

STRUCTURE INSPECTION REPORT

MDT ID - 02939
 NBI ID - L15672000+02001
 Feature Intersected - SWAN RIVER 110
 Facility - BRIDGE ST

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East



General Bridge Data

(22) Owner	County Hwy Agency
(6A) Feature Intersected	SWAN RIVER 110
(9) Location	S END BIG FORK
(MDT058) Bridge Condition	3-Poor
(SR) Sufficiency Rating	24.10
(27) Year Built	1911
(58) Deck Rating	5 Fair
(59) Superstructure	4 Poor
(60) Substructure	5 Fair
(61) Channel	8 Protected
(62) Culvert	N N/A (NBI)
(MDT145) Inv Direction:	West to East

Location Data

(MDT001) Agency Structure Name	Bigfork Bridge	(MDT031) Railroad Over/Underpass	0 - Not Applicable
(001A) FIPState	30 Montana	(MDT032) Railroad Owner	NA - Not Applicable
(001B) FHWA Region	Region 8-Denver	(MDT014) Interchange Indicator	0 - Not an Interchange
(MDT027) On/Off System	Off System	(MDT015) Interstate Ramp Indicator	0 - Not a Ramp
(112) NBIS Bridge Length	Long Enough	(MDT078) Maintenance Section	none - Not a State Maint
(2) MDT Inspection District	01 - MISSOULA	(MDT020) Maintenance Division	N - Not a State Maintain
(3) County Code	029 - FLATHEAD	(MDT146) Reservation Boundary	1 - No
(4) Place Code	Rural Area	(MDT115) Administrative District	1 - Missoula
(7) Facility Carried by Structure	BRIDGE ST	(MDT116) Financial District	1 - Missoula
(21) Maintenance Responsibility	County Hwy Agency	(MDT117) Neighbor County Code	000 - NONE

Bridge GIS Location

(16) Latitude (DMS)	48d 03' 33.55"	(17) Longitude (DMS)	-114d 04' 21.67"
Precise Latitude	48.059319	Precise Longitude	-114.072685

Construction Data

(27) Year Built	1911	(MDT017) MDT Original Construction Project	
(106) Year Reconstructed		(MDT099) MDT Rehab Proj Nbrs	
(MDT102) Year Rehabilitated		(MDT018) MDT Original Construction Station	+0
(MDT019) MDT Original Drawing Number		(MDT100) MDT Rehab Stations	
(MDT103) MDT Rehab Drawing Nbrs		(MDT021) MDT UPN	
(MDT097) Plans in SMS?	Y - Yes	(MDT101) MDT Rehab UPNs	
(MDT098) Shop Drawings in SMS?	1 - Yes-Full		

Span and Dimensional Data

(33) Bridge Meridian	0 No median	(101) Parallel Structure Designation	No bridge exists
(34) Skew	0	(103) Temporary Structure Designation	Not Temporary
(35) Structure Flared	0 No flare	(38) Navigation Control	Permit Not Required
(42A) Type of Service on Bridge	1 Highway	(39) Navigation Vertical Clearance	0.0 ft
(48) Length of Maximum Span	119.0 ft	(40) Navigation Horizontal Clearance	0.0 ft
(49) Structure Length	120.0 ft	(116) Minimum Navigation Vertical Clearance	ft
(53) Min Vertical Clearance over Bridge Roadway	14.5 ft	(MDT008) Depth of Cover	3.00 in

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Main Span

(43A) Main Span Material	3 Steel	(45) Number of Main Spans	1
(43B) Main Span Design Type	10 Truss-Thru		

Approach Span

(44A) Approach Span Material	0 Not Applicable	(46) Number of Approach Spans	0.00
(44B) Approach Span Design Type	00 - Not Applicable		

Deck Information

(50A) Left Curb/Sidewalk Width	0.0 ft	(107) Deck Structure Type	8 Wood or Timber
(50B) Right Curb/Sidewalk Width	4.6 ft	(108A) Type of Wearing Surface	7 Wood or Timber
(52) Out-to-Out Deck Width	16.0 ft	(108B) Type of Membrane	0 None
(MDT006) Deck Area	1,920.00 sq ft	(108C) Deck Protection	None

Under Bridge Service

(42B) Type of Service Under	5 Waterway	(55B) Min Lat Underclear on Rt	0.0 ft
(54A) Min Vert Underclear - Ref Feat	N Feature not hwy or RR	(56) Min Lat Underclear on Lt	0.0 ft
(54B) Min Vertical Underclearance	0.0 ft	(111) Pier/Abutment Protect	Not Applicable (P)
(55A) Min Lat Underclear on Rt Ref Feat	N Feature not hwy or RR	(113) Scour Critical Status	5 Stable w/in footing

General Bridge Notes

Substructure units labeled west to east. The river flows south to north.

From PFR dated 3/5/2019:

STPB 9015 (127)

Bridge St-Bigfork

UPN 9521000

"This project has been selected through the off-system bridge nomination process to replace the existing single lane Pratt pin-connected through truss bridge leading into downtown Bigfork with a new single lane through truss bridge. The existing horizontal and vertical alignments will be maintained as much as possible, with new surfacing as needed to accommodate bridge construction and installation of new bridge approach guardrail sections." See Documents for more information. AKJ

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Roadway Information (Route On Structure)

Identification

(MDT035) Road Name	BRIDGE STREET	(6B) Critical Facility Indicator	
(5A) Inventory Route - Record	Route On Structure	(MDT087) Mile Post	.199
(5B) Route Signing Prefix	4 County Hwy	(5D) Route Number	15672
(5C) Designated Level of Ser	1 Mainline	(MDT007) Departmental Route	L15672
(5E) Directional Suffix	3 South		

Traffic Data

(28A) Lanes on the Structure	1	(29) Average Daily Traffic	1,602	(114) Future Average Daily Traffic	1,714
(28B) Lanes Under the Structure	0	(30) Year of Average Daily Traffic	2022	(115) Year of Future Avg Daily Traffic	2042
(MDT030) Roadway Speed	35	(109) Average Daily Truck Traffic (%)	0		

Roadway Clearances

(10) Minimum Vertical Clearance	14.50 ft	(72) Approach Roadway Alignment	6 Equal Min Criteria
(47) Total Horizontal Clearance	15.50 ft	(42B) Type of Service Under	5 Waterway
(32) Approach Roadway Width	16.00 ft	(51) Bridge Roadway Width Curb-to-Curb	15.40 ft

