

Bridge B3769 Inspection Report



Latitude:34.95246, Longitude:-91.02069

Route:40 Section:51 Log:226.19

Arnold Road ID:68x40x51xA, Arnold Log mile:226.186

District 01, 123 - St. Francis County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

Bridge Posting Information

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

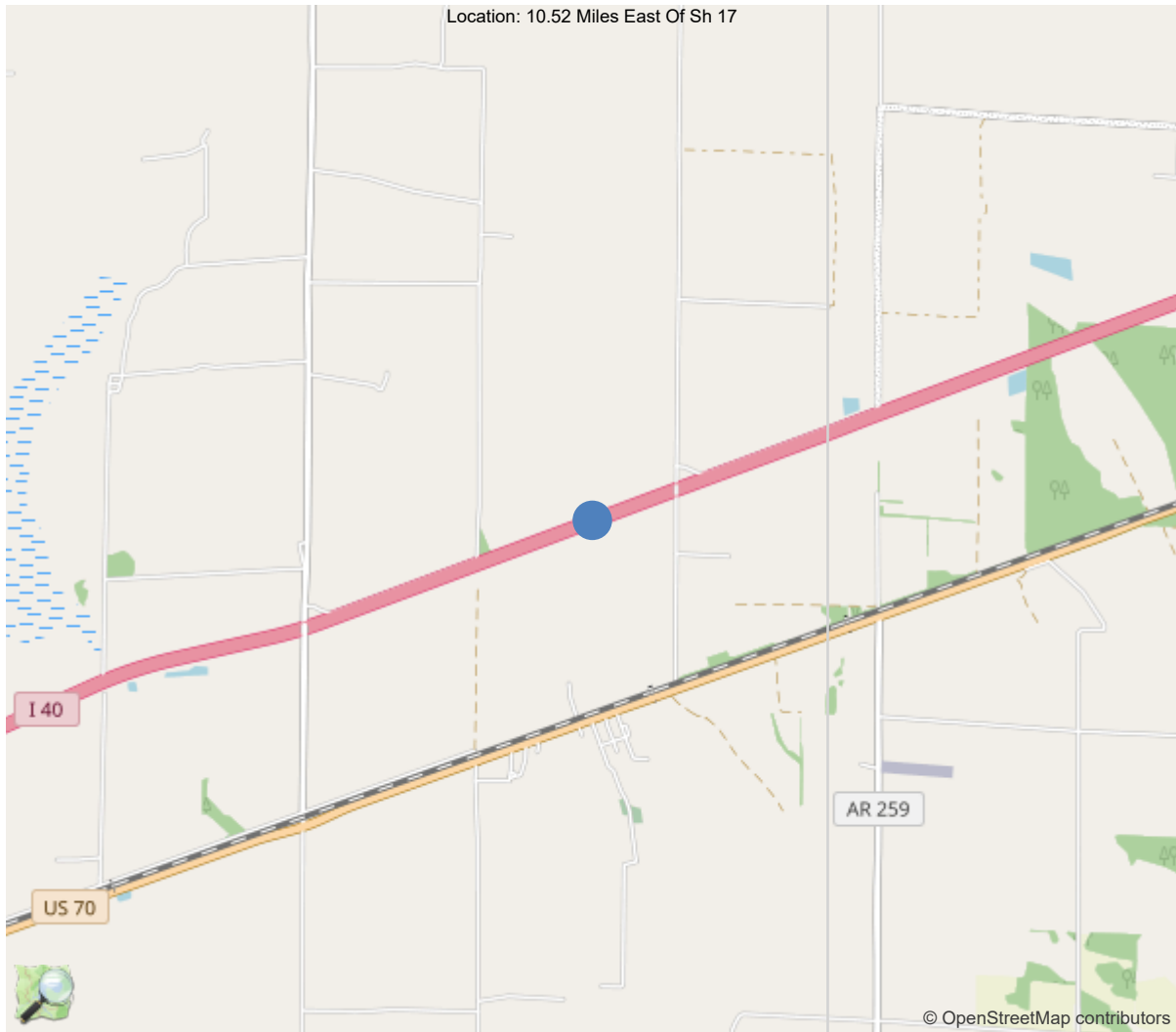
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	40		
Code 9 (31 Tons)	50		
Code 5 (40 Tons)	60		

