



Latitude:35.72479, Longitude:-90.17776

Route:77 Section:02 Log:10.42

Arnold Road ID:47x77x2xA, Arnold Log mile:9.871

District 10, Mississippi County

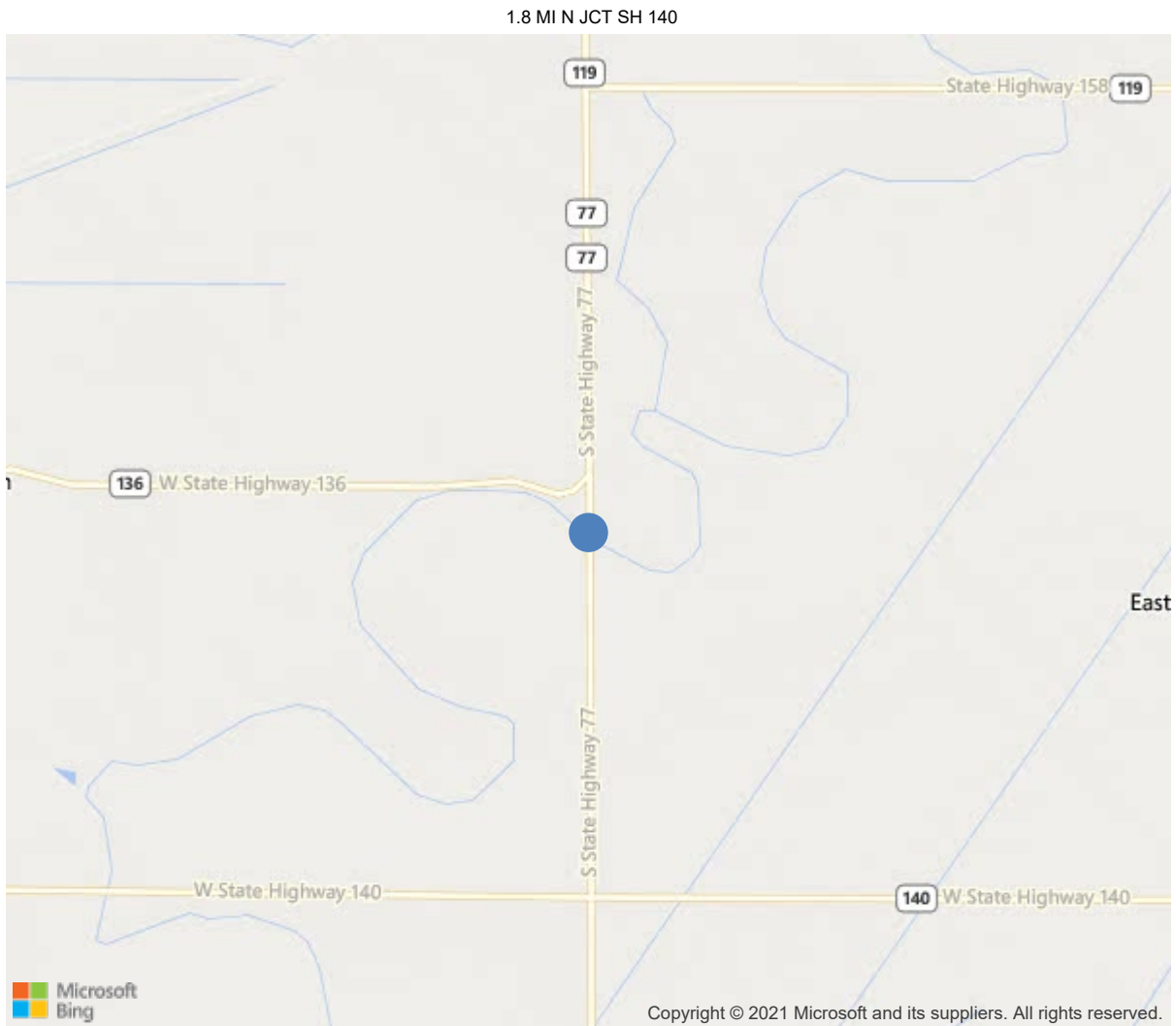
Owner: 1-State Highway Agency



Bridge #02141(Underwater type 2, Routine)
SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020



35.72479, -90.17776



Bridge #02141(Underwater type 2, Routine)
SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter Inspection Date: June 18, 2020

