



Latitude:33.81579, Longitude:-93.13913

Route:53 Section:02 Log:0.001

Arnold Road ID:10x53x1xA, Arnold Log mile:8.185

District 03, 99 - Nevada County

Owner: 1 - State Highway Agency

Inspection Direction: 2 - S to N

### Bridge Posting Information

41 - Structure Open/Posted/Closed: A - Open, no restriction

70 - Bridge Posting: 5 - Equal to or above legal loads

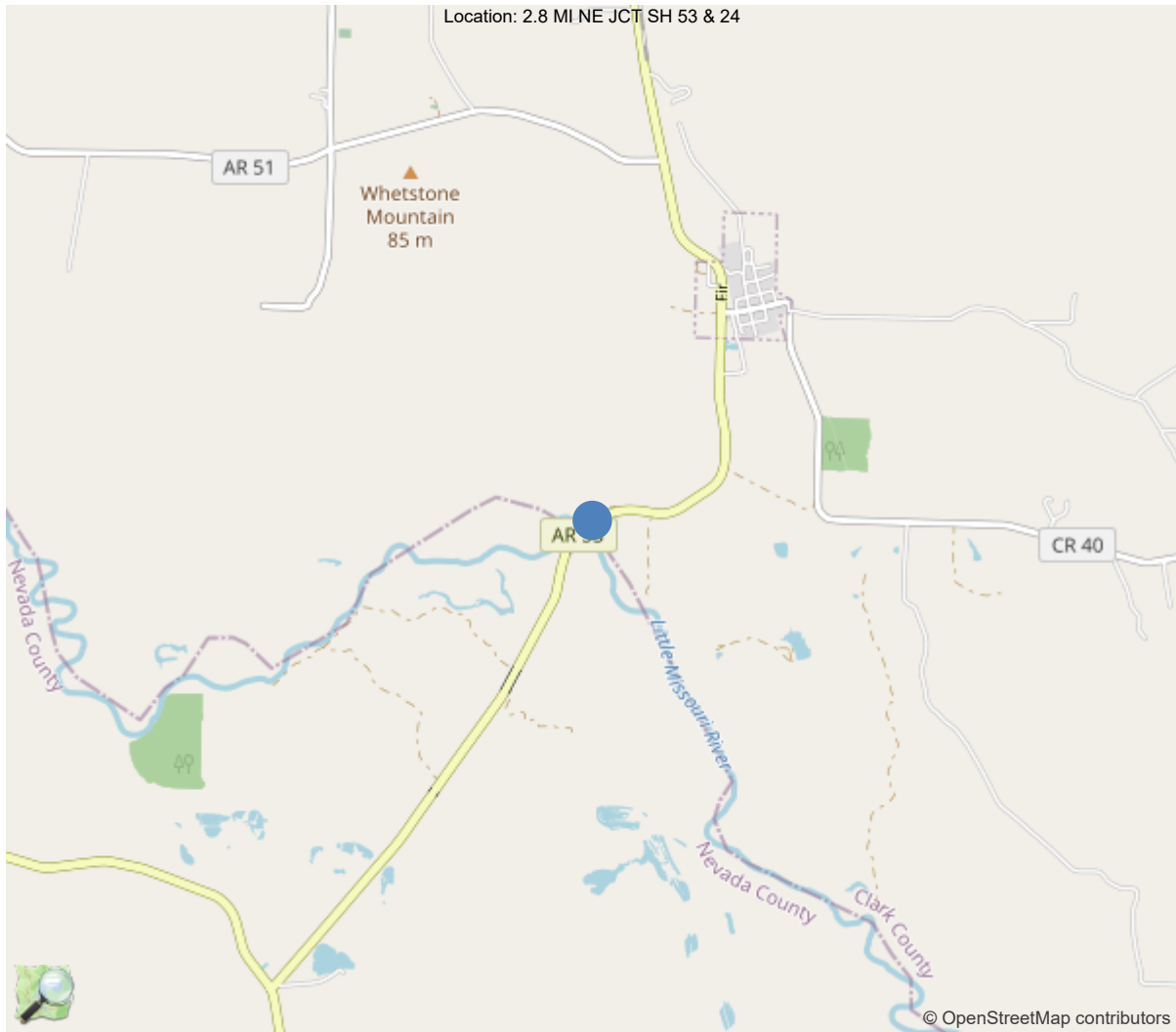
Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	32		
Code 9 (31 Tons)	37		
Code 5 (40 Tons)	45		

If calculated Capacity is less than the Legal Load Listed, the Bridge Legally Requires Posting Signs to be installed by the Bridge Owner



30"x36" AR





33.81579, -93.13913



Asset #03476(Routine)

