(64) OPERATING RATING	60.0
(29) AVERAGE DAILY TRAFFIC	1900 (19) BYPASS DETOUR LENGTH	(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.)	45 (49) STRUCTURE LENGTH (ft.)	(67) STRUCTURAL EVALUATION	5
(50) CURB/SIDEWALK WIDTHS (ft.)	LEFT 0 RIGHT 0	(68) DECK GEOMETRY	6
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	36.4	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(52) DECK WIDTH, OUT-TO-OUT (ft.)	39.2	(71) WATERWAY ADEQUACY	6
(32) APPROACH ROADWAY WIDTH (ft.)	24.0	(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN	0 (34) SKEW (DEG.)	(36) TRAFFIC SAFETY FEATURE	
(35) STRUCTURE FLARED	0 (10) INV RTE, MIN VERT CLEAR (ft.)	36A) BRIDGE RAILINGS:	1
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	37.4	36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	36D) APPROACH GUARDRAIL ENDS:	1
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	(113) SCOUR CRITICAL BRIDGES	8
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0	SUFFICIENCY RATING	88.7 STATUS 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	0
(94) BRIDGE IMPROVEMENT COST (\$)	0	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	06
(95) ROADWAY IMPROVEMENT COST (\$)	0	(100) STRAHNET HIGHWAY DESIGNATION	0
(96) TOTAL PROJECT COST	0	(101) PARALLEL STRUCTURE DESIGNATION	N
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(102) DIRECTION OF TRAFFIC	2
(114) FUTURE ADT	2251 (115) YEAR OF FUTURE ADT	(103) TEMP STRUCTURE	
	2028	(105) FEDERAL LANDS HIGHWAYS	0
		(110) DESIGNATED NATIONAL NETWORK	0
		(20) TOLL	3
		(21) MAINTENANCE RESPONSIBILITY	01
		(22) OWNER	01
		(37) HISTORICAL	4
		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:

Structure Number: 06340

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Facility Carried: SH 23 Madison Co.

## Bridge Inspection Report

## Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>12 - Reinforced Concrete Deck</b>	1- Ben.	9801	sq. ft.	9434	352	15	0
08/14/2019 - WNR & DBM: -The left and right overhangs of the deck has areas of spalling with exposed reinforcing steel and as well as numerous delaminated areas throughout the structure. -The deck has a 3-1/2' x 2' asphalt patched area in the right lane of span #2 adjacent to bent #1. -The deck has a 6" asphalt patched area at centerline in span #4 at bent #3. -The undersurface of the deck in span #5 has transverse cracking with efflorescence in bay #4. -The deck has sealable cracking in all span. Numerous unsealed cracks still exist throughout the surface of the deck. -Span #6, right lane has a large area of mapcracking at abutment #2. -There is spalling adjacent to deck joints at bents #2 and #5 with an 8'x8' delaminated area located at bent #5.  Undersurface -The right overhang has numerous shallow delaminated areas throughout the structure.							
1080 - Delamination/Spall/Patched Area		103		0	88	15	0
1130 - Cracking (RC and Other)		264		0	264	0	0
<b>107 - Steel Open Girder/Beam</b>	1- Ben.	1350	ft.	1275	67	8	0
08/14/2019 - WNR & DBM: -Ends of girders have active corrosion with flaking rust adjacent to deck joints.							
1000 - Corrosion		75		0	67	8	0
<b>205 - Reinforced Concrete Column</b>	1- Ben.	10	each	10	0	0	0
08/14/2019 - WNR & DBM: -The channel has moderate drift accumulation at bents #3 and #4 that is causing localized scour at the bases of columns. -Localized scour is present around all columns							
<b>215 - Reinforced Concrete Abutment</b>	1- Ben.	140	ft.	112	28	0	0
08/14/2019 - WNR & DBM: The top of abutment backwalls have transverse cracking at random spacing visible from the driving surface. -Abutment #2 backwall has areas of shallow spalling along the expansion joint assembly. -The North embankment has minor earth settlement on left side of abutment #2 that has created a void under the breastwall approximately 12" deep and 24" in length measured along the length of abutment.							

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## Bridge Inspection Report

## Element Inspection

<b>234 - Reinforced Concrete Pier Cap</b>	1- Ben.	240	ft.	193	25	11	11
08/14/2019 - WNR & DBM: -Bents #1 through #5 has spalls in the end of caps with exposed reinforcing steel. -The right side of bent #1 cap has a delaminated / spalled area approximately 5' long with exposed primary reinforcing steel under beam #5. -The ahead side of bent #2 has a delaminated area on the left side approximately 3' long in bay #1. -The backface and ahead face of bent #3 cap has spalling with exposed reinforcing steel in an area approximately 3' long on the right side. The left side of cap has delaminated areas on the ahead face and a spall with exposed reinforcing steel approximately 18" long in the undersurface of cap on left side. -Bent 4 cap right behind side 11' long spall with steel exposed. Spall is almost to the bearing area of bearing #5. -The left side of bent #5 cap on the ahead side has a large delaminated area approximately 7' long with areas that extend down the cap up to 36" in height. -The right behind side of bent #5 cap has a delaminated area adjacent to bearings #5.							
1080 - Delamination/Spall/Patched Area		41		0	25	5	11
1090 - Exposed Rebar		6		0	0	6	0
<b>302 - Compression Joint Seal</b>	1- Ben.	350	ft.	0	350	0	0
08/14/2019 - WNR & DBM: -Compression joint seals have adhesion failure and leak water onto the substructure and superstructure promoting corrosion.							
2310 - Leakage		350		0	350	0	0
<b>311 - Movable Bearing</b>	1- Ben.	30	each	8	7	15	0
08/14/2019 - WNR & DBM: -Bent #2 has 5 moveable bearings in CSD3 due to flaking rust. -Bent #3 has 5 moveable bearings in CSD3 due to flaking rust. -Bent #5 has 5 moveable bearings in CSD3 due to flaking rust. Bearings have active corrosion with flaking rust due to failing expansion joints allowing water to leak onto the bearing devices.							
1000 - Corrosion		22		0	7	15	0
<b>313 - Fixed Bearing</b>	1- Ben.	30	each	1	10	19	0
08/14/2019 - WNR & DBM: -Bent #2 has 5 bearings in CSD3 due to flaking rust. -Bent #3 has 5 bearings in CSD3 due to flaking rust. -Bent #5 has 5 bearings in CSD3 due to flaking rust. -Bearings have active corrosion with flaking rust due to failing expansion joints seals that are allowing water to leak onto the bearing devices.							
1000 - Corrosion		29		0	10	19	0
515 - Steel Protective Coating		30	sq. ft.	1	0	29	0

