

Bridge A3766 Inspection Report



Latitude:34.92586, Longitude:-91.12631

Route:40 Section:51 Log:219.89

Arnold Road ID:68x40x51xB, Arnold Log mile:64.615

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

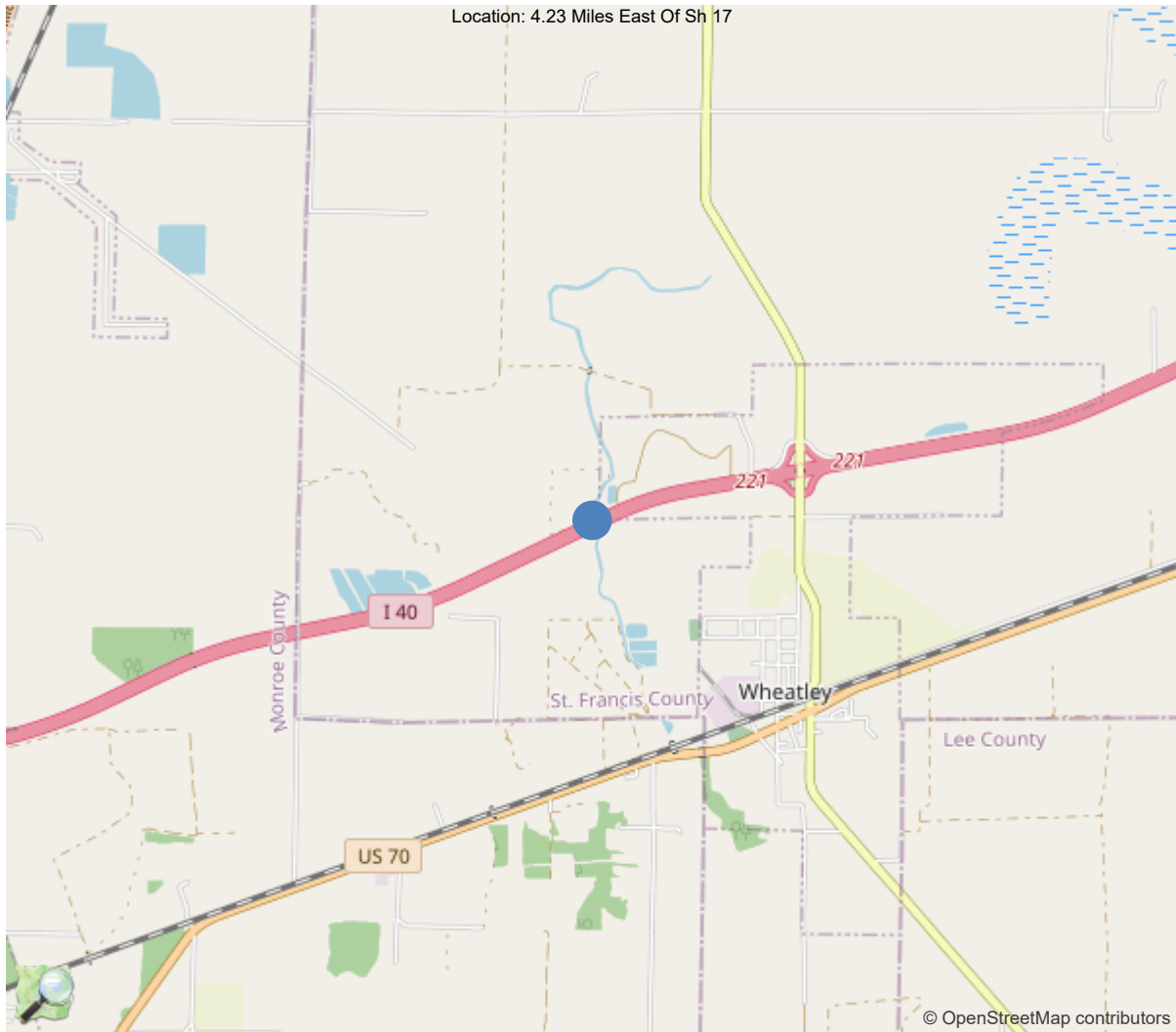
70 - Bridge Posting: 5 - Equal to or above legal loads

