



Bridge Inspection Report

US 51

over

RELIEF

MADISON County

- INSPECTION DATE
04/12/2023
- STRUCTURE NUMBER
210005104513040
- BRIDGE ID
13025



Sufficiency Rating:
58.6

Health Index:
0

Status:
OK

Inspected By: Team Leader Jeff McGee

Taylor Coker, Jeff McGee, Bryan Nutt,

Inspection Type(s): Routine

Inspection Performed By: State

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Executive Summary

2023 ROUTINE INSPECTION

DECK IS IN SATISFACTORY CONDITION,RATED 6 WITH A ASPHALT OVERLAY 3".

SUPERSTRUCTURE IS IN SATISFACTORY CONDITION,RATED 6,

1.LIGHT CRACKING AT BEAMS 1,AT B-2 SPAN 1 AND 3 AT BENT 2, SPAN 1.

2.CONC. DROP SLAB SPALLED AT BAY 2 WITH EXP. REBAR.

3.LIGHT EROSION AT NE CORNER,BEHIND GUARDRAIL.

SUBSTRUCTURE IS IN GOOD CONDITION,RATED 7.

CHANNEL IS IN GOOD CONDITION,RATED 8.

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National Bridge Inventory

IDENTIFICATION						INSPECTIONS		
(1) STATE CODE	284 - Mississippi					(90) INSPECTION DATE	04/12/2023	
(8) STRUCTURE NUMBER	210005104513040					(91) DESIGNATED INSPECTION FREQUENCY	12	
(5) INV. ROUTE (ON/UNDER)	1	2	1	00051	0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE	
(2) HIGHWAY AGENCY	05	(3) COUNTY CODE 089					A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	93357					B. UNDERWATER INSPECTION	N	
(6) FEATURES INTERSECTED	RELIEF					C. OTHER SPECIAL	N	
(7) FACILITY CARRIED	US 51							
(9) LOCATION	8.9 MI N SR 22					CONDITION		
(11) MILEPOINT	25.123	(12) BASE HIGHWAY NETWORK 0					(58) DECK	6
(13A) LRS INVENTORY ROUTE	000000051P	(13B) SUBROUTE NUMBER 1					(59) SUPERSTRUCTURE	6 (60) SUBSTRUCTURE 7
(16) LATITUDE	32.735703	(17) LONGITUDE -89.993207					(61) CHANNEL & CHANNEL PROTECTION	8 (62) CULVERT N
(98A) BORDER BRIDGE CODE						LOAD RATING AND POSTING		
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT					(31) DESIGN LOAD	2	
STRUCTURE TYPE AND MATERIAL						(63) METHOD USED TO DETERMINE OPERATING RATING	1	
(43) STRUCTURE TYPE, MAIN						(64) OPERATING RATING	31.4	
A) KIND OF MATERIAL/DESIGN: 1 - Concrete						(65) METHOD USED TO DETERMINE INVENTORY RATING	1	
B) TYPE OF DESIGN/CONSTR: 04 - Tee Beam						(66) INVENTORY RATING	18.9	
(44) STRUCTURE TYPE, APPROACH SPANS						(70) BRIDGE POSTING	2	
A) KIND OF MATERIAL/DESIGN:						(41) STRUCTURE OPEN/POSTED/CLOSED	P	
B) TYPE OF DESIGN/CONSTR:						APPRAISAL		
(45) NUMBER OF SPANS IN MAIN 2 (46) NUMBER OF APPROACH 0						(67) STRUCTURAL EVALUATION	4	
(107) DECK STRUCTURE TYPE 1 (108A) WEARING SURFACE 6						(68) DECK GEOMETRY	4	
(108B) DECK MEMBRANE 0 (108C) DECK PROTECTION 0						(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N	
AGE OF SERVICE						(71) WATERWAY ADEQUACY	8	
(27) YEAR BUILT 1939 (106) YEAR RECONSTRUCTED						(72) APPROACH ROADWAY ALIGNMENT	8	
(42) TYPE OF SERVICE ON 1 UNDER 5						(36) TRAFFIC SAFETY FEATURE		
(28) LANES ON 02 UNDER 00						36A) BRIDGE RAILINGS:	0	
(29) AVERAGE DAILY TRAFFIC 740 (19) BYPASS DETOUR LENGTH 19						36B) TRANSITIONS:	0	
(30) YEAR OF AVERAGE DAILY TRAFFIC 2020						36C) APPROACH GUARDRAIL:	0	
(109) AVERAGE DAILY TRUCK TRAFFIC 9						36D) APPROACH GUARDRAIL ENDS:	1	
GEOMETRIC DATA						(113) SCOUR CRITICAL BRIDGES	7	
(48) LENGTH OF MAX SPAN (ft.) 29.9 (49) STRUCTURE LENGTH (ft.) 89.9						SUFFICIENCY RATING	58.6 STATUS 0	
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT .7 RIGHT .7						CLASSIFICATION		
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.) 24						(112) NBIS BRIDGE LENGTH	Y	
(52) DECK WIDTH, OUT-TO-OUT (ft.) 26.2						(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0	
(32) APPROACH ROADWAY WIDTH (ft.) 29.9						(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	07	
(33) BRIDGE MEDIAN 0 (34) SKEW (DEG.) 0						(100) STRAHNET HIGHWAY DESIGNATION	0	
(35) STRUCTURE FLARED 0 (10) INV RTE, MIN VERT CLEAR (ft.) 99.99						(101) PARALLEL STRUCTURE DESIGNATION	N	
(47) TOTAL HORIZONTAL CLEARANCE (ft.) 24						(102) DIRECTION OF TRAFFIC	2	
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) 99.99						(103) TEMP STRUCTURE		
(54) VERTICAL UNDER CLEARANCE (ft.) N 0						(105) FEDERAL LANDS HIGHWAYS	0	
(55) LATERAL UNDER CLEARANCE RIGHT (ft.) N 0						(110) DESIGNATED NATIONAL NETWORK	0	
(56) MIN LATERAL UNDER CLEARANCE (ft.) 0						(20) TOLL	3	
PROPOSED IMPROVEMENTS						(21) MAINTENANCE RESPONSIBILITY	01	
(75A) TYPE OF WORK PROPOSED 34 (75B) WORK DONE BY 1						(22) OWNER	01	
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.) 120.1						(37) HISTORICAL	5	
(94) BRIDGE IMPROVEMENT COST (\$) 140000						NAVIGATION DATA		
(95) ROADWAY IMPROVEMENT COST (\$) 200000						(38) NAVIGATION CONTROL	0	
(96) TOTAL PROJECT COST 400000						(111) PIER OR ABUTMENT PROTECTION		
(97) YEAR OF IMPROVEMENT COST ESTIMATE 2009						(39) NAV VERT CLEARANCE (ft.)	0	
(114) FUTURE ADT 750 (115) YEAR OF FUTURE ADT 2041						(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)		
						(40) NAV HORIZONTAL CLEARANCE (ft.)	0	