SH 53 SEC.02-0.001 over LITTLE MISSOURI RIVER

Location: 2.8 MI NE JCT SH 53 &amp; 24

Team Lead: Jared Kegley Inspection Date: 02/26/2024

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	03476
(5) Inventory Route	1
(2) Highway Agency District	03 - District 03
(3) County Code	99 - Nevada County
(4) Place Code	0
(6) Features Intersected	LITTLE MISSOURI RIVER
(7) Facility Carried	SH 53 SEC.02-0.001
(9) Location	2.8 MI NE JCT SH 53 & 24
(11) Mile Point	0.001 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	33.81579
(17) Longitude	-93.13913
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3 - Steel
Type	2 - Stringer/Multi-beam or girder
(44) Approach Structure Type	11
Material	1 - Concrete
Type	1 - Slab
(45) No. of Spans in Main Unit	3
(46) No. of Approach Spans	29
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	1 - Monolithic Concrete (concurrently pl
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1964
(106) Year Reconstructed	0
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	3100
(30) Year of ADT	2018
(109) Truck ADT	10 %
(19) Bypass, Detour Length	20 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	80 ft
(49) Structure Length	1110 ft
(50) Curb or Sidewalk Width	
Left	1.7 ft
Right	1.7 ft
(51) Bridge Roadway Width Curb to Curb	26 ft
(52) Deck Width Out to Out	31.5 ft
(32) Approach Roadway Width (W/Shoulders)	38.1 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	26 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	99.9 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0 - No navigation control on w
(111) Pier Protection	1 - Navigation protection not
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	6 - Rural Minor Arterial
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exists
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structure
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	4
(59) Superstructure	5
(60) Substructure	5
(61) Channel & Channel Protection	5
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	4 - M 18 / H 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	50
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	30
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	
(68) Deck Geometry	5
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	6
(72) Approach Roadway Alignment	7
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	0 - Inspected feature does not meet
(36C) Approach Guardrail	0 - Inspected feature does not meet
(36D) Approach Guardrail Ends	0 - Inspected feature does not meet
(113) Scour Critical Bridges	5 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	34 - Widening of existing brid
(76) Length of Structure Improvement	1110 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 187
(96) Total Project Cost	\$ 728
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	1100
(115) Year of Future ADT	2038

INSPECTIONS *			
(90) Inspection Date	02/26/2024		
(91) Frequency	24		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	Yes	24	03/05/2022
C: Other Special Inspection	No		
* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.			





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**58 - Deck** (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour)

Deck is rated a 4 poor this inspection due to large quantity of deck patching in approach and main spans, spalling with exposed rebar with some section loss on bottom side of concrete slab.

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**59 - Superstructure** (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

Superstructure is rated a 5 this inspection due to corrosion with section loss on end of beam 5 above pier 1. Various locations of spalling with rebar exposed that has minor section loss on bottom side of slab.

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**60 - Substructure** (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

Substructure is rated a 5 this inspection due to spalling with rebar exposed in various locations of concrete caps and piers.

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**61 - Channel/Channel Protection** (5 - Bank protection is being eroded. River control devices and/or embankment have major damage. Trees and brush restrict the channel.)

(HBM) 03/2022 It is recommended to install engineered countermeasures along the north bank to mitigate additional erosion and help contain flow through the bridge site.

Channel is rated a 5 this inspection due to vast areas of moderate bank erosion on upstream and downstream sides of channel.

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**A-54 - Sealable Deck Cracks** (Y)

Sealable deck cracking in both main and approach spans.

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**A-57 - Girder End and Bearing Painting Needed** (Y)

All steel beam ends in all spans need to be painted.

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**A-114 - Underwater Inspection General Observation**

Engineer of Record: Samuel Williams, PE

Team Leader: Samuel Williams, PE

Team Members: AR, LA, CK

Total Substructure Units: 33

Substructure Units in Water: Piers 2-4

Inventory Direction: S to N (based on 1963 layout drawing)

Direction of Flow: W to E

Deepest Water Depth: 14.1 ft

Water Velocity: 0.5 FPS

Attachments: Channel Profile/Contour Map, Soundings Table, Inspection Procedures, Stamped Final Report

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**A-115 - Underwater Inspection Channel/Channel Protection** (5 - Bank protection is being eroded. River control devices and/or embankment have major damage. Trees and brush restrict the channel.)

Overall, the channel is in fair condition. The bridge is located downstream of a 90 degree bend that causes flow to approach the substructure units at an approximate 20 degree angle. Based on the 1963 plans, general scour has lowered the channel bottom between 4' and 6' since construction. This degradation and channel migration to the north have led to extensive erosion and displacement of the bank material. Since construction, the north bank has migrated approximately 30 feet to the north exposing Pier 4 to normal channel flow. There is moderate timber debris along the south faces of Piers 2 and 3, as well as the upstream nose of Pier 3. The banks upstream and downstream of the bridge display signs of moderate undercutting/slumping on the outer bends, uprooting large trees in some areas. The south bank under the bridge is generally stable with light vegetation. There is a cut bank on the north shoreline at Pier 4, as described above. It is recommended to lower the Item 61 rating to 5, based on the condition of the north bank. It is also recommended to install engineered countermeasures along the north bank to mitigate additional erosion and help contain flow through the bridge site.

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**A-116 - Underwater Inspection Substructure Condition (B.C.15)** (7 - GOOD CONDITION - some minor problems.)

Overall the substructure units are in good condition with minor to moderate scaling located throughout the columns and web walls and partially exposed footings at Piers 3 and 4. These defects are quantified in the element level portion of this report.

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**A-117 - Underwater Scour Condition** (5 - Bridge foundations determined to be stable for assessed or calculated scour condition. Scour is determined to be within the limits of footing or piles (Example B) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour within the service life of the bridge), by calculations or by installation of properly designed countermeasures (see HEC 23).)

According to available bridge drawings, dated 1963, Piers 1 through 4 are founded on piles and concrete pile caps. A comparison of field observations to the bridge drawings indicates that 4' to 6' of general scour has occurred throughout the original channel, exposing the Pier 3 pile cap up to 12"H. Up to 20' of scour/bank erosion has occurred at Pier 4, exposing the pile cap up to 6"H, and exposing the pier to normal channel flow.