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



34.95246, -91.02069

National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	B3769
(5) Inventory Route	1
(2) Highway Agency District	01 - District 01
(3) County Code	123 - St. Francis County
(4) Place Code	0
(6) Features Intersected	Big Creek
(7) Facility Carried	I-40EB/Se51/226.19
(9) Location	10.52 Miles East Of Sh 17
(11) Mile Point	226.19 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000040510
(16) Latitude	34.95246
(17) Longitude	-91.02069
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	11
Material	1 - Concrete
Type	1 - Slab
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	5
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	0 - None (no additional concrete thickne
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1967
(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	17000
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	25 ft
(49) Structure Length	125 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	39.5 ft
(52) Deck Width Out to Out	42 ft
(32) Approach Roadway Width (W/Shoulders)	41 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	39.5 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	1
(26) Functional Class	1 - Rural Principal Arterial -
(100) Defense Highway	1 - The inventory route is on
(101) Parallel Structure	R - The right structure of par
(102) Direction of Traffic	1 - 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	5
(60) Substructure	6
(61) Channel & Channel Protection	6
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	6 - MS 18+Mod / HS 20+Mod
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	60
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	36
(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	6
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	5 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	0 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 0
(97) Year of Improvement Cost Estimate	
(114) Future ADT	18150
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			03/13/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
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: Myron Futrell, Inspection Date: 03/13/2024

Specifications for National Bridge Inventory Sheets

IDENTIFICATION	
B.ID.01 Bridge Number	B3769
B.ID.02 Bridge Name	
B.ID.03 Previous Bridge No.	
B.W.01 Year Built	1967

LOCATION	
B.L.01 State Code	5 - Arkansas
B.L.02 County Code	123 - St. Francis County
B.L.03 Place Code	00000 - N/A
B.L.04 Highway Agency District	01 - District 01
B.L.05 Latitude	34.95246
B.L.06 Longitude	-91.02069
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	10.52 Miles East Of Sh 17
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	123
B.G.02 Total Bridge Length	125
B.G.03 Max Span Length	24.9
B.G.04 Min Span Length	23
B.G.05 Bridge Width Out-to-Out	42
B.G.06 Bridge Width Curb-to-Curb	39.4
B.G.07 Left Curb or Sidewalk Width	0
B.G.08 Right Curb or Sidewalk Width	0
B.G.09 Approach Roadway Width	41

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	7
B.G.14 Sidehill Bridge	N - Not a sidehill bridge
B.G.15 Irregular Deck Area	
B.G.16 Calculated Deck Area	5249.3

LOADS AND LOAD RATING	
B.LR.01 Design Load	HS20M - HS-20 and Military
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	1
B.LR.06 Operating Load Rating Factor	1.67
B.LR.07 Controlling Legal Load Rating Factor	
B.LR.08 Routine Permit Loads	

INSPECTION REQUIREMENTS	
B.IR.01 NSTM Inspection Required	N - NSTM inspection not required.
B.IR.02 Fatigue Details	
B.IR.03 UW Inspection Required	N - Underwater inspection not requi
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	5 - FAIR - Some moderate defec
B.C.03 Substructure Condition	7 - GOOD - Some minor defects.
B.C.04 Culvert Condition	N - NOT APPLICABLE - Component
B.C.05 Bridge Railing Condition	7 - GOOD - Some minor defects.
B.C.06 Bridge Railing Transitions Condition	8 - VERY GOOD - Some inherent
B.C.07 Bridge Bearings Cond.	N - NOT APPLICABLE - Component
B.C.08 Bridge Joints Condition	5 - FAIR - Some moderate defec
B.C.09 Channel Condition Rating	7 - GOOD - Some minor defects.
B.C.10 Channel Protection Condition	5 - FAIR - Some moderate defec
B.C.11 Scour Condition Rating	6 - Widespread minor or isolat
B.C.12 Bridge Condition Classification	F - Fair
B.C.13 Lowest Condition Rating	5 - FAIR - Some moderate defec
B.C.14 NSTM Insp. Condition	
B.C.15 UW Inspection Condition	

APPRAISAL	
B.AP.01 Approach Roadway Alignment	G - Good
B.AP.02 Overtopping Likelihood	1 - Remote - once every 100 years o
B.AP.03 Scour Vulnerability	AB-T - TEMP - Stable for scour, pos
B.AP.04 Scour Plan of Action	0 - A scour POA is not required.
B.AP.05 Seismic Vulnerability	0 - Seismic evaluation not complete

