

Bridge B3766 Inspection Report



Latitude:34.92565, Longitude:-91.12619

Route:40 Section:51 Log:219.89

Arnold Road ID:68x40x51xA, Arnold Log mile:219.89

District 01, 123 - St. Francis County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

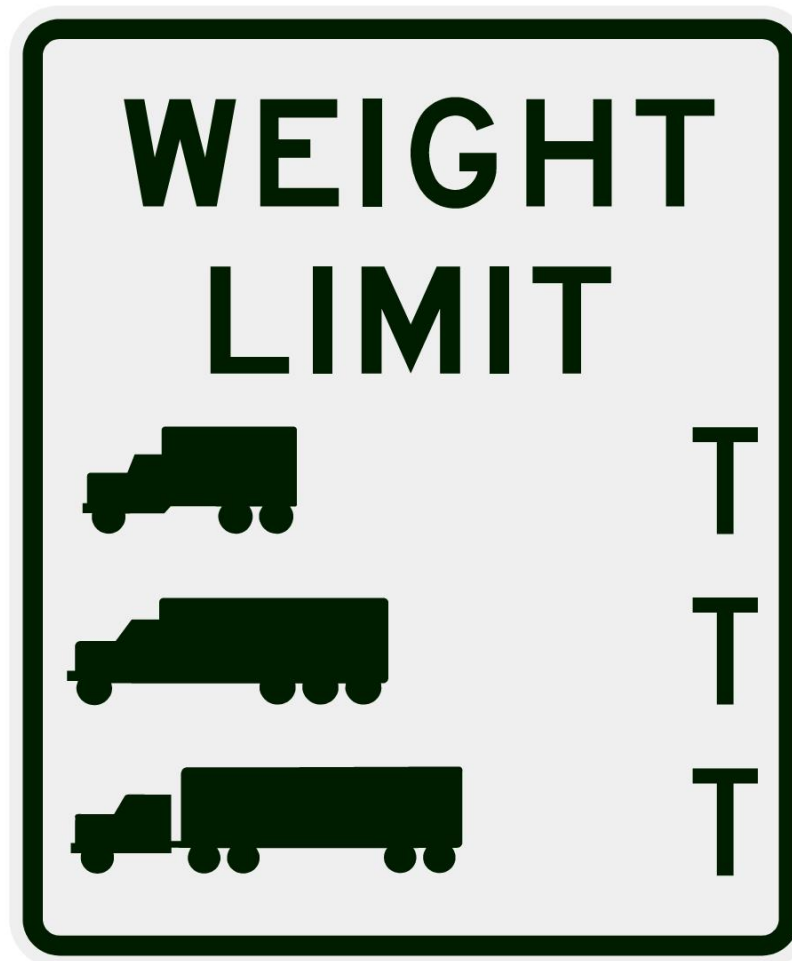
Bridge Posting Information

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

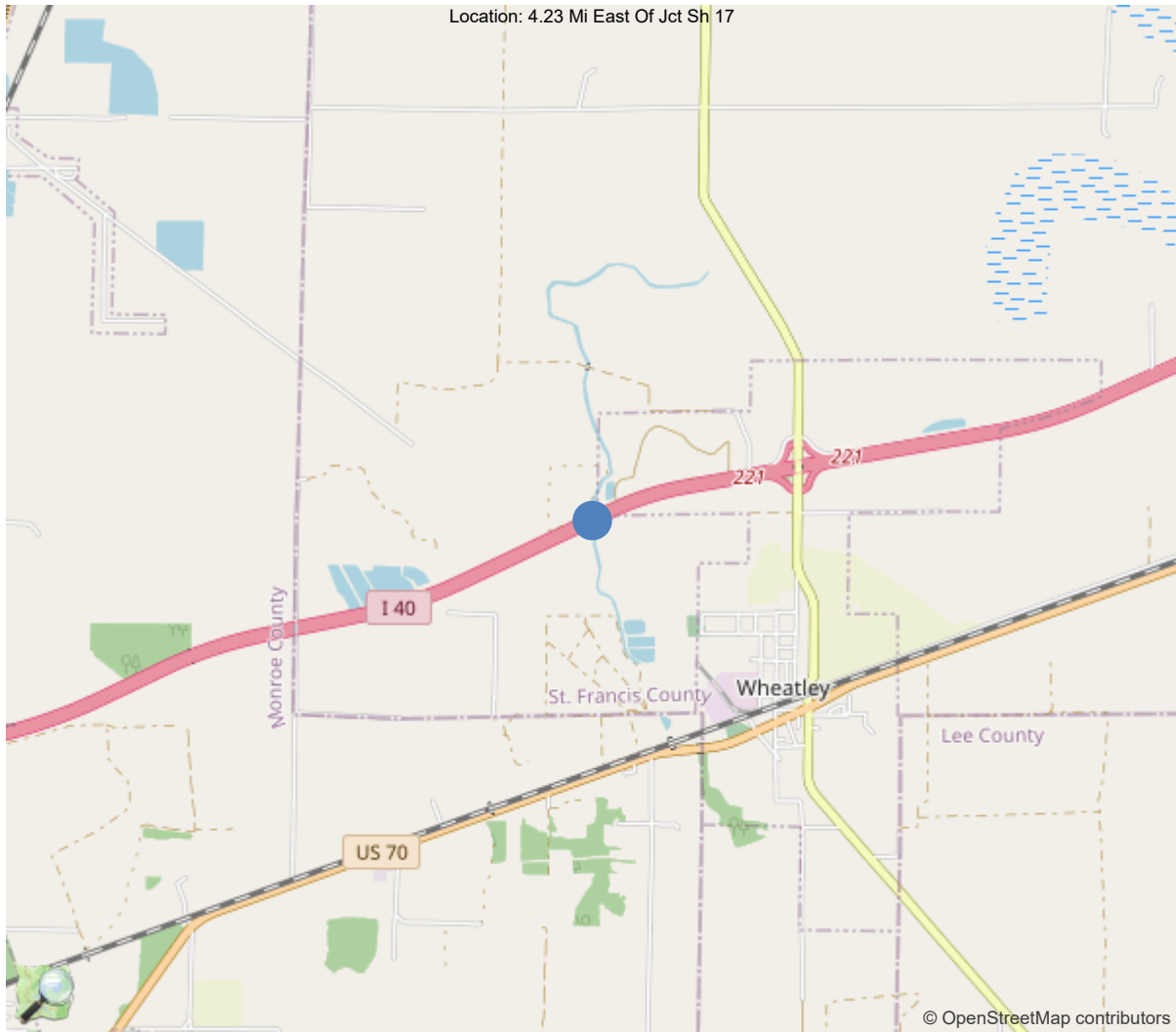
70 - Bridge Posting: 5 - Equal to or above legal loads

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



34.92565, -91.12619

National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	B3766
(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-40EB/Se51/219.89
(9) Location	4.23 Mi East Of Jct Sh 17
(11) Mile Point	219.89 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000040510
(16) Latitude	34.925652
(17) Longitude	-91.12619
(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	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	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	B3766
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	34.925652
B.L.06 Longitude	-91.12619
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 Mi East Of Jct 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	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	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-40EB/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	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: 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 #B3766(Routine, Underwater type 2)

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

Location: 4.23 Mi East Of Jct Sh 17

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

Inspection Notes

General Observation

Drawing numbers: 12355, 5432c2.
Assisting Bridge Inspector-Charley Smith.
No lane closure required for this inspection.
Boat was used for access.

27 - Year Built (1967)

See attached file explaining the change. B3766.2021Eval2.pdf

Was thought to be 1965 for some time but 1967 is the correct year, according to historians.

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. Top of deck has several spalls, areas of scaling, open cracks, repaired areas, some of which have been patched with ACHM and some are failing. Soffit / underside of deck has multiple cracks with rust staining and efflorescence and several spalls under sona-tube voids with exposed rebar and a large, delaminated area in span #5.

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

Concrete slab is in overall fair condition. Top of deck has several spalls, areas of scaling, open cracks, repaired areas, some of which have been patched with ACHM and some are failing. Soffit / underside of deck has multiple cracks with rust staining and efflorescence and several spalls under sona-tube voids with exposed rebar and a large, delaminated area in span #5.

