



Latitude:34.48670, Longitude:-90.61009

Route:20 Section:01 Log:22.44

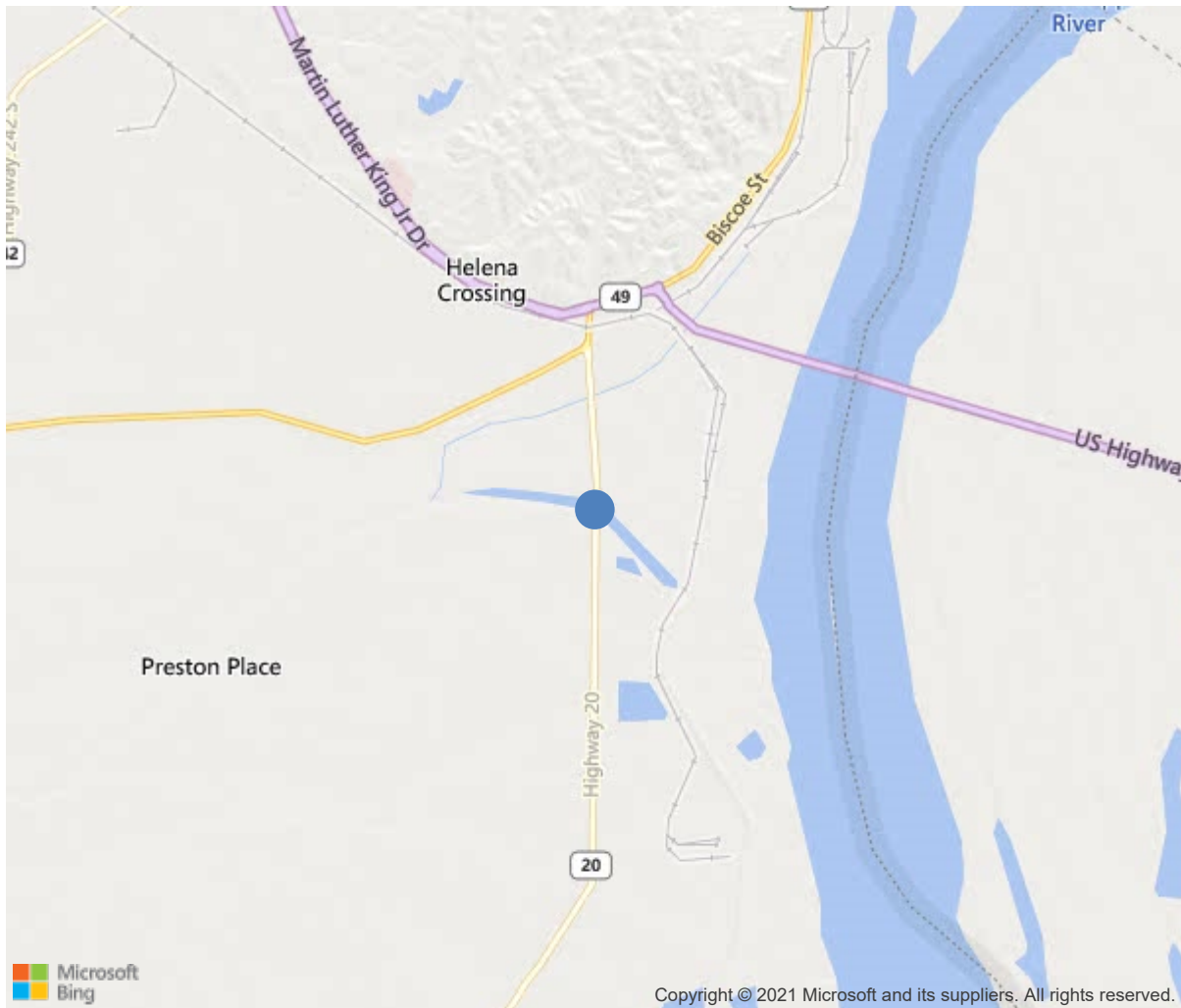
Arnold Road ID:54x20x1xA, Arnold Log mile:22.436

