



Latitude:34.30759, Longitude:-92.21475

Route:270 Section:10 Log:10.84

Arnold Road ID:27x270x10xA, Arnold Log mile:10.808

District 02, 53 - Grant County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

### Bridge Posting Information

41 - Structure Open/Posted/Closed: A - Open, no restriction

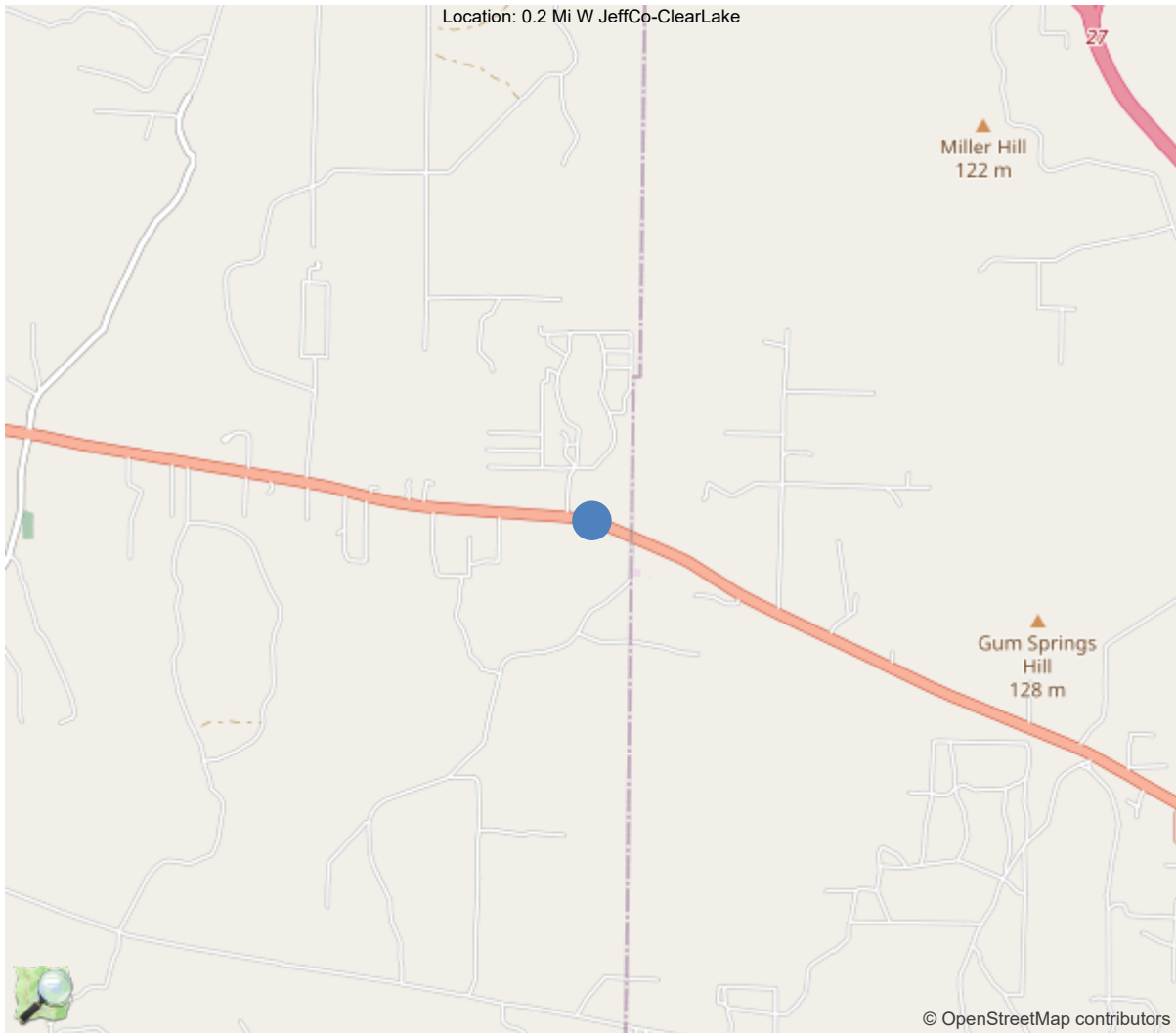
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	31		
Code 9 (31 Tons)	34		
Code 5 (40 Tons)	40		

