



Latitude:35.77683, Longitude:-90.17809

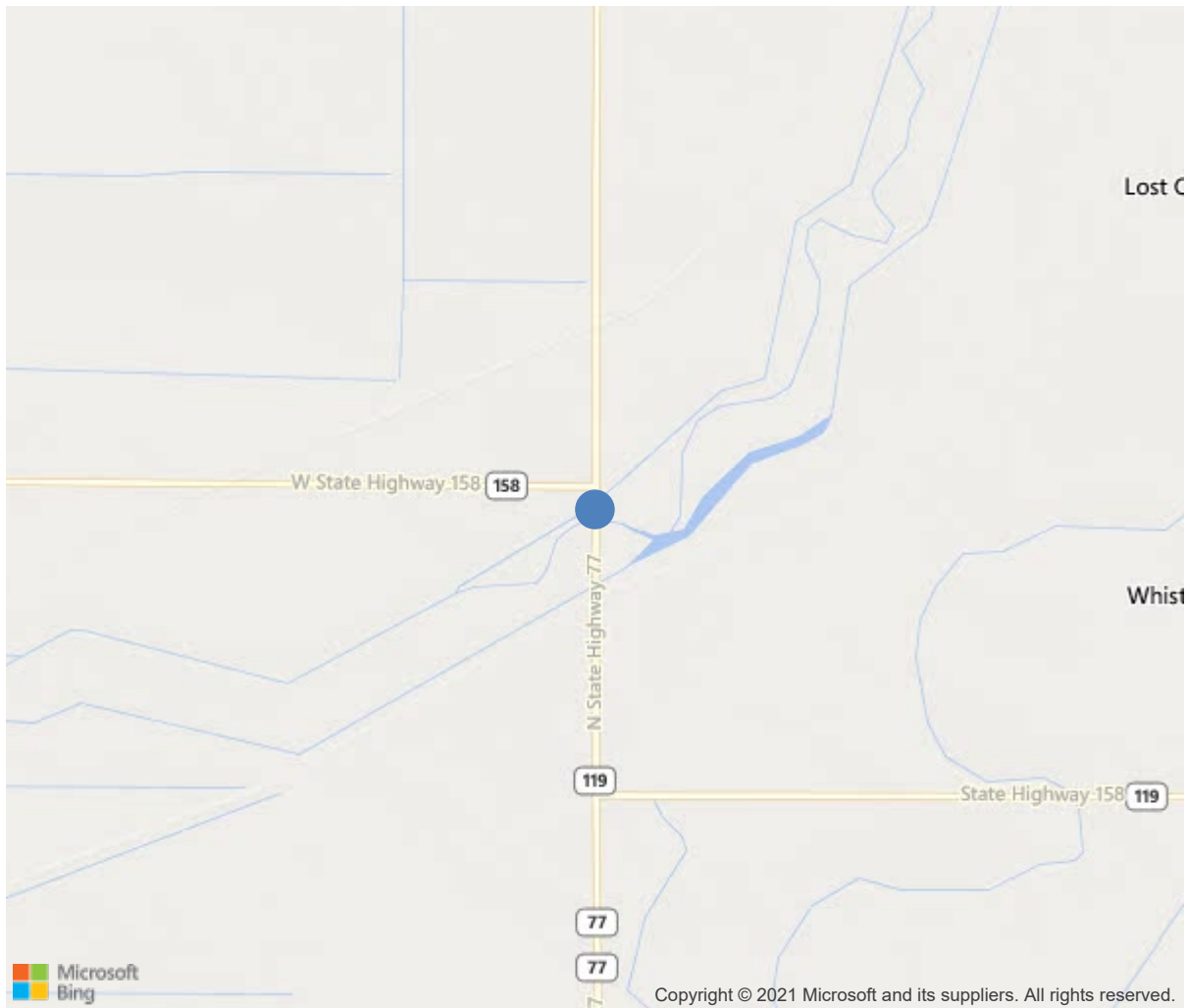
Route:77 Section:02 Log:6.83

Arnold Road ID:47x77x2xA, Arnold Log mile:6.282

District 10, Mississippi County

Owner: 1-State Highway Agency

1.2 MI N JCT OF SH 158



35.77683, -90.17809



Bridge #02871(Routine)