District 01, Phillips County

Owner: 1-State Highway Agency

Place Code: 31190 - Helena-West Helena

0.3 MI S JCT 49 & 20



34.48670, -90.61009



Bridge #05001(Routine)

Sh-20/Sec-1/L22.44 over Long Lake

Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton Inspection Date: May 05, 2021

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	05001
(5) Inventory Route	20
(2) Highway Agency District	01
(3) County Code	107-Phillips County, Arkansas
(4) Place Code	31190
(6) Features Intersected	Long Lake
(7) Facility Carried	Sh-20/Sec-1/L22.44
(9) Location	0.3 MI S JCT 49 & 20
(11) Mile Point	22.44 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	34.4867
(17) Longitude	-90.61009
(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	5
(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	1966
(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	1000
(30) Year of ADT	2019
(109) Truck ADT	40 %
(19) Bypass, Detour Length	1 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	43 ft
(49) Structure Length	217.1 ft
(50) Curb or Sidewalk Width	
Left	1.5 ft
Right	1.5 ft
(51) Bridge Roadway Width Curb to Curb	28 ft
(52) Deck Width Out to Out	31 ft
(32) Approach Roadway Width (W/Shoulders)	26 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	28 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 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	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	4
(60) Substructure	6
(61) Channel & Channel Protection	7
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	5-MS 18 / HS 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	60
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	5
Rating	36
(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	5
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1-Inspected feature meets currently a
(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	
(76) Length of Structure Improvement	0 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 0
(97) Year of Improvement Cost Estimate	
(114) Future ADT	932
(115) Year of Future ADT	2027

INSPECTIONS *			
(90) Inspection Date	05/2021		
(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.			

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	6450	0	6322	128	0
1080	Delamination/Spall/Patched Area	SF	3	0	0	3	0
1090	Exposed Rebar	SF	125	0	0	125	0
1130	Cracking (RC and Other)	SF	1613	0	1613	0	0
1190	Abrasion/Wear (PSC/RC)	SF	4709	0	4709	0	0
(12)							
Deck surface has numerous open transverse cracks each span spaced four feet apart. Deck surface asphalt is raveled at joints beginning and ending of bridge. Deck surface has light abrasion full length. Span #1 deck, left lane, at centerline. at bent 2 has 1 1/2' x 2 1/2' x 1 1/2" deep spall with a asphalt patch that is failing. Soffit-under surface over hangs have several areas of small amounts of exposed rebar with minor to moderate section loss. Span #2 right side soffit-under surface overhang at deck drains spalled with exposed rebar with 10% section loss two feet each Span #5 left side soffit-under surface overhang at deck drain spalled with exposed rebar with 10% section loss one foot of exposed rebar							
107	Steel Open Girder/Beam	LF	1075	810	205	50	10
1000	Corrosion	LF	265	0	205	50	10
515	Steel Protective Coating	SF	6547	0	0	5239	1308
3440	Effectiveness (Steel Protective Coatings)	SF	6547	0	0	5239	1308
(107)							
05/01/2017 Girder ends have had some cleaning and painting since last inspection. Girders have surface rust full length and ends of girders are corroded with up to 50% section loss unless other wise noted. Girder have 20% bare steel with rest of paint chalky and little effectiveness. All outside girder webs are bowing outward at top due to pack rust between girder and concrete haunch. Bent #2 span#2 girder #1 first three feet of girder web has up to 75% section loss. Bent #2 span #2 girder #3 has area around diaphragm condition with a three inch hole above and below diaphragm. Span #2 bent #3 girder #3 has large section loss around diaphragm with a one inch hole in web. Span #2 bent #3 girder #5 web at top on end has a three inch area on outside that is rusted off. Span #3 bent #4 girder #3 has one inch hole in web at haunch and up to 75% section in web around diaphragm connection. Span #3 bent #4 girder #5 web at diaphragm connection has up to 80% section loss. Span #4 bent #5 girder #3 web around diaphragm connection and lower flange first foot has section loss up to 75%. Span #4 bent #5 girder #4 web at diaphragm connection has large section loss with a three inch hole and a pin hole.							
215	Reinforced Concrete Abutment	LF	77	0	31	46	0
1130	Cracking (RC and Other)	LF	7	0	0	7	0
6000	Scour	LF	70	0	31	39	0
(215)							
Abutment #1 cap left end has a 2' long crack 3" down from top of cap and 1' of exposed rebar under girder #2 with no section loss. Abutment #1 cap has a 3' longitudinal crack above pile #1 near top of cap and a 2' longitudinal crack above pile 2, near top of cap. Abutment #1 undermined 2' under cap exposing piles. 05/01/2017 Some sand bags have been placed since last inspection. Abutment #2 left side pile #1,2,3 4 exposed and cap is undermined 2' on left first 12'. Abutment #2 left wing footing is exposed full length.							