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### Bridge Inspection Report

#### Element Inspection

331 - Reinforced Concrete Bridge Railing	1- Ben.	540	ft.	410	123	7	0
08/14/2019 - WNR & DBM:  - The concrete bridge railing has vertical cracks that correspond with the joints in the parapets and at the corners of drains at bases of parapets.							

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**Bridge Inspection Report**

**Pictures**

PHOTO 1

Description

PHOTO 2

Description



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**Bridge Inspection Report**

**Pictures**

PHOTO 2

Description

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**Bridge Inspection Report**

**Sketches**

Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/06/2015

Priority: C - Important

Work Code:

#### Deficiency Description:

Deck expansion joints - Excessive leakage that is allowing water, dirt and debris accumulate on the caps and against the steel superstructure promoting corrosion.

#### Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Abutment #1-Compression joint  
adhesion failure.

Stage: Monitor



PHOTO 2 Description Span #1, beam #5-Corrosion with  
flaking rust to beam end due to leaking  
compression joint seals.

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## Bridge Inspection Report

### Maintenance Needs

Stage: Monitor



PHOTO 3      Description      Pack rush is causing leakage around compression joint material typical in expansion joints.



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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/06/2015

Priority: C - Important

Work Code:

#### Deficiency Description:

Substructure -

The right side of bent #1 cap has a delaminated/spalled area approximately 6' long with exposed primary reinforcing steel with measurable section loss under beam #5.

The ahead side of bent #2 has a delaminated area on the left side approximately 3' long in bay #1.

Bent #3 cap has spalling with exposed reinforcing steel in an area approximately 3' long on the right side. The left side of cap has delaminated areas on the ahead face and a spall with exposed reinforcing steel approximately 18" long in the undersurface of cap on left side.

-The right behind the side of bent #4 cap has a spalled area with exposed primary reinforcing steel that has measurable section loss 11' long under beam #5.

-The left side of bent #5 cap on the ahead side has a large delaminated area approximately 7' long with areas that extend down the cap up to 36" in height.

#### Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent #5 cap, ahead side-Large delaminated area on left side.

Stage: Assigned



PHOTO 2 Description right side of bent #1 cap has a delaminated / spalled area approximately 6' long with exposed primary reinforcing steel under beam #5.

Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 3 Description Bent #1 cap right spalling with steel exposed.

Stage: Assigned



PHOTO 5 Description Bent #3 cap has spalling with exposed reinforcing steel in an area approximately 3' long on the right side. The left side of cap has delaminated areas on the ahead face and a spall with exposed reinforcing steel approximately 18" long in the undersurface of cap on left side.

Stage: Assigned



PHOTO 4 Description Bent #3 cap has spalling with exposed reinforcing steel in an area approximately 3' long on the right side. The left side of cap has delaminated areas on the ahead face and a spall with exposed reinforcing steel approximately 18" long in the undersurface of cap on left side.



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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 6      Description      Bent 4 cap right behind side 11'squo; long spall with steel exposed. Spall is almost to the bearing area of bearing #5.

Stage: Assigned



PHOTO 7      Description      Bent 4 cap right behind side 11'squo; long spall with steel exposed. Spall is almost to the bearing area of bearing #5.

Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/06/2015

Priority: C - Important

Work Code:

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#### Deficiency Description:

Deck:

-Deck Surface has a 8' x 4' partial depth failure in span #6 located at the centerline near mid-span.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Assigned



PHOTO 1      Description      8' x 4'; partial depth failure in span #6 located at centerline near mid-span.



PHOTO 2      Description      Span #6 right - 8'x8' area with soft, deteriorated concrete, and map cracking.



Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/08/2017

Priority: C - Important

Work Code:

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#### Deficiency Description:

Channel -The channel has moderate drift accumulation at bents #3 and #4 that is creating areas of localized scour at the bases of columns.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Open



PHOTO 1 Description Bent #3-Drift accumulation.

Stage: Monitor



PHOTO 2 Description Large trees are restricting water flow at Bent #4

Inspector:

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Inspection Date:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/08/2017

Priority: D - Routine

Work Code:

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#### Deficiency Description:

The North embankment has minor earth settlement on left side of abutment #2 that has created a void under the bridge seat that penetrates approximately 12" deep in an area approximately 24" in length measured along the length of abutment.

#### Work Description:

Placed material under footing

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Date Repairs Completed: 02/15/2018

#### Maintenance Comments:

Madison Co Completed

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Stage: Open



PHOTO 1      Description      North embankment-Minor earth settlement on left side of abutment #2.