SH 77-02- LM 6.83 over LITTLE RIVER

Location: 1.2 MI N JCT OF SH 158

Team Lead: Tim Myrick Inspection Date: November 24, 2020

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	02871
(5) Inventory Route	77
(2) Highway Agency District	10
(3) County Code	93-Mississippi County, Arkansa
(4) Place Code	0
(6) Features Intersected	LITTLE RIVER
(7) Facility Carried	SH 77-02- LM 6.83
(9) Location	1.2 MI N JCT OF SH 158
(11) Mile Point	6.83 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.77683
(17) Longitude	-90.17809
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3-Steel
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	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	1954
(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	1800
(30) Year of ADT	2014
(109) Truck ADT	1 %
(19) Bypass, Detour Length	13 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	40 ft
(49) Structure Length	322 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	24 ft
(52) Deck Width Out to Out	28.7 ft
(32) Approach Roadway Width (W/Shoulders)	27.9 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	25.3 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	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	5
(59) Superstructure	4
(60) Substructure	5
(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	13
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	8
Rating	8
(70) Bridge Posting	0-> 39.9% below
(41) Structure Open/Posted/Closed	P-Posted for load (may include o
APPRAISAL	
(67) Structural Evaluation	3
(68) Deck Geometry	4
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	9
(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	7-Countermeasures have been installed
PROPOSED IMPROVEMENTS	
(75) Type of Work	Bridge rehabilitation because
(76) Length of Structure Improvement	322 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 415
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	2074
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			11/2020
(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	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.			



Bridge #02871 (Routine)

SH 77-02- LM 6.83 over LITTLE RIVER

Location: 1.2 MI N JCT OF SH 158

Team Lead: Tim Myrick, Inspection Date: November 24, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	8109	5906	70	2133	0
1080	Delamination/Spall/Patched Area	SF	72	0	70	2	0
1090	Exposed Rebar	SF	130	0	0	130	0
1120	Efflorescence/Rust Staining	SF	2001	0	0	2001	0
510	Wearing Surfaces	SF	7680	7675	5	0	0
3210	Delam/Spall/Patched Area/Pothole	SF	5	0	5	0	0
3220	Crack (Wearing Surface)	SF	0	0	0	0	0
107	Steel Open Girder/Beam	LF	1600	0	575	1025	0
1000	Corrosion	LF	1600	0	575	1025	0
515	Steel Protective Coating	SF	12040	0	1162	2988	7890
3440	Effectiveness (Steel Protective Coatings)	SF	12040	0	1162	2988	7890
215	Reinforced Concrete Abutment	LF	66	46	0	20	0
6000	Scour	LF	20	0	0	20	0
227	Reinforced Concrete Pile	EA	35	15	20	0	0
1190	Abrasion/Wear (PSC/RC)	EA	20	0	20	0	0
234	Reinforced Concrete Pier Cap	LF	173	76	59	38	0
1080	Delamination/Spall/Patched Area	LF	15	0	0	15	0
1090	Exposed Rebar	LF	15	0	0	15	0
1120	Efflorescence/Rust Staining	LF	8	0	0	8	0
1130	Cracking (RC and Other)	LF	59	0	59	0	0
304	Open Expansion Joint	LF	234	234	0	0	0
311	Movable Bearing	EA	40	0	0	40	0
1000	Corrosion	EA	40	0	0	40	0
313	Fixed Bearing	EA	40	0	0	40	0
1000	Corrosion	EA	40	0	0	40	0
330	Metal Bridge Railing	LF	644	644	0	0	0
515	Steel Protective Coating	SF	2447	490	0	1957	0
3440	Effectiveness (Steel Protective Coatings)	SF	1957	0	0	1957	0









Beginning end





Ending end



Left





Elevation



S1 B1 G5



## Maintenance Needs

**Date Reported:** 10/26/2011  
**Priority:** C - Important  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Superstructure

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## Deficiency Description

Steel Girders have 65 % paint deterioration and rust with pitting.

