



Latitude:36.47661, Longitude:-94.25417

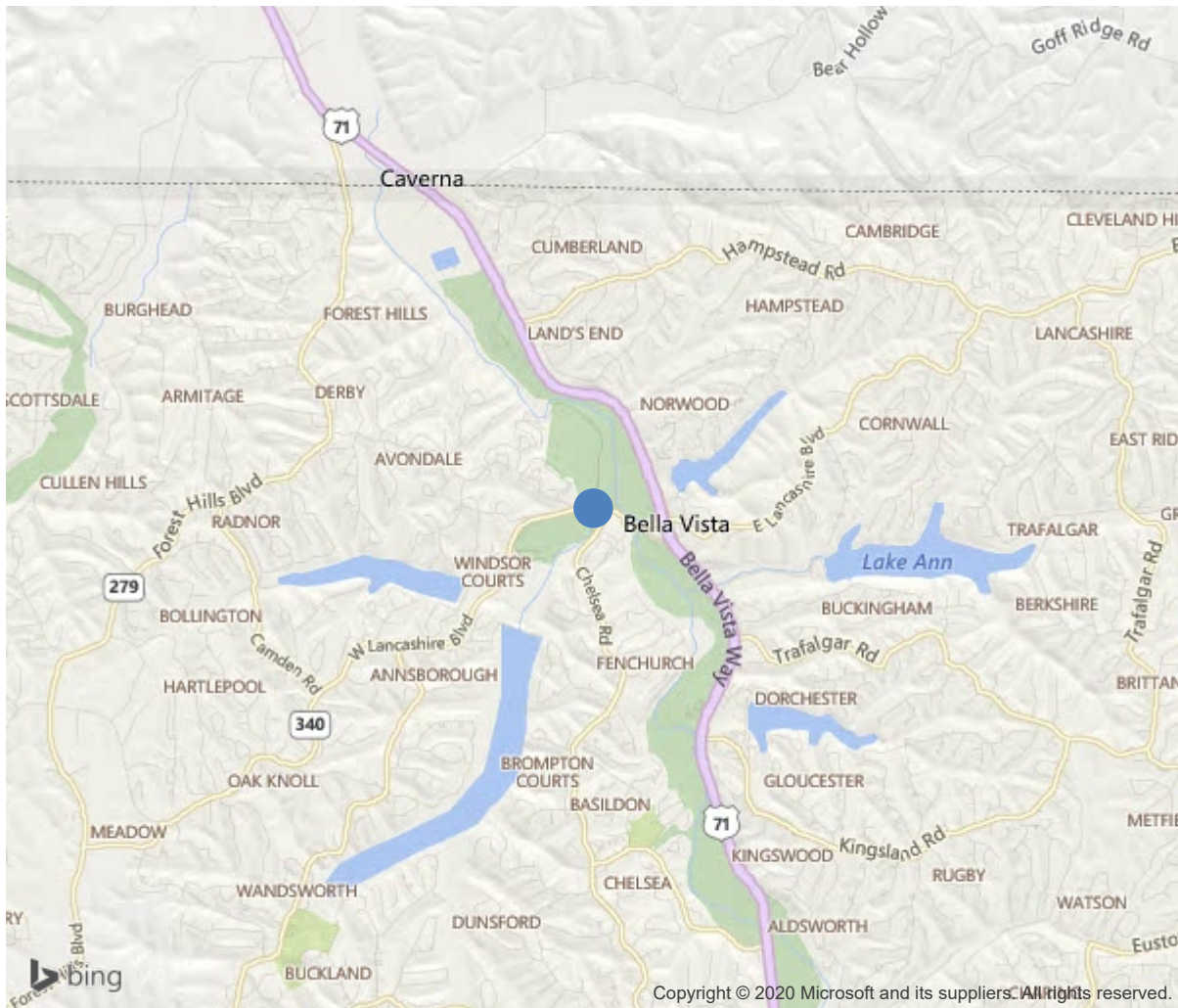
Route:340 Section:01 Log:3.89

Arnold Road ID:4x340x1xA, Arnold Log mile:3.917

District 09, Benton County

Owner: 1-State Highway Agency

.4 MI SW JCT SH 340-US 71



36.47661, -94.25417



**Bridge #M3230(Routine, Underwater type 2)**

**SH 340 Benton 2 over TANYARD CREEK**

**Location: .4 MI SW JCT SH 340-US 71**

**Team Lead: Benjamin Smith Inspection Date: August 21, 2019**

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	M3230
(5) Inventory Route	340
(2) Highway Agency District	09
(3) County Code	7-Benton County, Arkansas
(4) Place Code	0
(6) Features Intersected	TANYARD CREEK
(7) Facility Carried	SH 340 Benton 2
(9) Location	.4 MI SW JCT SH 340-US 71
(11) Mile Point	3.89 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	36.47661
(17) Longitude	-94.25417
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	122
Material	1-Concrete
Type	22-Channel beam
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	1
(46) No. of Approach Spans	0
(107) Deck Structure Type	2-Concrete Precast Panels
(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	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	7835
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	3 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	28 ft
(49) Structure Length	31 ft
(50) Curb or Sidewalk Width	