Highway Networks and Service Classification

(12) Base Highway Network	Not on Base Network	(20) Toll	3 On free road
(11) Accumulated Miles	0.65	(26) Functional Classification	09 Rural Local
(13A) LRS Number	C015676A	(102) Direction of Traffic	3 1-lane Br for 2-way

Alternate Classifications

(100) STRAHNET Highway Designation	0 Not a STRAHNET hwy	(110) National Truck Network	0 Not part of natl netwo
(104) NHS Indicator	0 Not on NHS	(105) Federal Lands Highways	0 N/A (NBI)

Detour

(19) Bypass/Detour Length	2.00 mi	(MDT009) Detour Speed	mi/hr
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Load Rating

Event Name: INIT02939 Rating Date: 01/01/1901
 Load Rater: Reviewer:
 Software Used: AASHTOWare BrR Secondary Software:

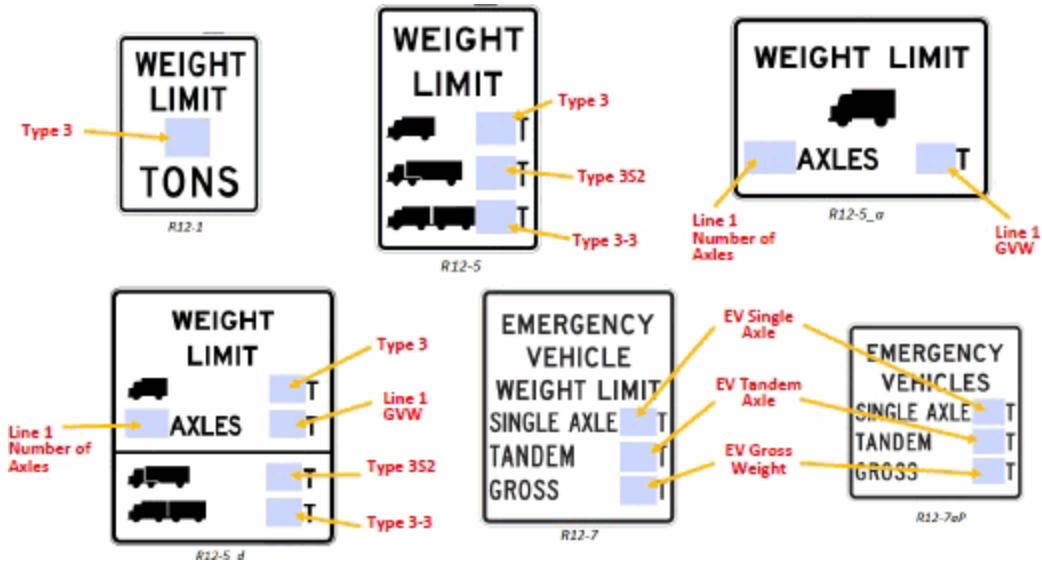
Notes: Transferred from SMS

Wearing Surface or Fill Depth: Category: Routine

Vehicle Name	Current	Load Rating (Tons)	Method	Analysis	Limit State	Location	Notes
HS 20-44 Inventory	T	4.00	2 AS Allowable Stress	Design	NA		SMS Design Transfer
HS 20-44 Operating	T	7.90	2 AS Allowable Stress	Design	NA		SMS Design Transfer
Type 3 Inventory Rating	T	4.00	2 AS Allowable Stress	Legal	NA		Transferred from SMS
Type 3S2 Inventory Rating	T	6.00	2 AS Allowable Stress	Legal	NA		Transferred from SMS
Type 3-3 Inventory Rating	T	7.00	2 AS Allowable Stress	Legal	NA		Transferred from SMS
Type 3-3 Operating Rating	T	14.00	2 AS Allowable Stress	Legal	NA		Transferred from SMS

Load Posting Information

Operational Status		Load Posting Requirements	
(41) Open/Posted/Closed	P Posted for load	(70) Legal Load Status	0 >39.9% below
(MDT135) Posting Sign Type	R12-1	Load Posting Authorization Date	
(MDT067) Type 3 Truck Posting	3	Required Posting Sign Type	
(MDT073) Truck 3S2 Posting		Required Type 3 Truck Posting	
(MDT070) Truck 3-3 Posting		Required Type 3S2 Truck Posting	
(MDT136) Line 1 Number of Axles Posting		Required Type 3-3 Truck Posting	
(MDT137) Line 1 GVW Posting		Required Line 1 Number of Axles Posting	
(MDT142) EV Single Axle Posting		Required Line 1 GVW Posting	
(MDT143) EV Tandem Axles Posting		Required EV Single Axle Posting	
(MDT144) EV Gross Weight Posting		Required EV Tandem Axles Posting	
(MDT148) Load Posting Basis	Unassigned	Required EV Gross Weight Posting	



Repair Suggestions

Recommended By:	Date Recommended	Type	Status	Suggested Priority
	11/07/2017	Repair Suggestion	Repair Suggestion	Low
Comments				
Replace deteriorated wearing surface and sidewalk timber boards, secure loose timber boards, and level 2-inch settlement at abutment 2 sidewalk approach.				

Recommended By:	Date Recommended	Type	Status	Suggested Priority
	11/07/2017	Repair Suggestion	Repair Suggestion	Low
Comments				
Replace missing truss connection hardware.				

Recommended By:	Date Recommended	Type	Status	Suggested Priority
Drew Urban	06/21/2023	UBIV Access/Other DeRepair Suggestion		Medium
Comments				
Clear soil and debris off abutment bearing seats and truss bearings.				

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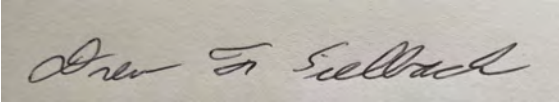
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Inspection Activities

Inspector Edward Cinadr				Signature 	
Start Date 06/21/2023	End Date 06/21/2023	Weather Sunny	Temperature 52	Comments	
Quality Control Reviewer Drew Sielbach					

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Inspection Activities

Inspector
Edward Cinadr

Signature



Start Date	End Date	Weather	Temperature	Comments
06/21/2023	06/21/2023	Sunny	52	

Quality Control Reviewer

Unable to locate graphic.

Inspection Information

Inspection Notes

MISCELLANEOUS INSPECTION NOTES:

1. This was a Fracture Critical Inspection performed by Burgess and Niple, Inc. under Term Assignment 2 of contract 112174.
2. The structure was accessed from the ground, with a ladder, and with adapted climbing techniques.
3. The structure was inventoried from west to east and left to right facing east.
4. Fracture critical members consist of truss members, intermediate floor beams, and were accessed at arms-length.
5. Fatigue Prone Details consist of: riveted connections. No NDT was performed.
6. There were 5 previous maintenance recommendations. No repairs were completed and 3 were removed. 1 new repair recommendation was added for a total of 3 repair recommendations.
7. There is a waterline that runs along both abutments and under stringer 2. There is a timber conduit box that runs along the south side under the bridge.
8. N58 – Deck was lowered from a 6 to a 5 due to the multiple partially failed timber planks.
9. Inspection personnel include: Ed Cinadr, PE (TL), Zach Bunker, EIT (ATL), Drew Urben, EIT (ATL).