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Sh-20/Sec-1/L22.44 over Long Lake

Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton, Inspection Date: May 05, 2021

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
227	Reinforced Concrete Pile	EA	32	30	2	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
1130	Cracking (RC and Other)	EA	1	0	1	0	0
(227)	Bent #2 pile #3 ahead face has 1' vertical crack at top down. Bent #5 pile #1 on right side at top has a one foot construction defect.						
234	Reinforced Concrete Pier Cap	LF	112	101	6	5	0
1080	Delamination/Spall/Patched Area	LF	1	0	0	1	0
1090	Exposed Rebar	LF	8	0	4	4	0
1130	Cracking (RC and Other)	LF	2	0	2	0	0
(234)	Bent #2 cap has 2 small pop outs on ahead face left end above pile #1 with exposed rebar no section loss. Bent #2 back face above pile #3 at bottom has 1' honey comb and 2' of delamination and cracking. Bent #3 ahead face right top corner is cracked. Bent #3 cap back face under girder #2 has vertical crack one foot long. Bent #4 cap has four 1' spalls on ahead face with exposed rebar with 5% section loss. Bent #5 cap ahead face has 2' of delaminations and four 1' spalls with exposed rebar with no section loss.						
301	Pourable Joint Seal	LF	21	21	0	0	0
(301)	Ends of joints have been removed and replaced with pourable joint seals.						
305	Assembly Joint without Seal	LF	147	0	137	0	10
2370	Metal Deterioration or Damage	LF	147	0	137	0	10
(305)	Ends of joints have been removed and replaced with pourable joint seals. Slider plate at bent # 5 right lane has been removed. There is no paint on joints and in between spans there is corrosion with laminations with up to 20% section loss. Abutment #2 right lane joint top plate is cracked, broken and noisy for five feet.						
311	Movable Bearing	EA	25	0	0	25	0
1000	Corrosion	EA	22	0	0	22	0
1020	Connection	EA	3	0	0	3	0
515	Steel Protective Coating	SF	50	0	0	0	50
3440	Effectiveness (Steel Protective Coatings)	SF	50	0	0	0	50
(311)	Bearings have corrosion with laminations with up 10% section loss. Bearings at bent #3 span #2 girders #3,5 right side has missing nuts. Bent #2 span #1, bent #3 span #2, bent #4 Span #3,4, and bent #5 span #5 are your movable bearings.						
313	Fixed Bearing	EA	25	0	0	25	0

Team Lead: Drew Melton, **Inspection Date:** May 05, 2021

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Bridge #05001 (Routine)

Sh-20/Sec-1/L22.44 over Long Lake

Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton **Inspection Date:** May 05, 2021

Maintenance Needs

Date Reported: 05/31/2011
Priority: D- Routine
Type of Work: Replace
Status: Monitor
Component: 330 - Metal Bridge Railing

Deficiency Description

Span #4 right rail post #2,4 connection bottom rail nuts are missing.
Span #5 right side post #5 top rail bolt missing.
Span # 5 left side post #3,5 top rail bolts missing.

Remarks



Typical rail nut missing

Date Reported: 05/31/2011
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 12 - Reinforced Concrete Deck

Deficiency Description

Deck surface has numerous open transverse cracks each span spaced four feet apart.

Remarks



Typical deck crack.