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**A-B.C.11 - B.C.11 Scour Condition Rating (New NBIS)** (5 - Moderate scour; strength and stability of the bridge are not affected.)

Scour is rated a 5 this inspection due to moderate scour around pier 4. Scour is approximately 8' from reaching bent 25 pile.

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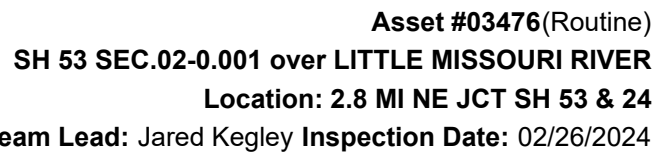
Asset #03476(Routine)

SH 53 SEC.02-0.001 over LITTLE MISSOURI RIVER

Location: 2.8 MI NE JCT SH 53 & 24

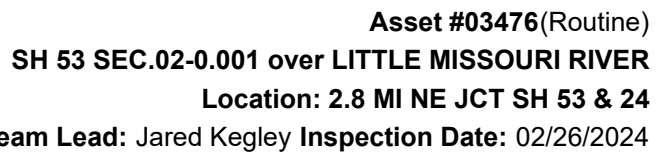
Team Lead: Jared Kegley Inspection Date: 02/26/2024

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	7560	2519	3025	2016	0
1080	Delamination/Spall/Patched Area	SF	3787	0	1875	1912	0
1090	Exposed Rebar	SF	4	0	0	4	0
1120	Efflorescence/Rust Staining	SF	450	0	350	100	0
1130	Cracking (RC and Other)	SF	800	0	800	0	0
<p>(12) Delamination's, Spalling, and patched areas are found throughout both the driving surface and the underside of the bridge deck in all main spans, CS2 &amp; CS3.</p> <p>Exposed rebar is found in various locations on the underside of the bridge deck. The majority of the exposed rebar is found at the deck drains along the right side of the deck, CS3.</p> <p>Efflorescence with rust staining is present on the underside of the bridge deck in bays 1 through 4 in main spans, CS2 &amp; CS3.</p> <p>Cracking is found throughout both the driving surface and the underside of the bridge deck in all main spans. The majority of the deck cracking is sealable and has some longitudinal cracking running the entire length of the spans, CS2 &amp; CS3.</p>							
38	RC Slab	SF	27410	26077	937	396	0
1080	Delamination/Spall/Patched Area	SF	924	0	897	27	0
1090	Exposed Rebar	SF	44	0	0	44	0
1120	Efflorescence/Rust Staining	SF	300	0	0	300	0
1130	Cracking (RC and Other)	SF	25	0	0	25	0
1190	Abrasion/Wear (PSC/RC)	SF	40	0	40	0	0
<p>(38) Delamination's, Spalling, and patched areas are found throughout both the driving surface and the underside of the bridge deck in all approach spans, CS2 &amp; CS3.</p> <p>Exposed rebar is found in various locations on the underside of the bridge deck. The majority of the exposed rebar is found at the deck drains along the right side of the deck, CS3.</p> <p>Efflorescence with rust staining is present on the underside of the bridge deck in various locations throughout all approach spans, CS3.</p> <p>Cracking is found throughout both the driving surface and the underside of the bridge deck in all approach spans. The majority of the deck cracking is sealable and has some longitudinal cracking running the entire length of the spans, CS2 &amp; CS3.</p> <p>Abrasion to the approach spans is found in various locations along the right and left gutter lines, CS2.</p>							
107	Steel Open Girder/Beam	LF	1199	1189	10	0	0
1000	Corrosion	LF	10	0	10	0	0
515	Steel Protective Coating	SF	7332	6327	1000	0	5
3410	Chalking (Steel Protective Coatings)	LF	1000	0	1000	0	0
3440	Effectiveness (Steel Protective Coatings)	LF	5	0	0	0	5
<p>(107) Corrosion is found to various locations on painted steel beams. The majority of corrosion is found at beam ends near haunch areas while there is spread out minor corrosion along top and bottom flanges. Corrosion with section loss is found in main span 1 at beam 5. The section loss measures 1/4" to the beam end and 1/8" at the haunch area, CS2 and CS3.</p> <p>(515-107) Loss of effectiveness to various locations on beam ends and top and bottom flanges, CS4.</p> <p>Chalking to the painted steel beams throughout various locations of main spans, CS2.</p>							
205	Reinforced Concrete Column	EA	8	2	5	1	0