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

Concrete substructure is in overall satisfactory condition. Piles have very light abrasion with no loose aggregate. Caps have a moderate amount of exposed rebar due to minor spalling and poor concrete coverage with several areas of heavy scaling on ends of caps with loose aggregate.

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

A-55 - Deck Washing Needed (Y)

Dirt and debris in gutters.

A-59 - Joint Repair Needed (Yes)

Joints have several areas of missing or damaged joint material.

A-62 - Hydro and LMC Advised (Y)

Deck has multiple sealed and unsealed cracks, scaling with loose aggregate and patched areas.



Asset #B3766(Routine, Underwater type 2)

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

Location: 4.23 Mi East Of Jct Sh 17

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

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

No log mile signs.

A-64 - Vegetation Removal Requested (Y)

Brush and vegetation growing beside bridge.

National Bridge Element Quantities and Notes

[illegible]



Asset #B3766(Routine, Underwater type 2)

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

Location: 4.23 Mi East Of Jct Sh 17

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

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
Bent #3 cap bottom has one foot spall both ends with exposed rebar with minor section loss. Bent #4 cap back face has two 6" spalls above pile #5,6 with exposed rebar with minor section loss. Bent #4 cap has two one-foot spalls on bottom one at pile #2 and the other at pile 6 with exposed rebar with minor section loss. Bent #5 cap right end is spalled with exposed rebar with minor section loss spall has created some loss of bearing area. Bent #5 cap bottom extending to back face of cap by pile #1-4 have several spalls with exposed rebar totaling 8' with minor section loss.							
301	Pourable Joint Seal	LF	253	0	0	253	0
2310	Leakage	LF	127	0	0	127	0
2350	Debris Impaction	LF	126	0	0	126	0
(301) Joint seals are cracked and leaking with joint material missing and allowing debris to enter.							
321	Reinforced Concrete Approach Slab	SF	1680	1260	0	420	0
1130	Cracking (RC and Other)	SF	420	0	0	420	0
(321) All slabs have longitudinal and transverse cracks.							
331	Reinforced Concrete Bridge Railing	LF	250	250	0	0	0

Inspection Photos and Notes



02/06/2024

Side view / elevation



02/06/2024

Top view / inventory



02/06/2024

Bridge rail right side



02/06/2024

Bridge rail left side



Abutment #1 left approach rail



Abutment #1 left bridge rail



Abutment #1 right approach rail has 10 feet of moderate damage mid span



Span #5 deck



Typical deck



Large delaminated area span #5 soffit / underside of deck



Span #5 soffit / underside of deck



Span #4 soffit / underside of deck



Span #3 soffit / underside of deck



Span #2 right side at bent #2 end of slab spalled



Span #2 soffit / underside of deck



Span #1 soffit / underside of deck



Bent #5 ahead face



Bent #4 ahead face



Exposed rebar bent #5 bottom face by pile #5



Abutment #2



Bent #5 cap right end



Bent #5 back face



Bent #4 ahead face



Bent #4 back face



Bent #3 cap right end back face



Typical light abrasion on piles



Abutment #1



Channel left side



Channel right side



Bent #3 back face



Dirt and debris in gutters



Typical missing joint material



Span #1 right side patch in gutter scaling



No log mile signs



Vegetation growth beside bridge



Typical missing joint material



Abutment #2 approach slab



Abutment #1 approach slab

Maintenance Needs

Date Reported: 02/20/2014

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Element

Deficiency Description

Span #1 has 20' of heavily scaled patches in right gutter.

Span #1 has three square feet of failing patch.

Span #4 deck left lane has full length crack with shallow spalling for 8', right lane has 1' shallow spall, no exposed rebar.

Span #4 deck right lane has two shallow small spalls with achm that is failing.

Deck span #5 old deck repairs are beginning to fail with multiple ache patches also failing.

Remarks



Span #5 deck



Span #1 has 15' of heavily scaled patches in right gutter.



Span #4 deck

Maintenance Needs

Date Reported: 02/10/2022

Priority: D- Routine

Type of Work: Repair (General)

Status: Assigned

Component: Channel

Deficiency Description

Abutment #1 has some erosion at cap exposing two piles.