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	02141
(5) Inventory Route	77
(2) Highway Agency District	10
(3) County Code	93-Mississippi County, Arkansa
(4) Place Code	0
(6) Features Intersected	Little Rvr Lt Hand Chute
(7) Facility Carried	SH 77-02- LM 10.42
(9) Location	1.8 MI N JCT SH 140
(11) Mile Point	10.42 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.72479
(17) Longitude	-90.17776
(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	8
(46) No. of Approach Spans	0
(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	1952
(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	1400
(30) Year of ADT	2014
(109) Truck ADT	1 %
(19) Bypass, Detour Length	12 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	18 ft
(49) Structure Length	144 ft
(50) Curb or Sidewalk Width	
Left	1 ft
Right	1 ft
(51) Bridge Roadway Width Curb to Curb	24 ft
(52) Deck Width Out to Out	26.6 ft
(32) Approach Roadway Width (W/Shoulders)	25.9 ft
(33) Bridge Median	0-No median
(34) Skew	20 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	25.9 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	5-None present but re-evaluation
(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	1-State Highway Agency
(22) Owner	1-State Highway Agency
(37) Historical Significance	5-Bridge is not eligible for the NRHP
CONDITION	
(58) Deck	6
(59) Superstructure	6
(60) Substructure	4
(61) Channel & Channel Protection	5
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	0-Other or Unknown
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	38
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	8
Rating	23
(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	4
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0-Inspected feature does not meet cur
(36B) Transitions	0-Inspected feature does not meet cur
(36C) Approach Guardrail	0-Inspected feature does not meet cur
(36D) Approach Guardrail Ends	0-Inspected feature does not meet cur
(113) Scour Critical Bridges	5-Bridge foundations determined to be
PROPOSED IMPROVEMENTS	
(75) Type of Work	Replacement of bridge or other
(76) Length of Structure Improvement	173 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 117
(96) Total Project Cost	\$ 417
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	1586
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			06/2020
(91) Frequency			24 Months
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection	Yes		06/2021
* 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.			



Bridge #02141(Underwater type 2, Routine)
SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter, **Inspection Date:** June 18, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
38	RC Slab	SF	3816	3427	6	383	0
1080	Delamination/Spall/Patched Area	SF	299	0	6	293	0
1090	Exposed Rebar	SF	5	0	0	5	0
1120	Efflorescence/Rust Staining	SF	5	0	0	5	0
1130	Cracking (RC and Other)	SF	80	0	0	80	0
510	Wearing Surfaces	SF	3456	3456	0	0	0
3210	Delam/Spall/Patched Area/Pothole	SF	0	0	0	0	0
3220	Crack (Wearing Surface)	SF	0	0	0	0	0
215	Reinforced Concrete Abutment	LF	84	68	2	14	0
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
6000	Scour	LF	14	0	0	14	0
228	Timber Pile	EA	40	2	24	9	5
1140	Decay/Section Loss	EA	15	0	3	7	5
1150	Check/Shake	EA	23	0	21	2	0
234	Reinforced Concrete Pier Cap	LF	208	183	0	25	0
1080	Delamination/Spall/Patched Area	LF	7	0	0	7	0
1090	Exposed Rebar	LF	4	0	0	4	0
1120	Efflorescence/Rust Staining	LF	14	0	0	14	0
330	Metal Bridge Railing	LF	288	184	100	4	0
1000	Corrosion	LF	100	0	100	0	0
7000	Damage	LF	4	0	0	4	0
515	Steel Protective Coating	SF	922	589	320	13	0
3440	Effectiveness (Steel Protective Coatings)	SF	320	0	320	0	0
7000	Damage	SF	13	0	0	13	0





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Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter Inspection Date: June 18, 2020





S6 b6

Maintenance Needs

Date Reported: 09/21/2011
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 330 - Metal Bridge Railing

Deficiency Description

Metal Bridge Rail
Rail has 60% paint deter. and rust forming.
Lt rail is loose at spans 4 and 5.