If calculated Capacity is less than the Legal Load Listed, the Bridge Legally Requires Posting Signs to be installed by the Bridge Owner



30"x36" AR



34.30759, -92.21475





Asset #02380(Routine)

US 270-10 LM 10.84 over Derriseaux Creek

Location: 0.2 Mi W JeffCo-ClearLake

Team Lead: Greg Loomis Inspection Date: 10/10/2023

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	02380
(5) Inventory Route	1
(2) Highway Agency District	02 - District 02
(3) County Code	53 - Grant County
(4) Place Code	0
(6) Features Intersected	Derriseaux Creek
(7) Facility Carried	US 270-10 LM 10.84
(9) Location	0.2 Mi W JeffCo-ClearLake
(11) Mile Point	10.84 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000270100
(16) Latitude	34.3075850365981
(17) Longitude	-92.2147457981163
(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	3
(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	1948
(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	5800
(30) Year of ADT	2018
(109) Truck ADT	15 %
(19) Bypass, Detour Length	26 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	36 ft
(49) Structure Length	110 ft
(50) Curb or Sidewalk Width	
Left	2 ft
Right	2 ft
(51) Bridge Roadway Width Curb to Curb	26 ft
(52) Deck Width Out to Out	31 ft
(32) Approach Roadway Width (W/Shoulders)	29.9 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	28.9 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 w
(111) Pier Protection	5 - None present but re-evalua
(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	1
(26) Functional Class	2 - Rural Principal Arterial -
(100) Defense Highway	0 - The inventory route is not
(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	1 - The inventory route is par
(20) Toll	3 - On free road. The structu
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	7
(59) Superstructure	4
(60) Substructure	5
(61) Channel & Channel Protection	6
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	4 - M 18 / H 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	45
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	24
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	
(68) Deck Geometry	2
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	0 - Inspected feature does not meet
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	5 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	31 - Replacement of bridge or
(76) Length of Structure Improvement	137 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 400
(96) Total Project Cost	\$ 974
(97) Year of Improvement Cost Estimate	2004
(114) Future ADT	6863
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	10/10/2023		
(91) Frequency	24		
(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.			





### General Observation

Bridge is logged from west to east.

10-10-2023 GGL-PRD: Added 6-month OSR inspection to monitor condition of superstructure, specifically Span 2 Girders 4-5 @ Bent 2 (NBI rating <5).

06/21/2016 GGL-SDH-KLR: Accident inspection this date.

On the morning of 06/17/2016, a truck and trailer collided on this bridge damaging the right side railing - concrete railing and posts were broken completely off most of Spans 2 & 3, and partially off of Span 1. Other than damage (cracking and spalling of concrete and twisting of reinforcing steel) to soffit where posts are attached, no other damage was noted during this inspection.

Layout D# 6584, Job# 6314

Sufficiency Rating Calculation Accepted by tehe576 at 2012-01-31 08:56:15

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### 58 - Deck (7 - GOOD CONDITION - some minor problems.)

Deck is in good condition with some minor efflorescence and cracking in wearing surface.

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### 59 - Superstructure (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour.)

Superstructure is in poor condition with some advanced corrosion of girders and bearings.

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### 60 - Substructure (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

Substructure is in fair condition with some cracking of caps, some abrasive wear to piling, and minor scour

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### 61 - Channel/Channel Protection (6 - Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the channel slightly.)

Channel is in satisfactory condition with some minor scour/erosion.