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



34.92586, -91.12631

National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	A3766
(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	Flat Fork Creek
(7) Facility Carried	I-40WB/Se51/219.89
(9) Location	4.23 Miles East Of Sh 17
(11) Mile Point	219.89 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000040510
(16) Latitude	34.925861
(17) Longitude	-91.126312
(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	16000
(30) Year of ADT	2016
(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	39.4 ft
(52) Deck Width Out to Out	42.2 ft
(32) Approach Roadway Width (W/Shoulders)	38.1 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	39.4 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	L - The left structure of para
(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	17545
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			02/06/2024
(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: 02/06/2024

Specifications for National Bridge Inventory Sheets

IDENTIFICATION	
B.ID.01 Bridge Number	A3766
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	34.925861
B.L.06 Longitude	-91.126312
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	4.23 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	42.3
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	38.1

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	12
B.G.14 Sidehill Bridge	N - Not a sidehill bridge
B.G.15 Irregular Deck Area	
B.G.16 Calculated Deck Area	5290.4

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	

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	6 - SATISFACTORY - Widespread
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	7 - GOOD - Some minor defects.
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	6 - SATISFACTORY - Widespread
B.C.10 Channel Protection Condition	N - NOT APPLICABLE - Bridge do
B.C.11 Scour Condition Rating	7 - Some minor scour.
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	CR-T - TEMP - concrete cast-in
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	P03 - Pile - concrete, cast-in
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	P03 - Pile - concrete, cast-in
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	16000
B.F.03 Feature Name	I-40WB/Se51/219.89	B.H.10 Annual ADTT	160
B.H.01 Functional Classification	1 - Interstate	B.H.11 Year of Annual ADT	2016
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	219.89	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	40W	1-T - TEMP - One-way traffic - NB or EB or SB or WB	1 - Interstate route	1 - Mainline



Team Lead: Myron Futrell, Inspection Date: 02/06/2024

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	Flat Fork 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 #A3766(Routine, Underwater type 2)

I-40WB/Se51/219.89 over Flat Fork Creek

Location: 4.23 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 02/06/2024

Inspection Notes

General Observation

Drawing numbers: 12354,5432c2.

Assisting Bridge Inspector-Charley Smith.

No lane closure required for this inspection.

Boat was used for access.

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

Concrete slab deck is in overall fair condition. Gutters have several areas of heavy scaling with loose aggregate. Deck has several areas that have been patched, some with ACHM and some that the patches are failing. Joints have several areas of missing joint sealer allowing leakage and debris impaction. Deck has CS2 and CS3 cracking on surface, as well as cracking in soffit, some with rust staining and moderate to heavy efflorescence. Soffit / underside of deck has several one-to-two-foot spalls with exposed rebar under sona-tube voids.

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

Concrete slab superstructure is in overall fair condition. Gutters have several areas of heavy scaling with loose aggregate. Deck has several areas that have been patched, some with ACHM and some that the patches are failing. Joints have several areas of missing joint sealer allowing leakage and debris impaction. Deck has CS2 and CS3 cracking on surface, as well as cracking in soffit, some with rust staining and moderate to heavy efflorescence. Soffit / underside of deck has several one-to-two-foot spalls with exposed rebar under sona-tube voids.

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

Concrete substructure is in overall satisfactory condition. Caps have moderate amounts of exposed rebar due to spalling and poor concrete coverage. Piles have minor abrasion with no loose aggregate. Abutment #2 cap left side is undermined up to one foot for six feet with one exposed pile.

02/13/2018 lowered substructure from 7 to 6 due to spalls on caps.

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. Banks are slumping somewhat and there is moderate erosion at abutment #2 exposing one pile. Channel alignment is good and there is some vegetation growing into channel.

A-55 - Deck Washing Needed (Y)

Gutters have dirt and debris in them.

A-59 - Joint Repair Needed (Yes)

Deck joints have areas of missing and damaged joint sealer.

A-62 - Hydro and LMC Advised (Y)

Deck has cracking, spalled and patched areas.



