



Latitude:36.18016, Longitude:-94.40084

Route:1785 Section:00 Log:2.719

Arnold Road ID:4xOLDHWY68x1xA, Arnold Log mile:4.083

District 09, Benton County

Owner: 2-County Highway Agency



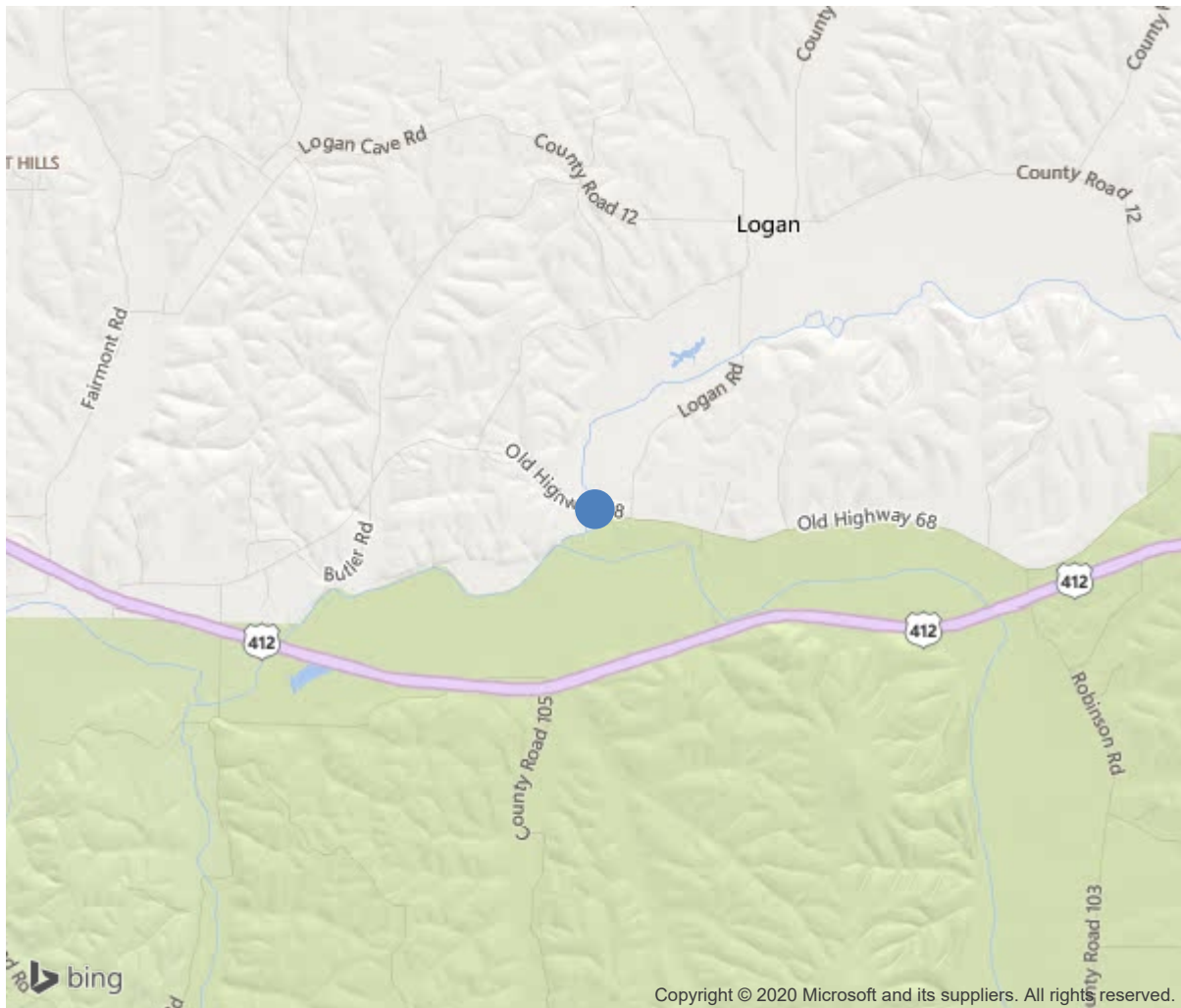
Bridge #01785(Routine, Fracture Critical, Underwater type 2)