Remarks



Bent 5 left guardrail

Date Reported: 09/21/2011
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Superstructure

Deficiency Description

Soffit has insignificant cracking with some light efflorescence, spalls, and some exposed rebar:
Span 2 soffit has 6' of efflorescence.
Span 3 Soffit has 8sqft. of cracks with efflorescence.
Span 3 Soffit right Drain Opening has a 6" x 6" x 1 1/2" deep spall with exposed rebar.
Span 3 Soffit has 54sqft. of cracks.
Span 4 Soffit left Drain Opening has a 6" diameter spall with exposed rebar.
Span 5 Soffit left Drain Opening has an 18" x 6" x 1 1/2" deep spall with exposed rebar & 3' of delamination.
Span 5 Soffit right Drain Opening has a 1' x 1' delaminated area, impending spall.
Span 6 Soffit right Drain Opening has a 4' x 8" area of exposed rebar.
Span 6 Soffit left Drain Opening has a 1' x 1' delaminated area, impending spall.
Span 7 Soffit has a 1' x 6" spall with exposed rebar & 1' of delamination.

Remarks



Date Reported: 09/21/2011
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Substructure

Deficiency Description

Bent 1 Cap has a 2' x 6" spall with no exposed rebar.

Bent 2 Cap has 1' left end with deterioration and 1' of exposed rebar & 1' of efflorescence. Span 2 side over pile 3 has a 2' x 1' x 1" deep spall with exposed rebar.

Bent 4 Cap at left end has some small spalls with no exposed rebar and a vertical crack with efflorescence over pile 4.

Bent 5 Cap has 3' of efflorescence on Span 4 side with 3' of horizontal cracking in bottom of cap over pile 4.

Bent 6 cap left end has 1' of spalling with no exposed rebar.

Bent 6 Cap near Pile 3 has 3' x 1' spall with exposed rebar on the bottom & face of cap with a delaminated area to the face of cap with 2' of efflorescence.

Bent 7 cap has a 1' x 6" wide delamination over pile 2.

Bent 7 Cap near Pile 3 has 1' x 1' delaminated area to the face of cap.

Bent 8 Cap near right end has 1' x 1' delaminated area to face of cap.

Remarks



Left end bent 1



Bent 6 cap over pile 3 span 6 side.



Date Reported: 09/21/2011
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Channel

Deficiency Description

Moderate Slope Erosion under Span 1 has undermined 10' left of center line 6" deep and 2' back under Abutment exposing Piles 1 & 2.

Moderate Slope Erosion under Span 8,7 ft. berm on left, no berm remaining right of center line, and Bent 9 Abutment has 6' long x up to 2' deep and up to 2' undermining under cap exposing Pile 2,3 & 4, typical.

Remarks



Bent 9 embankment erosion.



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Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020

Date Reported: 08/01/2013
Priority: G - General/ Preventive maintenance
Type of Work: Repair
Status: Monitor
Component: Approach

Deficiency Description

Logmile sign missing at bent #1 end.

Remarks

Date Reported: 08/01/2013
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Deck

Deficiency Description

Left Concrete Curb Span 2 has a 3' x 1.5' of area deteriorated with section loss.
Right and Left edge of Gutter Line has delamination, spalls and patched areas, typical.
Span 4 Slab at left Gutter Line has a 4 ft. x 1.5 ft. area of heavy deterioration and delamination adjacent to previous concrete patch.

Remarks



Bent 5 left guardrail

Date Reported: 06/24/2015
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Substructure

Deficiency Description

Bent 2 Pile 1 is decayed and partially hollow near ground line.
Bent 3 Pile 1 is decayed and partially hollow 4' above ground line.
Bent 4 piles 2 & 4 are decayed & partially hollow.
Bent 6 pile 5 checks and decayed and partially hollow.
Bent 7 Pile 2 has a ½" split..
Bent 7 Pile 1 is decayed and partially hollow 3' above ground line.
Bent 8 pile 3 decayed and partially hollow'

Remarks





B3 p1



B4 p1 & p2



B4 p4



B2 p5



B2 p1



B6 p5



B5 p2



B7 p1



Bridge #02141 (Underwater type 2, Routine)
SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter Inspection Date: June 18, 2020

Date Reported: 06/24/2015
Priority: CF - Critical Finding
Type of Work: Repair
Status: Open
Component: Substructure

Deficiency Description

Bent 5 pile 2 has a 1" shell & hollow.
Bent 5 pile 5 has open cracks and moderate checking, decayed and hollow and beginning to crush.
Bent 6 Pile 3 is decayed and mostly hollow 1 1/2" shell and hollow.
Bent 8 pile 2 has a 1/2" shell decayed & hollow.
Bent 8 Pile 5 is decayed hollow with a 1" shell.