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ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	3025	2995	30	0	0
1120	Efflorescence/Rust Staining	SF	30	0	30	0	0
510	Wearing Surfaces	SF	2640	2544	96	0	0
3220	Crack (Wearing Surface)	SF	96	0	96	0	0
<p>(12) Deck: 27'-6" wide (2'-4 1/2" STEP-UP each side) x 108' long = 3025 sqft.  Wearing surface (asphalt wearing surface has been milled and re-applied since 2011 inspection): 24' wide x 108' long = 2640 sqft.  Transverse cracks in asphalt wearing surface at bents - 96 sqft CS2 cracking.</p> <p>Soffit -  Scattered small cracks with efflorescence in bottom of deck, especially in Span 2 Bay 4 - 30 sqft CS2 efflorescence.</p>							
107	Steel Open Girder/Beam	LF	540	405	71	60	4
1000	Corrosion	LF	135	0	71	60	4
515	Steel Protective Coating	SF	3689	0	2767	485	437
3410	Chalking (Steel Protective Coatings)	LF	1383	0	1383	0	0
3440	Effectiveness (Steel Protective Coatings)	LF	2306	0	1384	485	437
<p>(107) Girders: 5 per span / Spans 1-3 (36' each = 108' total span).  Coating/paint (W27x94): 6.83 square feet per linear feet of girder.</p> <p>*Span 2 Girder 4 @ Bent 2: Corroded through at haunch (1/2" diameter hole) / corroded through at bottom of web (2" diameter hole with smaller holes ahead - see photo) - 2' CS4 corrosion.  *Span 2 Girder 5 @ Bent 2: Corroded through at haunch (1" x 1/2" hole) / significant section loss in web and bottom flange (see photo) - 2' CS4 corrosion.  Remaining girders @ Bent 2 ahead: Significant corrosion of webs and bottom flanges (and diaphragms) - 3' end of girder = 9' CS3 corrosion.</p> <p>Corrosion is reappearing on webs and flanges of ends of girders in areas that had been previously cleaned and repainted. These areas are showing some measurable section loss (flaking and pack rust at diaphragm connections) - heaviest section loss (up to 30%) on the webs and top of bottom flanges of exterior girders - 3' each end of exterior girders = 33' CS3 corrosion; 1' each end of interior girders = 18' CS3 corrosion.  Remaining area of all girders have light scattered surface rust, especially on bottom of bottom flanges - 15% of remaining quantity = 71' CS2 corrosion.</p> <p>NOTE: State forces welded some patches over holes in webs at haunches on Span 2 Girders 1-4 @ Bent 2 after 2011 inspection. Ends of girders and diaphragms have also been cleaned and spot-painted.</p>							
215	Reinforced Concrete Abutment	LF	80	80	0	0	0
(215) Abutments: 27' each (with 6'-6" wings each corner) / Bents 1 & 4.							
227	Reinforced Concrete Pile	EA	10	5	5	0	0
1190	Abrasion/Wear (PSC/RC)	EA	5	0	5	0	0
<p>(227) Piling: 5 per bent / Bents 2 &amp; 3.  Bent 2 piling: Some minor delaminations in "build-up" area in top 2-3'.  Bent 3 piling: Minor abrasive wear - CS2 abrasive wear x 5.</p> <p>Bent 3 left: Some minor localized scour around Piles 1-4, with some slumping of the end-slope</p>							



Asset #02380(Routine)

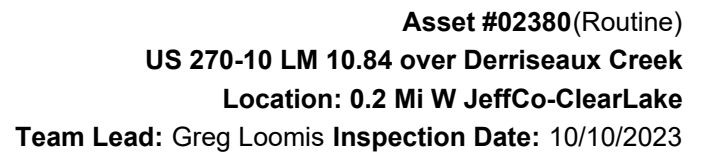
US 270-10 LM 10.84 over Derriseaux Creek