CR 1785 Benton Co. over OSAGE CREEK

Location: 4.15 MI W WASHINGTON CO

Team Lead: Nathan Rowland Inspection Date: April 22, 2020

4.15 MI W WASHINGTON CO



36.18016, -94.40084



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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	01785
(5) Inventory Route	1785
(2) Highway Agency District	09
(3) County Code	7-Benton County, Arkansas
(4) Place Code	0
(6) Features Intersected	OSAGE CREEK
(7) Facility Carried	CR 1785 Benton Co.
(9) Location	4.15 MI W WASHINGTON CO
(11) Mile Point	2.719 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	36.18016
(17) Longitude	-94.40084
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	42
Material	4-Steel continuous
Type	2-Stringer/Multi-beam or girder
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	9
(46) No. of Approach Spans	0
(107) Deck Structure Type	1-Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	1-Monolithic Concrete (concurrently placed
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1935
(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	6250
(30) Year of ADT	1992
(109) Truck ADT	1 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	50 ft
(49) Structure Length	452 ft
(50) Curb or Sidewalk Width	
Left	0.6 ft
Right	0.6 ft
(51) Bridge Roadway Width Curb to Curb	22 ft
(52) Deck Width Out to Out	25.5 ft
(32) Approach Roadway Width (W/Shoulders)	24 ft
(33) Bridge Median	0-No median
(34) Skew	0 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	23.3 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	99.9 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0-No navigation control on water
(111) Pier Protection	1-Navigation protection not requ
(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 a S
(101) Parallel Structure	N-No parallel structure exists.
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0-N/A
(110) Designated National Network	0-The inventory route is not part of
(20) Toll	3-On free road. The structure is toll-
(21) Maintain	2-County Highway Agency
(22) Owner	2-County Highway Agency
(37) Historical Significance	4-Historical significance is not dete
CONDITION	
(58) Deck	5
(59) Superstructure	4
(60) Substructure	7
(61) Channel & Channel Protection	6
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	2-M 13.5 / H 15
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	42
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	9
Rating	25
(70) Bridge Posting	5-Equal to or above legal loads
(41) Structure Open/Posted/Closed	A-Open, no restriction
APPRAISAL	
(67) Structural Evaluation	4
(68) Deck Geometry	2
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36) Traffic Safety Features	0001
A) Bridge Railings	0-Inspected feature does not meet cur
B) Transitions	0-Inspected feature does not meet cur
C) Approach Guardrail	0-Inspected feature does not meet cur
D) Approach Guardrail Ends	1-Inspected feature meets currently a
(113) Scour Critical Bridges	8-Bridge foundations determined to be
PROPOSED IMPROVEMENTS	
(75) Type of Work	Replacement of bridge or other
(76) Length of Structure Improvement	491 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 125
(96) Total Project Cost	\$ 954
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	8814
(115) Year of Future ADT	2012
INSPECTIONS	
(90) Inspection Date	
(91) Frequency	24 Months
(92) Critical Feature Inspection	Done Freq. (Mon) Date
A: Fracture Critical Detail	Yes 24 202004
B: Underwater Inspection	No 0
C: Other Special Inspection	No 0



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Team Lead: Nathan Rowland, **Inspection Date:** April 22, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
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Inventory looking East



Downstream. View



Upstream view



General view of deck



General view of abutment #2.



Typical condition of rocker bearings at pier #6.



Typical condition of rocker bearings.



Undersurface of deck typical reflective transverse cracking.



Overhang adjacent to bent #4 typical spalling with steel exposed.



Condition of girder #2 in span #3 still exists since the last inspection.



Span #3 adjacent to pier #3 efflorescence.



Typical efflorescence in the overhang area



Pier #2 spalling with steel exposed.



General view of superstructure.



General view for Abutment #1



Span 6 Bent 6 girder 1 lower web has 3/16" section loss on exterior side 16" from end of girder.



Inventory



Bent 8 girder 1 has 1/16" section loss at bottom of diagram connection.



Span 6 Bent 6 girder 1 lower web has 1/4" section loss starting at 10" from end of web and ending at 17" from end of web. Also bottom flange has 1/4" section loss at diaphragm connection.



Span 6 Bent 6 girder 2 bottom of web has up to 1/4" section loss at diaphragm connection.



Bent 8 steel diaphragm has section loss to top flange at mid span of bent.



Typical under surface.



Bent 1 span 2 girder1 web at concrete/steel connection has up to 1/8" section loss.



Bent 3 span 3 diaphragm has 100% section loss for approximately 5'.



Span 5 bent 5 girder 2.