## Remarks

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02871 10-01-2015 Span 4 Girder 5.

**Date Reported:** 10/26/2011  
**Priority:** C - Important  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Superstructure

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#### Deficiency Description

2' on ends of majority of girders are rusted with up to 1/2" loss of section to bottom flange or web.  
Exterior girders are rusted with up to 5/8" section loss to web and flanges at drain openings, especially spans 3, 4, & 8, see span 4 girder 5.  
Majority of girder have holes in web at haunch: See notes for location and dimensions.  
Span 1 bent 1 girder 1 anchor bolt nut missing.  
Span 2 bent 3 girder 2 is moving under traffic with a 1/8" gap on the left end of bearing: several floating girders over length of bridge.

#### Remarks

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02871 10-01-2015 Span 8 Girder 1 over Bent 8.



02871 10-01-2015 Span 5 Girder 3 & Span 6  
Girder 3 over Bent 6.







02871 10-01-2015 Span 1 Girder 5 over Bent 2.





02871 10-01-2015 Span 3 Girder 3 over Bent 4.



Span 3 girder 3 bent 4



02871 10-01-2015 Span 1 Girder 2 over Bent 1  
bottom flange.





02871 10-01-2015 Span 1 Girder 3 over bent 1.







02871 10-01-2015 Span 3 Girder 5 over Bent 4.



Span 5 girder 5 bent 6





02871 10-01-2015 Span 5 Girder 1 over Bent 5.



Span 3 girder 5 bent 3





02871 10-01-2015 Span 7 Girder 1 over Bent 7.



Span 4 girder 5 bent 4



02871 10-01-2015 Span 1 Girder 5 over bent 1.





S3&4 b4 g5



S3 b4 g4



S8 b8 g5



S8 b8 g1



**Date Reported:** 10/26/2011  
**Priority:** C - Important  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Substructure

---

### Deficiency Description

Concrete caps have moderate width vertical cracks.

Bent 2 concrete cap has a 3' x 2' spall on bottom of cap, right end with heavy deterioration with some section loss to rebar.

Bent 2 cap has a spall over pile 3 with 3' of exposed rebar.

Bent 2 cap 3' of right end has been repaired under bearing 5.

Bent 2 cap has a 1' x 8" x 6" spall on span 2 side under girder 4 with 5% loss of bearing.

Bent 3 cap has some cracking and abrasion.

Bent 4 cap has some cracking and spalling with exposed rebar due to lack of steel coverage.

Bent 5 concrete cap left end near girder 1 bearing has a 2' X 9" X 3 1/2" deep spall with exposed rebar with section loss, and beginning to lose some bearing.

Bent 5 bottom of cap near pile 2 has a delamination near pile 3 & 4, and a 2' spalled area with exposed rebar.

Bent 6 cap has 2' of the right end near girder 5 deteriorated with up to 2" deep section loss to cap with some exposed rebar, minor loss of bearing area under span 6 bearing 5.

Bent 7 cap has some delamination, cracks and some efflorescence.

Bent 8 right end of cap has 3' of deterioration with exposed rebar.

### Remarks

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Bent 2 cap RT end repaired



02871 10-01-2015 Right End of Bent 5 Cap.



02871 10-01-2015 Bent 5 Cap Span 5 Side Under Bearing 1.



02871 10-01-2015 Bottom of Bent 2 Cap near Pile 3.





02871 10-01-2015 Bent 2 Cap Span 2 Side Right  
End under Girders 4 & 5.



02871 10-01-2015 Right end Bent 8 Cap.



02871 10-01-2015 Bent 5 Cap Span 5 Side over  
Pile 3.



**Date Reported:** 10/26/2011  
**Priority:** C - Important  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Deck

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### Deficiency Description

Top of Concrete Deck asphalt overlay has been roto milled off & replaced. Jfa 10-05-2017.  
Span 2 near center line has a 18 in. diameter spall, see 2018 photo. JFA 11-20-2018  
Top of Concrete Deck has several concrete and asphalt patches.  
Concrete Deck with Asphalt Overlay, Previous reported deck spalls have been repaired but several are cracked.  
Span 2 Top of Deck near centerline has a 2ft. x 2.5ft. patch failure, broken and loose.