Location: 0.2 Mi W JeffCo-ClearLake

Team Lead: Greg Loomis Inspection Date: 10/10/2023

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
NOTE: All pile appear to have been "built-up" during construction - 2-3' down from cap.							
234	Reinforced Concrete Pier Cap	LF	54	24	7	23	0
1090	Exposed Rebar	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	28	0	5	23	0
(234) Caps: 27' each / Bents 2 & 3. Bent 2: Several minor- to moderate-sized vertical cracks on back and ahead sides (with continuation across bottom face) between Piles 2-4 - 22' CS3 cracking. Bent 2: Very small spall with exposed rebar back face right side - 1' CS2 exposed rebar. Bent 3: A couple moderate- to large-sized crack (wider at the top of cap) on back and ahead faces (under Girder 2 and between Piles 2 & 3) - 5' CS2 cracking; 1' CS3 cracking. Bent 3: Minor spalling with exposed rebar on bottom face between Piles 1 & 2 - 1' CS2 exposed rebar.							
305	Assembly Joint without Seal	LF	120	0	0	120	0
2350	Debris Impaction	LF	120	0	0	120	0
(305) Joints: 30' each / Bents 1-4. All joints have CS3 debris impaction due to asphalt overlay.							
311	Movable Bearing	EA	15	0	0	15	0
1000	Corrosion	EA	15	0	0	15	0
515	Steel Protective Coating	SF	30	0	0	0	30
3440	Effectiveness (Steel Protective Coatings)	EA	30	0	0	0	30
(311) Moveable bearings: 5 per bent / Bents 2 back, Bent 3 back, & Bent 3 ahead. Coating: 2 square feet each.  Corrosion is reappearing on bearings that had been previously cleaned and repainted. Bearings are showing some measurable section loss (flaking and pack rust between parts and under rockers). Current and past corrosion has resulted in some significant section loss to several anchor bolts/nuts and to some portions of the bearing.  NOTE: Bearings were minimally cleaned and spot-painted after 2011 inspection.							
313	Fixed Bearing	EA	15	2	5	8	0
1000	Corrosion	EA	13	0	5	8	0
515	Steel Protective Coating	SF	30	0	4	10	16
3440	Effectiveness (Steel Protective Coatings)	EA	30	0	4	10	16
(313) Fixed bearings: 5 per bent / Bent 1, Bent 2 ahead, & Bent 4. Coating: 2 square feet each.  Corrosion is reappearing on bearings that had been previously cleaned and repainted. Bearings are showing some measurable section loss (flaking and pack rust between parts and under rockers). Current and past corrosion has resulted in some significant section loss to several anchor bolts/nuts and to some portions of the bearing.  NOTE: Bearings were minimally cleaned and spot-painted after 2011 inspection.							
331	Reinforced Concrete Bridge Railing	LF	220	217	3	0	0





ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
1090	Exposed Rebar	LF	1	0	1	0	0
(331) Railing: 110' each side. State forces have rebuilt/replaced left side railing damaged in June 2016 traffic accident. Span 3 right: Spall with exposed rebar under railing post.							



Left side view



Roadway view



Deck - Spans 1-3: Typical



Soffit - Span 2: Typical



Cap - Bent 2 ahead: Cracking





## Maintenance Needs

**Date Reported:** 09/12/2019

**Priority:** A - Safety deficiency; requires prompt action

**Status:** Open

**Type of Work:** T-Splice

**Component:** Superstructure

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### Deficiency Description

#### Girders:

\*Span 2 Girder 4 @ Bent 2: Corroded through at haunch (1/2" diameter hole) / corroded through at bottom of web (2" diameter hole with smaller holes ahead - see photo).

\*Span 2 Girder 5 @ Bent 2: Corroded through at haunch (1" x 1/2" hole) / significant section loss in web and bottom flange (see photo).

Remaining girders @ Bent 2 ahead: Significant corrosion of webs and bottom flanges (and diaphragms).

Corrosion is reappearing on webs and flanges of ends of girders in areas that had been previously cleaned and repainted. These areas are showing some measurable section loss (flaking and pack rust at diaphragm connections) - heaviest section loss (up to 30%) on the webs and top of bottom flanges of exterior girders.

Remaining area of all girders have light scattered surface rust, especially on bottom of bottom flanges.

NOTE: State forces welded some patches over holes in webs at haunches on Span 2 Girders 1-4 @ Bent 2 after 2011 inspection. Ends of girders and diaphragms have also been cleaned and spot-painted.

#### Bearings:

Corrosion is reappearing on bearings that had been previously cleaned and repainted. Bearings are showing some measurable section loss (flaking and pack rust between parts and under rockers).

Current and past corrosion has resulted in some significant section loss to several anchor bolts/nuts and to some portions of the bearing.

Changed priority from "D" to "C" SDH 2019.

10-26-2021 GGL-PRD: Changed priority from "C" to "B".

10-10-2023 GGL-PRD: Changed priority from "B" to "A".