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
1190	Abrasion/Wear (PSC/RC)	EA	6	0	5	1	0
(205) Abrasion is found to all concrete columns at Piers 1 through 4, CS2 & CS3. (1190-205) 2022 Underwater - Piers 2-4: typical scaling on the columns up to 1/4"D (5EA, CS2)  2022 Underwater - Pier 3/Column 2: there are (2) deeper pockets of scaling/voiding, up to 2"Dia x 2"D, (1) at the northeast corner and (1) at the southeast corner 6" above footing (1EA, CS3)							
210	Reinforced Concrete Pier Wall	LF	50	1	49	0	0
1010	Cracking	LF	1	0	1	0	0
1080	Delamination/Spall/Patched Area	LF	7	0	7	0	0
1090	Exposed Rebar	LF	2	0	2	0	0
1190	Abrasion/Wear (PSC/RC)	LF	39	0	39	0	0
(210) Cracking is found to the pier wall at Pier 1, CS2. Small spall is found to the pier wall at Pier 1, CS2. Rebar exposed is found on the left side of the pier wall at pier 2, CS2.  (1080-210) bullet impact to pier wall various locations  (1190-210) 2022 Underwater - Piers 2-4: typical scaling up to 1/4"D along the full length of the web walls (each 12.5'L) (39LF, CS2)							
215	Reinforced Concrete Abutment	LF	72	72	0	0	0
220	Reinforced Concrete Pile Cap/Footing	LF	38	0	38	0	0
6000	Scour	LF	38	0	38	0	0
(220) 2022 Underwater - Qty Update: 38LF total - Pier 3: 28LF - Pier 4: 10LF  (6000-220) 2022 Underwater - Pier 3: pile cap exposed up to 12"H at the northwest corner tapering to 0"H at the southwest and northeast corners. The pile cap is buried along the south and east faces and becomes exposed up to 2"H at the southeast corner (28LF, CS2)  2022 Underwater - Pier 4: pile cap is exposed on the south face up to 6"H for a 10' section of the pier (10LF, CS2)							
227	Reinforced Concrete Pile	EA	108	107	1	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
(227) Small spall to pile 1 is present on bent 24 in the approach spans, CS2.							
234	Reinforced Concrete Pier Cap	LF	868	699	167	2	0
1080	Delamination/Spall/Patched Area	LF	7	0	7	0	0
1090	Exposed Rebar	LF	152	0	150	2	0
1130	Cracking (RC and Other)	LF	10	0	10	0	0
(234) Delamination's and spalling are found throughout various locations of the concrete pier caps in approach spans, CS2. Exposed rebar is found on the underside of concrete pier caps throughout approach spans, CS2. Cracking is present throughout various locations of the pier caps in approach spans, CS2. Delamination is present to the right side of pier 1 cap in the main span, CS2. Exposed rebar is located at various locations of the pier caps in main spans, CS3.							





ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
Cracking is found to the right side of the pier 4 cap, CS2.							
301	Pourable Joint Seal	LF	936	0	0	26	910
2330	Seal Damage	LF	910	0	0	0	910
2350	Debris Impaction	LF	26	0	0	26	0
(301) Joint impaction is found at the joint line at the end of the bridge by a asphalt overlay, CS3. Missing joint material is found throughout various locations along all joint lines in approach spans, CS4.							
305	Assembly Joint without Seal	LF	104	104	0	0	0
311	Movable Bearing	EA	20	0	0	20	0
1000	Corrosion	EA	10	0	0	10	0
2240	Loss of Bearing Area	EA	10	0	0	10	0
(1000-311) All fixed bearings have corrosion with section loss.							
313	Fixed Bearing	EA	10	0	0	10	0
1000	Corrosion	EA	10	0	0	10	0
(313) Corrosion with pack rust to all fixed bearings in main spans, CS3.							
321	Reinforced Concrete Approach Slab	SF	2160	2160	0	0	0
(321) Both beginning and end of bridge approach slabs are covered by a asphalt overlay.							
330	Metal Bridge Railing	LF	2220	0	2220	0	0
1000	Corrosion	LF	2220	0	2220	0	0
(330) Corrosion is present throughout all approach spans on both the right and left sides of the bridge, CS2. Corrosion is present throughout all main spans on both the right and left sides of the bridge, CS2.							
331	Reinforced Concrete Bridge Railing	LF	2220	2216	3	1	0
1080	Delamination/Spall/Patched Area	LF	1	0	0	1	0
1090	Exposed Rebar	LF	3	0	3	0	0
(331) Various locations of exposed rebar are found in the main span 2 along the gutter line, CS2. Spalling is located in the approach span on the right side of bent 17, CS2.							



Elevation



End of bridge approach spans



Beginning of bridge approach spans



Typical photo, Underside of main spans





Typical photo, Underside of approach spans



Asphalt overlay butted up to the end of bridge.



Typical deck photo, Main spans



Typical deck photo, Approach spans





Typical photo, Painted steel beams in main spans



Typical pier photo, Main spans



Typical abutment photo



Typical bent photo, Approach spans





Downstream channel



Erosion around pier 2 channel bank



Erosion around pier 4



Erosion between pier 4 and bent 24





Erosion around pier 4



Erosion around pier 4



Erosion around pier 4



Erosion around pier 4





Upstream channel



Bank erosion



Bank erosion



Bank erosion

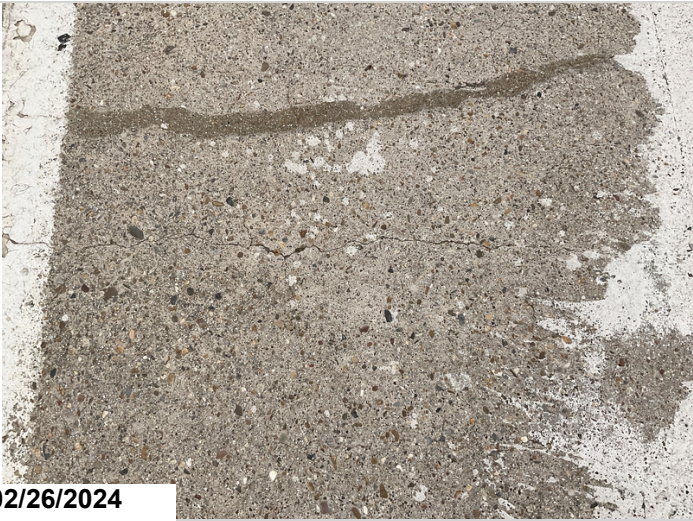




Inventory photo logged south to north



Approach span 4, Northbound lane, 30' longitudinal deck cracking, CS3



Main span 1, Southbound lane, Deck cracking, CS2



All beam ends need to be painted.