Span 5 left Gutterline has 28ft. of deterioration with some section loss with no exposed rebar.  
Bottom of Deck has heavy cracking with efflorescence, and leakage, thru overhangs. See 2015 Photo of Span 4 .  
Left and right Overhangs have several shelled out areas with rebar exposed, see Span 8 left overhang.  
Right Overhang Span 1 at Bent 2 has a 3ft. X 1ft. X 4in. deep spall with exposed rebar, See 2011 Deficiency Photo and 2015 photo of side view.

### Remarks

Top of Concrete Deck asphalt overlay has been roto milled off & replaced. Jfa 10-05-2017.

Top of Concrete Deck asphalt overlay has been roto milled off & replaced. Jfa 10-05-2017.

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Span 2 deck near centerline



02871 10-01-2015 Span 2 centerline repair.



02871 10-01-2015 Span 3 Right lane repair.



02871 10-01-2015 Span 8 left overhang.





**Bridge #02871** (Routine)  
**SH 77-02- LM 6.83 over LITTLE RIVER**  
**Location: 1.2 MI N JCT OF SH 158**

**Team Lead:** Tim Myrick **Inspection Date:** November 24, 2020



02871 10-01-2015 Bent 4 joint.



02871 10-01-2015 Span 5 Right gutterline.



**Bridge #02871 (Routine)**  
**SH 77-02- LM 6.83 over LITTLE RIVER**  
**Location: 1.2 MI N JCT OF SH 158**

**Team Lead:** Tim Myrick **Inspection Date:** November 24, 2020



02871 10-01-2015 Span 1 Right gutterline





**Bridge #02871** (Routine)  
**SH 77-02- LM 6.83 over LITTLE RIVER**  
**Location: 1.2 MI N JCT OF SH 158**

**Team Lead:** Tim Myrick **Inspection Date:** November 24, 2020

**Date Reported:** 10/26/2011  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** 330 - Metal Bridge Railing

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#### **Deficiency Description**

Metal Bridge Rail has 50% paint deterioration and surface rust.  
Majority of Concrete Bridge Post are cracked, spalled with rebar exposed or deteriorated.

#### **Remarks**

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**Date Reported:** 11/05/2013  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Superstructure

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**Deficiency Description**

Bearings are rust covered with section loss.  
Span 1 & 2 Girder 1 Bent 2 pack rust with section loss especially at web.

**Remarks**

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02871 10-01-2015 Span 1 Girder 1 & Span 2  
Girder 1 over Bent 2.



02871 10-01-2015 Span 2 Girder 2 over Bent 3  
Movement under traffic.



**Date Reported:** 10/07/2015  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Deck

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**Deficiency Description**

All Concrete Curbs has some deterioration with section loss.

**Remarks**

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02871 10-01-2015 Span 5 Right gutterline.



02871 10-01-2015 Span 2 Left Curb.

**Date Reported:** 10/07/2015  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** Channel

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**Deficiency Description**

Bent 9 Slope Erosion has up to 1.5' erosion at abutment and up to 2' back under Cap.

**Remarks**

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02871 10-01-2015 Bent 9 right end of abutment erosion.



02871 10-01-2015 Bent 9 left end of abutment erosion.



**Date Reported:** 11/05/2019  
**Priority:** A - Safety deficiency; requires prompt action  
**Type of Work:** Repair  
**Status:** Assigned  
**Component:** Superstructure

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**Deficiency Description**

Span 4 girder 5 has the bottom flange with severe section loss near Diaphragm connection bolts (outside edge under drains).

**Remarks**

to Dist Bridge Crew for repair when schedule allows. KAW 11-15-19

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S4 g5



S4 g5



S4 g5



Bridge #02871 (Routine)  
SH 77-02- LM 6.83 over LITTLE RIVER  
Location: 1.2 MI N JCT OF SH 158

Team Lead: Tim Myrick Inspection Date: November 24, 2020

## Inspection Comments

SNOOPER BRIDGE

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### Deck Notes

Inspected with snooper

Wearing surface has been roto milled off and replaced under job # 100838

Previous deck notes left in report

Metal bridge rail has 50% paint deterioration and surface rust.