Date Reported: 05/28/2013
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 311 - Movable Bearing

Deficiency Description

Bearings at bent #3 span #2 girders #3,5 right side has missing nuts.
Bent #5 span #4 girder #1,2,4 right anchor nuts missing.
Bent #5 span #5 girder #5 right anchor nut missing.
Bent #5 span #4 girder #5 left anchor nut missing.
Abutment #2 girder #4 both anchor bolts missing.

Remarks



Bent #3 span #2 girder #5 anchor nut missing
typical of other locations.

Date Reported: 05/21/2015
Priority: C - Important
Type of Work: Clean
Status: Monitor
Component: 107 - Steel Open Girder/Beam

Deficiency Description

Girders have surface rust full length and ends of girders are corroded with up to 50% section loss unless other wise noted. Girder have 20% bare steel with rest of paint chalky and little effectiveness.

Remarks

2017 Girder ends have had some cleaning and painting since last inspection.



Typical girder ends that have been painted



Typical paint condition



Bridge #05001(Routine)
Sh-20/Sec-1/L22.44 over Long Lake
Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton **Inspection Date:** May 05, 2021

Date Reported: 05/01/2017
Priority: C - Important
Type of Work: Replace
Status: Assigned
Component: 330 - Metal Bridge Railing

Deficiency Description

Span #1 right side first segment of top rail is missing.

Remarks



Span #1 right rail missing

Date Reported: 05/08/2019
Priority: D- Routine
Type of Work: Clean
Status: Monitor
Component: Bridge

Deficiency Description

Gutters have dirt and debris in them.
Approach gutters, both abutments, have dirt, debris and vegetation growing in them.

Remarks



Abutment #1 approach gutters



Typical gutters



Bridge #05001 (Routine)
Sh-20/Sec-1/L22.44 over Long Lake

Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton **Inspection Date:** May 05, 2021



Abutment #2 approach gutters

Date Reported: 05/08/2019
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 12 - Reinforced Concrete Deck

Deficiency Description

Span #1 deck, left lane, at centerline. at bent 2 has 1 1/2' x 2 1/2' x 1 1/2" deep spall with a asphalt patch that is failing.

Remarks



Span #1 deck, left lane, at centerline. at bent 2 has 1 1/2' x 2 1/2' x 1 1/2" deep spall with a asphalt patch that is failing.

Date Reported: 05/08/2019
Priority: C - Important
Type of Work: Clean
Status: Monitor
Component: Channel

Deficiency Description

Small tree growing under bridge at abutment 2 right side.

Remarks



Tree growing under bridge at abutment 2 right side.

Date Reported: 05/21/2015
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 215 - Reinforced Concrete Abutment

Deficiency Description

Abutment #1 undermined 2' under cap exposing piles.
Abutment #2 left side pile #1,2,3 4 exposed and cap is undermined 2' on left first 12'.
Abutment #2 left wing footing is exposed full length.

Remarks

2017 Some sand bags have been placed since last inspection abutment #1 only.



Abutment #2 left wing footing is exposed full length.



Abutment #2



Abutment #1



Bridge #05001 (Routine)
Sh-20/Sec-1/L22.44 over Long Lake
Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton **Inspection Date:** May 05, 2021

Date Reported: 05/05/2021
Priority: C - Important
Type of Work: Repair
Status: Open
Component: 305 - Assembly Joint without Seal

Deficiency Description

Abutment #2 right lane joint top plate is cracked, broken and noisy for five feet.

Remarks

Date Reported: 05/05/2021
Priority: C - Important
Type of Work: Repair
Status: Open
Component: 107 - Steel Open Girder/Beam

Deficiency Description

All outside girder webs are bowing outward at top due to pack rust between girder and concrete haunch.

Remarks



All outside girder webs are bowing outward at top due to pack rust between girder and concrete haunch.

Date Reported: 05/05/2021
Priority: B - Pressing; 6 month completion goal
Type of Work: Repair
Status: Open
Component: 107 - Steel Open Girder/Beam

Deficiency Description

Bent #2 span #2 girder #3 has area around diaphragm condition with a three inch hole above and below diaphragm.
Span #2 bent #3 girder #3 has large section loss around diaphragm with a one inch hole in web.
Span #4 bent #5 girder #4 web at diaphragm connection has large section loss with a three inch hole and a pin hole.