All beam ends need to be painted.



All beam ends need to be painted.



All beam ends need to be painted.



All beam ends need to be painted.





UPSTREAM ELEVATION



DOWNSTREAM ELEVATION



VIEW OF UPSTREAM CHANNEL, FROM ABOVE BRIDGE



VIEW OF DOWNSTREAM CHANNEL, FROM ABOVE BRIDGE





NORTH EMBANKMENT



SOUTH EMBANKMENT



PIER 3



PIER 4





PIER 2



Welded cover plates on steel beams



Welded cover plates



Welded cover plates





Bridge railing photo



Corrosion and minor damage to bridge railing transition,  
typical in various locations



Bridge railing transition photo



Main span joint photo





Approach span joint photo



Scour around Pier 4, Scour is approximately 8' from reaching Bent 25 pile



Scour around Pier 4, Scour is approximately 8' from reaching Bent 25 pile



Scour around Pier 4, Scour is approximately 8' from reaching Bent 25 pile





02/26/2024

Scour around Pier 4, Scour is approximately 8' from reaching Bent 25 pile



02/26/2024

Minor scour between bents 3 & 4 in approach span



02/26/2024

Main span, Deck Patching, CS2 & CS3



02/26/2024

Main Span, Deck Patching, CS2 & CS3





Main Span, Deck Patching, CS2 & CS3



Main span 1, Underside of deck at right side, Rebar exposed at drain, 1 Sq Ft, CS3



Main span 1, Underside of deck, Delam in bay 4, 3 Sq Ft, CS2

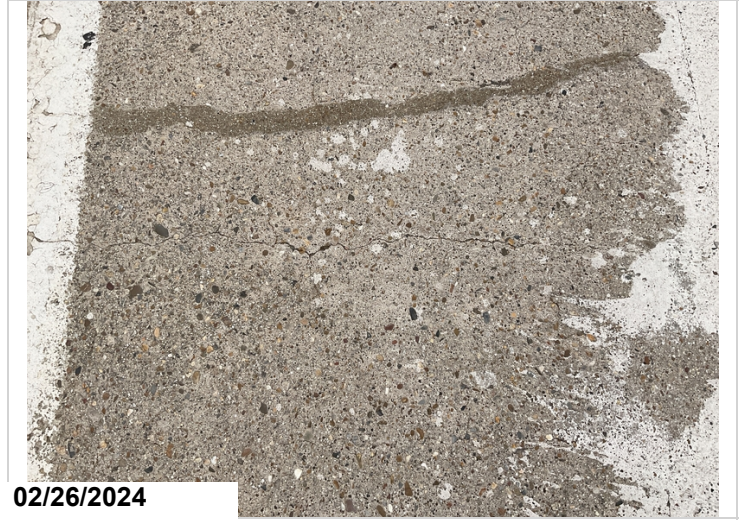


Main span 1, Underside of deck, Rebar exposed in bay 3, 2 Sq Ft, CS3





Main span 1, Underside of deck, Efflorescence in all bays, CS2



Main span 1, Southbound lane, Deck cracking, CS2



Main span 1, Southbound Lane, Large patched area, 63 Sq Ft, CS2



Main span 1, Both North and Southbound lanes, Patched areas, CS2 & CS3





Approach span, Deck patching, CS2



Approach span, Bent 28, Looking back, Delam on right side,  
1 Sq Ft, CS3



Approach span, Bent 28, Delam on left side, CS3



Approach span 4, Underside of deck, Patched area, 16 Sq  
Ft, CS2





Approach span 3, Underside of deck, Efflorescence with rust staining, CS3



Approach span 3, Underside of deck, Right side, Exposed rebar at drain, 1 Sq Ft, CS3



Approach span 2, Underside of deck, Right side, Exposed rebar at drain, 1 Sq Ft, CS3



