

Bridge 00413 Inspection Report



Latitude:35.50166, Longitude:-94.03387

Route:64 Section:02 Log:19.9

Arnold Road ID:17x64x2xA, Arnold Log mile:20.209

District 04, 33 - Crawford County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

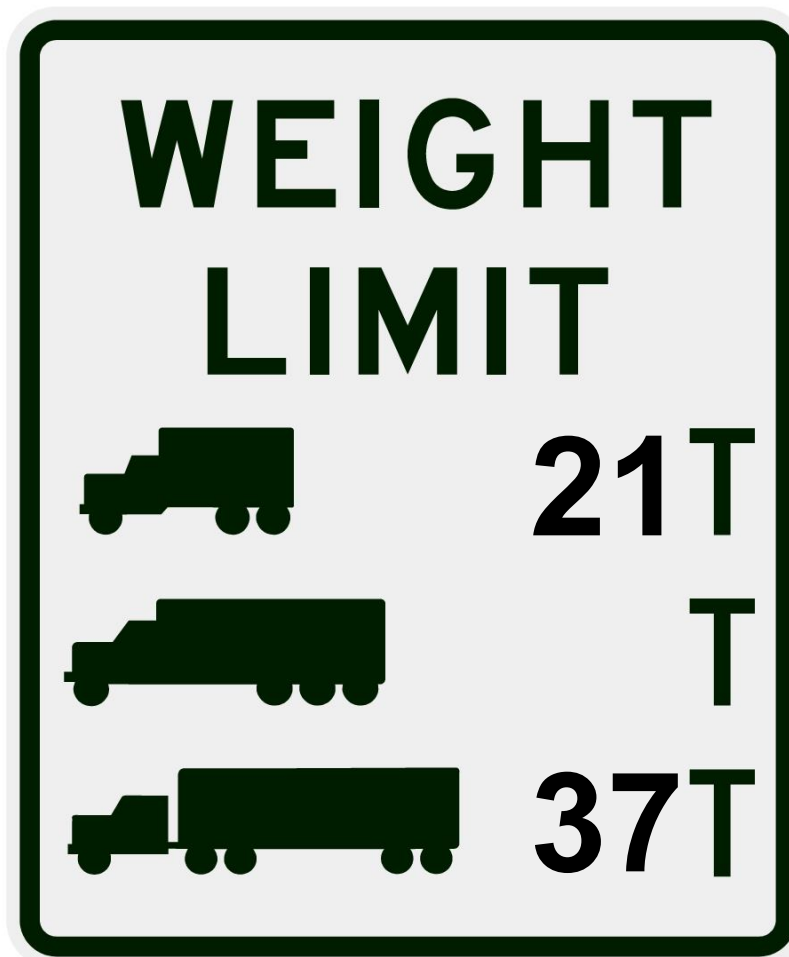
Bridge Posting Information

41 - Structure Open/Posted/Closed: P - Posted for load (may include other restrictions such a temporary bridges which are load posted)

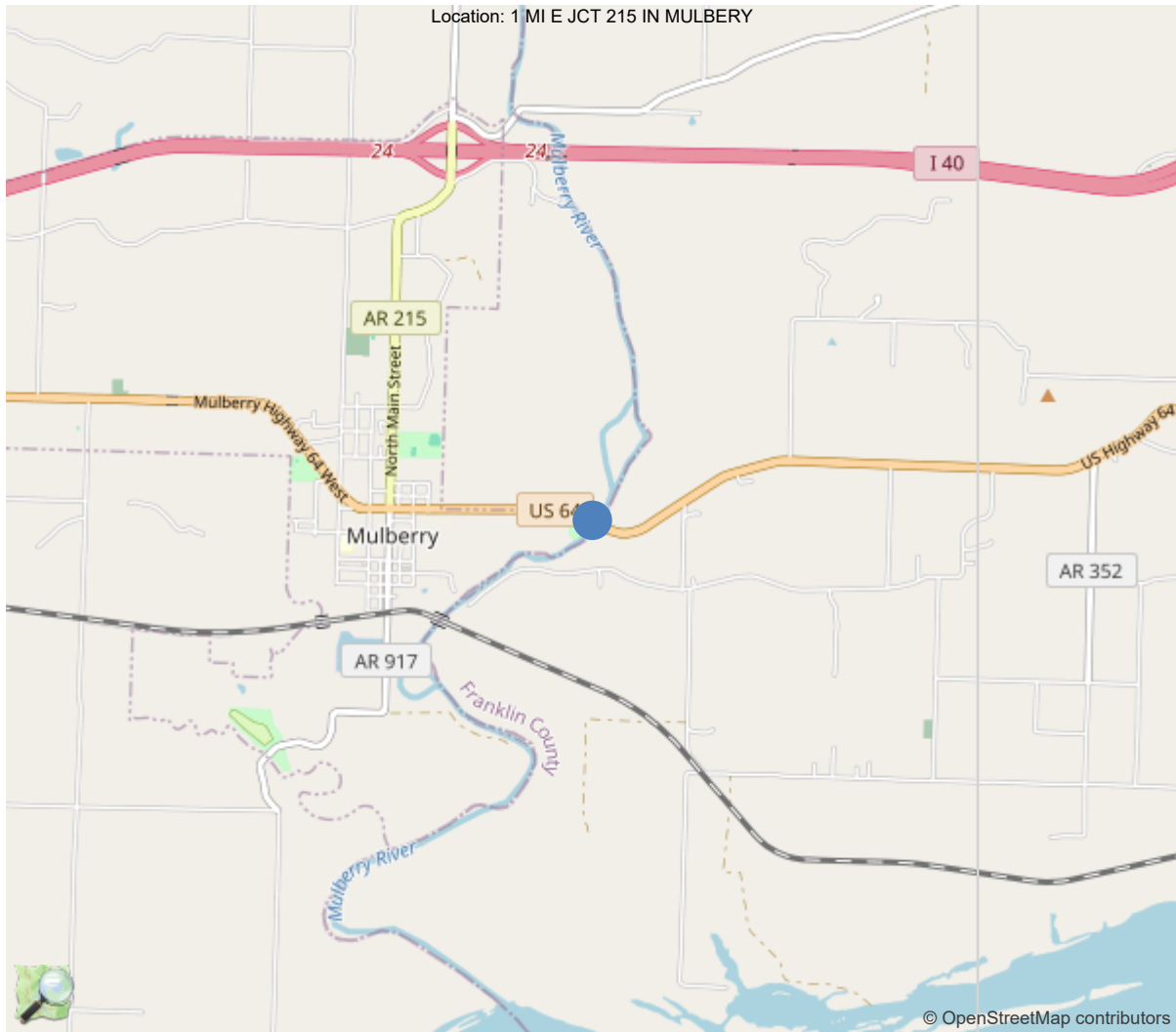
70 - Bridge Posting: 4 - 00.1 - 09.9 % below

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	21	21	21
Code 9 (31 Tons)	31		
Code 5 (40 Tons)	37	37	37

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



35.50166, -94.03387

National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	00413
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	33 - Crawford County
(4) Place Code	0
(6) Features Intersected	Big Mulberry River
(7) Facility Carried	US Highway 64
(9) Location	1 MI E JCT 215 IN MULBERRY
(11) Mile Point	19.9 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.5016618225015
(17) Longitude	-94.0338685201751
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	111
Material	1 - Concrete
Type	11 - Arch - Deck
(44) Approach Structure Type	12
Material	1 - Concrete
Type	2 - Stringer/Multi-beam or girder
(45) No. of Spans in Main Unit	3
(46) No. of Approach Spans	3
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6 - Bituminous
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1929
(106) Year Reconstructed	1961
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	3000
(30) Year of ADT	2024
(109) Truck ADT	%
(19) Bypass, Detour Length	10 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	82 ft
(49) Structure Length	346 ft
(50) Curb or Sidewalk Width	
Left	1.5 ft
Right	1.5 ft
(51) Bridge Roadway Width Curb to Curb	27.9 ft
(52) Deck Width Out to Out	31.5 ft
(32) Approach Roadway Width (W/Shoulders)	39 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	27.9 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 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	7 - Rural Major Collector
(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	1 - The inventory route is par
(20) Toll	3 - On free road. The structu
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	5
(59) Superstructure	4
(60) Substructure	4
(61) Channel & Channel Protection	8
(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	23
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	14
(70) Bridge Posting	4 - 00.1 - 09.9 % below
(41) Structure Open/Posted/Closed	P - Posted for load (may inclu
APPRAISAL	
(67) Structural Evaluation	
(68) Deck Geometry	5
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	5
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	0 - Inspected feature does not meet
(36C) Approach Guardrail	0 - Inspected feature does not meet
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	7 - Countermeasures have been insta
PROPOSED IMPROVEMENTS	
(75) Type of Work	35 - Bridge rehabilitation bec
(76) Length of Structure Improvement	346 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 489
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	2975
(115) Year of Future ADT	2027

INSPECTIONS *			
(90) Inspection Date			07/18/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	Yes	12	09/02/2025
B: Underwater Inspection	Yes	60	04/30/2022
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.			