ROADWAY/SAFETY:

1. The AC approach roadways were in good condition. The west transition had 3/4-inch settlement full width. The east transition was in good condition, the sidewalk transition had a 2-inch vertical offset.
2. There is a sidewalk outside the south truss.
3. Minimum vertical clearance recorded during this inspection was 14.5 feet measured at the portal bracing kicker. Vertical clearance signs are posted at both ends for 8'6".
4. "ONE CAR AT A TIME ON BRIDGE" signs installed on bridge at each portal.
5. "WEIGHT LIMIT 3 TONS" signs posted at each approach.

SUPERSTRUCTURE:

1. The south truss L1'-U1' inboard vertical tension member is retrofit with a hanger rod.
2. Mid-height member welded to south truss end posts and compression verticals.

SUBSTRUCTURE:

1. The abutments were dry at the time of the inspection and were inspected to the mudline.

WATERWAY:

1. The Swan River flows from SE to NW under the structure.

	Current Inspection (06/21/2023)	Previous Inspection (06/22/2021)
(36A) Bridge Rail	0 Substandard	0 Substandard
(36B) Transition Rail	0 Substandard	0 Substandard
(36C) Approach Rail	N N/A or not required	N N/A or not required
(36D) Guardrail Ends	0 Substandard	0 Substandard
(41) Structure Open, Posted, or Closed	P Posted for load	P Posted for load
(58) Deck Rating	5 Fair	6 Satisfactory
(59) Superstructure	4 Poor	4 Poor
(60) Substructure	5 Fair	5 Fair
(61) Channel	8 Protected	8 Protected
(62) Culvert	N N/A (NBI)	N N/A (NBI)
(67) Structural Evaluation	2 Intolerable - Replace	2 Intolerable - Replace
(68) Deck Geometry	2 Intolerable - Replace	2 Intolerable - Replace
(69) Underclear, Vertical and Horizontal	N Not applicable (NBI)	N Not applicable (NBI)
(71) Waterway Adequacy	9 Above Desirable	9 Above Desirable
(MDT058) FHWA Bridge Condition	3-Poor	3-Poor
(MDT034) Request Review of Load Rating	No	No
(MDT050) UBIV Required	N - UBIV Required	N - UBIV Required
(MDT010) FC Inspection Details	D - Steel trusses	D - Steel trusses
(MDT008) Depth of Cover		

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Inspection Schedule

Inspection Type	Most Recent Inspection Date	Frequency (Months)	Next Inspection Date
Routine	06/21/2023	24	06/21/2025
NSTM (Fracture Critical)	06/21/2023	24	06/21/2025

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Element Inspection

Note: Only elements inspected during this inspection will appear in this report.

M Main Span (0)

31 - Timber Deck	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
Environment: Low	1,927.00 sq.ft	867.00 (44.99%)	964.00 (50.03%)	96.00 (4.98%)	0.00 (0.00%)

Comments:

Inventoried for the timber deck.

Timber deck at west end over abutment 1 exhibits multiple timber wedge shims that are working loose.

510 - Wearing Surfaces	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	1,927.00 sq.ft	342.00 (17.70%)	1,582.00 (82.10%)	3.00 (0.20%)	0.00 (0.00%)

Comments:

Inventoried for the timber runners full width of the deck.

1140 - Decay/Section Loss	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	23.00 sq.ft	0.00 (0.00%)	20.00 (86.96%)	3.00 (13.04%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Timber runner board ends exhibit random crushing and rot throughout.

CS3:

Timber runner near south rail and panel point 1 exhibits 10-inch-wide by 3-foot-long by up to 2 1/2-inch deep severe deterioration with fibrous remains of runner.

CS4:

1150 - Check/Shake	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	1,542.00 sq.ft	0.00 (0.00%)	1,542.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Timber runners exhibit random corner shakes up to 5-feet long and checking up to 1/4-inch wide throughout.

CS3:

CS4:

3230 - Effectiveness (Wearing Surface)	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	20.00 sq.ft	0.00 (0.00%)	20.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Timber runners exhibit isolated areas of loose nails protruding through the timber runners allowing the planks to rise up.

CS3:

CS4:

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1140 - Decay/Section Loss	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	964.00 sq.ft	0.00 (0.00%)	579.00 (60.10%)	385.00 (39.90%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Timber deck soffit exhibits multiple partially damaged planks.

CS3:

Timber deck soffit exhibits multiple partially failed planks that deflect under live load.

CS4:

1150 - Check/Shake	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	96.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	96.00 (100.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

CS3:

Timber planks exhibit multiple wide checks and corner shakes up to 2-inches wide. Some planks exhibit up to 10-20% loss of capacity.

CS4:

M Main Span (0)

113 - Steel Stringer	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	961.00 ft	0.00 (0.00%)	945.00 (98.34%)	7.00 (0.73%)	9.00 (0.94%)

Environment: Low

Comments:

Inventoried for the steel stringers (8). Stringers 1 and 8 are channel sections and interior stringers are I-sections.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2,115.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	423.00 (20.00%)	1,692.00 (80.00%)

Comments:

Inventoried for the silver paint protective coating.

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2,115.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	423.00 (20.00%)	1,692.00 (80.00%)

Comments:

CS1:

CS2:

CS3:

Estimated that 423 SF of the painted protective coating exhibits limited effectiveness.

CS4:

Estimated that 1692 SF of the painted protective coating has failed.

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1000 - Corrosion	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	961.00 ft	0.00 (0.00%)	946.00 (98.44%)	6.00 (0.62%)	9.00 (0.94%)

Comments:

CS1:

CS2:

All stringers exhibit moderate corrosion and negligible section loss in areas of failed paint except as noted below.

CS3:

Stringer 8 at multiple floor beam connections exhibits corrosion and average 1/8-inch depth section loss at top and bottom flanges.

Bay 1-2:

Stringer 6 at FB2 bottom flange exhibits pitting and laminating corrosion up to 1/16-inch deep.

CS4:

Stringer 7 full length top flange exhibits up to 2-inch wide through holes and measurable section loss throughout.