SPAN SETS			
M1			
B.SP.02 # of Spans	5	B.SP.08 Deck Interaction	IM - Integral or monolithic
B.SP.03 # of Beam Lines	1	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	C01 - Concrete - monolithic
B.SP.05 Span Continuity	1 - Simple or single span	B.SP.11 Deck Protective System	0 - None
B.SP.06 Span Type	S02 - Slab - voided	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

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	PX - Pile - other
B.SB.04 Substructure Type	A02 - Abutment - stub	B.SB.07 Foundation Protective System	0 - None
P1			
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	PX - Pile - other
B.SB.04 Substructure Type	B03 - Bent - pile	B.SB.07 Foundation Protective System	0 - None

HIGHWAY FEATURES			
H1			
B.F.02 Feature Location	C - Carried on bridge	B.H.09 Annual ADT	17000
B.F.03 Feature Name	I-40EB/Se51/226.19	B.H.10 Annual ADTT	170
B.H.01 Functional Classification	1 - Interstate	B.H.11 Year of Annual ADT	2018
B.H.02 Urban Code	99999	B.H.12 Highway Max Usable Vertical Clearance	99.9
B.H.03 NHS Designation	Y - 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	1 - STRAHNET route	B.H.15 Highway Min Horizontal Clearance, Right	
B.H.06 LRS Route ID	40510	B.H.16 Highway Max Usable Surface Width	39.3
B.H.07 LRS Mile Point	226.19	B.H.17 Bypass Detour Length	2
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	R01	40E	1-T - TEMP - One-way traffic - NB or EB or SB or WB	1 - Interstate route	1 - Mainline



Team Lead: Myron Futrell, Inspection Date: 03/13/2024

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 Creek	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 - 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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Asset #B3769(Routine, Underwater type 2)

I-40EB/Se51/226.19 over Big Creek

Location: 10.52 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 03/13/2024

Inspection Notes

General Observation

Assisting Bridge Inspector - Charley Smith.

Boat used for access.

No lane closure used for inspection.

Drawing numbers: 12367,5432c2.

36C - Approach Guardrail (1 - Inspected feature meets currently acceptable standards.*)

Abutment #1 left approach rail has 6' of moderate collision damage mid span.

Abutment #1 right approach rail end, first post broken and rail bent, end treatment out of place.

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

Reinforced concrete voided slab deck is in overall fair condition. Deck surface has multiple wide unsealed longitudinal cracks each span and light to moderate abrasion full length. Soffit / under surface of deck has spalling with exposed reinforcing steel at several sona tube deck drains and longitudinal cracking with efflorescence and rust staining.

3/30/2022-Lowered deck from 6 to 5 due to deck cracking, spalls and delaminated areas in soffit / under side of deck.

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

Reinforced concrete voided slab superstructure is in overall fair condition. Deck surface has multiple wide unsealed longitudinal cracks each span and light to moderate abrasion full length. Soffit / under surface of deck has spalling with exposed reinforcing steel at several sona tube deck drains and longitudinal cracking with efflorescence and rust staining.

3/30/2022-Lowered superstructure from 6 to 5 due to being slab.

60 - Substructure (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

Reinforced concrete substructure is in overall satisfactory condition. Concrete pile caps have several delaminated areas, shallow spalls with exposed reinforcing steel and minor cracking. Abutment slopes have minor erosion.

3/13/2024- Lowered substructure from 7 to 6 due to minor spalling and delaminated areas.

61 - Channel/Channel Protection (6 - Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the channel slightly.)

Channel is in overall satisfactory condition. Channel alignment is fairly good at structure, there is vegetation growing into channel and minor erosion at abutment 2 slope.

3/13/2024- Lowered channel from 7 to 6 due to vegetation and minor erosion at abutment 2 slope.

A-55 - Deck Washing Needed (Y)

Dirt and debris in gutters.



Asset #B3769(Routine, Underwater type 2)

I-40EB/Se51/226.19 over Big Creek

Location: 10.52 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 03/13/2024

A-56 - Joint Cleaning/Flushing Needed (Y)

Joint material weathered, cracked or missing allowing debris in joints.

A-59 - Joint Repair Needed (Y)

Joint material weathered, cracked or missing allowing debris in joints.

A-62 - Hydro and LMC Advised (Y)

Deck has wide unsealed longitudinal cracking throughout and light to moderate abrasion full length.

National Bridge Element Quantities and Notes

[illegible]

[illegible]

Inspection Photos and Notes



Side view / elevation



Top view / inventory



Google Earth Aerial View



Name plate



Bridge rail left side



Bridge rail right side



Span 4, bridge rail, left side: two 4' diagonal cracks.4LF CS3



Abutment 1 right transition



Abutment 1 left transition



Abutment 1 left approach rail



Abutment 1 right approach rail



Abutment 1 right approach rail has 6' of moderate collision damage mid span.