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Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
16 - Reinforced Concrete Top Flange	Ben.	2359	sq. ft.	2359	0	0	0
510 - Wearing Surfaces		2359	sq. ft.	2359	0	0	0
110 - Reinforced Concrete Open Girder/Beam	Ben.	240	ft.	238	2	0	0
1130 - Cracking (RC and Other)		2		0	2	0	0
205 - Reinforced Concrete Column	Ben.	2	each	2	0	0	0
215 - Reinforced Concrete Abutment	Ben.	96	ft.	96	0	0	0
220 - Reinforced Concrete Pile Cap/Footing	Ben.	40	ft.	40	0	0	0
234 - Reinforced Concrete Pier Cap	Ben.	24	ft.	24	0	0	0
331 - Reinforced Concrete Bridge Railing	Ben.	180	ft.	180	0	0	0

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ADMINISTRATION

Structure Assessment

Structural/Functional Classification:	OK	Health Index:	0
Sufficiency Rating:	58.6	Replacement Index:	58.7

Proposed Improvements

75A Type of Work Proposed:	34 - Widening - With Deck	94 Bridge Improvement Cost:	140000	\$
75B Work Done By:	1 - Work to be done by contract	95 Roadway Improvement Cost:	200000	\$
76 Length Of Structure Improvement:	120.1	Ft.	96 Total Project Cost:	400000
Project Notes:	938651.72273285966	97 Year Of Improvement Cost Estimate:	2009	