Abutment #2 slope is eroding to near vertical face within four feet of abutment with erosion veins running down slope.

Remarks

2/6/2024-Erosion at abutment #1 has been sandbagged.



Abutment #1



Abutment #1 has some erosion at cap exposing two piles.



Abutment #2 slope is eroding to near vertical face within four feet of abutment with erosion veins running down slope.



Asset #B3766(Routine, Underwater type 2)

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

Location: 4.23 Mi East Of Jct 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)

Dirt and debris in gutters.



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)

Joints have several areas of missing or damaged joint material.



Typical missing joint material

A-60 - Full Girder Painting Needed

A-61 - Polymer Overlay Advised

A-62 - Hydro and LMC Advised (Yes)

Deck has multiple sealed and unsealed cracks, scaling with loose aggregate and patched areas.



Span #1 right side patch in gutter scaling

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

No log mile signs.



No log mile signs

A-64 - Vegetation Removal Requested (Yes)

Brush and vegetation growing beside bridge.



Vegetation growth beside bridge

A-65 - Clogged deck drains?

A-66 - Approach minor pothole/leveling needed



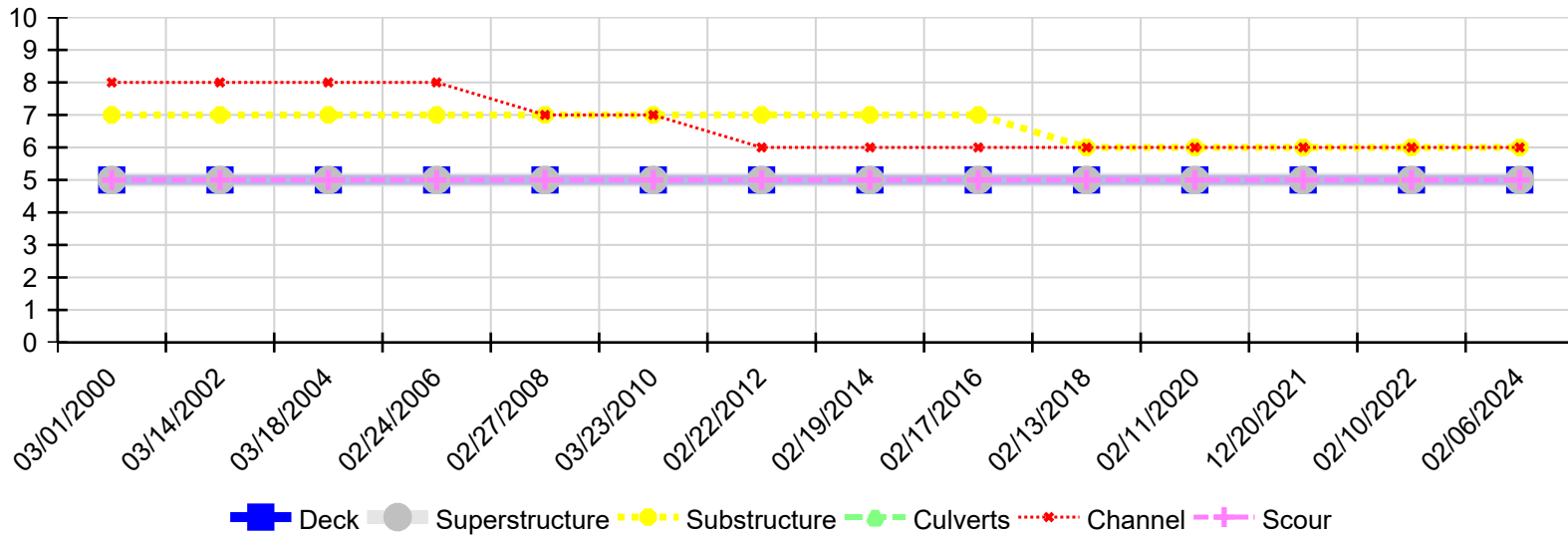
Asset #B3766(Routine, Underwater type 2)

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

Location: 4.23 Mi East Of Jct Sh 17

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

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
12/20/2021	5	5	6	N	6	5
02/11/2020	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