Stringer 8 full length exhibits section loss up to full depth in the top flange and 1/4-inch in the bottom flange.

Bay 0-1:

Stringer 1 at abutment 1 exhibits 18-inch-long by up to 1 1/2-inch high area of through holes in lower channel web and a 3-inch diameter through hole in the web at the end.

Stringer 8 at abutment 1 exhibits a 11 1/2-inch-long by 1-inch-high through hole in lower channel web with up to 50% section loss to the end 2 feet of the stringer.

Bay 1-2:

Stringer 8 at FB2 lower channel web exhibits up to 3-inch high by 3-foot long area of corrosion with section loss and a 8-inch-long by up to 3-inch tall through hole.

Bay 3-3':

Stringer 8 at FB3' lower channel web exhibits up to 2-inch high by 3-foot long area of corrosion with section loss and a 2-inch-long by up to 1 1/2-inch tall through hole.

Bays 2'-1':

Stringer 8 from FB2' to abutment 2 top flange exhibits heavy section loss with through holes up to 1 1/4-inch wide with 1/8-inch remaining over majority of the member worse at floor beams.

Stringer 8 at FB1' lower flange to web interface exhibits area of corrosion with section loss and a 2-inch-long by up to 1 1/2-inch tall through hole.

Bay 1'-0':

Stringer 1 at abutment 2 exhibits a 14-inch-long by 3-inch-high through hole in lower channel web.

Stringer 8 at abutment 2 exhibits a 14-inch-long by 3 1/2-inch-high through hole in lower channel web.

1020 - Connection	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	3.00 ft	0.00 (0.00%)	2.00 (66.67%)	1.00 (33.33%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Bay 0-1, stringer 1 to FB1 connection west face exhibits a loose bolt.

Bay 2'-1', stringer 1 to FB2' connection east face exhibits a loose bolt.

CS3:

Bay 1-2, stringer 1 to FB2 connection west face exhibits a missing bolt.

CS4:

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1900 - Distortion	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	96.00 ft	0.00 (0.00%)	96.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Stringers at isolated locations exhibit lateral torsional buckling up to 1-inch throughout member due to insufficient top flange bracing.

CS3:

CS4:

M Main Span (0)

120 - Steel Truss	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
Environment: Mod.	240.00 ft	0.00 (0.00%)	231.00 (96.30%)	9.00 (3.70%)	0.00 (0.00%)

Comments:

Inventoried for the steel truss members.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2,500.00 sq.ft	1,250.00 (50.00%)	375.00 (15.00%)	375.00 (15.00%)	500.00 (20.00%)

Comments:

Inventoried for the silver paint protective coating.

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	1,250.00 sq.ft	0.00 (0.00%)	375.00 (30.00%)	375.00 (30.00%)	500.00 (40.00%)

Comments:

CS1:

CS2:

Estimated 375 SF of the painted protective coating is substantially effective.

CS3:

Estimated 375 SF of the painted protective coating exhibits limited effectiveness.

CS4:

Estimated 500 SF of the painted protective coating has failed.

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		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	240.00 ft	0.00 (0.00%)	232.00 (96.70%)	8.00 (3.30%)	0.00 (0.00%)

Comments:

CS1:

CS2:

All the truss members exhibit moderate corrosion with negligible section loss, except as noted below.

CS3:

North truss, L0-L1 at L0 outboard eyebar face exhibits 3/16-inch average (1/4-inch max) section loss eyebar and 1/8-inch average (3/16-inch max) section loss on inside face of inboard eyebar. Also note heavy laminating corrosion and pack rust around full perimeter of heads, estimate 1/16" loss both faces. Original member size, 5/8-inch-thick by 2 7/16-inch-deep.

North truss, Panel Point L2 between bottom chord web and eyebars exhibits up to 1/8-inch pack rust.

North truss, Panel Points L3 between bottom chord web and eyebars exhibits up to 1/4-inch pack rust.

North truss, Panel Points L3' between bottom chord web and eyebars exhibits up to 1/4-inch pack rust.

North truss, Panel Point L2' between bottom chord web and eyebars exhibits up to 1/8-inch pack rust.

North truss, L1'-L0' inboard at L0' heavy section loss, pitting, and pack rust on eyebar head and end of member. Original member size, 5/8-inch-thick by 2 7/16-inch-deep. Approximately 1/8-inch section loss around the full perimeter of the eyebar head due to heavy pack rust and laminating corrosion. On the main eyebar, heavy section loss includes 1/4-inch remaining over the lower 1 1/2-inch height and 7/16-inch remaining over the upper 15/16-inch height. Outboard at L0' exhibits section loss, pitting, and pack rust on eyebar head and end of member. Approximately 1/8-inch section loss around the full perimeter of the eyebar head due to heavy pack rust and laminating corrosion.

South truss, L0-L1 both eyebars at L0 exhibit 1/16-inch average loss on one face of both eyebars. Original member size, 5/8-inch-thick by 2 7/16-inch-deep.

South truss, L1'-L0' inboard at L0' exhibits 1/4-inch average remaining thickness full height of the eyebar. Also note, severe pack rust and laminating corrosion around perimeters of eyebar heads with approximate 1/8-inch section loss on faces.

CS4:

1020 - Connection	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	3.00 ft	0.00 (0.00%)	2.00 (66.67%)	1.00 (33.33%)	0.00 (0.00%)

Comments:

CS1:

CS2:

North truss, panel point L2 exhibits two spacers that are 1/8-inch off-center towards the south.

South truss, L1'-U1' vertical exhibits a loose exterior vertical square bar and a tight retrofit interior round bar.

CS3:

North truss, U2'-U1' connection to end post at U1' exhibits one missing bolt.

CS4:

STRUCTURE INSPECTION REPORT

MDT ID - 02939
NBI ID - L15672000+02001
Feature Intersected - SWAN RIVER 110
Facility - BRIDGE ST

Inspector - Edward Cinadr
Inspection Type - Fracture Critical
Inspection Date - 06/21/2023
Inventory Direction - West to East

1900 - Distortion	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	9.00 ft	0.00 (0.00%)	9.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

North truss, L3-U3 vertical inboard channel at west beam connection exhibits 1/2-inch out-of-plane distortion over 3-foot-length. There is a field welded stiffener plate added to the inboard face of the web with poor quality welds and no cracking noted. Outboard channel undulations present along the same length and three rivets are field weld repaired.

North truss, L3-U3' interior eyebar approximately 2 feet from L3 exhibits 1-inch outward and 1/2-inch upward deflection over 2-foot length.

South truss, L2-U2' at U2' inboard connection plate west face exhibits 1/4-inch distortion.