Bent 3 span 3 girder 2 interior lower web has 3/16" section loss and exterior side has 1/8" section loss and approximately 3/16" section loss in bottom flange.





Typical



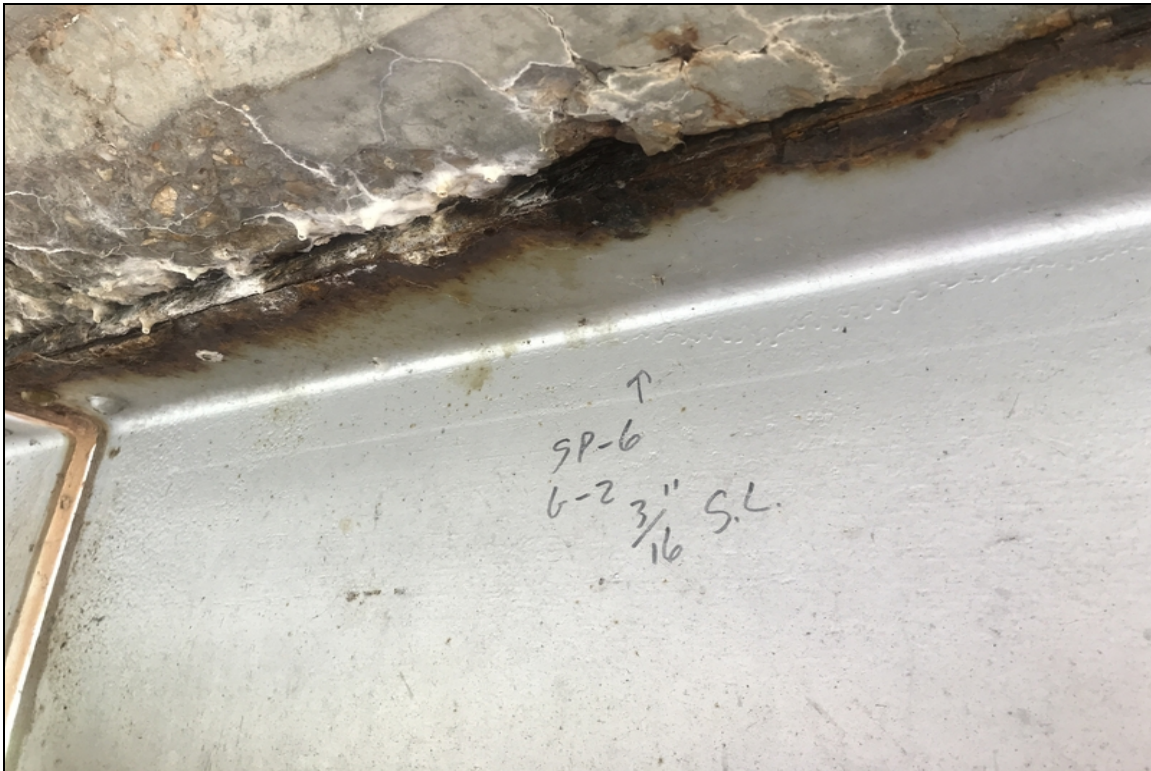
Typical splice plate.



Bent 9 girder 2 corrosion on top flange with section loss.



Bent 7 span 8 has 1/8" section loss to lower web at diaphragm connection.



Span 6 Bent 7 girder 2 top flange has up to 3/16" section loss.



Typical view of under surface.



Diaphragm connection at bent 2.





Elevation



Typical condition of top flange at bent 3 girder 2.

Maintenance Needs

Date Reported: 03/22/2011

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Pier #3 girder #2 ahead moveable bearing and pin
Section loss [wear] and corrosion

Remarks



Pier #3 girder #2 ahead moveable bearing and pin
Section loss [wear] and corrosion.



Pier #8 girder #1 ahead moveable bearing
Section loss [wear] and pack rust.

Date Reported: 03/22/2011
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Superstructure - The girders have a failing paint system with areas of active corrosion and moderate section loss to ends of girders. The most notable areas are the bases of webs and bottom flanges of span #3, girder #2 over bent #3, and span #6, girders #1 and #2 over bent #6. These girders have up to 50% section loss in the lower webs.

Remarks



Span #3, Girder #2-Section loss to bottom flange.



Span #6, Girder #1-web has .22' section loss to interior side over bent #6.



Span 6 Bent 6 girder 2 bottom of web has up to 1/4" section loss at diaphragm connection..



Span #6, girder #1 over bent #6-Section loss to bottom flange.