Span 5 soffit / under surface of deck



Span 3 soffit / under surface of deck



Span 3 soffit / under surface of deck



Span 2 soffit / under surface of deck



Span 1 soffit / under surface of deck



Deck cracking span 1 right lane



Deck, Span 1



Deck, Span 2



Deck, Span 3, Right Lane, Full Length: Sealed wide crack.



Span 4, deck, right gutter: 1' x 3' of moderate scaling. 3SQF CS3



Span 4 deck



Span 5 deck



Bent #5 cap ahead face between piles 3 and 4 has one-foot delaminated area and three feet of longitudinal CS2 cracking.



Abutment 2



Bent 4 ahead face



Bent 4 cap right end spalled with exposed rebar



Bent 5 back face



Bent 3 ahead face



Bent 3 cap ahead face right side



Bent 4 back face



Bent 2 ahead face



Bent 3 back face



Typical exposed reinforcing steel on bottom face of pile cap



Bent 2 back face



03/13/2024

Abutment 1



03/13/2024

Channel left side



03/13/2024

Channel right side



03/13/2024

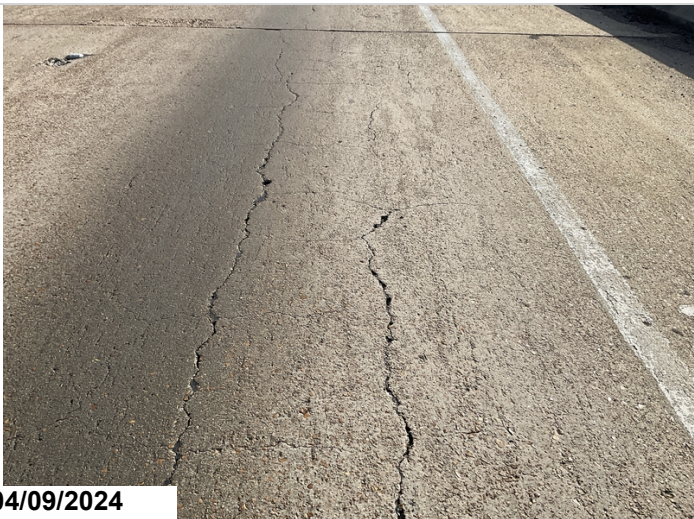
Dirt and debris in gutters



Abutment 2 joint



Bent 5 joint seal missing



Deck cracking span 1 right lane



Pourable joint seal, abutment 1: 15' of seal missing



Pourable Joint Seal, Bent 2: Pourable joint seal missing across travel lanes.



Bent 3 joint



Bent 4 joint



Bent 5 joint seal missing



Abutment 2 joint



Abutment 1 approach slab



Abutment 2 approach slab

Maintenance Needs

Date Reported: 04/09/2024

Priority: B - Pressing

Type of Work: Repair (General)

Status: Open

Component: Miscellaneous

Deficiency Description

Abutment 1, right approach rail end: first post broken and rail bent, end treatment out of place.

Remarks



Abutment 1 right approach rail end, first post broken and rail bent, end treatment out of place.

Maintenance Needs

Date Reported: 03/13/2014

Priority: C - Important

Type of Work: Miscellaneous

Status: Monitor

Component: Approach

Deficiency Description

All approach slabs have open transverse cracks.

Remarks



Typical transverse approach slab crack





Asset #B3769(Routine, Underwater type 2)

I-40EB/Se51/226.19 over Big Creek

Location: 10.52 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 03/13/2024

Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is Recommended?
A-54 - Sealable Deck Cracks	
A-55 - Deck Washing Needed	Yes
A-56 - Joint Cleaning/Flushing Needed	Yes
A-57 - Beam End and Bearing Paint Needed	
A-58 - Cap Cleaning/Flushing Needed	
A-59 - Joint Repair Needed	Yes
A-60 - Full Beam Painting Needed	
A-61 - Polymer Overlay Advised	
A-62 - Hydro and LMC Advised	Yes
A-63 - Missing/Incorrect Log Mile Signage	
A-64 - Vegetation Removal Requested	
A-65 - Clogged deck drains?	
A-66 - Approach minor pothole/leveling needed	

A-54 - Sealable Deck Cracks

A-55 - Deck Washing Needed (Yes)

Dirt and debris in gutters.