South truss, L2-U1' inboard eyebar near the middle exhibits localized upward deflection up to 5/8-inch over a 3-foot length.

CS3:

CS4:

7000 - Damage	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	7.00 ft	0.00 (0.00%)	7.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Both trusses, L3-U3' and L3'-U3 diagonals are rubbing against each other and causing minor wear to the eyebar members.

North truss, L3-U3', L3'-U3, and L1'-U1' diagonals are rubbing against the top bridge rail and causing minor wear to the eyebar members.

South truss, L1-U1 and L3'-U3 diagonals are rubbing against the top bridge and rail causing minor wear to the eyebar members.

CS3:

CS4:

M Main Span (0)

152 - Steel Floor Beam	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	460.00 ft	0.00 (0.00%)	439.00 (95.40%)	18.00 (3.90%)	3.00 (0.70%)

Environment: Low

Comments:

Inventoried for the main steel floor beams and the 10-foot long cantilevered floor beam supporting the sidewalk.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	999.00 sq.ft	0.00 (0.00%)	250.00 (25.00%)	250.00 (25.00%)	499.00 (49.90%)

Comments:

Inventoried for the silver paint protective coating.

STRUCTURE INSPECTION REPORT

MDT ID - 02939
 NBI ID - L15672000+02001
 Feature Intersected - SWAN RIVER 110
 Facility - BRIDGE ST

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	999.00 sq.ft	0.00 (0.00%)	250.00 (25.00%)	250.00 (25.00%)	499.00 (49.90%)

Comments:

CS1:

CS2:

Estimated 250 SF of the painted protective coating is substantially effective.

CS3:

Estimated 250 SF of the painted protective coating exhibits limited effectiveness.

CS4:

Estimated 499 SF of the painted protective coating has failed.

1000 - Corrosion	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	460.00 ft	0.00 (0.00%)	439.00 (95.44%)	18.00 (3.91%)	3.00 (0.65%)

Comments:

CS1:

CS2:

All floor beams exhibit moderate corrosion with negligible section loss except as noted below.

CS3:

Cantilever sidewalk floor beam connection angle bottom flanges exhibit up to 1/8-inch section loss.

FB1 north end east face lower web exhibits 2-inch-high by 2-foot-long by up to 1/8-inch deep area of section loss.

FB1 south end both faces lower web exhibits 2-inch-high by 3-foot-long by up to 1/8-inch deep area of section loss.

FB2 north end both faces lower web exhibits 2-inch-high by 1 1/2-inch-long by up to 1/8-inch deep area of section loss.

FB2 south end both faces lower web exhibits 2-inch-high by 3-foot-long by up to 1/8-inch deep area of section loss.

FB3 north end both faces lower web exhibits 2-inch-high by 2 1/2-foot-long by up to 3/16-inch deep area of section loss.

FB2' south end both faces lower web exhibits 2-inch-high by 3-foot-long by up to 1/8-inch deep area of section loss.

FB1' south end both faces lower web exhibits 2-inch-high by 2-foot-long by up to 1/8-inch deep area of section loss.

CS4:

FB1 south end U-bolt keeper plate exhibits corrosion with 1-inch-diameter through hole.

FB3 both faces south end lower web exhibits 2-inch-high by 3-foot-long by up to 3/16-inch deep area of section loss with two through holes up to 1/2-inch diameter.

FB3' both faces south end lower web exhibits 2-inch-high by 3-foot-long by up to 1/8-inch deep area of section loss with two through holes up to 1/2-inch diameter.

M Main Span (0)

215 - Re Conc Abutment	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
Environment: Mod.	33.00 ft	7.00 (21.21%)	7.00 (21.21%)	19.00 (57.58%)	0.00 (0.00%)

Comments:

Inventoried for the concrete abutment with integral wingwalls at abutments 1 and 2.

Both abutments exhibit up to 2-inch soil accumulation on the bearing seat.

STRUCTURE INSPECTION REPORT

MDT ID - 02939
 NBI ID - L15672000+02001
 Feature Intersected - SWAN RIVER 110
 Facility - BRIDGE ST

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

1080 - Delamination/Spall/Patched Area	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	4.00 ft	0.00 (0.00%)	0.00 (0.00%)	4.00 (100.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

CS3:

Abutment 1 south end under lower lateral bracing exhibits 7-inch-wide by 2-inch-high by 4-inch-deep corner spall with no exposed reinforcement.

Abutment 2 wall under stringer 3 exhibits 1 foot-long by 1 1/2-inch-deep corner spall.

Abutment 2 south end bearing seat concrete exhibits heavy raveling and spalling over 2-foot wide by 2-foot long by up to 2-inch deep area, slightly undermining the corner of the masonry plate.

CS4:

1120 - Efflorescence/Rust Staining	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	10.00 ft	0.00 (0.00%)	0.00 (0.00%)	10.00 (100.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

CS3:

Abutment 1 north wingwall construction joint exhibits 0.026-inch-wide transverse crack with moderate efflorescence.

CS4:

1130 - Cracking (RC and Other)	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	15.00 ft	0.00 (0.00%)	0.00 (0.00%)	15.00 (100.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

CS3:

Abutment 1 north wingwall construction joint exhibits 0.026-inch-wide transverse crack with moderate efflorescence.

Abutment 1 breast wall south end exhibits horizontal and vertical cracks up to 1/16-inch wide.

Abutment 2 both wingwalls exhibit up to 1/8-inch wide vertical cracks.

Abutment 2 south wingwall exhibits 3/8-inch-wide full height vertical crack in unreinforced concrete.

CS4:

1190 - Abrasion(PSC/RC)	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	7.00 ft	0.00 (0.00%)	7.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Abutment 2 north end 3 feet, south end 1 foot, and southeast wingwall north end 3 feet exhibit full height deep raveling and scaling up to 1-inch deep.

CS3:

CS4:

STRUCTURE INSPECTION REPORT

MDT ID - 02939
NBI ID - L15672000+02001
Feature Intersected - SWAN RIVER 110
Facility - BRIDGE ST

Inspector - Edward Cinadr
Inspection Type - Fracture Critical
Inspection Date - 06/21/2023
Inventory Direction - West to East

M Main Span (0)

311 - Moveable Bearing	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
Environment: Mod.	2.00 each	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)

Comments:
Inventoried for the roller nest bearings (2) at abutment 2.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)

Comments:
Inventoried for the silver paint protective coating.

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)

Comments:
CS1:
CS2:
CS3:
CS4:
Both roller bearings painted protective coating has failed.