Team Lead: Caleb Coppock, Inspection Date: 11/21/2025

Specifications for National Bridge Inventory Sheets

IDENTIFICATION	
B.ID.01 Bridge Number	00413
B.ID.02 Bridge Name	
B.ID.03 Previous Bridge No.	
B.W.01 Year Built	1929

LOCATION	
B.L.01 State Code	5 - Arkansas
B.L.02 County Code	33 - Crawford County
B.L.03 Place Code	00000 - N/A
B.L.04 Highway Agency District	04 - District 04
B.L.05 Latitude	35.5016618225015
B.L.06 Longitude	-94.0338685201751
B.L.07 Border Bridge Number	
B.L.08 Border Bridge State or Country Code	
B.L.09 Border Bridge Insp. Resp.	
B.L.10 Border Bridge Designated Lead State	
B.L.11 Bridge Location	1 MI E JCT 215 IN MULBERRY
B.L.12 Metropolitan Planning Organization	

CLASSIFICATION	
B.CL.01 Owner	S01 - State transportation departme
B.CL.02 Maint. Responsibility	S01 - State transportation departme
B.CL.03 Federal or Tribal Land Access	N - Not Applicable
B.CL.04 Historic Significance	N - Bridge is not eligible for the
B.CL.05 Toll	N - Bridge does not carry a toll ro
B.CL.06 Emergency Evacuation Designation	

ROADSIDE HARDWARE	
B.RH.01A Bridge Railing Type	
B.RH.01B Bridge Railing Year (YY)	
B.RH.01C Bridge Railing Test Level	
B.RH.02A Transition Type	
B.RH.02B Transition Year (YY)	
B.RH.02C Transition Test Level	

BRIDGE GEOMETRY	
B.G.01 NBIS Bridge Length	341.6
B.G.02 Total Bridge Length	346.1
B.G.03 Max Span Length	82
B.G.04 Min Span Length	31.8
B.G.05 Bridge Width Out-to-Out	31.5
B.G.06 Bridge Width Curb-to-Curb	27.9
B.G.07 Left Curb or Sidewalk Width	1.6
B.G.08 Right Curb or Sidewalk Width	1.6
B.G.09 Approach Roadway Width	39

B.G.10 Bridge Median	0 - No median
B.G.11 Skew	0
B.G.12 Curved Bridge	N - Not curved
B.G.13 Max Bridge Height	38
B.G.14 Sidehill Bridge	N - Not a sidehill bridge
B.G.15 Irregular Deck Area	
B.G.16 Calculated Deck Area	10902.2

LOADS AND LOAD RATING	
B.LR.01 Design Load	H20 - H-20
B.LR.02 Design Method	
B.LR.03 Load Rating Date	
B.LR.04 Load Rating Method	LFR - Load Factor Rating
B.LR.05 Inventory Load Rating Factor	0.39
B.LR.06 Operating Load Rating Factor	0.64
B.LR.07 Controlling Legal Load Rating Factor	
B.LR.08 Routine Permit Loads	Bridge does not carry routine permi

INSPECTION REQUIREMENTS	
B.IR.01 NSTM Inspection Required	Y - NSTM inspection required.
B.IR.02 Fatigue Details	Y - E/E' details are present
B.IR.03 UW Inspection Required	Y - Underwater inspection required
B.IR.04 Complex Feature	N - Bridge does not have complex fe

COMPONENT CONDITION RATINGS	
B.C.01 Deck Condition Rating	5 - FAIR - Some moderate defec
B.C.02 Superstructure Condition	4 - POOR - Widespread moderate
B.C.03 Substructure Condition	4 - POOR - Widespread moderate
B.C.04 Culvert Condition	N - NOT APPLICABLE - Component
B.C.05 Bridge Railing Condition	6 - SATISFACTORY - Widespread
B.C.06 Bridge Railing Transitions Condition	N - NOT APPLICABLE - Component
B.C.07 Bridge Bearings Cond.	4 - POOR - Widespread moderate
B.C.08 Bridge Joints Condition	4 - POOR - Widespread moderate
B.C.09 Channel Condition Rating	8 - VERY GOOD - Inherent defec
B.C.10 Channel Protection Condition	N - NOT APPLICABLE - Bridge do
B.C.11 Scour Condition Rating	
B.C.12 Bridge Condition Classification	P - Poor
B.C.13 Lowest Condition Rating	4 - POOR - Widespread moderate
B.C.14 NSTM Insp. Condition	4 - POOR - Widespread moderate
B.C.15 UW Inspection Condition	7 - GOOD - Some minor defects.

APPRAISAL	
B.AP.01 Approach Roadway Alignment	F - Fair
B.AP.02 Overtopping Likelihood	1 - Remote - once every 100 years o
B.AP.03 Scour Vulnerability	A - Scour appraisal completed. Brid
B.AP.04 Scour Plan of Action	0 - A scour POA is not required.
B.AP.05 Seismic Vulnerability	0 - Seismic evaluation not complete

Team Lead: Caleb Coppock, Inspection Date: 11/21/2025

SPAN SETS			
M1			
B.SP.02 # of Spans	3	B.SP.08 Deck Interaction	IM - Integral or monolithic
B.SP.03 # of Beam Lines	2	B.SP.09 Deck Material and Type	C01 - Reinforced concrete - ca
B.SP.04 Span Material	C01 - Reinforced concrete - ca	B.SP.10 Wearing Surface	B01 - Bituminous (asphalt)
B.SP.05 Span Continuity	2 - Continuous	B.SP.11 Deck Protective System	0 - None
B.SP.06 Span Type	A02 - Arch - open spandrel	B.SP.12 Deck Reinforcing Protective System	0 - None
B.SP.07 Span Protective System	0 - None	B.SP.13 Deck Stay-In-Place Forms	0 - None
A1			
B.SP.02 # of Spans	3	B.SP.08 Deck Interaction	IM - Integral or monolithic
B.SP.03 # of Beam Lines	5	B.SP.09 Deck Material and Type	C01 - Reinforced concrete - ca
B.SP.04 Span Material	C01 - Reinforced concrete - ca	B.SP.10 Wearing Surface	B01 - Bituminous (asphalt)
B.SP.05 Span Continuity	1 - Simple or single span	B.SP.11 Deck Protective System	0 - None
B.SP.06 Span Type	G03 - Girder/beam - tee-beam	B.SP.12 Deck Reinforcing Protective System	0 - None
B.SP.07 Span Protective System	0 - None	B.SP.13 Deck Stay-In-Place Forms	0 - None
W1			
B.SP.02 # of Spans	3	B.SP.08 Deck Interaction	CU - Composite - unshored cons
B.SP.03 # of Beam Lines	2	B.SP.09 Deck Material and Type	C01 - Reinforced concrete - ca
B.SP.04 Span Material	S01 - Steel - rolled	B.SP.10 Wearing Surface	B01 - Bituminous (asphalt)
B.SP.05 Span Continuity	5 - Cantilever with pin and ha	B.SP.11 Deck Protective System	0 - None
B.SP.06 Span Type	G02 - Girder/beam - I-shaped s	B.SP.12 Deck Reinforcing Protective System	0 - None
B.SP.07 Span Protective System	C01 - Coating - paint	B.SP.13 Deck Stay-In-Place Forms	0 - None
SUBSTRUCTURE SETS			
A1			
B.SB.02 No. of Substructure Units	2	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	F02 - Footing - on rock
B.SB.04 Substructure Type	A02 - Abutment - stub	B.SB.07 Foundation Protective System	0 - None
P1			
B.SB.02 No. of Substructure Units	1	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	F02 - Footing - on rock
B.SB.04 Substructure Type	B01 - Bent - column or open	B.SB.07 Foundation Protective System	0 - None
P2			
B.SB.02 No. of Substructure Units	4	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	F02 - Footing - on rock
B.SB.04 Substructure Type	P01 - Pier - wall	B.SB.07 Foundation Protective System	0 - None



Team Lead: Caleb Coppock, Inspection Date: 11/21/2025

HIGHWAY FEATURES

H1			
B.F.02 Feature Location	C - Carried on bridge	B.H.09 Annual ADT	1810
B.F.03 Feature Name	US 64-Crawford Co.	B.H.10 Annual ADTT	18
B.H.01 Functional Classification	5 - Major Collector	B.H.11 Year of Annual ADT	2017
B.H.02 Urban Code	99999	B.H.12 Highway Max Usable Vertical Clearance	99.9
B.H.03 NHS Designation	N - Non-NHS	B.H.13 Highway Min Vertical Clearance	99.9
B.H.04 National Highway Freight Network	1-T - TEMP - NHFN - 1 or 2 or	B.H.14 Highway Min Horizontal Clearance, Left	
B.H.05 STRAHNET Designation	N - Not a STRAHNET route	B.H.15 Highway Min Horizontal Clearance, Right	
B.H.06 LRS Route ID		B.H.16 Highway Max Usable Surface Width	27.8
B.H.07 LRS Mile Point	19.9	B.H.17 Bypass Detour Length	10
B.H.08 Lanes On Highway	2	B.H.18 Crossing Bridge Number	

HIGHWAY ROUTES

Highway Parent	B.RT.01 Route Designation	B.RT.02 Route Number	B.RT.03 Route Direction	B.RT.04 Route Type	B.RT.05 Service Type
H1	1	64	2-T - TEMP - Two-way traffic - NS or EW	2 - U.S. route	1 - Mainline

WATERWAY FEATURES

W1			
B.F.02 Feature Location	B - Below bridge	B.N.03 Movable Bridge Max Navigation Vertical Clearance	
B.F.03 Feature Name	Big Mulberry River	B.N.04 Navigation Channel Width	
B.N.01 Navigable Waterway	N - Not navigable waters	B.N.05 Navigation Channel Min Horizontal Clearance	
B.N.02 Navigation Min Vertical Clearance		B.N.06 Substructure Navigation Protection	

POSTING STATUS DATA

B.PS.01 Load Posting Status	B.PS.02 Posting Status Change Date
PO - Permanent and Open	

LOAD EVALUATION AND POSTING

B.EP.01 Legal Load Configuration	B.EP.02 Legal Load Rating Factor	B.EP.03 Posting Type	B.EP.04 Posting Value
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Inspection Notes

General Observation

09/02/2025 - EJW, MPW & RSM - NSTM and Other Special Recurring Inspection conducted on this date. Structure accessed from an Aspen A40. Traffic control provided by Crawford 1.

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

The deck driving surface has an asphalt overlay with no apparent significant problems, the undersurface has transverse cracks with efflorescence build up and random spalling with exposed reinforcing steel.

59 - Superstructure (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour.)

The superstructure is generally in poor condition due to active corrosion, pack rust and significant section loss.

09/02/2025 - EJW - Other Special Recurring Inspection conducted on this date. Superstructure has a condition rating or "4". No apparent repairs since the last inspection. The superstructure has active corrosion, pack rust, section loss and continues to deteriorate. No visible cracks found at this inspection.

60 - Substructure (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour.)

The RC portion of the substructure is generally in fair condition with areas of concrete deterioration, concrete cracking, spalling with exposed reinforcing steel and loss of bearing area. The nstm steel bent caps are generally in poor condition with active corrosion, pack rust and significant section loss.