Original Construction

Project Number:	FAP-98(3)	Plans Available:	Unknown
Station:	13+00		

Site Conditions

Snooper Required:	No	Site Vegetation:	None
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Traffic control required: None

Utility Attachments:

<input type="checkbox"/> Water	<input type="checkbox"/> Sewer	<input type="checkbox"/> Telecom
<input type="checkbox"/> Gas	<input type="checkbox"/> Electric	<input type="checkbox"/> Other

Overhead Appurtenances:

<input type="checkbox"/> Sign Truss	<input type="checkbox"/> Signal	<input type="checkbox"/> Lighting
<input type="checkbox"/> Utility Line		<input type="checkbox"/> Other

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Approach Report

NBI Info

(36B) TRANSITIONS	0 - Does not meet acceptable standards/safety feature is required
(36C) APPROACH GUARDRAIL	0 - Does not meet acceptable standards/safety feature is required
(36D) APPROACH GUARDRAIL ENDS	1 - Meets acceptable standards
(72) APPROACH ROADWAY ALIGNMENT	8 - Equal to present desirable criteria

Approach

Appr Guardrail-rear Left Position	Good	S
Appr Guardrail-rear Right Position	Good	S
Appr Guardrail-forward Left Position	Good	S
Appr Guardrail-forward Right Position	Good	S
Appr Roadway Condition	Good	
Appr Roadway Transitions	Good	

Signage

End Of Bridge Markers	Good
Vertical Clearance Signing	NA
Posting Sign - Rear	NA
Posting Sign - Forward	NA
Posting Values Correct	NA
Valid Posting Limits	H TRUCK LIMIT - 25 TONS HS SHORT LIMIT - 35 TONS HS LONG LIMIT - 39 TONS

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DECK

NBI Info			
(58) DECK	6 - Satisfactory Condition (minor deterioration)		
(036A) BRIDGE RAIL	0 - Does not meet acceptable standards/safety feature is required		
(108A) WEARING SURFACE	6 - Bituminous		
LEFT SHOULDER WIDTH		FT.	
RIGHT SHOULDER WIDTH		FT.	
ASBESTOS DRAINS	U		
DECK AREA	2355	SQ FT.	
Full Bridge			

	<u>Condition</u>	<u>Notes</u>
Structure:	Good	
Wearing Surface:	Good	ASPHALT OVERLAY 3"
Curbs:	NA	
Median:	NA	
Sidewalk:	NA	
Joints:	NA	
Railing:	Good	
Drainage:	Good	LIGHT EROSION AT NE CORNER BEHIND GUARDRAIL
Lighting:	NA	
Utilities:	NA	
Overlay Thickness:	3	in

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SUPERSTRUCTURE

NBI Info

(59) SUPERSTRUCTURE 6 - Satisfactory Condition (minor deterioration)

NUMBER OF BRIDGE PINS

FRACTURE CRITICAL DETAILS

Full Bridge

CONDITION

	<u>Condition</u>	<u>Notes</u>
Girders:	Good	BACK OF BEAM 2 BENT SPALLED ,LIGHT CRACKING AT BEAMS 1 AT BENT 2 SPAN 1 AND 3BEAM 3 AT BENT 2 SPAN 1
Floor Beams:	NA	
Stringers:	NA	
Steel Risers:	NA	
Bearings:	NA	
Hinge Pins/Hangers:	NA	
Diaphragms/Cross Frames:	Good	DROP SLAB SPALLED AT BAY 2 BENT 2 WITH EXPOSED REBAR
Paint:	NA	
Collision Damage:	NA	
Deflection/Vibration:	Good	
Cap/Girder Debris:	Good	
Navigation Lighting:	NA	

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SUBSTRUCTURE

NBI Info

(60) SUBSTRUCTURE 7 - Good Condition (some minor problems)

(111) PIER PROTECTION

Abutments

	<u>Condition</u>	<u>Notes</u>
Backwall:	Good	
Bulkhead:	Good	
Wing Walls:	Good	
Cap:	Good	
Footings:	Good	
Piles:	NA	
Embankment:	Good	
Slope Paving:	NA	

Full Bridge

	<u>Condition</u>	<u>Notes</u>
Cap:	Good	
Risers:	NA	
Columns/Piles:	Good	
Footings:	NA	
Web Walls:	NA	
Bracing:	NA	
Pier Protection-Navigation:	NA	
Pier Protection Lighting:	NA	