1000 - Corrosion	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 each	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)

Comments:
CS1:
CS2:
CS3:
Both bearings exhibit heavy to severe laminating corrosion with pitting up to 1/16-inch deep.
CS4:

1020 - Connection	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 each	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)

Comments:
CS1:
CS2:
The southeast bearing east anchor bolt is heavily bent towards the east approach.
CS3:
The northeast bearing south anchor bolt is missing (never installed).
The southeast bearing north anchor bolt is missing (never installed).
CS4:

STRUCTURE INSPECTION REPORT

MDT ID - 02939
 NBI ID - L15672000+02001
 Feature Intersected - SWAN RIVER 110
 Facility - BRIDGE ST

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

2220 - Alignment	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 each	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

The northeast bearing sole plate is racked 1-inch out of alignment and at the limits of expansion (52 degree F).

The southeast bearing sole plate is slightly racked out of alignment and at the limits of expansion (52 degree F).

CS3:

CS4:

2240 - Loss of Bearing Area	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	1.00 each	0.00 (0.00%)	1.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

Abutment 2 south bearing seat exhibits heavy raveling and spalling over 2-foot wide by 2-foot long by up to 2-inch deep area, slightly undermining the corner of the masonry plate.

CS3:

CS4:

M Main Span (0)

313 - Fixed Bearing	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 each	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)

Environment: Mod.

Comments:

Inventoried for the fixed bearings (2) at abutment 1.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)

Comments:

Inventoried for the silver paint protective coating.

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 sq.ft	0.00 (0.00%)	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)

Comments:

CS1:

CS2:

CS3:

CS4:

Both bearings painted protective coating has failed.



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER

Facility - BRIDGE ST

110

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

1000 - Corrosion	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	2.00 each	0.00 (0.00%)	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

CS3:

Both fixed bearings heavy laminating corrosion, pack rust, and up to 1/8-inch deep pitting.

CS4:

M Main Span (0)

330 - Metal Bridge Railing	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	240.00 ft	0.00 (0.00%)	240.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Environment: Low

Comments:

Inventoried for the vehicular steel w-beam bridge guardrail and steel top angle.

Top angle is welded to the vertical truss members.

M Main Span (0)

330 - Metal Bridge Railing	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	121.00 ft	0.00 (0.00%)	121.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Environment: Ben.

Comments:

Inventoried for the pedestrian bridge rail on south side of the bridge.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	1,200.00 sq.ft	0.00 (0.00%)	840.00 (70.00%)	180.00 (15.00%)	180.00 (15.00%)

Comments:

Inventoried for the vehicular rail silver paint on the top angle and galvanized steel w-beam.

515 - Steel Protective Coating	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	363.00 sq.ft	92.00 (25.34%)	271.00 (74.66%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

Inventoried for the pedestrian rail silver paint protective coating and galvanized steel.

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1	Condition State 2	Condition State 3	Condition State 4
		QTY (PCT)	QTY (PCT)	QTY (PCT)	QTY (PCT)
	271.00 sq.ft	0.00 (0.00%)	271.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

Pedestrian Rail

CS1:

CS2:

Pedestrian bridge rail exhibits some flaking/weathering of the silver paint and galvanizing steel.

CS3:

CS4:

STRUCTURE INSPECTION REPORT

MDT ID - 02939
 NBI ID - L15672000+02001
 Feature Intersected - SWAN RIVER 110
 Facility - BRIDGE ST

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	1,200.00 sq.ft	0.00 (0.00%)	840.00 (70.00%)	180.00 (15.00%)	180.00 (15.00%)

Comments:
 Vehicular Rail
 CS1:
 CS2:
 Estimated 840 SF of the protective coating is substantially effective.
 CS3:
 Estimated 180 SF of the protective coating exhibits limited effectiveness.
 CS4:
 Estimated 180 Sf of the protective coating has failed.

1000 - Corrosion	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	121.00 ft	0.00 (0.00%)	121.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:
 Pedestrian Rail
 CS1:
 CS2:
 Pedestrian bridge rail exhibits some light weathering of galvanized steel.
 CS3:
 CS4:

1000 - Corrosion	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	240.00 ft	0.00 (0.00%)	240.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:
 Vehicular Rail
 CS1:
 CS2:
 Bridge railing top angle exhibits full length surface corrosion.
 CS3:
 CS4:

7000 - Damage	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	12.00 ft	0.00 (0.00%)	12.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:
 Vehicular Rail
 CS1:
 CS2:
 South bridge rail exhibits minor impact damage to w-beam near midspan. Bridge rail is still functional.
 CS3:
 CS4:

STRUCTURE INSPECTION REPORT

MDT ID - 02939
 NBI ID - L15672000+02001
 Feature Intersected - SWAN RIVER 110
 Facility - BRIDGE ST

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

M Main Span (0)

820 - Steel Truss Vertical Cross-Frame	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
Environment: Mod.	95.00 ft	0.00 (0.00%)	95.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:
 Inventoried for the truss portals and sway bracing.

515 - Steel Protective Coating	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	200.00 sq.ft	100.00 (50.00%)	30.00 (15.00%)	30.00 (15.00%)	40.00 (20.00%)

Comments:
 Inventoried for the silver paint protective coating.

3440 - Eff (Stl Protect Coat)	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	100.00 sq.ft	0.00 (0.00%)	30.00 (30.00%)	30.00 (30.00%)	40.00 (40.00%)

Comments:
 CS1:
 CS2:
 Estimated that 30 SF of the painted protective coating is substantially effective.
 CS3:
 Estimated that 30 SF of the painted protective coating coating exhibits limited effectiveness.
 CS4:
 Estimated that 40 SF of the painted protective coating has failed.

1000 - Corrosion	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	95.00 ft	0.00 (0.00%)	95.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:
 CS1:
 CS2:
 The sway bracing exhibits minor surface corrosion and negligible section loss.
 CS3:
 CS4:

1020 - Connection	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	2.00 ft	0.00 (0.00%)	2.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:
 CS1:
 CS2:
 North truss, L0'-U1' east portal sway bracing kicker to end post connection exhibits one loose bolt.
 South truss, U3' upper sway bracing strut connection to upper chord top flange underside exhibits one under engaged nut.
 CS3:
 CS4:



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER 110

Facility - BRIDGE ST

Inspector - Edward Cinadr

Inspection Type - Fracture Critical

Inspection Date - 06/21/2023

Inventory Direction - West to East

M Main Span (0)

960 - Steel Approach Guardrail Ends	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
Environment: Low	4.00 each	2.00 (50.00%)	2.00 (50.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

Inventoried for all four approach guardrail segments with ends included measure 50 feet or less, and are therefore assigned to guardrail ends.