09/02/2025 - EJW - Other Special Recurring Inspection conducted on this date. Substructure has a condition rating or "4". No apparent repairs since the last inspection. The substructure has active corrosion, pack rust, section loss and continues to deteriorate. No visible cracks found at this inspection.

61 - Channel/Channel Protection (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)

The channel appears to be in good condition with the banks vegetated, and appear to be stable.

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

The girder ends and bearings have active corrosion and pack rust.

A-59 - Joint Repair Needed (Y)

The joint seals leak water.

A-60 - Full Girder Painting Needed (Y)

The girders have a failing paint system.



A-114 - Underwater Inspection General Observation

Engineer of Record: Samuel Williams, PE

Team Leader: Samuel Williams, PE

Team Members: LA, AC, AR

Total Substructure Units: 7

Substructure Units in Water: Piers 1-2

Inventory Direction: W to E

Direction of Flow: N to S

Deepest Water Depth: 13.2 ft

Water Velocity: 0.25 FPS

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

A-115 - Underwater Inspection Channel/Channel Protection (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)

Overall, the channel is in very good condition. The upstream channel is well aligned with the substructure units. There is moderate to heavy timber debris around the piers that does not adversely affect flow through the channel. The banks upstream and downstream of the bridge are stable and well vegetated. The banks under the bridge are stable and protected with light vegetation on both slopes and areas of rock on the east slope.

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

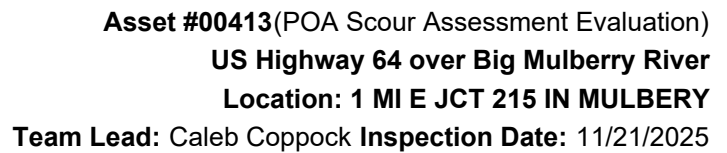
Overall the substructure units are in good condition with minor scaling on the pier walls that is quantified in the element level portion of this report.

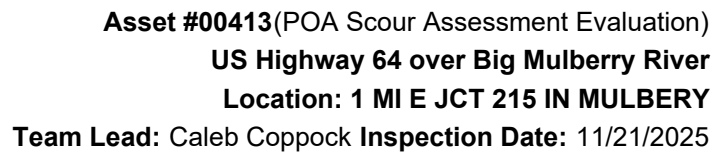
A-117 - Underwater Scour Condition (8 - Insignificant scour.)

Based on field observations and available data, there are no signs of scour at the bridge site. The Pier 1 footing is exposed up to 8"H along the west face for 9.5'. Per the bridge plans, there has been little to no change in the exposure height since construction. Channel profile measurements indicate 7'-10' (+/-) of aggradation has occurred at Pier 2, since construction.

B.C.14 - NSTM Inspection Condition (4 - POOR - Widespread moderate or isolated major defects; strength and/or performance of the component is affected.)

NSTM members are typically in poor condition, members have active corrosion, pack rust and significant section loss.

[illegible]



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
-Bent # 4, span # 3, left: the lower pin hanger assembly has a fractured cotter pin.							
205	Reinforced Concrete Column	EA	10	5	0	4	1
1090	Exposed Rebar	EA	2	0	0	2	0
1120	Efflorescence/Rust Staining	EA	1	0	0	1	0
1130	Cracking (RC and Other)	EA	2	0	0	1	1
(205) Spans # 3, 4, and 5 are reinforced concrete open spandrel spans. -Vertical & diagonal hairline cracks visible in the columns located between the arch rings and the deck. -Columns for bents # 3, 4, 5, and 6 have spalled areas with exposed reinforcing steel and short duration cracks propagating from where the steel caps intersect the columns. -The left and right columns of bent # 4 have basketball sized spalls with exposed reinforcing steel located approximately 1' above the base of where the span # 3 & 4 arch rings intersect. Exposed rebar appears to have initial section loss during this inspection. -The right column of bent # 5 has a basket ball sized spall with exposed reinforcing steel located approximately 1' above the base of where the span # 4 & 5 arch rings intersect. Exposed reinforcing steel appears to have initial section loss during this inspection. -The top part of the column at bent # 5, column # 1 has a diagonal crack with spalling and delamination under the haunch of beam # 2. Department maintenance forces have placed a steel vertical support adjacent to this deficiency as a type of repair. -Bent # 3 ahead face. The top of the left column of bent # 3 has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing for left concrete girder. (This deficiency appears to be similar to the area repaired in the past by installing a vertical support at bent # 5, column # 1 as noted above.) -Left arch ring column over bent # 4 has three areas of spalling with exposed reinforcing steel at base of column. The base of right column over bent # 4 has two basketball sized spalls with exposed reinforcing steel.							
210	Reinforced Concrete Pier Wall	LF	38	0	36	2	0
1090	Exposed Rebar	LF	2	0	0	2	0
1190	Abrasion/Wear (PSC/RC)	LF	36	0	36	0	0
(210) -Piers in the channel have light abrasion at the water elevation. -Bent # 4 pier wall on right side has a 12" spall with exposed reinforcing steel in the ice breaker portion of pier wall. Backface of pier wall on right side has an 8" spall with exposed reinforcing steel. Exposed reinforcing steel appears to have initial section loss.							
2022 Underwater Inspection - No additional defects noted in underwater inspection.							
215	Reinforced Concrete Abutment	LF	87	84	3	0	0
1120	Efflorescence/Rust Staining	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	1	0	1	0	0
(215) -Abutment # 1 has no apparent noteworthy deficiencies during this inspection. -Abutment # 2 backwall has a hairline crack in bays # 1, 2, & 4.							
220	Reinforced Concrete Pile Cap/Footing	LF	10	0	10	0	0
1190	Abrasion/Wear (PSC/RC)	LF	10	0	10	0	0
(220) 2022 Underwater Inspection - Pier 1 Footing: Footing is exposed along the west face up to 8"H, extending 9.5' from the upstream nose. Per as built plans, there has been little to no change in footing exposure height. (1190-220) 2022 Underwater Inspection - Pier 1: Scaling on the footing, up to 1/4"D, with isolated pockets, up to 1/2"D. (10LF, CS2)							
225	Steel Pile	EA	2	0	2	0	0
1000	Corrosion	EA	2	0	2	0	0
(225) -Painted steel piles located in the widened portions of bent # 2 have a light rust coating at ground level.							



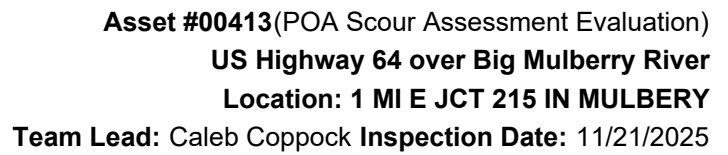
Asset #00413(POA Scour Assessment Evaluation)

US Highway 64 over Big Mulberry River

Location: 1 MI E JCT 215 IN MULBERRY

Team Lead: Caleb Coppock Inspection Date: 11/21/2025

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
231	Steel Pier Cap	LF	116	0	0	106	10
1000	Corrosion	LF	116	0	0	106	10
515	Steel Protective Coating	SF	1062	190	0	0	872
3440	Effectiveness (Steel Protective Coatings)	SF	872	0	0	0	872
<p>(231) -Maintenance forces have made some repairs in the past. The exterior edges of the steel caps have been painted with black rust inhibitor as a type of repair. The interior faces of the steel caps located between the columns still have active corrosion with flaking rust and measurable section loss.</p> <p>-There are areas of significant section loss in the steel caps at the juncture where the steel cap makes contact with the concrete columns. Section loss at the steel cap and spandrel column juncture ranges from 1/8" up to 5/16" on either side of the cap.</p> <p>-Bent # 3 cap on left side at column # 2 has up to 5/16" section loss to bottom flange with 9/16" remaining section.</p>							
234	Reinforced Concrete Pier Cap	LF	117	79	12	26	0
1080	Delamination/Spall/Patched Area	LF	1	0	0	1	0
1090	Exposed Rebar	LF	13	0	4	9	0
1130	Cracking (RC and Other)	LF	24	0	8	16	0
<p>(234) -Bent # 2, span # 1 side of cap has 3 spalled / delaminated areas with exposed reinforcing steel on the haunch under the cap. Reinforcing steel has initial section loss.</p> <p>-The exterior ends of bent # 2 have shallow spalls with exposed secondary reinforcing steel (Hoops) visible from the undersurface of the cap where they were widened. Exposed reinforcing steel has approximately 25% section loss and has very little concrete cover from the construction process.</p> <p>-Bent # 2 on the span # 2 side has spalling with exposed reinforcing steel on the haunch under beam # 4.</p> <p>-Bent # 3 right has a 1/4" vertical crack over the steel beam in the end of the cap.</p> <p>-Bent # 5, span 4 side of cap has a diagonal crack in the concrete haunch in the bearing area of girder # 3. The crack appears to be 1/16" wide during this inspection. See history, form V, and photographs for additional information.</p>							
305	Assembly Joint without Seal	LF	168	0	0	168	0
2350	Debris Impaction	LF	168	0	0	168	0
(305) -Joint assemblies are not visible due to asphalt overlay applied continuously across the deck.							
311	Movable Bearing	EA	6	0	0	6	0
1000	Corrosion	EA	6	0	0	6	0
515	Steel Protective Coating	SF	18	0	0	9	9
3440	Effectiveness (Steel Protective Coatings)	SF	18	0	0	9	9
(311) -Bearings and anchor bolts have pack rust, flaking rust, and active corrosion.							
313	Fixed Bearing	EA	6	0	0	6	0
1000	Corrosion	EA	6	0	0	6	0
515	Steel Protective Coating	SF	18	0	0	9	9
3440	Effectiveness (Steel Protective Coatings)	SF	18	0	0	9	9
(313) -Bearings and anchor bolts at bents # 4 & 5 have pack rust, flaking rust, and active corrosion.							
330	Metal Bridge Railing	LF	692	0	692	0	0
1000	Corrosion	LF	686	0	686	0	0



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
1900	Distortion	LF	6	0	6	0	0
(330) -The bridge railing has areas with a superficial light rust coating in areas. -Minor areas of collision damage.							