Majority of concrete bridge post are cracked, spalled with rebar exposed or deteriorated.

All concrete curbs has some deterioration with section loss.

Span 2 has an 18" diameter spall with broken concrete in deck near center line.

Top of concrete deck has several concrete and asphalt patches.

Concrete deck with asphalt overlay, previous reported deck spalls have been repaired but several are cracked.

Span 2 top of deck near center line has a 2' x 2.5' patch, broken and loose.

Span 3 bay 4 has a 5' x 10' full depth patch.

Span 5 left gutter-line has 28' of deterioration with some section loss and no exposed rebar.

Soffit has heavy cracking with efflorescence, and leakage thru overhangs.

Left and right overhangs have several shelled out areas with exposed rebar.

Span 1 right overhang at bent 2 has a 3' X 1' X 4" deep spall with exposed rebar.

Majority of spans have several spalls with exposed rebar at drain openings and at joints in overhangs allowing water to drain on to bottom flange of outside girder.

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### Superstructure Notes





Team Lead: Tim Myrick Inspection Date: November 24, 2020

Steel girders have 65 % paint deterioration and rust with pitting.  
2' on ends of majority of girders are rusted with up to 1/2" loss of section.  
Exterior girders are rusted with up to 5/8" section loss to web and flanges at drain openings, especially spans 3, 4, & 8.  
Span 1 bent 1 girder 1 anchor bolt nut missing.  
Span 1 bent 1 girder 2 has been repaired.  
Span 1 bent 1 girder 3 has a 7" x 2" hole in web at haunch, and is moving under traffic load.  
Span 1 bent 1 girder 4 has a 7" x 1" hole in web at haunch.  
Span 1 bent 1 girder 5 has a 6" x 3" hole in web at haunch.  
Span 1 bent 2 girder 1 has been repaired.  
Span 1 bent 2 girder 2 has been repaired near bottom flange.  
Span 1 bent 2 girder 3 has a 7" x 1/2" hole in web at haunch.  
Span 1 bent 2 girder 4 has a 7" x 3/4" hole in web at haunch.  
Span 1 bent 2 girder 5 has been repaired.  
Span 2 bent 2 girder 1 has been repaired. Span 2 bent 2 girder 2 has been repaired.  
Span 2 bent 2 girder 3 has a 5" x 1/2" hole in web at haunch.  
Span 2 bent 2 girder 5 has a 3" x 1/2" hole in web at haunch.  
Span 2 bent 3 girder 1 has a 1" diameter hole in web at haunch.  
Span 2 bent 3 girder 2 is moving under traffic with a 1/8" gap on the left end of bearing.  
Span 2 bent 3 girder 4 has a 3 1/2" x 1/2" hole in web at haunch.  
Span 3 bent 3 girder 2 has a 1/2" diameter hole in web at haunch.  
Span 3 bent 3 girder 4 has a 1" diameter hole in web at haunch, and up to 3/16" section loss to bottom flange.  
Span 3 bent 3 girder 5 has a 4" x 2 1/2" hole in web at haunch.  
Span 3 bent 4 girder 3 has a 4" x 1" hole in web at haunch.  
Span 3 bent 4 girder 5 has a 6" x 7" hole in web at haunch.  
Span 4 bent 4 girder 3 has 4" x 1/2" hole in web near bottom flange 3" from end of girder, and a 2" x 1" hole in web at haunch.  
Span 4 bent 4 girder 5 at has a 6" x 3 " hole in web at haunch.  
Span 4 girder 5 has the bottom flange with severe section loss near Diaphragm connection bolts (outside edge under drains).  
Span 4 bent 5 girder 1 has a 1" diameter hole in web at haunch.  
Span 4 bent 5 girder 2 has 4 1/2" x 1" hole in web at haunch.  
Span 4 bent 5 girder 4 has 4" x 1" hole in web at haunch.  
Span 4 bent 5 girder 5 has a 2" x 3" hole in web at haunch.  
Span 5 bent 5 girder 1 has a 2" diameter hole in web at haunch.  
Span 5 bent 5 girder 2 has a 2" diameter hole in web at haunch.  
Span 5 bent 5 girder 3 has a 1" x 2 " hole in web at haunch.  
Span 5 bent 5 girder 4 has a 1" diameter hole in web at haunch.  
Span 5 bent 5 girder 5 has a 1" diameter hole in web at haunch.  
Span 5 bent 6 girder 2 has a 1" x 4 " hole in web at haunch.  
Span 5 bent 6 girder 3 has a 3" x 1" diameter hole in web at haunch.  
Span 5 bent 6 girder 5 has a 10" x 18" area of heavy section loss with a 3" x 4 " hole in web at haunch.  
Span 6 bent 6 girder 3 has a 6" X 1" hole in web at haunch.  
Span 6 bent 7 girder 2 has a 3 1/2" X 1/2" hole in web at haunch.  
Span 6 bent 7 girder 3 has a 1/2" diameter hole in web at haunch.  
Span 6 bent 7 girder 4 has a 4" X 1" hole in web at haunch.  
Span 7 bent 7 girder 1 has a 1" diameter hole in web at haunch.  
Span 7 bent 7 girder 3 has a 1/2" diameter hole in web at haunch.  
Span 7 bent 7 girder 4 has a 2" crack in web, then pin holes in web at haunch.  
Span 7 bent 7 girder 5 has a pin hole in web at haunch.  
Span 7 bent 8 girder 3 has a 5" x 1/2" hole in web at haunch.  
Span 8 bent 8 girder 1 has a 6" x 6" area of heavy section loss with holes.  
Span 8 bent 8 girder 3 has a 2 1/2" x 1/2" hole in web at haunch.  
Span 8 bent 8 girder 5 has a 6" x 2 " hole in web at haunch.  
Span 8 bent 9 girder 1 has a 2" x 1" hole in web at haunch.  
Span 8 bent 9 girder 2 has a 3" x 1" hole in web near concrete haunch.  
Span 8 bent 9 girder 3 has a 6" x 1" hole in web near concrete haunch.  
Span 8 bent 9 girder 4 has a 5" x 1" hole in web near concrete haunch.  
Bearings are rust covered with section loss.