7000 - Damage	Total Quantity	Condition State 1 QTY (PCT)	Condition State 2 QTY (PCT)	Condition State 3 QTY (PCT)	Condition State 4 QTY (PCT)
	4.00 each	0.00 (0.00%)	4.00 (100.00%)	0.00 (0.00%)	0.00 (0.00%)

Comments:

CS1:

CS2:

The southwest approach guardrail end exhibits moderate impact damage and deformation.

The southeast approach guardrail end exhibits moderate impact damage.

CS3:

CS4:

Inspection Photos:

Photo Name:
02939_001.jpg

Comments:

Looking northeast at west bridge end view AOL. Note: end markers in place.



Photo Name:
02939_002.jpg

Comments:

Looking west at east bridge end view BOL.



Photo Name:
02939_003.jpg

Comments:

Looking north at the bridge elevation.



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER

Facility - BRIDGE ST

110

Inspector - Edward Cinadr
Inspection Type - Fracture Critical
Inspection Date - 06/21/2023
Inventory Direction - West to East

Photo Name:
02939_004.jpg

Comments:

Looking east at "Bridge Restricted" sign on west approach near Hwy 35 intersection.



Photo Name:
02939_005.jpg

Comments:

Looking north at "Bridge Restricted" sign on west approach.



Photo Name:
02939_006.jpg

Comments:

Looking east at 15 mph advance warning sign at the west approach.



Photo Name:
02939_007.jpg

Comments:

Looking northeast at west bridge end view AOL. Note: load posting sign and multiple warning signs.



Photo Name:
02939_008.jpg

Comments:

Looking northeast at the 8'6" vertical clearance sign at the west approach.



Photo Name:
02939_009.jpg

Comments:

Looking west at end view from east approach. Note: 3-ton posting sign, 8'-6" vertical clearance sign and headache bar, "One Car at a Time" signs, and end markers in place.



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER

Facility - BRIDGE ST

110

Inspector - Edward Cinadr
Inspection Type - Fracture Critical
Inspection Date - 06/21/2023
Inventory Direction - West to East

Photo Name:
02939_010.jpg

Comments:
Looking west at the east approach 3-ton load posting sign.



Photo Name:
02939_011.jpg

Comments:
Looking south at "Bridge Restricted" sign on east approach.



Photo Name:
02939_012.jpg

Comments:
Looking east at RT guardrail end on west approach. Note: moderate impact damage/deformation.



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER

Facility - BRIDGE ST

110

Inspector - Edward Cinadr

Inspection Type - Fracture Critical

Inspection Date - 06/21/2023

Inventory Direction - West to East

Photo Name:
02939_013.jpg

Comments:

Looking southwest at RT guardrail on east approach. Note: moderate impact damage.



Photo Name:
02939_014.jpg

Comments:

Looking southwest at RT w-beam bridge rail near midspan. Note: moderate impact damage, still functional.



Photo Name:
02939_015.jpg

Comments:

Looking south at pipe rail weld to underside of end post L0-U1 south. Note: previously noted cracked weld has been rewelded.



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER

Facility - BRIDGE ST

110

Inspector - Edward Cinadr

Inspection Type - Fracture Critical

Inspection Date - 06/21/2023

Inventory Direction - West to East

Photo Name:
02939_016.jpg

Comments:

Looking northwest at mid-rail between L0'-L1' south. Note: previously noted crack has been rewelded.



Photo Name:
02939_017.jpg

Comments:

Looking north at transition over abutment 1. Note: up to 3/4" settlement in asphalt pavement.



Photo Name:
02939_018.jpg

Comments:

Looking north at transition over abutment 1. Note: up to 3/4" settlement in asphalt pavement.



Photo Name:
02939_019.jpg

Comments:

Looking north at transition over abutment 2. Note: minimal unevenness and no significant settlement.



Photo Name:
02939_020.jpg

Comments:

Looking south at abutment 2 sidewalk transition. Note: 2 inches of settlement at east approach sidewalk



Photo Name:
02939_021.jpg

Comments:

Looking east at severely deteriorating timber runner near south rail and panel point 1. Note: 10-inch-wide by 3-foot-long by up to 2 1/2-inch deep fibrous remains of runner.



Photo Name:
02939_022.jpg

Comments:

Looking northeast at timber runner near panel point 2 north truss. Note: 5-foot-long corner shake.



Photo Name:
02939_023.jpg

Comments:

Looking northeast at timber runner near centerline and midspan. Note: crushing and rot at end of runner, typical but isolated throughout.



Photo Name:
02939_024.jpg

Comments:

Looking west at west end underside of deck over Abutment 1. Note: deck has been shimmed with multiple timber wedges, some shims are working loose.



Photo Name:
02939_025.jpg

Comments:

Looking west at overall of underside in bay 1'-2'. Note: multiple timber planks with wide splits and corner shakes. Some planks have up to approximately 10-20% loss of capacity.



Photo Name:
02939_026.jpg

Comments:

Looking west at underside in bay 1'-2' between stringers 4 and 6. Note: planks deflect under live load and are partially damaged.



Photo Name:
02939_027.jpg

Comments:

Looking west at deck underside between stringers 5 and 6 bay 2'-1'. Note: partial failed timber planks. Deck pumps under live load.



Photo Name:
02939_028.jpg

Comments:

Looking west at the timber conduit box. Note: timber components are heavily rotten and decayed. Approximately 6-foot long failed section adjacent to panel point 2' south.



Photo Name:
02939_029.jpg

Comments:

Looking west at L0-L1 at L0 north truss. Note 3/16-inch average (1/4 max) loss on outside face of outboard eyebar and 1/8-inch average (3/16 max) loss on inside face of inboard eyebar. Also note heavy laminating corrosion and pack rust around full perimeter of heads, estimate 1/16-inch loss both faces.



Photo Name:
02939_030.jpg

Comments:

Looking southwest at L0-L1 at L0 south truss. Note: 1/16-inch average loss on one face of both eyebars.



Photo Name:
02939_031.jpg

Comments:

Looking east at north truss panel point L2 bottom chord and eyebars connection. Note: up to 3/16-inch pack rust.



Photo Name:
02939_032.jpg

Comments:

Looking west at north truss panel point L3 bottom chord and eyebars connection. Note: up to 1/4-inch pack rust.



Photo Name:
02939_033.jpg

Comments:

Looking west at north truss L3-U3 inboard channel lower 3 feet above deck. Note: up to 1/2-inch out-of-plane distortion.