Inspection Photos and Notes



Elevation



East approach load posting sign.



West approach load posting sign.



Driving Surface: typical.



09/02/2025

Steel girders have areas of active corrosion with flaking rust. The bottom and top flanges at the ends of girders have the most significant areas of corrosion and section loss.

There are no visible cracks apparent in the NSTM steel girders during this inspection.

Span 5, Girder 1 has areas of active corrosion, flaking rust and section loss on the interior web and bottom flange located in several areas between diaphragm 2 and bent 6.

Sec loss ranges from 0.07" up to 0.28"



09/02/2025

Steel girders have areas of active corrosion with flaking rust. The bottom and top flanges at the ends of girders have the most significant areas of corrosion and section loss.

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Span 5, Girder 1 has areas of active corrosion, flaking rust and section loss on the interior web and bottom flange located in several areas between diaphragm 2 and bent 6.

Sec loss ranges from 0.07" up to 0.28"



09/02/2025

Repair in place.



09/02/2025

Steel Cap, Bent # 5, Span # 5: the web has active corrosion with up to 5/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



Bent # 6: typical



Bent # 6 Steel Cap, Left Side:
The Span # 5 side of web has 1/8" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



Span # 6 Steel Cap, Right Side:
The Span # 5 side of web has 1/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



Pin hanger Assembly, Bent # 5, girder # 4: typical.



09/02/2025

Bent # 5 Steel Cap, Center section between the columns:
The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/4" on the web adjacent to the top flanges at the column juncture. The top flange has up to 1/2" section loss along the edge of the flange.



09/02/2025

Bent # 5 Steel Cap, Center section between the columns:
The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/4" on the web adjacent to the top flanges at the column juncture.



09/02/2025

Span 4, Girder 4 has a 2' area at the base of web and on the bottom flange that has active corrosion with 5/16" section loss to the interior side of girder at the web connection located approximately 6' from Bent 5.



09/02/2025

Bent # 5, Span # 4, Girder 4: girder has approximately 3/8" section loss to the web located 20" from the end of girder at Bent 5 adjacent to the expansion dam.



Bent # 5, Span # 4 , left: the top flange has been reduced to 5/16" thickness.



Bent # 5 Steel Cap, Left Side:

The Span # 4 side of web has active corrosion with up to 3/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



Bent # 4 Steel Cap, Center section column # 2

The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/4" on the web and top and bottom flanges at the column juncture.



Bent # 4 Steel Cap, Center section, column # 1:

The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/4" on the web and top and bottom flanges at the column juncture.



09/02/2025

The Span # 4 side of cap has 3/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.
There is up to approximately 5/16" The Span # 4 side of cap has 3/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.
There is up to approximately 5/16" total section loss to the web of the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



09/02/2025

Pin Hanger assembly, Bent # 4, girder # 4: typical.



09/02/2025

Bent # 4, column # 1: spalling with exposed reinforcing steel.



09/02/2025

Span 3, Girder 4 has a 2' area at the base of web and on the bottom flange that has active corrosion with 3/16" section loss to the interior side of beam at the web juncture located approximately 10' from Bent 4.



09/02/2025

Bent # 4 Steel Cap, Right Side:
The Span # 3 side of cap has 3/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



09/02/2025

Bent # 4 Steel Cap, Center section between the columns
Bent # 4 Steel Cap, Center section between the columns:

The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/8" on the web and top and bottom flanges at the column juncture. The top flange of the steel cap has active corrosion with up to 5/16" section loss at the juncture where the w-beam passes through the (original) reinforced concrete cap. The bottom flange has flaking rust on the undersurface.



09/02/2025

Bent # 4 Steel Cap, Left side:
The Span # 3 side of web has 1/8" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap. The top flange of the steel cap has active corrosion with up to 5/16" section loss at the juncture where the w-beam passes through the (original) reinforced concrete cap.
The bottom flange has flaking rust on the undersurface.



09/02/2025

Pin hanger assembly, bent # 4, girder # 1: typical.



Cap, Bent # 3: typical.



Bent # 3 ahead face. The top of the left column of bent # 3 has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing for left concrete girder. (This deficiency appears to be similar to the area repaired in the past by installing a vertical support at bent # 5, column # 1 as noted above.)



Bent # 3 ahead face. The top of the left column of bent # 3 has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing for left concrete girder. (This deficiency appears to be similar to the area repaired in the past by installing a vertical support at bent # 5, column # 1 as noted above.)



Bent # 3 Steel Cap, Left side:
The Span # 2 side of web has 5/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



09/02/2025

Bent # 3 Steel Cap, Right:

There is active corrosion in the steel cap on the top and bottom flanges at the juncture where the w-beam passes through the (original) reinforced concrete cap. Section loss measures up to 3/16" on the cover plate. Top flange original thickness is 7/8" and has been reduced down to 9/16" at the bent cap juncture.

No visible cracks apparent in the NSTM steel cap during this inspection.



09/02/2025

Bent # 3 Steel Cap, Right:

The Span # 2 side of cap has 5/16" section loss to the steel cap at the juncture where the w-beam passes through the (original) reinforced concrete cap.



09/02/2025

Roadway



09/25/2025

The girder ends and bearings have active corrosion and pack rust.



The girders have a failing paint system.



NSTM Exterior Girders # 1 & 4.



NSTM Pin Hanger Assemblies.



NSTM Steel Bent Caps.



Bent # 5, Span # 5, girder # 1: pin hanger assembly.

Maintenance Needs

Date Reported: 04/06/2021

Priority: B - Pressing

Type of Work: Substructure Repair

Status: Assigned

Component: Substructure

Deficiency Description

Substructure -

Bent # 3 ahead face of left column has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing of the left concrete girder. (This deficiency appears to be similar to the area repaired in the past at bent # 5 left column by placing a steel vertical support under concrete arch girder.

Remarks

07/18/2024 - EJW - The crack width has increased since the last inspection, priority modified to reflect changes since the last inspection.



Bent # 3 ahead face. The top of the left column of bent # 3 has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing for left concrete girder. (This deficiency appears to be similar to the area repaired in the past by installing a vertical support at bent # 5, column # 1 as noted above.)



Bent # 3 ahead face. The top of the left column of bent # 3 has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing for left concrete girder. (This deficiency appears to be similar to the area repaired in the past by installing a vertical support at bent # 5, column # 1 as noted above.)



Bent # 3 ahead face of left column has vertical and diagonal cracking approximately 3/8" wide with a delaminated area under the bearing of the left concrete girder. (This deficiency appears to be similar to the area repaired in the past at bent # 5 left column by placing a steel vertical support under concrete arch girder.

Maintenance Needs

Date Reported: 07/18/2024

Priority: B - Pressing

Type of Work: Superstructure Repair

Status: Assigned

Component: Element

Deficiency Description

Pin / Hanger Assembly

Bent # 4, left, lower left pin hanger assembly, the lower cotter pin has a portion of the cotter pin that has sheared off. The assembly has pack rust behind the hanger bars.

Remarks



Bent # 4, span # 3, left: pin hanger assembly with fractured cotter pin.



Bent # 4, span # 3, left: pin hanger assembly with active corrosion behind the pin hanger.

Maintenance Needs

Date Reported: 07/28/2011

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Element

Deficiency Description

Superstructure (NSTM Exterior Steel Girders) -

Steel girders have areas of active corrosion with section loss to the webs and flanges of girders. Span # 3 right exterior girder has up to 1/4" section loss to base of web in an area that extends approximately 10' in length adjacent to bent # 4 pin and hanger assembly. Span # 5 left exterior girder near bent # 6 has areas of corrosion along base of web on interior side with up to 5/16" section loss to base of web. Span # 5 right exterior girder has corrosion along interior side at base of web in an area approximately 8' long near bent # 6 with up to 3/16" section loss. Areas of paint failure with active corrosion along the bottom flange/web connections. The diaphragm brackets have active corrosion with section loss where they are anchored to the deck.

Remarks



Steel girders have areas of active corrosion with flaking rust.

The bottom and top flanges at the ends of girders have the most significant areas of corrosion and section loss. There are no visible cracks apparent in the NSTM steel girders during this inspection.

Span 5, Girder 1 has areas of active corrosion, flaking rust and section loss on the interior web and bottom flange located in several areas between diaphragm 2 and bent 6. Sec loss ranges from 0.07" up to 0.28"



Steel girders have areas of active corrosion with flaking rust.

The bottom and top flanges at the ends of girders have the most significant areas of corrosion and section loss. There are no visible cracks apparent in the NSTM steel girders during this inspection.

Span 5, Girder 1 has areas of active corrosion, flaking rust and section loss on the interior web and bottom flange located in several areas between diaphragm 2 and bent 6. Sec loss ranges from 0.07" up to 0.28"



07/24/2024

Span # 4, girder # 2, mid span: active corrosion with section loss to the anchor bolt that secures the diaphragm to the deck adjacent to the arch rib.



04/19/2022

Span # 5, beam # 1 near bent # 6-Section loss to web.

Maintenance Needs

Date Reported: 07/29/2011

Priority: C - Important

Status: Monitor

Type of Work: Repair (General)

Component: Element

Deficiency Description

NSTM Steel Caps -

Active corrosion with layers of rust and section loss to steel portions of the caps at bents # 3, 4, 5, & 6. Maintenance Forces have applied a type of rust inhibitor to the caps in some locations in the past. The caps continue to deteriorate with active corrosion and flaking rust in numerous locations. The most notable areas of corrosion is on the interior and exterior sides of the column at the cap / column interface. The most significant section loss in the top flange is up to 3/8" section loss to the top flange of bent # 5 cap. The web portion of the steel caps measure approximately 9/16". The most significant section loss to the web of steel caps is at bents # 4 & 5 with areas of section loss up to approximately 1/2".

Remarks

04/19/2022 - RSM - Steel caps have been partially cleaned and rust inhibitor applied to the beams in several locations. Areas of corrosion still exists at this inspection.

3/10/2021 - CD - Crew 04001 cleaned and painted corrosion areas at bents 3, 4, and 6 with Rust Converter. Priority lowered to a C based on the work performed.

