



Latitude:35.97236, Longitude:-90.94196

Route:91 Section:01 Log:6.92

Arnold Road ID:38x91x1xA, Arnold Log mile:6.788

District 10, Lawrence County

Owner: 1-State Highway Agency

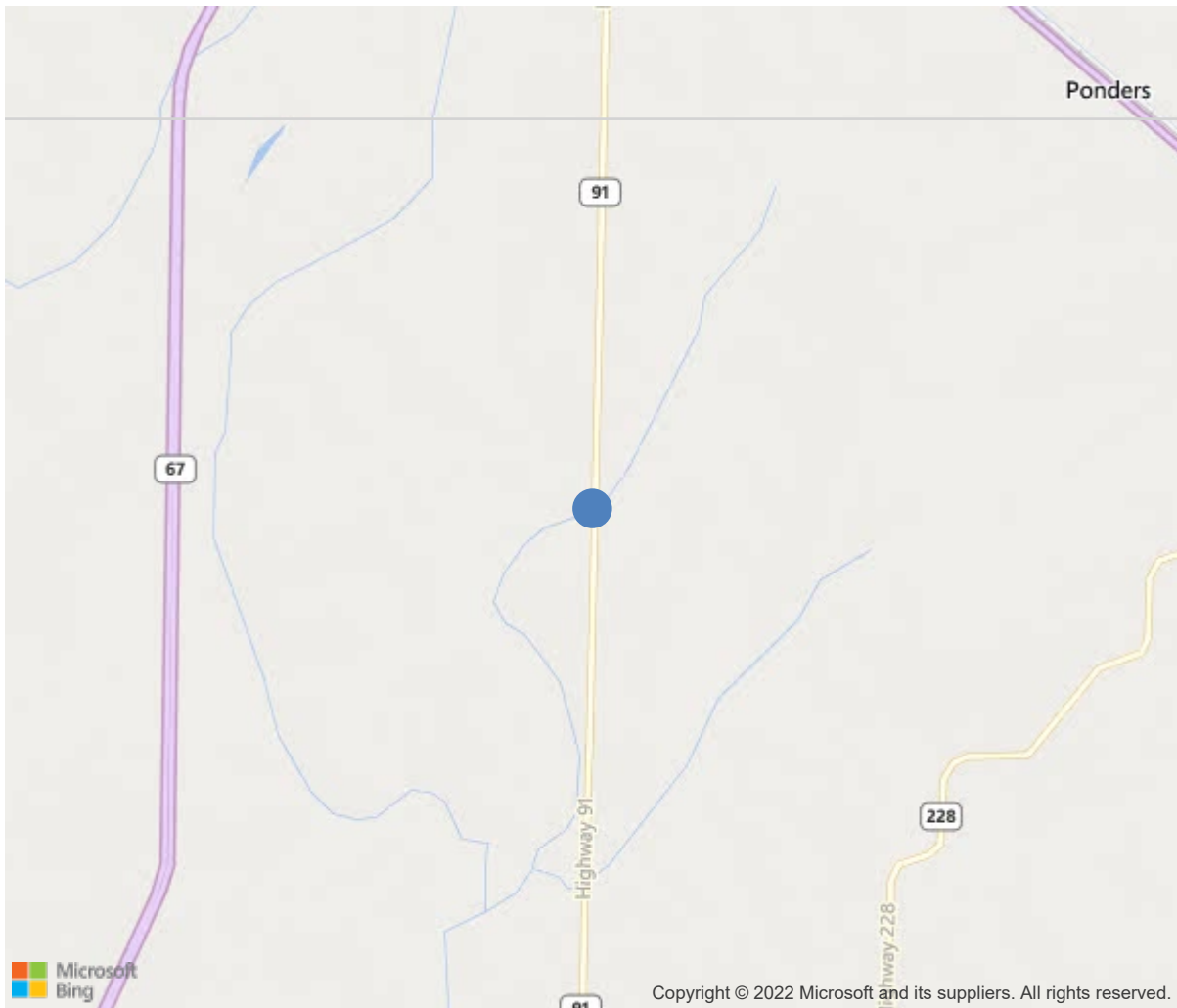


Bridge #M1654(Routine)
SH 91-01- LM 6.92 over LICK POND SLOUGH

Location: 6.5 MI S OF WALNUT RIDGE

Team Lead: Tim Myrick Inspection Date: June 16, 2021

6.5 MI S OF WALNUT RIDGE



35.97236, -90.94196



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IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	M1654
(5) Inventory Route	91
(2) Highway Agency District	10
(3) County Code	75-Lawrence County, Arkansas
(4) Place Code	0
(6) Features Intersected	LICK POND SLOUGH
(7) Facility Carried	SH 91-01- LM 6.92
(9) Location	6.5 MI S OF WALNUT RIDGE
(11) Mile Point	6.92 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.97236
(17) Longitude	-90.94196
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	72
Material	7-Wood or timber
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	4
(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	1931
(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	540
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	7 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	15 ft
(49) Structure Length	58 ft
(50) Curb or Sidewalk Width	
Left	0.5 ft
Right	0.5 ft
(51) Bridge Roadway Width Curb to Curb	21.2 ft
(52) Deck Width Out to Out	22.2 ft
(32) Approach Roadway Width (W/Shoulders)	25.9 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	22.3 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	4
(59) Superstructure	4
(60) Substructure	4
(61) Channel & Channel Protection	6
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	0-Other or Unknown
(63) Operating Rating Method	2
(64) Operating Rating	
Type	2-Allowable Stress(AS)
Rating	13
(65) Inventory Rating Method	2-Allowable Stress(AS)
(66) Inventory Rating	
Type	4
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	2
(68) Deck Geometry	3
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	7
(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	83 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 109