Approach span 1, Underside of deck, Deck cracking, CS2





Approach span 15, Northbound lane, Patched areas, CS2



Approach span 6, Northbound Lane, Patched areas, 8 Sq Ft, CS2

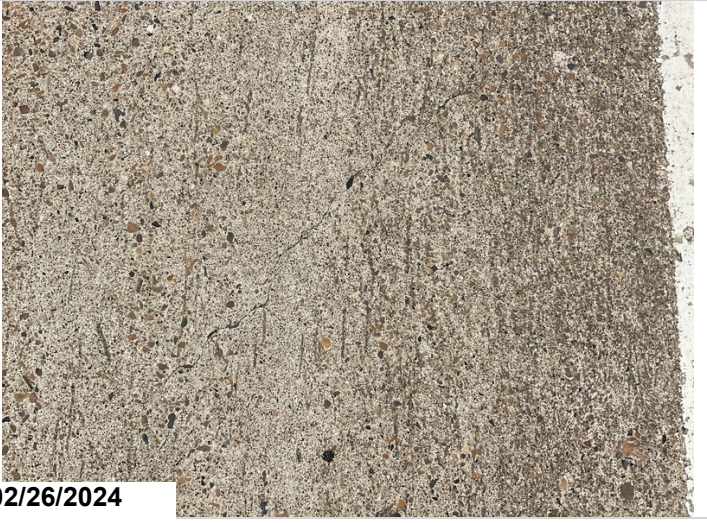


Approach span 4, Centerline, Patched areas, 2 Sq Ft, CS2



Approach span 4, Northbound lane, 30' longitudinal deck cracking, CS3





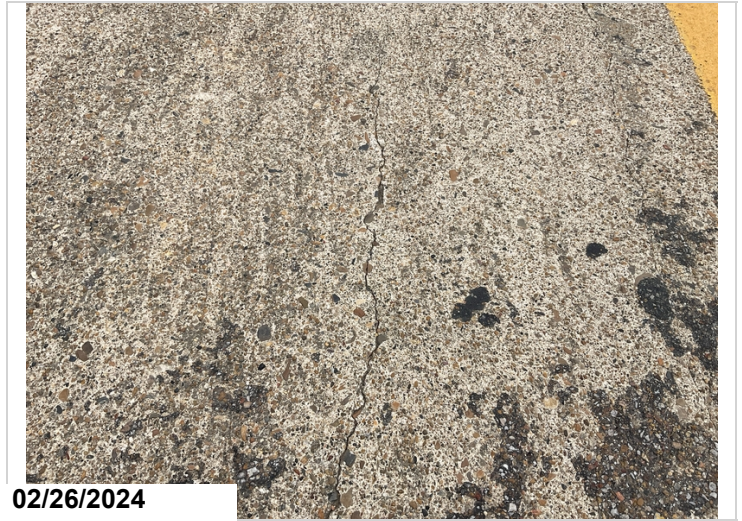
Approach span 3, Northbound lane, Deck cracking, CS2



Approach span 2, Southbound lane, Abrasion along gutterline, CS2



Approach span 1, Southbound lane, Longitudinal deck cracking in all spans, CS3



Approach span 1, Northbound lane, Longitudinal deck cracking in all spans, CS2





Beam 5 near pier 2, corrosion on steel beams, CS2.



Various locations of beam end corrosion, CS2.



Various locations of beam end corrosion, CS2.



Various locations of beam end corrosion, CS2.





Various locations of beam end corrosion, CS2.



Various locations of beam end corrosion, CS2.



Pier 2 beam end corrosion, CS2.



Pier 2 beam ends





02/26/2024

Main span 1, Beam 5 at Pier 1, 1/4" section loss to beam end & 1/8" section loss at haunch area, CS3



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Main span 1, Beam 5, Corrosion to top flange, 1 Sq Ft, CS3



02/26/2024

Main span 1, Beam 3, Corrosion to bottom flange, 2 Sq Ft, CS2



02/26/2024

Main span 1, Beam 4, Corrosion to bottom flange, 2 Sq Ft, CS2





Main span 1, Outside of beam 5, Loss of effectiveness, 1 Sq Ft, CS4



Main span 1, Outside of beam 5, Chalking, CS2



Beam photo



Main span 2 at pier 2, Beam 3, Corrosion on beam end, CS3





Main span, Pier 2, Looking ahead, Abrasion to both columns  
1 & 2, CS2



Pier 2 looking back

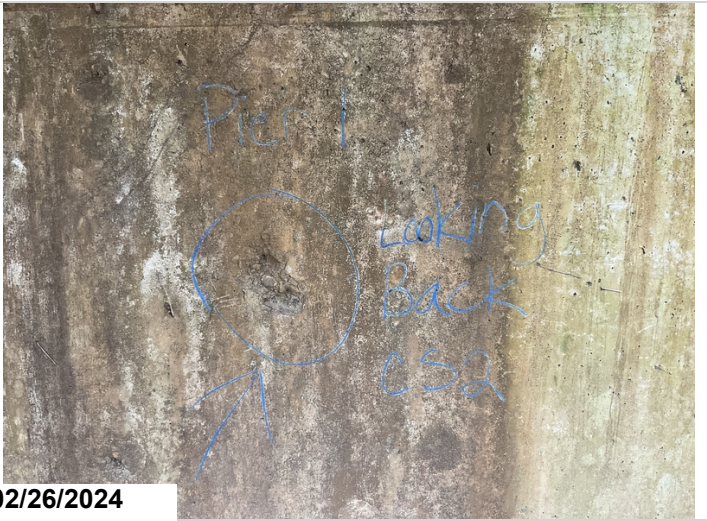


Pier 3 looking ahead



Main span, Pier 2, Looking ahead, Rebar exposed, CS2





Main span, Pier 1, Looking back, Spalling, 1 LF, CS2



Main span, Pier 1, Looking back, Cracking, 1 LF, CS2



Approach span, Bent 24, Spall on pile 1, CS2



Approach span, Bent 24, Pier cap, Looking back, Spall between piles 2 & 3, 1 LF, CS2





Approach span, Bent 23, Pier Cap, Looking ahead, Spalling between piles 2 & 3, 2 LF, CS2



Approach span, Bent 13, Pier Cap, Looking back, Spalling between piles 1 & 2, 1 LF, CS2