04/05/2021 - Maintenance forces have painted the exterior ends of the fracture critical steel caps with black rust inhibitor as a type of repair. -The most significant areas of section loss was at the exterior surface of the original concrete substructure interface with the steel I beam caps.

HBM Crew cleaned and painted corrosion areas at Bent 5 with calcium sulfonate CSL 8/4/2020



Bent # 5 Steel Cap, Center section between the columns:
The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/4" on the web adjacent to the top flanges at the column juncture. The top flange has up to 1/2" section loss along the edge of the flange.



Bent # 4 Steel Cap, Center section column # 2
The steel cap section between the concrete columns has active corrosion, flaking rust and section loss up to 1/4" on the web and top and bottom flanges at the column juncture.



09/25/2025

Bent # 5, Span # 4 , left: the top flange has been reduced to 5/16" thickness.



04/05/2021

Bent # 6 cap. Interior between the columns.

Maintenance Needs

Date Reported: 07/28/2011

Priority: C - Important

Type of Work: Superstructure Repair

Status: Monitor

Component: Superstructure

Deficiency Description

Pin / Hanger Assemblies -

Spans # 4 and # 5 -

Pin / Hanger assemblies have active corrosion with pack rust behind hanger bars. Left pin and hanger assembly at bent # 4 has pack rust behind hanger bars with approximately 1/8" section loss along interior edge of hanger bar.

Remarks



Pin hanger assembly, bent # 4, girder # 1: typical.



Bent # 4, span # 3, left: pin hanger assembly with active corrosion behind the pin hanger.



General view of pin assembly # 2 over bent # 5. Right.

Maintenance Needs

Date Reported: 04/17/2019

Priority: C - Important

Type of Work: Superstructure Repair

Status: Monitor

Component: Element

Deficiency Description

Superstructure -

The ends of the deck girders have spalling with exposed reinforcing steel, the exposed reinforcing steel has layers of flaking rust and section loss.

Remarks



Span # 2, bent # 3, girder # 5: concrete spalling with exposed reinforcing steel, exposed reinforcing steel has up to 75% section loss.



Bent # 4, span # 4, girder # 2, left: spalling with exposed reinforcing steel.



Span # 2, girder # 1-Spalling with exposed reinforcing steel.

Maintenance Needs

Date Reported: 04/16/2020

Priority: C - Important

Type of Work: Bearing Repair/Replacement

Status: Monitor

Component: Element

Deficiency Description

Bearings -
Bearings have active corrosion with pack rust.

Remarks

05/23/2023 - RSM - Priority code changed from "D" to "C" due to continued deterioration with heavy corrosion / section loss.



Bent # 2, girder # 5: bearing has active corrosion and pack rust.



Span # 2, Bent # 3, girder # 5: bearing has active corrosion and pack rust.



Span # 2, bent # 2, girder # 2: active corrosion with pack rust.



Bearing at bent # 4. Right side of structure.

Maintenance Needs

Date Reported: 04/20/2015

Priority: D- Routine

Type of Work: Substructure Repair

Status: Monitor

Component: Substructure

Deficiency Description

Substructure -
The substructure has spalls with exposed reinforcing steel.

Remarks



09/29/2025

Bent # 4, column # 1: spalling with exposed reinforcing steel.



07/31/2024

Bent # 4, column # 1, right: concrete deterioration with exposed reinforcing steel at the arch rib junction.



07/31/2024

Bent # 5, column # 2, left spalling with exposed reinforcing steel.



04/23/2020

Span # 3 -Spalling with exposed reinforcing steel in arch rib # 1 column at bent # 4.

Maintenance Needs

Date Reported: 04/06/2021

Priority: D- Routine

Type of Work: Channel Work/Drift Removal

Status: Monitor

Component: Channel

Deficiency Description

Channel -
The channel has drift accumulation at the base of the substructure.

Remarks



Submerged drift accumulation at bent # 5.



Submerged drift accumulation at bent # 5.



Asset #00413(POA Scour Assessment Evaluation)

US Highway 64 over Big Mulberry River

Location: 1 MI E JCT 215 IN MULBERRY

Team Lead: Caleb Coppock Inspection Date: 11/21/2025

Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is Recommended?
A-54 - Sealable Deck Cracks	No
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	Yes
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-65 - Clogged deck drains?	No
A-66 - Approach minor pothole/leveling needed	No

A-54 - Sealable Deck Cracks (No)

A-55 - Deck Washing Needed (No)

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

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

The girder ends and bearings have active corrosion and pack rust.



The girder ends and bearings have active corrosion and pack rust.

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

A-59 - Joint Repair Needed (Yes)

The joint seals leak water.

A-60 - Full Girder Painting Needed (Yes)

The girders have a failing paint system.



The girders have a failing paint system.



Asset #00413(POA Scour Assessment Evaluation)
US Highway 64 over Big Mulberry River
Location: 1 MI E JCT 215 IN MULBERRY
Team Lead: Caleb Coppock Inspection Date: 11/21/2025

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-65 - Clogged deck drains? (No)

A-66 - Approach minor pothole/leveling needed (No)



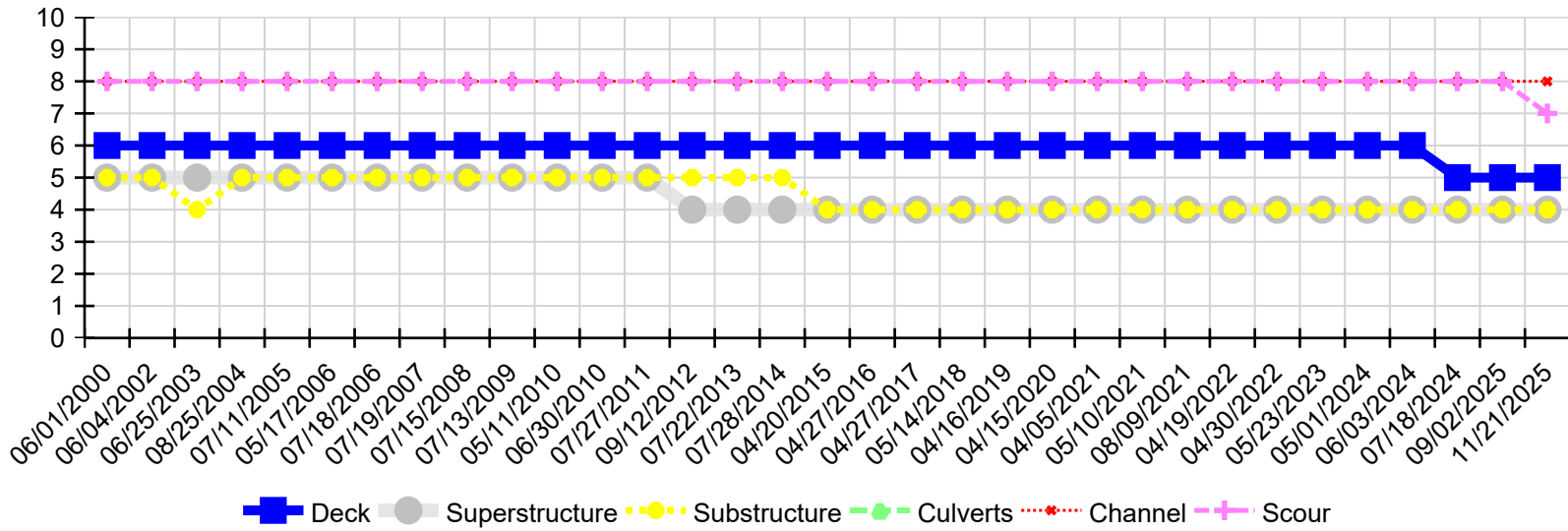
Asset #00413(POA Scour Assessment Evaluation)

US Highway 64 over Big Mulberry River

Location: 1 MI E JCT 215 IN MULBERRY

Team Lead: Caleb Coppock Inspection Date: 11/21/2025

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
11/21/2025	5	4	4	N	8	7
09/02/2025	5	4	4	N	8	8
07/18/2024	5	4	4	N	8	8
06/03/2024	6	4	4	N	8	8
05/01/2024	6	4	4	N	8	8
05/23/2023	6	4	4	N	8	8
04/30/2022	6	4	4	N	8	8
04/19/2022	6	4	4	N	8	8
08/09/2021	6	4	4	N	8	8
05/10/2021	6	4	4	N	8	8
04/05/2021	6	4	4	N	8	8
04/15/2020	6	4	4	N	8	8
04/16/2019	6	4	4	N	8	8
05/14/2018	6	4	4	N	8	8
04/27/2017	6	4	4	N	8	8
04/27/2016	6	4	4	N	8	8
04/20/2015	6	4	4	N	8	8
07/28/2014	6	4	5	N	8	8
07/22/2013	6	4	5	N	8	8
09/12/2012	6	4	5	N	8	8
07/27/2011	6	5	5	N	8	8
06/30/2010	6	5	5	N	8	8
05/11/2010	6	5	5	N	8	8
07/13/2009	6	5	5	N	8	8
07/15/2008	6	5	5	N	8	8
07/19/2007	6	5	5	N	8	8
07/18/2006	6	5	5	N	8	8



Asset #00413(POA Scour Assessment Evaluation)

US Highway 64 over Big Mulberry River

Location: 1 MI E JCT 215 IN MULBERRY

Team Lead: Caleb Coppock **Inspection Date:** 11/21/2025

Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
05/17/2006	6	5	5	N	8	8
07/11/2005	6	5	5	N	8	8
08/25/2004	6	5	5	N	8	8
06/25/2003	6	5	4	N	8	8
06/04/2002	6	5	5	N	8	8
06/01/2000	6	5	5	N	8	8



00413

Mulberry

Qal

Alluvium—Alluvial deposits of present streams

ALLUVIUM

Age: Quaternary Period, Holocene Epoch

Distribution: flood plains of the Arkansas River and significant tributaries

Geology: The deposits indicated by this notation are alluvial deposits of present streams. Sediments will include gravels, sands, silts, clays and mixtures of any and all of these. The partition of this unit from other Holocene alluvial deposits was based more on geomorphic considerations than lithic or age considerations. Fossils are rare and modern. The lower contact is unconformable. The thickness is variable.