Dirt and debris in gutters

A-56 - Joint Cleaning/Flushing Needed (Yes)

Joint material weathered, cracked or missing allowing debris in joints.



Abutment 2 joint

A-57 - Girder End and Bearing Painting Needed

A-58 - Cap Cleaning/Flushing Needed

A-59 - Joint Repair Needed (Yes)

Joint material weathered, cracked or missing allowing debris in joints.



Bent 5 joint seal missing

A-60 - Full Girder Painting Needed

A-61 - Polymer Overlay Advised

A-62 - Hydro and LMC Advised (Yes)

Deck has wide unsealed longitudinal cracking throughout and light to moderate abrasion full length.



Deck cracking span 1 right lane



Asset #B3769(Routine, Underwater type 2)

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A-63 - Missing/Incorrect Log Mile Signage

A-64 - Vegetation Removal Requested

A-65 - Clogged deck drains?

A-66 - Approach minor pothole/leveling needed



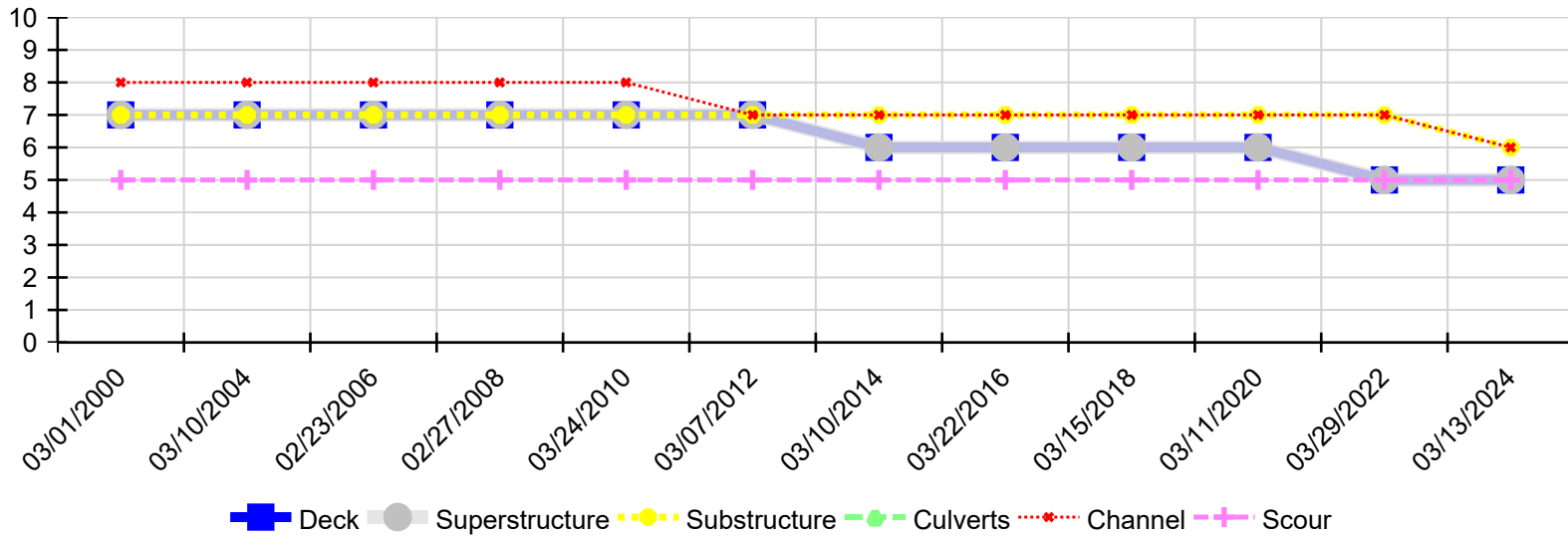
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Location: 10.52 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 03/13/2024

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
03/13/2024	5	5	6	N	6	5
03/29/2022	5	5	7	N	7	5
03/11/2020	6	6	7	N	7	5
03/15/2018	6	6	7	N	7	5
03/22/2016	6	6	7	N	7	5
03/10/2014	6	6	7	N	7	5
03/07/2012	7	7	7	N	7	5
03/24/2010	7	7	7	N	8	5
02/27/2008	7	7	7	N	8	5
02/23/2006	7	7	7	N	8	5
03/10/2004	7	7	7	N	8	5
03/01/2000	7	7	7	N	8	5