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Bent 1					

	<u>Condition</u>	<u>Notes</u>
Cap:	Good	
Risers:	NA	
Columns/Piles:	NA	
Footings:	Good	The footing of Abutment 1 was exposed up to 1.5 ft. at the upstream end but was not undermined.
Web Walls:	NA	
Bracing:	NA	
Pier Protection-Navigation:	NA	
Pier Protection Lighting:	NA	

Bent 2		
	<u>Condition</u>	<u>Notes</u>
Cap:	Good	
Risers:	NA	
Columns/Piles:	Good	
Footings:	Good	The footings of Bent 2 were not exposed but the diver probed the top of the footing at depths of 4" to 6".
Web Walls:	NA	
Bracing:	NA	
Pier Protection-Navigation:	NA	
Pier Protection Lighting:	NA	

Bent 3		
	<u>Condition</u>	<u>Notes</u>
Cap:	Good	
Risers:	NA	
Columns/Piles:	NA	
Footings:	Good	The footing of Abutment 3 was not exposed but the diver probed approximately 1 ft. to the top of the footing on the upstream end and approximately 6" to the footing on the downstream end.
Web Walls:	NA	
Bracing:	NA	
Pier Protection-Navigation:	NA	
Pier Protection Lighting:	NA	

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Hydraulics Report

NBI Info

(61) CHANNEL & CHANNEL PROTECTION	8 - Banks are protected
(113) SCOUR CRITICAL BRIDGES	7 - Countermeasures installed to correct scour problem
(71) WATERWAY ADEQUACY	8 - Bridge Above Approaches

Hydraulics

DESIGN MAIN CHANNEL SPAN		CURRENT MAIN CHANNEL SPAN			
BANK CONDITION-UPSTREAM		Good			
BANK CONDITION-SITE		Good			
BANK CONDITION-DOWNSTREAM		Good			
SCOUR COUNTERMEASURES		Good			
<input type="checkbox"/> SPURS	<input type="checkbox"/> BENDWAY WEIRS	<input type="checkbox"/> DROP STRUCTURES	<input type="checkbox"/> HARDPOINTS		
<input type="checkbox"/> JACKS	<input type="checkbox"/> LONGITUDINAL DIKES	<input type="checkbox"/> GUIDE BANKS	<input checked="" type="checkbox"/> RIPRAP		
<input type="checkbox"/> GABIONS	<input type="checkbox"/> CRUTCH BENTS/UNDERPINNING	<input type="checkbox"/> CROSS BRACING	<input type="checkbox"/> SHEET PILE/COFFERDAM		
<input type="checkbox"/> DEBRIS DEFLECTORS	<input type="checkbox"/> VISUAL SCOUR MONITORING	<input type="checkbox"/> FIXED SCOUR MONITORING INSTRUMENTATION			
STREAMBED MATERIAL					
<input type="checkbox"/> COBBLE/BOULDER	<input type="checkbox"/> GRAVEL	<input checked="" type="checkbox"/> SAND	<input type="checkbox"/> SILT	<input checked="" type="checkbox"/> SILT-CLAY	
UNKNOWN FOUNDATION					
SCOUR EVALUATION DONE			S		
USGS GAGING STATION					
OBSERVED STREAM VELOCITY			Medium		
STREAMBED AGGRADATION EVIDENT			None		
STREAMBED DEGRADATION EVIDENT			Minor		
ABUTMENTS ENCROACH INTO CHANNEL			Yes		
INDICATIONS OF SCOUR			No		
EVIDENCE OF ABUTMENT UNDERMINING			No		
EVIDENCE OF PIER UNDERMINING			NA		
INDICATIONS THAT FLOODWATERS OVERTOP BRIDGE			No		
INDICATIONS THAT FLOODWATERS OVERTOP APPROACHES			No		
SCOUR NOTES		RIP RAP INSTALLED BY CONTRACTOR 2016			