Pa

Atoka Formation, undivided

ATOKA FORMATION

Age: Pennsylvanian Period, Atokan Series

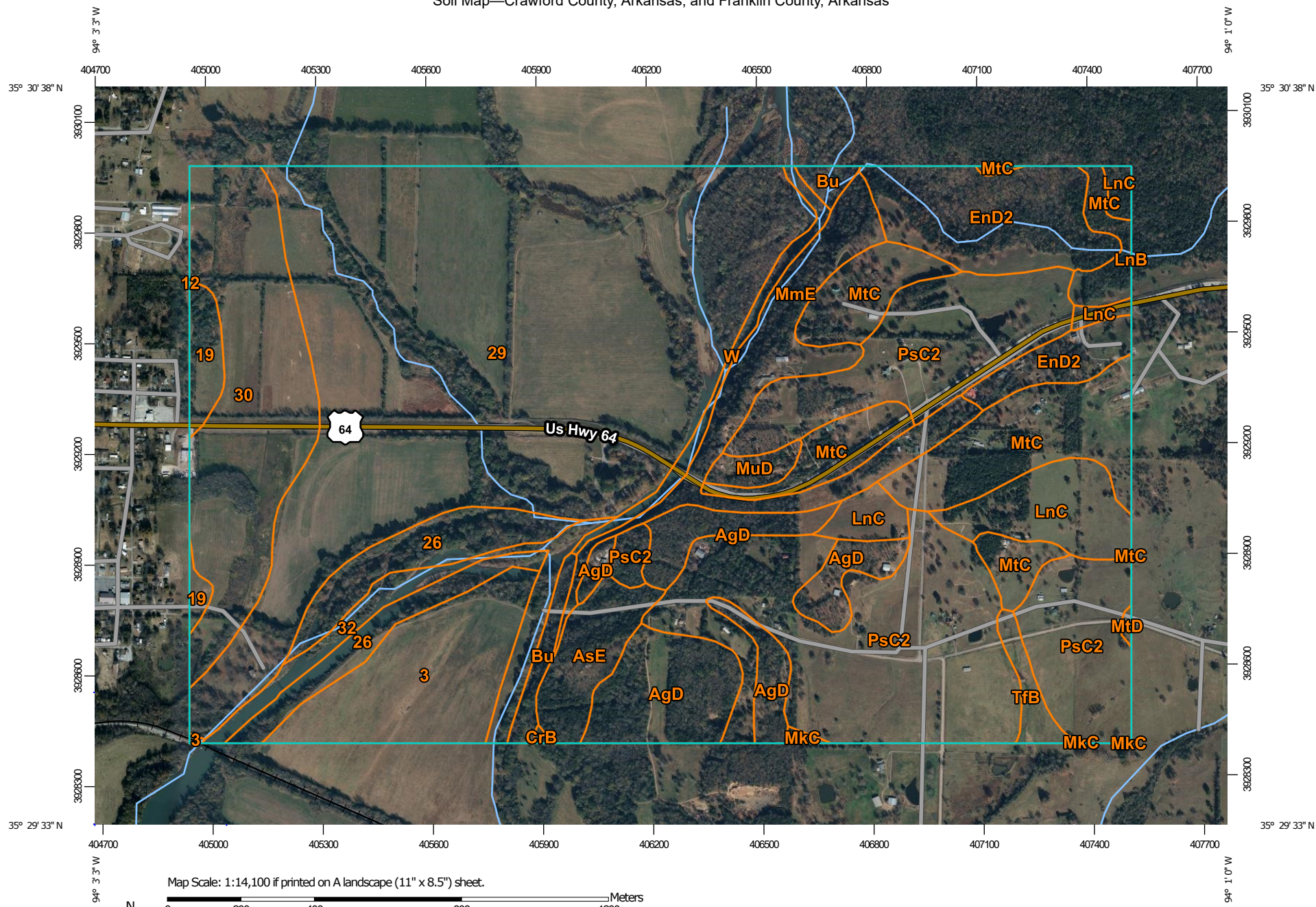
Distribution: in Arkansas the Boston Mountains, Arkansas River Valley, and Ouachita Mountains; eastern Oklahoma, eastern New Mexico, and central and western Texas.

Geology: The Atoka is a sequence of marine, mostly tan to gray silty sandstones and grayish-black shales. Some rare calcareous beds and siliceous shales are known. This unit has the largest areal extent of any of the Paleozoic formations in the state. It is the surface rock of the Boston Mountains and dominates the exposures in the Arkansas River Valley and the frontal Ouachita Mountains. It is also present in the southern part of the Ouachita Mountains. In the Arkansas River Valley and the frontal Ouachita Mountains the Atoka has been subdivided into upper, middle, and lower lithic members based on regionally mappable shale or sandstone intervals. The unit locally contains discontinuous streaks of coal and coaly shale in the Boston Mountains and Arkansas River Valley. Fossil plants are common throughout the section but are generally poorly preserved. Poorly preserved invertebrate fossils are much less common and are found at several horizons. Trace fossils are relatively common in the Atoka. The Atoka is conformable with the Bloyd Shale in the Boston Mountains and the Johns Valley Shale in the Ouachita Mountains. The unit may reach up to 25,000 feet thick in the Ouachita Mountains although only large incomplete sections are known.

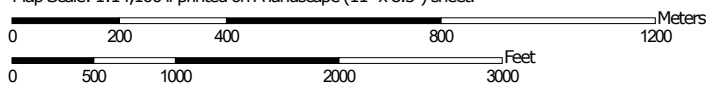
Original reference: J. A. Taff and G. I. Adams, 1900, U. S. Geol. Survey 21st Ann. Rept., pt. 2, p. 273.

Type locality: Named for Atoka, Atoka County, Oklahoma.

Soil Map—Crawford County, Arkansas, and Franklin County, Arkansas



Map Scale: 1:14,100 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84




**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

11/9/2023
Page 1 of 4


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Crawford County, Arkansas

Survey Area Data: Version 24, Sep 8, 2023

Soil Survey Area: Franklin County, Arkansas

Survey Area Data: Version 19, Sep 8, 2023

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 16, 2018—Nov 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Dardanelle silt loam	45.3	4.5%
12	Leadvale silt loam, 1 to 3 percent slopes	0.0	0.0%
19	Muskogee silt loam, 3 to 8 percent slopes	9.5	1.0%
26	Roellen silty clay loam	35.9	3.6%
29	Spadra fine sandy loam, 0 to 3 percent slopes, occasionally flooded	308.4	31.0%
30	Wrightsville silt loam, 0 to 1 percent slopes	77.7	7.8%
32	Water	21.0	2.1%
Subtotals for Soil Survey Area		497.8	50.0%
Totals for Area of Interest		995.5	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AgD	Nella gravelly fine sandy loam, 8 to 12 percent slopes	56.9	5.7%
AsE	Allen stony fine sandy loam, 12 to 45 percent slopes (nella)	18.2	1.8%
Bu	Bruno and Iuka soils	8.8	0.9%
CrB	Cleora fine sandy loam, 1 to 3 percent slopes	0.4	0.0%
EnD2	Enders gravelly silt loam, 8 to 20 percent slopes, eroded	51.3	5.1%
LnB	Linker fine sandy loam, 1 to 3 percent slopes	0.0	0.0%
LnC	Linker fine sandy loam, 3 to 8 percent slopes	33.1	3.3%
MkC	McKamie silt loam, 3 to 8 percent slopes	0.7	0.1%
MmE	Montevallo-Mountainburg complex, 12 to 40 percent slopes	43.9	4.4%
MtC	Mountainburg gravelly fine sandy loam, 3 to 8 percent slopes	79.4	8.0%
MtD	Mountainburg gravelly fine sandy loam, 8 to 12 percent slopes	0.6	0.1%
MuD	Mountainburg stony fine sandy loam, 1 to 12 percent slopes, rocky	5.0	0.5%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PsC2	Pickwick silt loam, 3 to 8 percent slopes, eroded	184.7	18.6%
TfB	Taft silt loam, 1 to 3 percent slopes	6.0	0.6%
W	Water	8.8	0.9%
Subtotals for Soil Survey Area		497.7	50.0%
Totals for Area of Interest		995.5	100.0%

Every bridge over a waterway carrying public vehicular traffic on the structure with more than 20-ft clear span requires a Scour Appraisal. Pipe culverts and 4-sided boxes will be assessed using the Culvert Scour Assessment Worksheet in Appendix B. Documentation must be done in InspectX, ARDOT's bridge inventory and appraisal data collection system, starting April 01, 2024. Directions are provided in this document.

Scour Appraisal

Scour Appraisals are the risk-based and data-driven determination of a bridge's vulnerability to scour, resulting from the least stable result of scour that is either observed, or estimated through a scour evaluation or a scour assessment. Both field observed scour and office estimated scour must be performed to determine the least stable result. Observed scour results are recorded by inspectors in the inspection report(s). Estimated scour results are recorded by engineering staff on the Scour Appraisal form in InspectX. The terms can best be organized in an outline:

1. Observed Scour **AND**
2. Estimated Scour (which will consist of)
 - a. Scour Evaluations **OR**
 - b. Scour Assessment: All assessments performed will consist of three levels:
 - i. Level A– Stability Screening
Answer all 5 Questions. If all questions are answered “No”, then the Assessment is complete and Specification for the National Bridge Inventory (SNBI) (B.AP.03) Scour Vulnerability code will be assigned accordingly. If any answer is “Yes”, then continue to Level B.
 - ii. Level B – Susceptibility Screening
Answer all 18 Questions. Each answer has a point total. Total points determine a triage-range of three (3) options. If the point total is low or high, then assign the (B.AP.03) Scour Vulnerability code will be assigned accordingly. If the point total is in the middle-range, or inconclusive, then continue to Level C.
 - iii. Level C – Vulnerability Screening
Answer questions progressively in three groups (three (3), eight (8) or eleven (11) questions). Based on the results the appropriate (B.AP.03) Scour Vulnerability code will be assigned.