(96) Total Project Cost	\$ 255
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	812
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	06/2021		
(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.			



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ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	1289	947	68	254	20
1080	Delamination/Spall/Patched Area	SF	342	0	68	254	20
510	Wearing Surfaces	SF	1288	0	0	1270	18
3220	Crack (Wearing Surface)	SF	1270	0	0	1270	0
3210	Delam/Spall/Patched Area/Pothole	SF	18	0	0	0	18
111	Timber Open Girder/Beam	LF	754	0	708	15	31
1140	Decay/Section Loss	LF	136	0	120	0	16
1150	Check/Shake	LF	603	0	588	15	0
1160	Crack (Timber)	LF	15	0	0	0	15
216	Timber Abutment	LF	54	0	52	0	2
1140	Decay/Section Loss	LF	54	0	52	0	2
228	Timber Pile	EA	17	3	9	2	3
1140	Decay/Section Loss	EA	5	0	0	2	3
1150	Check/Shake	EA	9	0	9	0	0
235	Timber Pier Cap	LF	111	3	67	33	8
1140	Decay/Section Loss	LF	19	0	0	11	8
1150	Check/Shake	LF	89	0	67	22	0
330	Metal Bridge Railing	LF	116	0	100	16	0
1000	Corrosion	LF	100	0	100	0	0
7000	Damage	LF	16	0	0	16	0
515	Steel Protective Coating	SF	394	0	0	394	0
3440	Effectiveness (Steel Protective Coatings)	SF	394	0	0	394	0



N to S





beginning end



ending end



S2 b3 g5



S1 b2 g1



B2 right side

Maintenance Needs

Date Reported: 07/12/2011
Priority: B - Pressing; 6 month completion goal
Type of Work: None
Status: Assigned
Component:

Deficiency Description

Ends of several caps are decayed and partially hollow under exterior girders.
Bent 5 Cap is decayed & hollow 1 ft. on ends. Left end with some crushing under Girder 1, see 2017, 2019 , 2020 & 2021 photos.

Remarks

to Dist Bridge Crew for repair when time allows KAW 8/8/18
Bridge Crew working on higher priority items KAW 6/24/2020



Bent 5 cap left end 2019



Span 1 girder 1 over bent 2 & left end bent 2
cap 2019



Bent 2 cap left



Bent 2 cap right



Bent 5 left



B5 cap left



B5 cap right

Date Reported: 07/12/2011
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Deck

Deficiency Description

Concrete Deck over timber planks.