**Bridge #02871 (Routine)**  
**SH 77-02- LM 6.83 over LITTLE RIVER**  
**Location: 1.2 MI N JCT OF SH 158**

**Team Lead:** Tim Myrick **Inspection Date:** November 24, 2020

Concrete caps have moderate width vertical cracks.

Bent 2 concrete cap has a 3' x 2' spall on bottom of cap, right end with heavy deterioration with some section loss to rebar.

Bent 2 cap has a spall over pile 3 with 3' of exposed rebar.

Bent 2 cap 3' of right end has been repaired under bearing 5.

Bent 2 cap has a 1' x 8" x 6" spall on span 2 side under girder 4 with 5% loss of bearing.

Bent 3 cap has some cracking and abrasion.

Bent 4 cap has some cracking and spalling with exposed rebar due to lack of steel coverage.

Bent 5 concrete cap left end near girder 1 bearing has a 2' X 9" X 3 1/2" deep spall with exposed rebar with section loss, and beginning to lose some bearing.

Bent 5 bottom of cap near pile 2 has a delamination near pile 3 & 4, and a 2' spalled area with exposed rebar.

Bent 6 cap has 2' of the right end near girder 5 deteriorated with up to 2" deep section loss to cap with some exposed rebar, minor loss of bearing area under span 6 bearing 5.

Bent 7 cap has some delamination, cracks and some efflorescence.

Bent 8 right end of cap has 3' of deterioration with exposed rebar.

Bent 9 slope erosion has up to 1.5' of erosion at abutment and up to 2' back under cap.

Concrete piling have minor abrasion.

Minor drift on bents 3 & 4.