Remarks

Rating has reviewed for this condition. No posting changes required at this point. dlw 11/4/2019 Is that non-destructive testing with the rock hammer?

to District Bridge Crew for review and repair - KAW 6/15/18
Reviewed by Michael Hill, 7/3/18. Asked rating to review.
Reviewed by Michael Hill, 8/2/18
Reviewed by Michael Hill, 9/6/18
10/9/18 - Reviewed by Michael Hill.
11/5/18 - Reviewed by Michael Hill.
12/3/18 - Reviewed by Michael Hill
1/2/19 - Reviewed by Michael Hill
1/15/19 - Rating recommends no posting.
2/4/2019 - Reviewed by Michael Hill
3/4/19 - Reviewed by Michael Hill
4/1/19 - Reviewed by Michael Hill
5/7/19 - Reviewed by Michael Hill
6/5/19 - Reviewed by Michael Hill
7-2-19 - Reviewed by Michael Hill
8/2/19 - Reviewed by Michael Hill
9/4/19 - Reviewed by Michael Hill - Asked Rating to review for crushing pile at bent 5, pile 5.
10/1/19 - Reviewed by Michael Hill - Rating took deficiencies into account.
11/5/19 - Dennise Vire changed from "CF" to "A"



Bent 8 pile 5



B5 p5



B8 p2



B5 p2



bent 6 pile 3



B5 p5



Bent 6 pile 3





B5 p2



B8 p5



B6 p3



B6 p3



B6 p3



B6 p3



B5 p5



B5 p5



B6 p3



B8 p5



B8 p2



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SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020

Date Reported: 06/07/2016
Priority: B - Pressing; 6 month completion goal
Type of Work: Repair
Status: Assigned
Component: Channel

Deficiency Description

Large Drift up stream across entire channel extending 75' upstream & lodged on piles.

Remarks

Copy to Miss 1 crew for removal when they get a chance





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Team Lead: Alan Walter Inspection Date: June 18, 2020





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SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020

Date Reported: 06/07/2016
Priority: G - General/ Preventive maintenance
Type of Work: Repair
Status: Monitor
Component: Deck

Deficiency Description

Left side Concrete Bridge Rail Posts have a few shelled out areas with exposed rebar.

Remarks



Bridge #02141(Underwater type 2, Routine)
SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020

Date Reported: 06/14/2018
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Bridge

Deficiency Description

Concrete Slab has a 3 1/2" lateral shift at joint over bent 5, 2003 inspection, Span 4 and 5 appears shifted another 1/2" going from 3 1/2' to 3 3/4" out of alignment.

Remarks





Bridge #02141(Underwater type 2, Routine)
SH 77-02- LM 10.42 over Little Rvr Lt Hand Chute

Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020

Date Reported: 07/15/2020
Priority: B - Pressing; 6 month completion goal
Type of Work: Repair
Status: Open
Component: Substructure

Deficiency Description

Bent 8 pile 4 decayed and partially hollow'

Remarks



B8 p4



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Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter **Inspection Date:** June 18, 2020

Deck Notes

Log Mile Posting Sign missing at Bent 1, (North End).

Left side Concrete Bridge Rail Posts have a few spalled out areas with exposed rebar, metal rail is pulled loose from a few post, especially Spans 4&5.

Deck has had an asphalt overlay (job # 100838) since previous inspection. Old deck notes left in place in report.

Left Concrete Curb Span 2 has a 3ft. x 1.5ft. area of deteriorated with section loss.

Concrete Slab with Asphalt Overlay has open cracks in asphalt over joints.

Right and Left edge of Gutter Line has delamination, spalls and patched areas.

Span 4 Slab at left Gutter Line has a 4 ft. x 1.5 ft. area of heavy deterioration and delamination adjacent to previous concrete patch.

Concrete Slab has a 3 1/2 in. lateral shift at joint over bent 5, 2003 inspection, Span 4 and 5 appears shifted another 1/2" going from 3 1/2' to 3 3/4" out of alignment.

Superstructure Notes

Soffit has insignificant cracking with some light efflorescence, spalls, and some exposed rebar:

Span 2 soffit has 6' of efflorescence.

Span 3 Soffit has 8sqft. of cracks with efflorescence.

Span 3 Soffit right Drain Opening has a 6" x 6" x 1 1/2" deep spall with exposed rebar.