Span 6 Bent 6 girder 1 lower web has 1/4" section loss starting at 10" from end of web and ending at 17" from end of web. Also bottom flange has 1/4" section loss at diaphragm connection.



Bent 3 span 3 girder 2 interior lower web has 3/16" section loss and exterior side has 1/8" section loss and approximately 3/16" section loss in bottom flange.



Span 6 Bent 6 girder 1 lower web has 3/16" section loss on exterior side 16" from end of girder.



Span #6, Girder #2-1/4" Section loss to base of web over bent #6.

Date Reported: 03/01/2012
Priority: B - Pressing; 6 month completion goal
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Channel and around structure

Trees, brush and drift

4/15/2019 Can not conduct full inspection due to trees growing along upstream side of bridge.

Remarks



Vegetation along side of bridge.



Vegetation along side of bridge.



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Vegetation



Channel and around structure
Trees, brush and drift.



Vegetation still exists along side of bridge.



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Location: 4.15 MI W WASHINGTON CO

Team Lead: Nathan Rowland **Inspection Date:** April 22, 2020

Date Reported: 03/01/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Deck thru-out
Moderate size transverse cracks and partial depth failures

Remarks



Deck thru-out
Moderate size transverse cracks and partial depth failures



Span #1 transverse cracking in deck.



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Date Reported: 03/01/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Bridge rail right side at end span #1 and span #8
Vehicle damage [post broken]

Remarks



Bridge rail right side at end span #8
Vehicle damage [post broken]



Bridge rail right side at end span #9
Vehicle damage [post broken]



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Team Lead: Nathan Rowland **Inspection Date:** April 22, 2020

Date Reported: 03/01/2012

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Approach guard fence on left and right sides at end of structure
Vehicle damage.

Remarks



Approach guard fence on left and right sides at end
of structure
Vehicle damage.

Date Reported: 03/01/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Steel diaphragm #1 over pier #2 and diaphragm #4 over pier #3
Section loss in web [holes in web]

Remarks



Bent 3 span 3 diaphragm has 100% section loss for approximately 5'.



Diaphragm connection at bent 2.



Steel diaphragm #1 over pier #2 and diaphragm #4
over pier #3

Section loss in web [holes in web]



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Location: 4.15 MI W WASHINGTON CO

Team Lead: Nathan Rowland **Inspection Date:** April 22, 2020

Date Reported: 03/12/2013

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Deck road irons thru-out- loose anchorage in random locations.

Remarks



Deck road irons thru-out- loose anchorage.

Date Reported: 03/19/2014

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Concrete deck overhang at end of all spans right side and span left side- spalls with rebar exposed

Remarks



Soffit over pier #2 right spalling with steel exposed at joint.



Soffit over pier #1 left spalling with steel exposed at joint.

Date Reported: 03/19/2014
Priority: B - Pressing; 6 month completion goal
Type of Work: None
Status: Repair Documented
Component:

Deficiency Description

Concrete deck at end of span #3- Partial depth failure

Remarks



Concrete deck at end of span #3- Partial depth failure.



Span #3 right partial depth failure asphalt patch.



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Location: 4.15 MI W WASHINGTON CO

Team Lead: Nathan Rowland **Inspection Date:** April 22, 2020

Date Reported: 04/22/2020
Priority: C - Important
Type of Work: Clean
Status: Open
Component: Channel

Deficiency Description

Large tree and drift accumulation blocking spans #6 and #7.

Remarks



Large tree restricting the flow of water in span #6 & #7



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Location: 4.15 MI W WASHINGTON CO

Team Lead: Nathan Rowland **Inspection Date:** April 22, 2020

Inspection Comments

04/22/2020 WNR & DBM: Routine; Fracture Critical; & Underwater Type II conducted this date. See note for documentation.

Structure is Logged from West to East, and is accessible with a snoopers only.

Deck Notes

04/22/2020 WNR & DBM:

- The driving surface of the deck of has heavy wear with loss of coarse aggregate in all spans, more heavily in the right lane.
- The driving surface has large width transverse cracks that extend the width of the deck with numerous hairline transverse cracks in all spans.
- The left and right gutter lines have debris build up that is blocking the deck drains.
- The road irons have loose anchorage and are noisy under traffic.
- The left side of spans #2,3,4 have deep delaminations in the driving surface.
- The left and right concrete deck overhangs have spalling with rebar exposed in numerous locations.
- The deck undersurface has transverse cracking that has extended through the thickness of the deck.