Soffit has several spalls along joint at center line. Timber deck has several areas of advanced decay near center line and along edges of deck. Ends of majority of planks are rotted with complete section loss over outside girders.

Remarks



Span 3 timber planks near centerline 2019



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Deck repair at bent 5 2019



Ends of timber deck planks 2019



Ends of timber deck planks



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Location: 6.5 MI S OF WALNUT RIDGE

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Date Reported: 07/02/2014

Priority: D- Routine

Type of Work: Repair

Status: Monitor

Component: Deck

Deficiency Description

Curbs have delaminated areas and spalls with rebar exposed. 9' of Rt curb near Bent 5 is broken and separated from deck, 2 ft. is missing. 3 ft. of left curb at bent 5 is missing.

Remarks



Date Reported: 06/30/2015
Priority: A - Safety deficiency; requires prompt action
Type of Work: Repair
Status: Assigned
Component: Superstructure

Deficiency Description

Span 1 girder 13 is decayed and hollow; most of girder has a ½" – 1" shell.
Span 1 bent 2 girder 1 has 2' on end decayed and hollow. Girder is beginning to crush over cap.
Span 2 girder 10 is cracked at mid span at knot.
Bent 3 cap has open checks and left end is beginning to crush.

Remarks

to Dist Bridge crew for repair when time permits. KAW 8/8/18

9/6/18 - Reviewed by MAH, Asked Rating to review.

10/8/18 - Reviewed by Michael Hill

11/5/18 - Reviewed by Michael Hill

12/3/18 - Reviewed by Michael Hill

12/11/18 - Recent load rating reduced the recommended postings due to continued deterioration in all the timber members. David Ball

1/2/19 - Reviewed by Michael Hill - Rating reduced posting to account for deterioration so moved to "A".



Span 1 girder 1 over bent 2 & left end bent 2
cap 2019



Span 1 girder 13 bent 2 2019



Span 1 girder 13 and bent 2 cap 2020



Span 1 bent 2 girder 1 and bent 2 cap 2020



S1 g13



S2 g10 mid span

Date Reported: 07/26/2018
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Substructure

Deficiency Description

*Bent 2 pile 2 is decayed and partially hollow.
*Bent 3 pile 1 has been repaired with splice.
Bent 3 pile 4 is decayed and partially hollow.
Bent 4 pile 1 is decayed & partially hollow.

Remarks

*Bent 2 piles 2, 3 & 4 has been repaired with splice, see 2019 photo.
*Bent 3 pile 1 has been repaired with splice, see 2019 photo.



B3 p4



B4 p1

Date Reported: 06/19/2019
Priority: B - Pressing; 6 month completion goal
Type of Work: None
Status: Assigned
Component:

Deficiency Description

Bent 4 pile 3 is decayed and hollow, see 2021 photo.

Remarks

to Dist Bridge Crew for review and repair when schedule allows KAW 6/25/19
Bridge crew working on higher priorities KAW 6/24/2020



Bent 4 pile 3 2019



Bent 4 pile 3 2020



B4 p3

Date Reported: 06/19/2019
Priority: A - Safety deficiency; requires prompt action
Type of Work: None
Status: Assigned
Component:

Deficiency Description

Bent 2 cap has 1ft. on ends that is decayed and hollow, right end has some crushing under girder 13.
Bent 4 cap has 2' on left end that is decayed, hollow and crushing under girder 1. See 2020 photo.

Remarks

1/15/20 - Reviewed by Michael Hill
7-3-19 Reviewed by Michael Hill
8/2/19 - Reviewed by Michael Hill
9/3/19 - Reviewed by Michael Hill - Asked Rating if another rating is required. They said rating was sufficient.
10/1/19 - Reviewed by Michael Hill
11/4/19 - Reviewed by Michael Hill
12/6/19 - Reviewed by Michael Hill
12/18/2019 The Deficiencies are accounted for in the current rating. dlv
2/10/20 Reviewed by Michael Hill
4/13/2020 Reviewed by Stewart Linz
5/29/2020 Reviewed by Andy Nanneman - Moved to Priority A as this specific deficiency is accounted for by rating.