Left	0.8 ft
Right	0.8 ft
(51) Bridge Roadway Width Curb to Curb	24.3 ft
(52) Deck Width Out to Out	26.3 ft
(32) Approach Roadway Width (W/Shoulders)	25 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	25.6 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		16-Urban Minor Arterial	
(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			7
(59) Superstructure			7
(60) Substructure			5
(61) Channel & Channel Protection			7
(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			46
(65) Inventory Rating Method		1-Load Factor(LF)	
(66) Inventory Rating			
Type			1
Rating			28
(70) Bridge Posting		5-Equal to or above legal loads	
(41) Structure Open/Posted/Closed		A-Open, no restriction	
APPRAISAL			
(67) Structural Evaluation			5
(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		7-Countermeasures have been installed	
PROPOSED IMPROVEMENTS			
(75) Type of Work		Replacement of bridge or other	
(76) Length of Structure Improvement		54 ft	
(94) Bridge Improvement Cost		\$ 0	
(95) Roadway Improvement Cost		\$ 125	
(96) Total Project Cost		\$ 248	
(97) Year of Improvement Cost Estimate		2002	
(114) Future ADT		18334	
(115) Year of Future ADT		2028	
INSPECTIONS			
(90) Inspection Date			201908
(91) Frequency			24 Months
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No	24	
B: Underwater Inspection	No	0	
C: Other Special Inspection	No	0	