Observed Scour

Bridge Inspection Team Leaders perform Routine Inspections. All portions of a bridge substructure (Figure 1 and 2) and the surrounding channel to the mudline at low water accessible by wading or probing (Figure 3) are within the scope of each scheduled Routine Inspection. When wading or probing are not safe or feasible during each Routine Inspection then probing from a boat (Figure 4) or snooper bucket are acceptable alternatives when the inspection reaches to the mudline of all substructure units and can adequately determine in-service conditions. When probing and wading is unsafe nor feasible then underwater diving techniques are typically required. Underwater Inspection must not exceed the intervals specified in the ARDOT Bridge Inspection Manual. Channel cross-sections should be taken periodically and compared to original ground line. This provides indications of the presence of contraction scour, lateral stream migration, and long-term degradation.



Figure 1 Undermining of the abutment exposing piles.



Figure 2 Exposed footing with undermining.



Figure 3 Wading and Probing.



Figure 4 Probing from a boat.

Scour Evaluation

Scour Evaluations are performed by a bridge, geotechnical, and/or hydraulic engineer. The purpose of an evaluation is to calculate the depth of potential scour so the foundation can be designed with sufficient depth, stability, and capacity. Hydraulic calculations are commonly performed during early design-stages for new-construction or rehabilitation bridge projects. Scour evaluations are also performed for high-risk in-service bridges (at a minimum) where calculations are not documented. These evaluations provide theoretical scour depths that are compared to in-place foundation depths to determine the bridge's vulnerability to scour, i.e. to determine if the existing bridge scour critical. Refer to the latest ARDOT Bridge Design Guidelines for the scour evaluation and design procedures. The Scour Evaluation results (report with calculations explaining how the structure's vulnerability to scour was determined) must be documented in the POA Scour Assessment/Evaluation Inspection within InspectX after construction of the bridge or after completion of scour evaluation of an existing bridge.

After documenting the Scour Evaluation results, the evaluating engineer must code SNBI B.AP.03 (Scour Vulnerability) as described in the SNBI. When a documented evaluation exists then the Scour Appraisal is complete. If there are no bridge-threatening observed scour defects that demonstrate that the bridge is vulnerable to estimated scour depths, then the evaluating engineer may code SNBI B.AP.03 (Scour Vulnerability) based on the results of the scour evaluation and the descriptions provided. When a stand-alone scour evaluation is performed on an existing bridge (that is missing a documented scour evaluation), if the results show a bridge is vulnerable to scour, a Plan of Action is required.

Table 1 SNBI (B.AP.03) Scour Vulnerability Code

Code	Scour Appraisal	Description
A	A – Scour appraisal completed.	Bridge determined to be stable for scour.
B	B – Scour appraisal completed.	Bridge determined to be stable for scour, dependent upon designed, and functioning countermeasures. <ul style="list-style-type: none"> • <i>Use code B when designed, installed, and functioning countermeasures are used to address potential scour and to maintain bridge stability for new or existing bridges, or bridges with unknown foundations.</i> • <i>Use code B when the Scour Appraisal Team determines that the in-place, non-designed countermeasures are fully functioning and are appropriate to mitigate the risk of scour.</i>

C	C – Scour Appraisal completed.	Bridge could become unstable for scour. Temporary (not designed) countermeasures installed to mitigate scour. Bridge is scour critical. Follow POA Requirement. <ul style="list-style-type: none"> Use code C for bridges that could become unstable for the potential scour, and temporary countermeasures are installed that were not designed.
D	D – Scour Appraisal completed.	Bridge is, or may become, unstable for scour. Bridge is scour critical. Follow POA Requirement.
O	O – Scour appraisal has not been completed.	
E	E – Scour appraisal has not been completed.	Temporary (not designed) countermeasures installed to mitigate scour.
U	U – Scour appraisal has not been completed.	Due to unknown foundations.

Scour Assessment

A Scour Assessment is the determination of a bridge's vulnerability to scour which considers stream stability and scour potential as described in HEC 20 *Stream Stability at Highway Structures 4th Edition* and other scour-related data sources. Based on risk, a Scour Evaluation is required for high-risk structures. All remaining non-high-risk structures over water will have a Scour Assessment. There are three levels of an Assessment. Each Assessment Level is a progressive screening process that affectively documents the scour and directs the assessor in coding the appraisal field (B.AP.03) Scour Vulnerability Code. Legacy Assessments will be accepted; however, it is recommended that the new progressive screening process is completed. The following information is required when completing all types of Assessments in InspectX:

- Scour Assessment Level(s) Performed
 - Level A
 - Level B (Includes Level A)
 - Level C (Includes Level A and B)
 - Other, Documented File or Checklist on File
- Scour Assessment Date
- Countermeasure Type – Countermeasures are material, devices, or structures designed to prevent, slow, or stop the occurrence of scour. Select the most appropriate answer. Refer to HEC 23 – *Bridge Scour and Stream Instability Countermeasures: Experience, Selection, and Design Guidance 4th Edition*, for determining the nature of the countermeasures.
 - Designed, installed, and functioning countermeasures are used to address potential scour and to maintain bridge stability for new or existing bridges, or bridges with unknown foundations.

- B. Scour Appraisal Team determines that the in-place, non-designed countermeasures are fully functioning and are appropriate to mitigate the risk of scour.
- C. Temporary countermeasures are installed that were not designed. Bridge could become unstable for scour.
- D. None.



Figure 5 Bridge with non-scour-resistant rock.

References

- Specifications for the National Bridge Inventory (https://www.fhwa.dot.gov/bridge/snbi/snbi_march_2022_publication.pdf)
- Scour-Hydraulics – Bridges & Structures – Federal Highway Administration (<https://www.fhwa.dot.gov/engineering/hydraulics/scourtech/>)
- ARDOT Bridge Design Guidelines (<https://www.ardot.gov/wp-content/uploads/2020/11/Bridge-Division-Guidelines.pdf>)
- ARDOT Bridge Inspection Manual (https://www.ardot.gov/wp-content/uploads/2022/05/ARDOT_BIM_20220507.pdf)

APPENDIX A

Scour Assessment Level A– Stability Screening

Bridge Number: 00413 B.AP.03: B Item 113: 7 Date: 7/14/2025

Assessed By: Caleb Coppock Checked By: Victoria Elliott

The stability screening must be performed by an assessor working under direct supervision of an engineer familiar with Scour Assessments. If any of the following Level A questions are answered “yes”, then continue to the Level B Assessment.

If all Level A answers are “no”, the Scour Assessment is complete, and the bridge is deemed “stable” unless conditions change. Code (B.AP.03) Scour Vulnerability A or B. The difference between A and B is the Countermeasure Type identified previously.

1. Unknown Foundations ○ If depth or type unknown = Yes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Visible Scour Issues? ○ If rock (Figure 5) (Must check with Geotechnical for rock properties.) ○ Scour Resistant Rock = No. ○ Ex. Layers of scoured interbedded shale code “Yes” (Figure 5)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Shallow Foundations (Must check with Geotechnical for rock properties.) ○ Spread footing on soil code or scourable rock “Yes.” ○ Spread footing keyed into non-scourable rock code “No”	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4. Evidence or history of overtopping ○ When B.AP.02 (Overtopping Likelihood) is coded 4-6 then code “Yes” ○ When debris is stuck in cross frames or on an abutment or pier seats then code “Yes” ○ When historical photos or witness-accounts indicate high-water touching the underside of the superstructure then code “Yes.”	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Are any of the SNBI Code Scour, Underwater, or Channel component ratings rated 5 or worse? ○ Underwater Inspection Condition, Channel Condition, Channel Protection Condition, Scour Condition Rating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Scour Assessment Level B – Scour Susceptibility Screening Score

The scour susceptibility screening score will be performed by an assessor working under direct supervision of an engineer familiar with Scour Assessments. Fill in the check box for all twenty-four (24) criteria if they apply to the site and record the point total. The point total will determine the Scour Vulnerability code or next steps. Point values are on a scale from 0 to 8 and are based on risk to the structure.

Structure	PTS
1. Bridge Category	
Substructure on pile foundation, and continuous span superstructure	<input type="checkbox"/> 3
Single span on pile foundation	<input type="checkbox"/> 3
Substructure on pile foundation, and simple span superstructure	<input type="checkbox"/> 4
Single span on spread footing	<input type="checkbox"/> 6
Substructure on spread footing, and continuous span superstructure	<input type="checkbox"/> 6
Substructure on spread footing, and simple span superstructure	<input checked="" type="checkbox"/> 7
2. Number of piers in the main channel	
No piers in the main channel	<input type="checkbox"/> 0
One pier	<input type="checkbox"/> 1
Two piers	<input checked="" type="checkbox"/> 2
Three piers	<input type="checkbox"/> 3
Four or more piers	<input type="checkbox"/> 4
3. Pier Shape	
Sharp nose	<input checked="" type="checkbox"/> 1
Round, circular cylinder, hexagonal, octagonal	<input type="checkbox"/> 2
Square nose	<input type="checkbox"/> 3
4. Pier Type	
Single column	<input type="checkbox"/> 1
Multi-column or Pile bent	<input type="checkbox"/> 2
Pier wall	<input checked="" type="checkbox"/> 3
5. Pier Foundation	
No piers or all piers above flood flows (flood flows are determined by site conditions, hydraulic calculations, or historical information)	<input type="checkbox"/> 0
Spread footing foundations:	
Spread footing on scour resistant rock	<input type="checkbox"/> 0
Spread footings on non-scour resistant rock	<input checked="" type="checkbox"/> 2
Unknown foundation type	<input type="checkbox"/> 5
Spread footings on soil or gravel	<input type="checkbox"/> 6