Left end bent 4 cap 2019



Bent 4 left end 2020



B4 cap



B3 cap



B2 cap

Date Reported: 06/21/2019
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 330 - Metal Bridge Railing

Deficiency Description

Several timber posts are decayed and split .A few are broken (6 total). See 2019 photo.

Remarks



Left timber guardrail post 2019

Date Reported: 06/23/2020
Priority: B - Pressing; 6 month completion goal
Type of Work: Repair
Status: Assigned
Component: Substructure

Deficiency Description

Bent 3 pile 3 is decayed & hollow with 1in. of outside decay near groundline, see 2021 photo.

Remarks

to Bridge Crew for repair as priorities allow KAW 6/24/2020



Bent 3 pile 3



B3 p3

Date Reported: 06/23/2020
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Deck

Deficiency Description

Deck has several patched areas near end bents. Span 1 near bent 1 has a 13ft. x 2ft. full depth patch & a 4 ft. long x 20 ft. wide full depth concrete patch over bent 5 with moderate width cracks. Span 4 right lane near bent 5 has a 3 ft. x 6 ft. asphalt patch with exposed reinforcement, see 2019 & 2020 photo.

Remarks



Bent 5



Bent 5 right side

Date Reported: 06/21/2021
Priority: C - Important
Type of Work: Clean
Status: Open
Component: Superstructure

Deficiency Description

Superstructure is infested with termites.

Remarks

District bridge crew sprayed the super 6/17/2021 with termite spray. CCP



S2 g7



Deck Notes

Metal rails have surface rust with areas of impact damage and 30% paint deterioration.
Several timber posts are decayed and split. A few (6 total) are broken.
Curbs have delaminated areas and spalls with exposed rebar.
9' of right curb near Bent 5 is broken and separated from deck, 2' is missing. 3' of left curb over bent 5 is missing.
Asphalt wearing surface has transverse and longitudinal cracks on 1' – 2' spacing.
Deck has several patched areas near end bents.
Span 1 near bent 1 has a 13' x 2' full depth patch & a 4' long x 20' wide full depth concrete patch over bent 5 with moderate width cracks.
Span 4 right lane near bent 5 has a 3' x 6' asphalt patch with exposed reinforcement.
Visible portion of concrete soffit has several spalls along joint at center line.
Timber planks supporting concrete have several areas of advanced decay with section loss near center line and along edges of deck.
Ends of majority of planks are rotted with complete section loss over outside girders.

Superstructure Notes

Span 1 girder 13 is decayed and hollow; most of girder has a ½" – 1" shell.
Span 1 bent 2 girder 1 has 2' on end decayed and hollow, girder is crushing over cap.
Span 2 girder 5 has several checks up to 1.5" deep especially bottom of girder.
Span 2 girder 7 has open check.
Span 2 girder 10 is cracked at mid span at knot.

Substructure Notes

Bent 1 is not visible for inspection.
Ends of several caps are decayed and partially hollow under exterior girders.
Bent 2 cap has 1' on ends that is decayed and hollow, right end has some crushing under girder 13.
Bent 3 cap has open checks and left end is beginning to crush.
Bent 4 cap has 2' on left end that is decayed, hollow and crushing under girder 1.
Bent 5 cap is decayed and hollow for 1' on ends. Left end has crushed under girder 1.
Bent 2 pile 1 has been spliced in the past.
Bent 2 piles 2, 3 & 4 has been repaired with splice.
Bent 3 pile 1 has been repaired with splice.
Bent 3 pile 2 has been spliced in the past.
Bent 3 pile 3 is decayed & hollow with 1" of outside decay near ground line.
Bent 3 pile 4 has is partially hollow.
Bent 4 pile 1 is decayed & partially hollow.
Bent 4 pile 2 has been spliced in the past.
Bent 4 pile 3 is decayed and hollow.
Heavy vegetation in channel.
Moderate drift at bent 3.