Span 3 Soffit has 54sqft. of cracks.

Span 4 Soffit left Drain Opening has a 6" diameter spall with exposed rebar.

Span 5 Soffit left Drain Opening has an 18" x 6" x 1 1/2" deep spall with exposed rebar with section loss & 3' of delamination.

Span 5 Soffit right Drain Opening has a 1' x 1' delaminated area, impending spall.

Span 6 Soffit right Drain Opening has a 4' x 8" area of exposed rebar.

Span 6 Soffit left Drain Opening has a 1" x 1" delaminated area, impending spall.

Span 7 Soffit has a 1' x 6" spall with exposed rebar & 1' of delamination.

Substructure Notes



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Location: 1.8 MI N JCT SH 140

Team Lead: Alan Walter Inspection Date: June 18, 2020

9/10/2019 Pile repairs Bent 2: Piles 2 & 3 pile encasement

Bent 3: Pile 5 pile encasement

Bent 5: Pile 1, 3, & 4 pile encasement

Bent 6: Pile 1, 2, & 4 pile encasement

Bent 7: Pile 3, 4, & 5 pile encasement

Majority of Piles have moderate decay and splitting with a few having some section loss.

Bent 1 Cap has a 2' x 6" spall with no exposed rebar.

Bent 1 Pile 1 decayed and hollow.

Bent 2 Cap has 1' left end with deterioration and 1' of exposed rebar & 1' of efflorescence.

Span 2 side over pile 3 has a 2' x 1' x 1" deep spall with exposed rebar.

Bent 2 Pile 1 is decayed and partially hollow near ground line.

Bent 2 Pile 4 decayed and hollow

Bent 3 Pile 1 is decayed and hollow 4' above ground line.

Bent 3 Pile 4 decayed and partially hollow.

Bent 4 Cap at left end has some small spalls with no exposed rebar and a vertical crack with efflorescence over pile 4.

Bent 4 pile 2 decayed & partially hollow.

Bent 4 pile 4 decayed & hollow.

Bent 4 pile 5 has 1/2" decayed at ground line & big checks.

Bent 5 Cap has 3' of efflorescence on Span 4 side with 3 ft. of horizontal cracking in bottom of cap over pile 4. Lt end of cap over Pile 1 has some small honeycomb areas.

Bent 5 pile 2 has a 1" shell & hollow.

Bent 5 pile 5 has moderate checking with open cracks, decayed and is beginning to swell at water line.

Bent 6 cap left end has 1' of spalling with no exposed rebar.

Bent 6 Cap near Pile 3 has 3' x 1' spall with exposed rebar on the bottom & face of cap with a delaminated area to the face of cap, with 2 ft. of efflorescence.

Bent 6 Pile 3 is decayed and mostly hollow 1 1/2" shell and hollow, has large hole completely through the pile, larger on beginning side.

Bent 6 pile 5 checks and partially hollow.

Bent 7 cap has a 1' x 6" wide delamination over pile 2.

Bent 7 Cap near Pile 3 has 1' x 1' delaminated area to the face of cap.

Bent 7 Pile 1 is decayed and partially hollow 3' above ground line with section loss below water line.

Bent 7 Pile 2 decayed and hollow with big check or a 1/2" split.

Bent 8 Cap near right end has 1' x 1' delaminated area to face of cap.

Bent 8 pile 2 has a 1/2 in. shell decayed & hollow.

Bent 8 pile 3 decayed and partially hollow'

Bent 8 pile 4 decayed and partially hollow'

Bent 8 pile 1 decayed and partially hollow'

Bent 8 Pile 5 is decayed hollow with a 1" shell.

Bent 9 has 3 pile exposed piles solid with 2" outside decay.

Intermediate Bents have several Timber Cross Bracing broken or missing from piles.

Moderate Slope Erosion under Span 1 has undermined 10' left of center line 6 inches deep and 2' back under Abutment exposing Piles 1&2.

Moderate Slope Erosion under Span 8 ,only 7' of berm at left end, no berm remaining right of center line, and Bent 9 Abutment has 6' long x up to 2' deep and up to 2' undermining under cap exposing Pile 4.

Large Drift extending 75' upstream across entire channel lodged on piles & under bridge.

Moderate drift under span 1.

Channel sounded - Insignificant changes see soundings of 2020 inspection.