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Pictures



PHOTO 1 General
Description ELEV E

Pictures



PHOTO 2 General
Description CL NB

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Pictures



PHOTO 3 General
Description ELEV W

Pictures



PHOTO 4 General
Description CL SB

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Pictures



PHOTO 5 General
 Description US

Pictures



PHOTO 6 General
 Description DS

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Pictures



PHOTO 7 General
Description BACK OF BEAM END SPALLED

Pictures

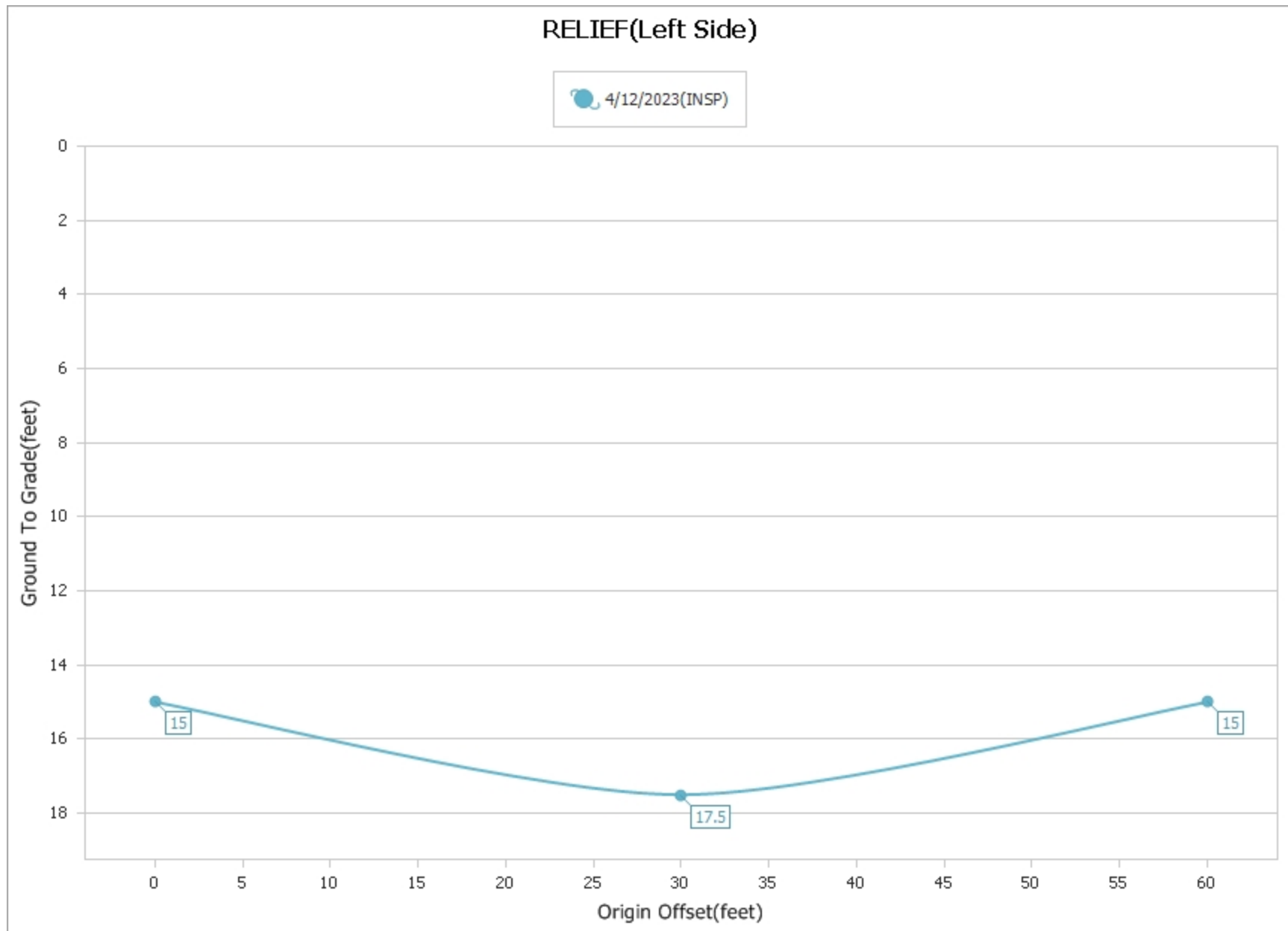


PHOTO 8 General
Description DROP SLAB SPALLED

Structure#: 210005104513040
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Facility: US 51