Pile cap/piling or drilled shaft, depth below existing stream bed:	
Piles driven to refusal on bedrock	<input type="checkbox"/> 0
Pile depth greater than 40'	<input type="checkbox"/> 0
Pile depth 20' to 40'	<input type="checkbox"/> 2
Unknown pile depth	<input type="checkbox"/> 3
Pile depth less than 20'	<input type="checkbox"/> 5
6. Abutment foundation	
Abutments located above flood flows (flood flows as determined by site conditions, hydraulic calculations, or historical information)	<input type="checkbox"/> 0
Spread footing foundations:	
Spread footing on erosion resistant bedrock	<input type="checkbox"/> 0
Spread footing on erodible rock	<input checked="" type="checkbox"/> 2
Unknown footing depth	<input type="checkbox"/> 4
Spread footing on soil or gravel	<input type="checkbox"/> 6
Pile cap/piling or drilled shaft, depth below existing stream bed:	
Piles driven to refusal on bedrock	<input type="checkbox"/> 0
Pile depth greater than 40'	<input type="checkbox"/> 0
Pile depth 20' to 40'	<input type="checkbox"/> 2
Unknown pile depth	<input type="checkbox"/> 4
Pile depth less than 20'	<input type="checkbox"/> 4
7. Likelihood of submergence	
Submergence of low member is improbable.	<input checked="" type="checkbox"/> 0
Low member elevation is above road low point, submergence possible.	<input type="checkbox"/> 1
Low member elevation is below road low point, submergence probable.	<input type="checkbox"/> 4
Superstructure is routinely overtopped	<input type="checkbox"/> 8
History	
8. Observed scour at piers:	
No piers or all piers above flood flows (flood flows as determined by site conditions, hydraulic calculations, or historical information)	<input type="checkbox"/> 0
Spread foundations:	
No scour hole	<input type="checkbox"/> 0
Scour hole above top of footing	<input type="checkbox"/> 2
Scour hole within limits of footing	<input checked="" type="checkbox"/> 5
Undermining of footing present	<input type="checkbox"/> 8
No measurement taken at piers	<input type="checkbox"/> 7

Pile cap/piling foundations:	
No scour hole	<input type="checkbox"/> 0
Scour hole above top of pile cap	<input type="checkbox"/> 2
Scour hole within limits of pile cap	<input type="checkbox"/> 4
Piling exposed	<input type="checkbox"/> 6
No measurement taken at piers	<input type="checkbox"/> 5
Pile bent foundations:	
Piles driven to refusal on bedrock	<input type="checkbox"/> 0
No scour hole	<input type="checkbox"/> 0
Minor scour	<input type="checkbox"/> 2
Moderate scour	<input type="checkbox"/> 4
Major scour	<input type="checkbox"/> 6
No measurement taken at piers	<input type="checkbox"/> 3
9. Abutment type and condition:	
Stub/Integral abutments, effective berm slope:	
2:1 or flatter	<input type="checkbox"/> 0
Steeper than 2:1 but flatter than 1.5:1	<input checked="" type="checkbox"/> 3
1.5:1 or steeper	<input type="checkbox"/> 6
Full height abutments, depth of footing or backwall planking below channel cross-section:	
More than 5'	<input type="checkbox"/> 0
0 to 5'	<input type="checkbox"/> 4
Footing is exposed	<input type="checkbox"/> 6
Unknown footing depth	<input type="checkbox"/> 6
Footing is undermined	<input type="checkbox"/> 8
10. Abutment protection:	
No protection necessary	<input type="checkbox"/> 0
Designed wing, dikes, or revetment protection in good condition	<input checked="" type="checkbox"/> 0
Designed other protection in good condition	<input type="checkbox"/> 1
Not designed wing, dikes, or revetment protection in good condition	<input type="checkbox"/> 2
Not designed other protection in good condition	<input type="checkbox"/> 3
Designed protection condition poor or not provided but needed	<input type="checkbox"/> 4
Not designed protection condition poor or not provided but needed	<input type="checkbox"/> 5
11. Measure the minimum horizontal level distance from the closest abutment down to the waterline	
More than 25' away	<input checked="" type="checkbox"/> 0
5' to 25'	<input type="checkbox"/> 2
Less than 5'	<input type="checkbox"/> 6
Abutment within stream banks	<input type="checkbox"/> 8

12. Observed local scour at or around abutments:	
No problems	<input type="checkbox"/> 0
Minor scour problems	<input checked="" type="checkbox"/> 4
Moderate scour problems	<input type="checkbox"/> 6
Major scour problems observed in past inspections	<input type="checkbox"/> 8
13. Observed debris lodged against bridge	
Remote or none	<input checked="" type="checkbox"/> 0
Occasional slight amounts – every 3 years or more	<input type="checkbox"/> 3
Frequent – more than once every 3 years	<input type="checkbox"/> 6
Moderate to heavy debris or continually present	<input type="checkbox"/> 8
No available information	<input type="checkbox"/> 4
Stream Geomorphic	
14. Average degradation of stream bed since construction, not including local scour:	
Less than 4' of stream degrading	<input checked="" type="checkbox"/> 0
4' to 6'	<input type="checkbox"/> 2
Greater than 6'	<input type="checkbox"/> 6
No comparative cross-sections	<input type="checkbox"/> 4
15. Observed lateral movement of stream (within one bridge length up and downstream):	
Stable	<input checked="" type="checkbox"/> 0
Movement, no threats to bridge	<input type="checkbox"/> 2
Unstable, threatens bridge	<input type="checkbox"/> 8
No information available	<input type="checkbox"/> 4
16. Channel bottom material	
Bedrock (non-erodible)	<input type="checkbox"/> 0
Fully armored	<input type="checkbox"/> 0
Boulders and cobbles	<input checked="" type="checkbox"/> 1
Clay or silty clay	<input type="checkbox"/> 2
Gravel, sand, and silt	<input type="checkbox"/> 4
17. Lowest SNBI Component Conditions for Channel, Channel Protection, or Scour	
Rated a 6 or more	<input checked="" type="checkbox"/> 0
Rated a 5 or less	<input type="checkbox"/> 4
Site Geomorphic	
18. Bridge location:	
Mainstreams of Arkansas: Red, Ouachita, Arkansas, White, Black, Mississippi, Saline, St. Francis, Spring, Little Red, Current, Big Maumelle, Buffalo, Eleven Point	
Bridge over mainstream. Tributary, or spillway nearby:	
No tributary nearby	<input type="checkbox"/> 0
Tributary downstream within 100 ft	<input type="checkbox"/> 1
Tributary or spillway upstream within 100 ft	<input type="checkbox"/> 4

Bridge over tributary. Mainstream nearby:	
No mainstream within 1,000 ft	<input checked="" type="checkbox"/> 0
Mainstream within 1,000 ft	<input type="checkbox"/> 2
Mainstream within 500 ft	<input type="checkbox"/> 4
19. Sinuosity	
Straight	<input type="checkbox"/> 0
Sinuuous	<input checked="" type="checkbox"/> 1
Meandering	<input type="checkbox"/> 2
Highly Meandering	<input type="checkbox"/> 3
20. Stream size	
Small (<100 ft wide)	<input type="checkbox"/> 1
Medium (100 – 500 ft wide)	<input checked="" type="checkbox"/> 2
Wide (>500 ft wide)	<input type="checkbox"/> 3
21. Flow characteristics	
Ephemeral	<input type="checkbox"/> 2
Intermittent	<input type="checkbox"/> 4
Perennial but Flashy	<input type="checkbox"/> 6
Perennial	<input checked="" type="checkbox"/> 8
22. Upstream Stream bend within the subject bridge's length:	
0- to 15-degree bend	<input checked="" type="checkbox"/> 1
15- to 45-degree bend	<input type="checkbox"/> 3
45- to 90-degree bend	<input type="checkbox"/> 6
23. Alignment of piers to flood flows:	
No piers or all piers above flood flows (flood flows as determined by site conditions, hydraulic conditions, or historical information)	<input type="checkbox"/> 0
0- to 5-degree skew	<input checked="" type="checkbox"/> 1
5- to 15-degree skew	<input type="checkbox"/> 3
15- to 90-degree skew	<input type="checkbox"/> 6
Assessment Level B Scour Assessment Screening Score: Add up all points answered for each of the 23 questions.	43

Points are organized into three ranges: Low, High, and In-Between

- Low
 - Point totals in the low range are stable, or less than 35 points. Code Scour Vulnerability (B.AP.03) A or B.
- High
 - Point totals in the high range should be considered scour critical and code Scour Vulnerability (B.AP.03) C or D.
 - Greater than 45 points for a single span bridge or
 - Greater than 55 points for a multi-span bridge
- In-Between
 - All other point totals are neither high nor low. The mid-range point totals must continue to the Level C Assessment.
 - Between 35-45 range for a single span bridge or
 - Between 35-55 range for a multi-span bridge

Scour Assessment Level C – Scour Vulnerability Screening

The scour vulnerability screening will be performed by an assessor under direct supervision of an engineer familiar with Scour Assessments. Answer the progressive questions. The answers will determine the Scour Vulnerability coding.

Section 1 Questions – If any of the following are yes, code Scour Vulnerability A or B. If all 3 are no, continue to Section 2.	
a. Is the bridge over a flat and straight drainage ditch?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
b. Is the bridge over still water? (Lake, pond, wetland, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
c. Is the bridge a single span with designed rip rap and no scour issues?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Section 2 Questions – If any of the following 5 are yes, code Scour Vulnerability A or B. If all are no, continue to section 3.	
a. Does the bridge have piles driven more than 35' below the streambed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
b. Does the bridge have piles driven to refusal on bedrock?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
c. Does the bridge have piles driven 25'-35' below the streambed with less than 10' of highly erodible soils?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
d. Does the bridge have spread footings on scour resistant rock?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
e. Is the bridge a single span with an effective floodplain width less than 5x the span length AND one of the following are true: <ul style="list-style-type: none"> Concrete abutments on piles Timber abutments less than 6' high on piles Stream slope less than 5' per mile 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Section 3 Questions – Answer the following 3 questions to complete the assessment. Code Scour Vulnerability A or B. If all are no, recommend this structure for a Scour Evaluation.	
a. Has the bridge been previously overtopped, and no evidence of scour problems exist?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
b. Is the bridge scheduled for replacement or scour countermeasures within 5 years?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
c. Is the bridge on a local street with an ADT less than 25?	<input type="checkbox"/> Yes <input type="checkbox"/> No

SNBI B.C.11	NBI Item 113
A	8, 5, or 4
B	7
C & E	7
D	≤ 3
U	U
0	6