Approach span, Bent 6, Pier Cap, Looking ahead, Delam above pile 3, 1 LF, CS2



Approach span, Bent 3, Pier Cap, Cracking on underside, 1 LF, CS2





Approach span, Bent 2, Pier Cap, Exposed rebar on underside of cap, CS2



Pier 3 looking back



Pier 3 looking back



Main span, Pier 4, Looking back, Cracking on right side, 1 LF, CS2





Main span, Pier 4, Looking back, Rebar exposed on right side, 1 LF, CS3



Main span, Pier 1, Looking ahead, Delam to right side of cap, 1 LF, CS2



Main span, Pier 1, Looking ahead, Rebar exposed to left side of cap, 1 LF, CS3



Main span, Pier 2, Rebar exposed near bearing area, CS3





Main span, Pier 2, Rebar exposed near bearing area, CS3



Approach span bent 29, asphalt overlay impacting joint, CS3



Approach span bent 3, missing joint material, CS4



Approach span bent 1, missing joint material, CS4





Bearings at pier 2



Pier 3 movable bearing



Main span 1, Pier 1, Bearing 5, Active corrosion, CS3



Both right and left sides of approach spans, corrosion, CS2





Both right and left sides of approach spans, corrosion, CS2



Both right and left sides of main spans, corrosion, CS2



Approach span at right side of bent 17, spalling, 1 Sq Ft, CS3



Approach span at right side of bent 17, spalling, CS3





**02/26/2024**

Main span 2, Northbound lane, Exposed rebar along gutter  
line, CS2



### Maintenance Needs

**Date Reported:** 04/27/2012

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Monitor

**Component:** Channel

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### Deficiency Description

EROSION AT PIER #1&3 HAS STARTED AROUND AND BEHIND COLUMNS/WALLS.

(HBM) 03/2022 It is recommended to install engineered countermeasures along the north bank to mitigate additional erosion and help contain flow through the bridge site.

### Remarks

reopen to look at again

(HBM) 03/2022 It is recommended to install engineered countermeasures along the north bank to mitigate additional erosion and help contain flow through the bridge site.

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02/26/2020

EROSION AT PIER #1&3 HAS STARTED AROUND  
AND BEHIND  
COLUMNS/WALLS.



02/26/2020

04/26/2012







### Maintenance Needs

Date Reported: 04/26/2012

Priority: D- Routine

Type of Work: Repair (General)

Status: Repair Documented

Component:

### Deficiency Description

CONCRETE OVERHANG AND CONCRETE POST  
BT 18--3 RD POST BACK RT SIDE SPALL W/REBAR EXPOSED, SPAN 17 LT SIDE POST  
SPAN # 19, LT. SIDE OVER BENT #18, BACK FROM BT 20 LT SIDE RAIL BENT 1 POST BROKE  
OVER HANG & POST IS BROKE W/REBAR EXP. SPALLS ON BOTTOM OF OVER HANG

### Remarks

open back up for review may set to monitor.. Chipped out all spalls and repoured per Bridge Job Supervisor Chad Hodges got pictures of curb and concrete posts only so maintenance need will remain open at this time and will verify next inspection.



01/17/2023

Chipped out all spalls and repoured per Bridge Job Supervisor Chad Hodges got pictures of curb and concrete posts only so maintenance need will remain open at this time and will verify next inspection.



02/22/2022

BT 18 overhang... 2/22/22





Span 17,18 Lt side post spalled and curb spalled



Span 17 Lt side curb spalled



Span 19 spall at drain and over hang spalled and cracked  
Lt side



End bridge spall lt side



Span 19 Lt side post spalled



BT 18 over hand spalls cracks and rebar exposed





**Asset #03476**(Routine)

**SH 53 SEC.02-0.001 over LITTLE MISSOURI RIVER**

**Location: 2.8 MI NE JCT SH 53 & 24**

**Team Lead: Jared Kegley Inspection Date: 02/26/2024**

### **Maintenance Needs**

**Date Reported:** 03/17/2022

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Monitor

**Component:** Channel

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### **Deficiency Description**

It is recommended to install engineered countermeasures along the north bank to mitigate additional erosion and help contain flow through the bridge site.

### **Remarks**

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## Routine Maintenance

### Check Box Maintenance Items

Type of Maintenance	Is recommended?
A-54 - Sealable Deck Cracks	Yes
A-55 - Deck Washing Needed	No
A-56 - Joint Cleaning/Flushing Needed	No
A-57 - Beam End and Bearing Paint Needed	Yes
A-58 - Cap Cleaning/Flushing Needed	No
A-59 - Joint Repair Needed	Yes
A-60 - Full Beam Painting Needed	No
A-61 - Polymer Overlay Advised	No
A-62 - Hydro and LMC Advised	No
A-63 - Missing/Incorrect Log Mile Signage	No
A-64 - Vegetation Removal Requested	No

#### A-54 - Sealable Deck Cracks (Yes)

Sealable deck cracking in both main and approach spans.



Approach span 4, Northbound lane, 30' longitudinal deck cracking, CS3



Main span 1, Southbound lane, Deck cracking, CS2





**Asset #03476(Routine)**

**SH 53 SEC.02-0.001 over LITTLE MISSOURI RIVER**

**Location: 2.8 MI NE JCT SH 53 & 24**

**Team Lead: Jared Kegley Inspection Date: 02/26/2024**

**A-55 - Deck Washing Needed (No)**

**A-56 - Joint Cleaning/Flushing Needed (No)**



**A-57 - Girder End and Bearing Painting Needed (Yes)**

All steel beam ends in all spans need to be painted.