Remarks



Span #4 bent #5 girder #4 web at diaphragm connection has large section loss with a three inch hole and a pin hole.



Span #2 bent #3 girder #3 has large section loss around diaphragm with a one inch hole in web.



Bent #2 span #2 girder #3 has area around diaphragm condition with a three inch hole above and below diaphragm.

Date Reported: 05/05/2021
Priority: C - Important
Type of Work: Repair
Status: Open
Component: 107 - Steel Open Girder/Beam

Deficiency Description

Bent #2 span#2 girder #1 first three feet of girder web has up to 75% section loss.
Span #2 bent #3 girder #5 web at top on end has a three inch area on outside that is rusted off.
Span #3 bent #4 girder #3 has one inch hole in web at haunch and up to 75% section in web around diaphragm connection.
Span #3 bent #4 girder #5 web at diaphragm connection has up to 80% section loss.
Span #4 bent #5 girder #3 web around diaphragm connection and lower flange first foot has section loss up to 75%.

Remarks



Span #4 bent #5 girder #3 web around diaphragm connection and lower flange first foot has section loss up to 75%.



Span #3 bent #4 girder #3 has one inch hole in web at haunch and up to 75% section in web around diaphragm connection.



Span #3 bent #4 girder #5 web at diaphragm connection has up to 80% section loss.



Span #2 bent #3 girder #5 web at top on end has a three inch area on outside that is rusted off.



Bent #2 span#2 girder #1 first three feet of girder web has up to 75% section loss.

Date Reported: 05/05/2021
Priority: D- Routine
Type of Work: Repair
Status: Open
Component: 234 - Reinforced Concrete Pier Cap

Deficiency Description

Bent #2 cap has 2 small pop outs on ahead face left end above pile #1 with exposed rebar no section loss.
Bent #2 back face above pile #3 at bottom has 1' honey comb and 2' of delamination and cracking.
Bent #3 ahead face right top corner is cracked.
Bent #3 cap back face under girder #2 has vertical crack one foot long.
Bent #4 cap has four 1' spalls on ahead face with exposed rebar with 5% section loss.
Bent #5 cap ahead face has 2' of delaminations and four 1' spalls with exposed rebar with no section loss.

Remarks



Bent #5 cap ahead face has 2' of delaminations and four 1' spalls with exposed rebar with no section loss.



Bent #4 cap has four 1' spalls on ahead face with exposed rebar with 5% section loss.



Bent #3 ahead face right top corner is cracked.



Bent #3 cap back face under girder #2 has vertical crack one foot long.



Bent #2 cap has 2 small pop outs on ahead face left end above pile #1 with exposed rebar no section loss.



Bent #2 back face above pile #3 at bottom has 1' honey comb and 2' of delamination and cracking.

Date Reported: 05/05/2021
Priority: B - Pressing; 6 month completion goal
Type of Work: Repair
Status: Open
Component: 305 - Assembly Joint without Seal

Deficiency Description

Abutment #2 right lane joint top plate is cracked, broken and noisy for five feet.

Remarks



Abutment #2 right lane joint top plate is cracked,
broken and noisy for five feet.

Date Reported: 05/05/2021
Priority: D- Routine
Type of Work: Clean
Status: Open
Component: 313 - Fixed Bearing

Deficiency Description

Bearings have corrosion with laminations with up 10% section loss.

Remarks



Typical abutment bearing.



Typical bent bearings



Bridge #05001 (Routine)
Sh-20/Sec-1/L22.44 over Long Lake
Location: 0.3 MI S JCT 49 & 20

Team Lead: Drew Melton **Inspection Date:** May 05, 2021

Inspection Comments

Tree growing under bridge at abutment 2 right side.
Gutters have dirt and debris in them.
Approach gutters, both abutments, have dirt, debris and vegetation growing in them.

Superstructure Notes

05/05/2021 lowered superstructure from 5 to 4 due to girder webs on ends having large section loss and holes.

Substructure Notes

05/01/2017 Lowered substructure from 7 to 6 due to undermining of abutments.