### Remarks

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Span 2 Girders 1-3 @ Bent 2: Corrosion



Span 2 Girder 4 @ Bent 2: Corrosion (holes)



Span 2 Girder 5 @ Bent 2: Corrosion (hole)



Span 3 Girders 1-2 @ Bent 3: Corrosion



Span 3 Girders 3-5 @ Bent 3: Corrosion



Span 2 Girder 5 @ Bent 2: Corrosion (hole)





Span 1 Girder 5 left @ Bent 1: Corrosion



Bearings 1-2 @ Bent 3: Corrosion



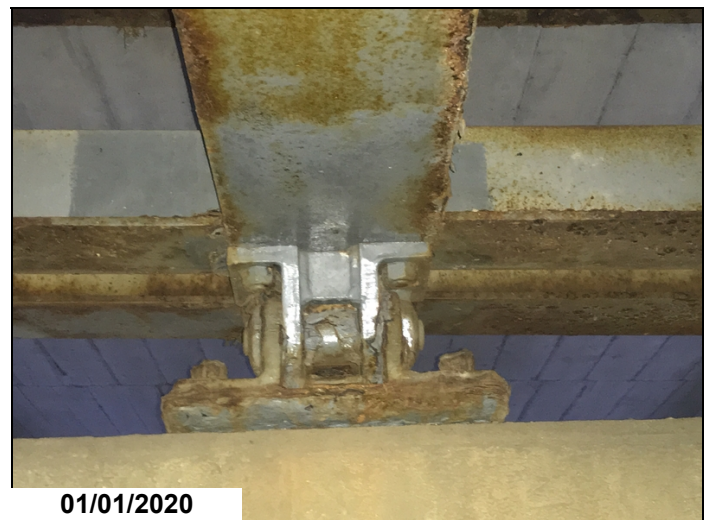
Bent 2 girder 3 beam ends have heavy flaking rust .  
Common on most beam ends .



Span 3 Girder 1 right @ Bent 4: Corrosion



Girders 1 @ Bent 3: Corrosion



Bent 2 girder 3 bearing 3 has heavy corrosion.





Bent 4 Bearing 1: Corrosion



Span 3 Girders 2-3: Corrosion



Span 2 at bent 2 girder 1 has flaking rust from end of girder ahead 4'. Common most girders this bridge.



Bent 1 bearing 1 has heavy flaking rust.



Girders - Span 2: Corrosion



Span 1 under view of paint system.





Bent 2 girder 2 beam end has heavy flaking rust.



Span 2 at bent 2 girder 3 has heavy flaking rust near bearing area.



Span 1 Girders 1-2: Corrosion



Bent 2 bearing 3 back has heavy flaking rust.



Span 1 Bearing 3 @ Bent 2: Corrosion

### Maintenance Needs

**Date Reported:** 10/27/2021

**Priority:** C - Important

**Type of Work:** Approach Leveling/Maintenance

**Status:** Open

**Component:** Approach

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### Deficiency Description

Sign - Bent 4 left: No log mile sign - object marker and post in place.

### Remarks

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Sign - Bent 4 left: No log mile sign





Asset #02380(Routine)

US 270-10 LM 10.84 over Derriseaux Creek

Location: 0.2 Mi W JeffCo-ClearLake

Team Lead: Greg Loomis Inspection Date: 10/10/2023

## Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is recommended?
A-54 - Sealable Deck Cracks	
A-55 - Deck Washing Needed	
A-56 - Joint Cleaning/Flushing Needed	
A-57 - Beam End and Bearing Paint Needed	Yes
A-58 - Cap Cleaning/Flushing Needed	
A-59 - Joint Repair Needed	
A-60 - Full Beam Painting Needed	
A-61 - Polymer Overlay Advised	
A-62 - Hydro and LMC Advised	
A-63 - Missing/Incorrect Log Mile Signage	Yes
A-64 - Vegetation Removal Requested	