All beam ends need to be painted.



All beam ends need to be painted.



All beam ends need to be painted.



All beam ends need to be painted.



All beam ends need to be painted.





**Asset #03476(Routine)**

**SH 53 SEC.02-0.001 over LITTLE MISSOURI RIVER**

**Location: 2.8 MI NE JCT SH 53 & 24**

**Team Lead: Jared Kegley Inspection Date: 02/26/2024**

**A-58 - Cap Cleaning/Flushing Needed (No)**

**A-59 - Joint Repair Needed (Yes)**

**A-60 - Full Girder Painting Needed (No)**

**A-61 - Polymer Overlay Advised (No)**

**A-62 - Hydro and LMC Advised (No)**

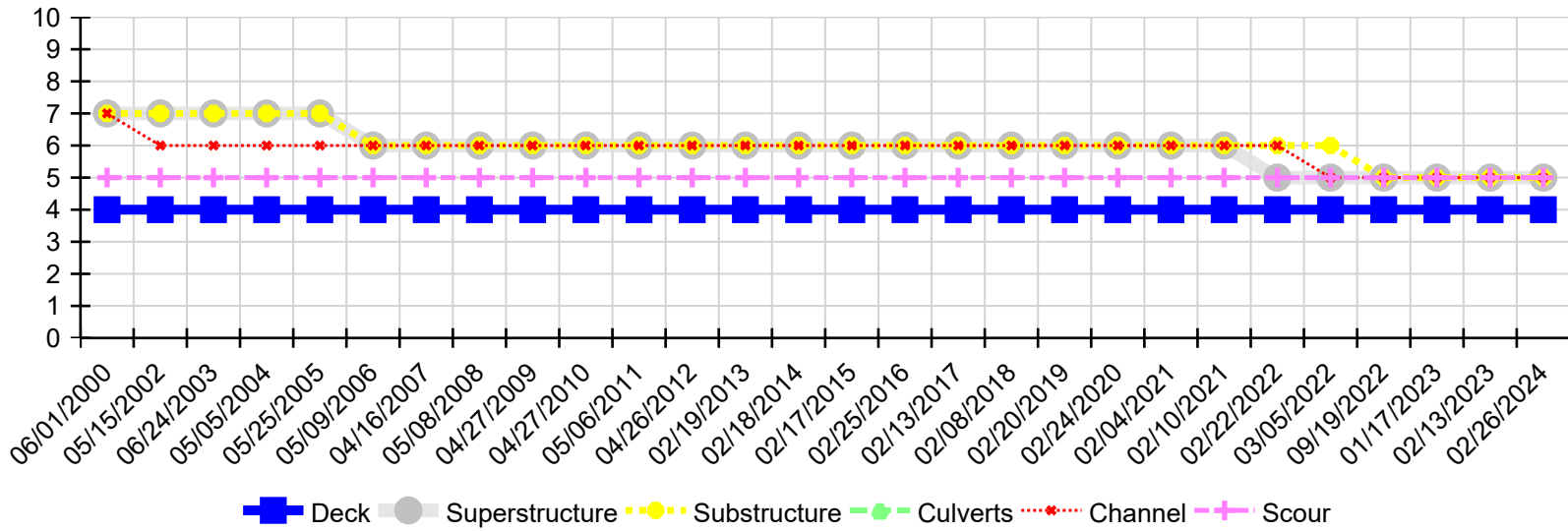
**A-63 - Missing/Incorrect Log Mile Signage (No)**

**A-64 - Vegetation Removal Requested (No)**





Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
02/26/2024	4	5	5	N	5	5
02/13/2023	4	5	5	N	5	5
01/17/2023	4	5	5	N	5	5
09/19/2022	4	5	5	N	5	5
03/05/2022	4	5	6	N	5	5
02/22/2022	4	5	6	N	6	5
02/10/2021	4	6	6	N	6	5
02/04/2021	4	6	6	N	6	5
02/24/2020	4	6	6	N	6	5
02/20/2019	4	6	6	N	6	5
02/08/2018	4	6	6	N	6	5
02/13/2017	4	6	6	N	6	5
02/25/2016	4	6	6	N	6	5
02/17/2015	4	6	6	N	6	5
02/18/2014	4	6	6	N	6	5
02/19/2013	4	6	6	N	6	5
04/26/2012	4	6	6	N	6	5
05/06/2011	4	6	6	N	6	5
04/27/2010	4	6	6	N	6	5
04/27/2009	4	6	6	N	6	5
05/08/2008	4	6	6	N	6	5
04/16/2007	4	6	6	N	6	5
05/09/2006	4	6	6	N	6	5
05/25/2005	4	7	7	N	6	5
05/05/2004	4	7	7	N	6	5
06/24/2003	4	7	7	N	6	5
05/15/2002	4	7	7	N	6	5





**Asset #03476**(Routine)

**SH 53 SEC.02-0.001 over LITTLE MISSOURI RIVER**

**Location: 2.8 MI NE JCT SH 53 & 24**

**Team Lead: Jared Kegley Inspection Date: 02/26/2024**

Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
06/01/2000	4	7	7	N	7	5