SUFFICIENCY RATING	56.3
STATUS (SD/FO/None)	Functionally Obsolete



ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
16	Reinforced Concrete Top Flange	SF	815	815	0	0	0
510	Wearing Surfaces	SF	744	672	72	0	0
3220	Crack (Wearing Surface)	SF	72	0	72	0	0
(16)							
8/21/19: Driving surface- The channel beams have a 3" ACHM wearing surface with longitudinal cracking in both lanes at this inspection.							
-The West approach roadway has minor settlement at the bridge end that has been repaired.							
Undersurface- No deficiencies noted.							
110	Reinforced Concrete Open Girder/Beam	LF	217	201	12	4	0
1080	Delamination/Spall/Patched Area	LF	12	0	12	0	0
1090	Exposed Rebar	LF	4	0	0	4	0
(110)							
8/21/19: Channel units are grouted and transversely tie-bolted together. 7 RCCB unit system with curb units added on each side.							
-Unit #1 undersurface of left stem has several small areas of spalling with steel exposed in random locations.							
Unit # 3- the diaphragm has a small area of delamination.							
-The stems of channel units have areas of shallow insignificant spalling with no exposed reinforcing steel in several locations.							
202	Steel Column	EA	10	0	8	2	0
1000	Corrosion	EA	10	0	8	2	0
(202)							
8/21/19:							
-The steel columns have no paint system with a rust coating.							
-Steel column #5 at abutment #2 and column #5 at abutment #1 have corrosion with pitting and flaking rust at the base of column.							
The steel columns have varying degrees of corrosion for 1' at the bottom of all locations.							
218	Other Abutment	LF	60	38	18	4	0
1010	Cracking	LF	7	0	7	0	0
1120	Efflorescence/Rust Staining	LF	15	0	11	4	0
(218)							
08/21/19: The abutment is constructed with concrete cinder blocks and steel I-beam piles. The wing walls are not integral.							
-Abutment #1- The left side of abutment #1 and the Northwest wingwall has numerous diagonal cracks with efflorescence. The wing wall appears to be bulging at steel pile #2.							
Abutment #2- the right side of the vertical face has a crack that extends down from the corner of the pier cap, cinder block splitting was noted at this location. The steel piles have varying degrees of corrosion for 1' at the bottom of all 13 locations.							
220	Reinforced Concrete Pile Cap/Footing	LF	65	58	7	0	0
1120	Efflorescence/Rust Staining	LF	1	0	1	0	0
1130	Cracking (RC and Other)	LF	6	0	6	0	0
(220)							





Typical view of the undersurface.



Repaired road way settlement at abutment #1





General view of abutment #1.



Upstream channel view.





Elevation view. Log mile from left to right.



Spalling and delamination at the right end of pier cap #2.





General view of abutment #2.



Typical view of driving surface.





Downstream channel view.



Post #5 along the left side of the structure is damaged.





Vertical cracking with efflorescence on the left side of abutment #1.



Torn end treatments at the abutment #1 end of the approach railing.



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**SH 340 Benton 2 over TANYARD CREEK**

**Location: .4 MI SW JCT SH 340-US 71**

**Team Lead:** Benjamin Smith **Inspection Date:** August 21, 2019

## **Maintenance Needs**





**Bridge #M3230**(Routine, Underwater type 2)

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**Team Lead:** Benjamin Smith **Inspection Date:** August 21, 2019

### **Inspection Comments**

Structure is logged West to East and is accessible with a small extension ladder.No bat activity was noted.

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### **Deck Notes**

OLD NOTES-8/30/2017 RSM & WNR: Routine and Underwater Type 2 inspections conducted this date. NBIS Condition Rating for item 61 increased from 4 to 7 due to observed conditions of the channel during inspection.Logged West to East.TAD/BDS 8/17/15 Routine, underwater type2, and special recurring inspections. Structure has visible rust with no pitting on all steel piles. All channel beam units are bolted and grouted. Abutment #1 left wing wall is rotating away from structure and is out of plumb. (possibly constructed this way, will continue to monitor). Structure has (1 1/2") approach roadway settlement at left side and has not changed from last inspection.(see attached photos). Abutment #1 concrete scour countermeasure is still holding at time of inspection with no evidence of scour. Removed special inspection 8/17/15 changed underwater type 2 inspection frequency from 6 mos to 24 mos. Changed item # 60 from a 3 to a 5.Sufficiency Rating Calculation Accepted by tehe576 at 2015-02-20 08:18:48 See channel soundings & bridge pictures dared 2/13/2015 showing maintenance forces has placed large mass concrete around piles in Abutment # 1 as scour countermeasure. Special & underwater inspection this date 9/11/2014, see channel soundings, deficiency sketch & deficiency pictures, structure is in serious condition- rotation is continuing in piles #4, #5 & #6.See picture showing settlement in approach driving surface behind Abutment #1. Sufficiency Rating Calculation Accepted by dlve523 at 2014-04-25 09:43:49 Special & underwater inspection 4/07/2014, deficiency sketch( more rotation noted in #5 of piling @ Abutment #1),see channel soundings, inventory & deficiency pictures. Removed field postings, not required, per 12/7/12 monthly report. DRB, 12/18/12

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