Bridge railing:

- The bridge railing on the right side of span #9 has vehicle damage, posts 2,3,4 are broken.
- The approach guard rail on the left and right sides at the beginning and end of structure have vehicle damage.
- The beginning right approach railing is unattached from the end post due to vehicle damage.

Superstructure Notes



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Team Lead: Nathan Rowland **Inspection Date:** April 22, 2020

04/22/2020 WNR & DBM:

-The top flanges of both girders have areas of corrosion with flaking rust and measurable section loss throughout due to deck leaching.

Span #1:

-Girder #2 has corrosion with flaking rust to the interior side of bottom flange over abutment #1.

-The top flanges of girders #1 and #2 have heavy corrosion with flaking rust over abutment #1.

- Girder #2 over pier #1 has pitting to the web adjacent to the diaphragm connection.

-Girder #1 over pier #1 has 1/8" section loss to the interior side of web adjacent to deck haunch.

Span #3:

- Span #3, Girder #1 has corrosion with approximately 1/8" section loss to web adjacent to deck haunch over pier #2.

-Span #3, Girder #2 has heavy corrosion with section loss to top and bottom flanges and interior and exterior of the web in an area approximately 3' long where the joint assembly leaks water through to the superstructure.

- Section loss to bottom flange up to 1/4" in some locations.

-The top flange of girder #1 of span #3 has heavy corrosion on the interior and exterior sides over pier #3.

Span #4:

-The top flanges of girders #1 and #2 have heavy corrosion with thick flaking rust over pier #3.

- The web of girder #2 has pitting approximately 1/8" deep on the interior side adjacent to the diaphragm connection.

Span #5:

-Girder #2 of span #5 has an imperfection to the web that appears to be from the fabrication process.

-The imperfection is adjacent to splice connection #2 located approximately 2' from bent #5.

-The imperfection runs horizontally approximately 12" from the splice plate connection on the interior side of the girder.

Span #6:

- Girder #1 over pier #6 has 0.16" section loss to base of the exterior side of web and 0.22" section loss to the base of the interior side of web in the same location for a combined total of 3/8" section loss.

- The bottom flange of Girder #2 has 3/16" section loss over pier #6 and up to 1/4" section loss to the interior side of the web over pier #6.

-The top flanges of girders #1 and #2 over pier #6 have heavy corrosion with thick flaking rust.

-Splice plates and girders have areas of corrosion at the splice plate connections.

Span #7:

-Girder #2 of span #7 over pier #6 has pitting up to 1/16" to the base of web in an area approximately 12" long.

-The top flanges of girders #1 and #2 have heavy corrosion over pier #6.

Span #8:

-Girder #1 has corrosion to the interior side of the web adjacent to the deck haunch.

Span #9:

-The top flanges of girders #1 and #2 have corrosion with flaking rust over abutment #2.

-Steel diaphragms over piers #2 and #4 has corrosion with section loss in webs [holes in web].

-The moveable bearing for Girder #2 over pier #3 has section loss to pin and bearing device.

04/22/2020 WNR & DBM: Fracture Critical inspection conducted this date. See the notes tab and Fracture Critical report linked in the Fracture Critical tab for documentation. NBI Condition rating for item 59 lowered from 5 to 4 due to significant section loss to webs and flanges of girders. A Special Recurring inspection put in place this date due to an NBI Condition rating of "4" for item 59. Careful observation of the condition of the Superstructure should be a priority during Routine inspections.



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04/22/2020 WNR & DBM:

The channel and along both sides of the structure has trees and brush making snooper operation difficult.

Abutment #1- has a horizontal crack at the top left and right side of the wing wall. The back wall has 1 vertical crack.

Pier #1- has shallow spalling with exposed rebar on the left and right sides of the cap on the span #1 side. The pier has minor local scour around the base of the pier.

Pier #2- has spalls with shallow exposed rebar on the span #2 side of the cap. The pier has minor local scour around the base of the pier.

Pier #3- the cap has shallow spalls with exposed rebar on both sides. The pier has minor local scour around the base of the pier.

Pier #4 - the cap has minor spalls on the left side of the cap in span 4 and 5. The pier has minor local scour around the base of the pier.

Pier #5- the cap has a shallow spall on the span #6 side.

Pier #6- has shallow exposed rebar on the span #7 side.

Pier #7- has shallow exposed rebar on the span #7 side Pier #8- has minor local scour around the base of the pier.