Asset #A3766(Routine, Underwater type 2)

I-40WB/Se51/219.89 over Flat Fork Creek

Location: 4.23 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 02/06/2024

A-63 - Missing/Incorrect Log Mile Signage (Y)

No log mile signs in place.

A-64 - Vegetation Removal Requested (Y)

Small trees and vegetation growing beside bridge at abutments.



Inspection Photos and Notes



Side view / elevation



Top view / inventory



Name plate



Spans #3 and 4 right bridge rail patched



Bridge rail left side



Bridge rail right side



Abutment #2 right approach rail has several areas of moderate collision damage



Abutment #2 left approach rail



Span #2 deck



Heavy scaling in span #5 left gutter



ACHM patch in span #1 left lane



Typical deck



Span #2 right side of slab at bent #3 cracked



Span #5 soffit / underside of deck



Span #4 soffit / underside of deck



Span #3 soffit / underside of deck



Span #2 soffit / underside of deck



Typical soffit spall with exposed rebar



Span #1 soffit / underside of deck



Bent #5 cap right end



Typical exposed rebar on bottom face of caps



Abutment #2 left side undermined up to one foot for six feet exposing pile #2



Abutment #2



Bent #4 ahead face



Bent #5 back face



Bent #3 ahead face



Bent #4 back face



Bent #3 back face



Bent #2 ahead face



Bent #2 cap left end



Typical light abrasion on piles



Bent #2 back face



Abutment #1



Channel right side



Channel left side



Dirt and debris in gutters



Bent #5 joint



Typical deck



No log mile sign



Vegetation growing beside bridge.



Bent #5 joint



Bent #2 joint



Abutment #2 approach slab



Typical approach slab cracks



Abutment #1 approach slab

Maintenance Needs

Date Reported: 02/22/2012

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Element

Deficiency Description

Soffit-under surface all spans have one foot spalls at sona-void drains with exposed rebar with minor section loss.

Remarks



Typical soffit spall with exposed rebar

Maintenance Needs

Date Reported: 02/13/2018

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Element

Deficiency Description

Span #2 left gutter has a 36' area 1" deep scaled area.

Span #5 left gutter has two areas of heavy scaling seventeen square feet total one at each bent.

Remarks



Heavy scaling in span #5 left gutter



Span #2 left gutter has 36' of heavy scaling.

Maintenance Needs

Date Reported: 02/22/2012

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Channel

Deficiency Description

Abutment #2 slope cap is undermined up to one foot for six fee exposing pile #1.

Remarks



Abutment #2 left side undermined up to one foot for six feet exposing pile #2

Maintenance Needs

Date Reported: 02/13/2018

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Element

Deficiency Description

All joint seals are cracked leaking and allowing debris to enter.

Remarks



Typical joint

Maintenance Needs

Date Reported: 02/25/2020

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Deck

Deficiency Description

Span #1 left shoulder has two-foot spall no rebar exposed.

Span #1 has 12 square feet of asphalt repairs with spalling around edges and eight square feet of sound concrete repair at bent #2.

Span #2 right lane has two-foot ACHM repaired area failing.

Remarks



Span #5 right lane has a eight foot shallow spall with no exposed rebar.



Span #1 left shoulder has two foot spall no rebar exposed.



Span #1 has 4 square feet of asphalt repairs with spalling around edges, left lane and a 1'

Maintenance Needs

Date Reported: 02/26/2020

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Approach

Deficiency Description

Abutment 1 left approach gutter 1' x 2' delamination and spall.

Remarks



Abutment 1 left approach gutter 1' x 2' delamination and spall.



Asset #A3766(Routine, Underwater type 2)

I-40WB/Se51/219.89 over Flat Fork Creek

Location: 4.23 Miles East Of Sh 17

Team Lead: Myron Futrell Inspection Date: 02/06/2024

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	
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	Yes
A-64 - Vegetation Removal Requested	Yes
A-65 - Clogged deck drains?	
A-66 - Approach minor pothole/leveling needed	

A-54 - Sealable Deck Cracks

A-55 - Deck Washing Needed (Yes)

Gutters have dirt and debris in them.



Dirt and debris in gutters

A-56 - Joint Cleaning/Flushing Needed

A-57 - Girder End and Bearing Painting Needed

A-58 - Cap Cleaning/Flushing Needed

A-59 - Joint Repair Needed (Yes)

Deck joints have areas of missing and damaged joint sealer.