Feature Intersected: RELIEF
Location: 8.9 MI N SR 22

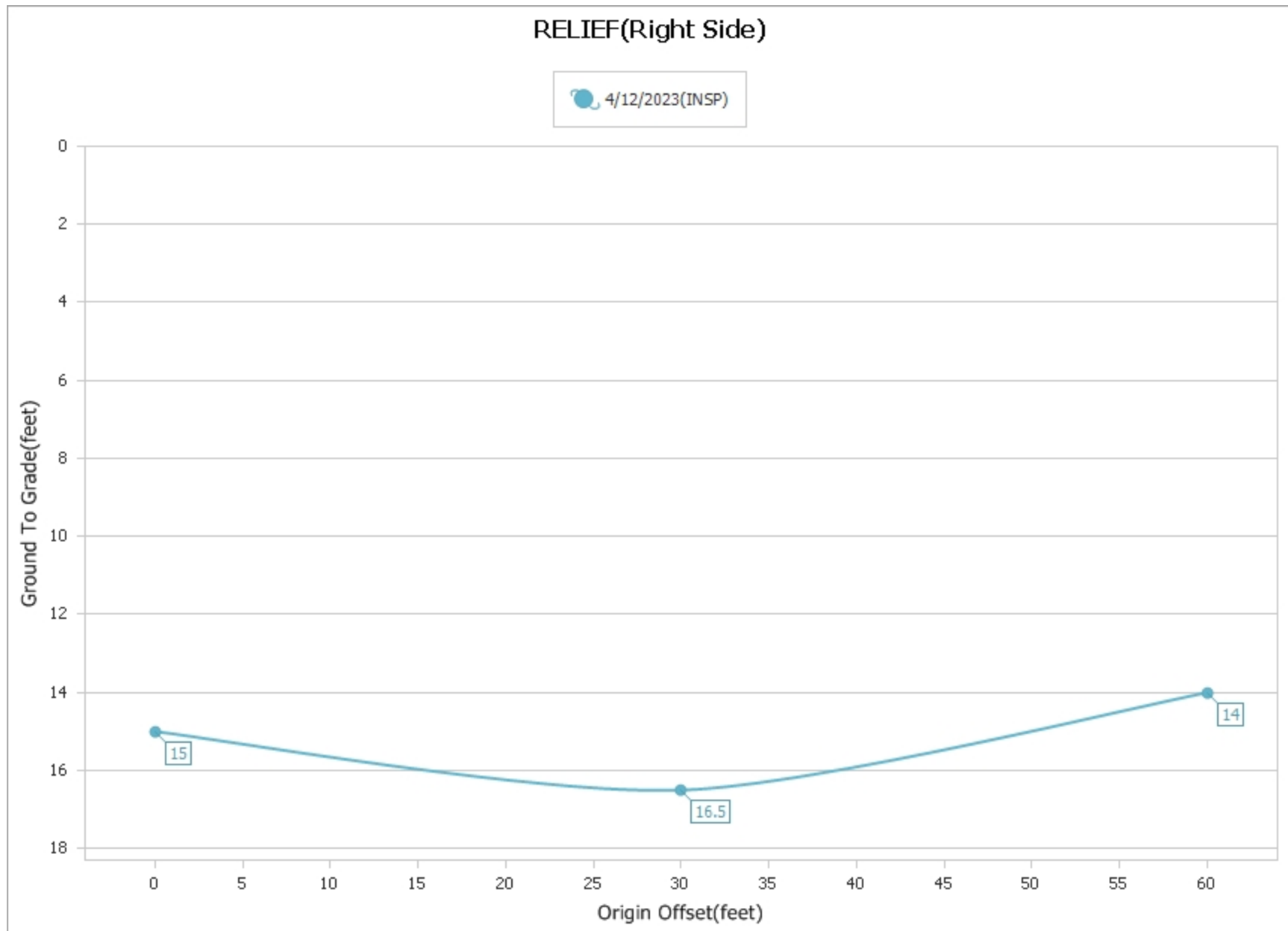


Print Date: 4/13/2023

Structure#: 210005104513040
Bridge ID: 13025

County: Madison
Facility: US 51

Feature Intersected: RELIEF
Location: 8.9 MI N SR 22



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