**A-54 - Sealable Deck Cracks**

**A-55 - Deck Washing Needed**

**A-56 - Joint Cleaning/Flushing Needed**



**Asset #02380**(Routine)

**US 270-10 LM 10.84 over Derriseaux Creek**

**Location: 0.2 Mi W JeffCo-ClearLake**

**Team Lead: Greg Loomis Inspection Date: 10/10/2023**

**A-57 - Girder End and Bearing Painting Needed (Yes)**

**A-58 - Cap Cleaning/Flushing Needed**

**A-59 - Joint Repair Needed**

**A-60 - Full Girder Painting Needed**

**A-61 - Polymer Overlay Advised**

**A-62 - Hydro and LMC Advised**

**A-63 - Missing/Incorrect Log Mile Signage (Yes)**

**A-64 - Vegetation Removal Requested**



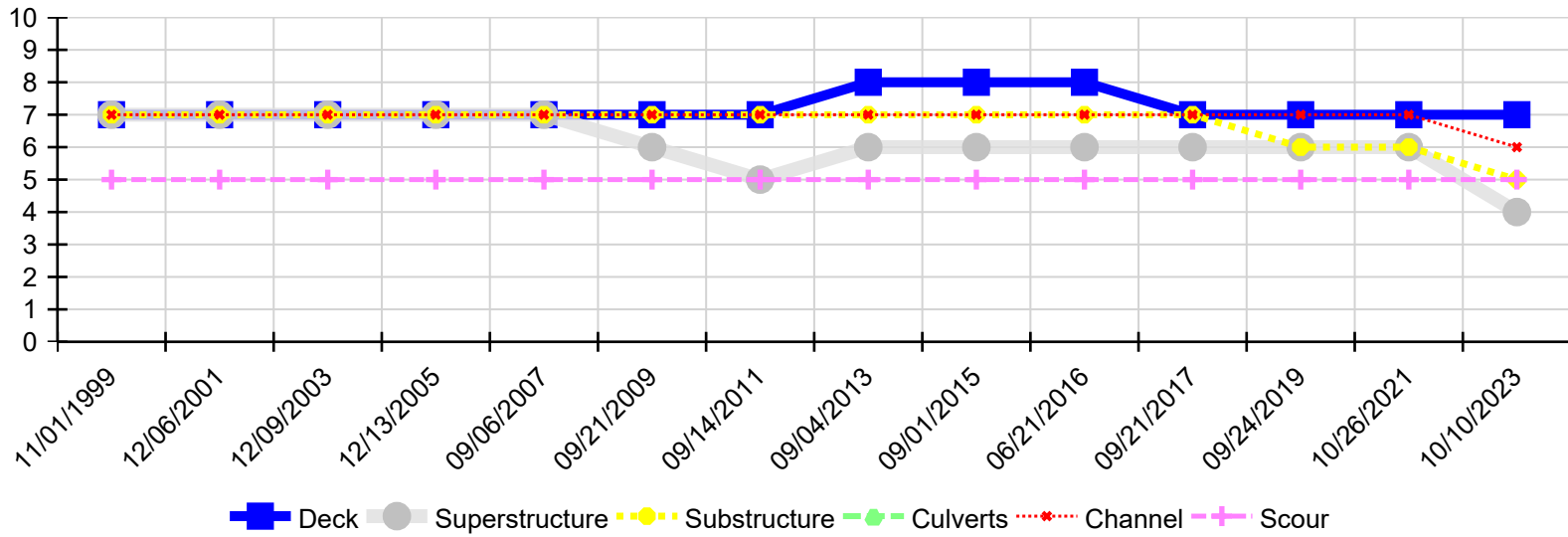
Asset #02380(Routine)

US 270-10 LM 10.84 over Derriseaux Creek

Location: 0.2 Mi W JeffCo-ClearLake

Team Lead: Greg Loomis Inspection Date: 10/10/2023

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
10/10/2023	7	4	5	N	6	5
10/26/2021	7	6	6	N	7	5
09/24/2019	7	6	6	N	7	5
09/21/2017	7	6	7	N	7	5
06/21/2016	8	6	7	N	7	5
09/01/2015	8	6	7	N	7	5
09/04/2013	8	6	7	N	7	5
09/14/2011	7	5	7	N	7	5
09/21/2009	7	6	7	N	7	5
09/06/2007	7	7	7	N	7	5
12/13/2005	7	7	7	N	7	5
12/09/2003	7	7	7	N	7	5
12/06/2001	7	7	7	N	7	5
11/01/1999	7	7	7	N	7	5