Bent #5 joint

A-60 - Full Girder Painting Needed

A-61 - Polymer Overlay Advised

A-62 - Hydro and LMC Advised (Yes)

Deck has cracking, spalled and patched areas.



Typical deck

A-63 - Missing/Incorrect Log Mile Signage (Yes)

No log mile signs in place.



No log mile sign

A-64 - Vegetation Removal Requested (Yes)

Small trees and vegetation growing beside bridge at abutments.

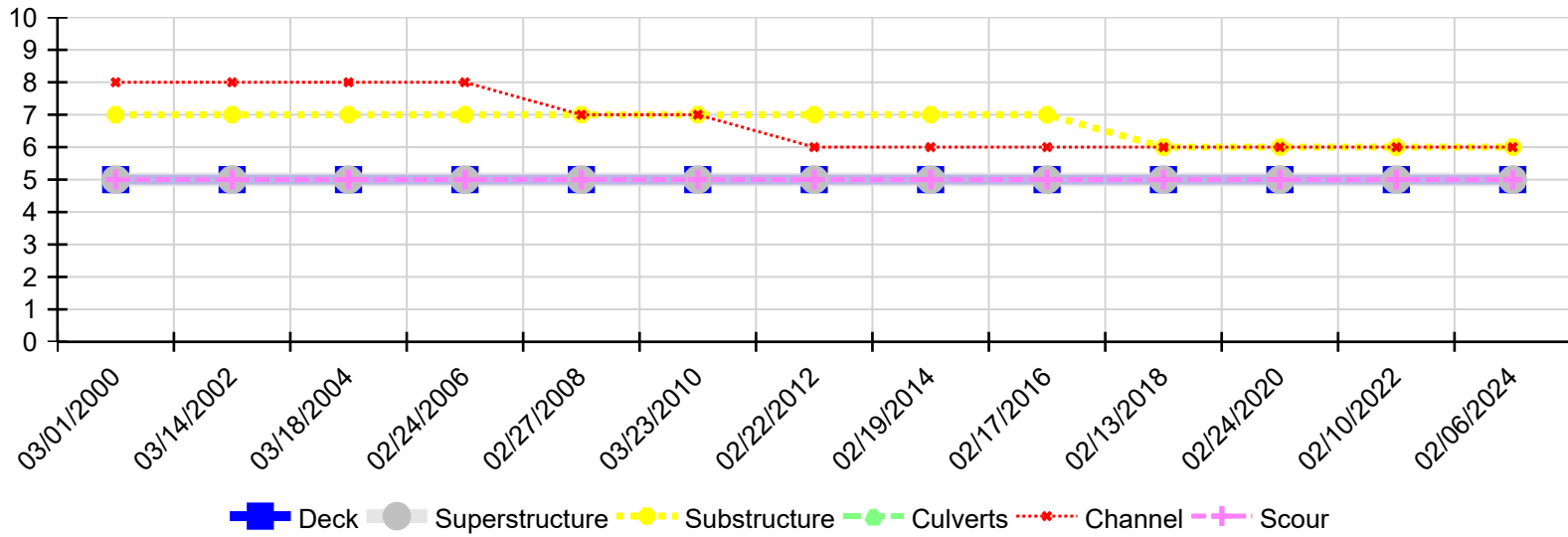


Vegetation growing beside bridge.

A-65 - Clogged deck drains?

A-66 - Approach minor pothole/leveling needed

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
02/06/2024	5	5	6	N	6	5
02/10/2022	5	5	6	N	6	5
02/24/2020	5	5	6	N	6	5
02/13/2018	5	5	6	N	6	5
02/17/2016	5	5	7	N	6	5
02/19/2014	5	5	7	N	6	5
02/22/2012	5	5	7	N	6	5
03/23/2010	5	5	7	N	7	5
02/27/2008	5	5	7	N	7	5
02/24/2006	5	5	7	N	8	5
03/18/2004	5	5	7	N	8	5
03/14/2002	5	5	7	N	8	5
03/01/2000	5	5	7	N	8	5