Photo Name:
02939_034.jpg

Comments:

Looking west at north truss L3-U3' inboard eyebar about 2 feet from L3. Note: bent 1-inch outward and 1/2-inch upward over 2 foot length.



Photo Name:
02939_035.jpg

Comments:

Looking east at south truss L3-U3' and L3'-U3. Note: eyebars are rubbing together with minor wear at point of contact.



Photo Name:
02939_036.jpg

Comments:

Looking west at south truss L3'-U3 eyebar at the top of the bridge rail. Note: eyebar is rubbing on the rail with minor wear at point of contact.



Photo Name:
02939_037.jpg

Comments:

Looking east at U3' upper sway bracing connection plate underside at south truss. Note: one under engaged nut.



Photo Name:
02939_038.jpg

Comments:

Looking east at south truss L2'-U2' inboard connection plate at U2'. Note: 1/4-inch distortion on west side.



Photo Name:
02939_039.jpg

Comments:

Looking west at south truss L2'-U1' inboard eyebar. Note: localized upward bowing up to 5/8-inch over a 3 foot length at midpoint.



Photo Name:
02939_040.jpg

Comments:

Looking east at north truss U2'-U1' connection to end post at U1'. Note: one missing bolt.



Photo Name:
02939_041.jpg

Comments:

Looking west at north truss L0'-U1' east portal sway bracing kicker to end post connection. Note: one loose bolt.

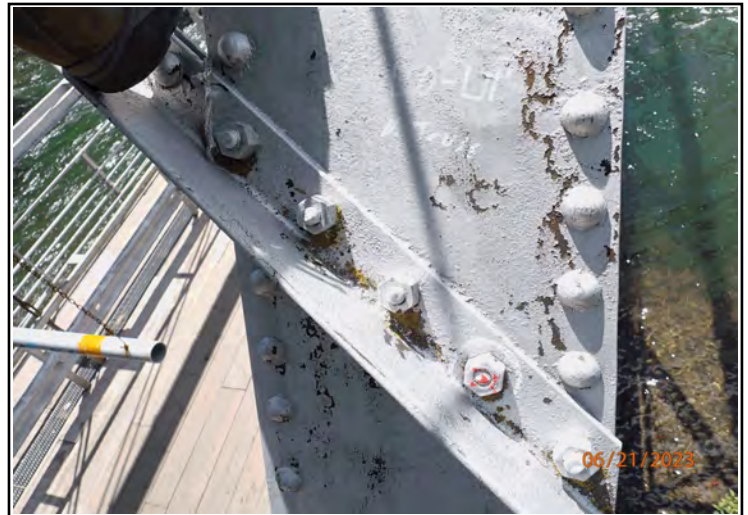


Photo Name:
02939_042.jpg

Comments:

Looking east at north truss L1'-L0' inboard at L0'. Note: heavy section loss, pitting, and pack rust on eyebar head and end of member. Approximately 1/8-inch section loss around the full perimeter of the eyebar head due to heavy pack rust and laminating corrosion. On the main eyebar, heavy section loss includes 1/4-inch remaining over the lower height and 7/16-inch remaining over the upper height.



Photo Name:
02939_043.jpg

Comments:

Looking southeast at south truss L1'-L0' inboard at L0'. Note: 1/4-inch average remaining thickness full height of the eyebar. Also note, severe pack rust and laminating corrosion around perimeters of eyebar heads with approximate 1/8-inch loss on faces.



Photo Name:
02939_044.jpg

Comments:

Looking southeast at FB1 west face south end. Note: corrosion at web to lower flange interface measuring 3-foot-long by 2-inch-high by up to 1/8-inch deep.



Photo Name:
02939_045.jpg

Comments:

Looking southwest at FB1 east face south end. Note: corrosion at web to lower flange interface measuring 3-foot-long by 2-inch-high by up to 1/8-inch deep.



Photo Name:
02939_046.jpg

Comments:

Looking east at FB 1 south end U-bolt and plate. Note: Corrosion with 1-inch hole in U-bolt plate



Photo Name:
02939_047.jpg

Comments:

Looking northeast at FB2 west face north end 12 inches from beam end. Note: corrosion at web to bottom flange interface measuring 20-inch-long by 2-inch-high by up to 1/8-inch deep.



Photo Name:
02939_048.jpg

Comments:

Looking northwest at FB2 east face north end 12 inches from beam end. Note: corrosion at web to bottom flange interface measuring 10-inch-long by 2-inch-high by up to 1/8-inch deep.



Photo Name:
02939_049.jpg

Comments:

Looking southeast at FB2 web to bottom flange interface west face south end. Note: corrosion measuring up to 3-foot long by 2-inch high by 1/8 inch deep.



Photo Name:
02939_050.jpg

Comments:

Looking southwest at FB2 web to bottom flange interface east face south end. Note: corrosion measuring up to 3-foot long by 2-inch high by 1/8-inch deep.



Photo Name:
02939_051.jpg

Comments:

Looking southeast at FB3 web to bottom flange interface west face north end. Note: corrosion measuring up to 28-inch long by 2-inch high by 3/16-inch deep on both faces.



Photo Name:
02939_052.jpg

Comments:

Looking southwest at FB3 web to bottom flange interface east face north end. Note: corrosion measuring up to 28-inch long by 2-inch high by 3/16-inch deep on both faces.



Photo Name:
02939_053.jpg

Comments:

Looking southeast at FB3 web to bottom flange interface west face 12 inches from south end. Note: corrosion measuring up to 34-inch long by 2-inch high by 3/16-inch deep with two through holes up to 1/2-inch diameter on each face.



Photo Name:
02939_054.jpg

Comments:

Looking southwest at FB3 web to bottom flange interface 12 inches from south end. Note: corrosion measuring up to 34-inch long by 2-inch high by 3/16-inch deep on both faces.



Photo Name:
02939_055.jpg

Comments:

Looking southeast at FB3' web to bottom flange interface west face south end. Note: corrosion measuring up to 36-inch long by 2-inch high with 1/2-inch diameter through holes.



Photo Name:
02939_056.jpg

Comments:

Looking southeast at FB1' web to bottom flange interface west face south end 2 feet. Note: 1/8-inch-deep section loss up to 1-inch high.



Photo Name:
02939_057.jpg

Comments:

Looking northwest at stringer 1 at Abutment 1. Note: 18-inch-long area of through holes in lower web up to 1 1/2-inch height and a 3-inch diameter hole in the web end.



Photo Name:
02939_058.jpg

Comments:

Looking west at Abutment 1 bearing seat between stringers 6 and 7. Note: up to 2 inches of soil buildup retaining moisture and promoting corrosion on stringer ends, typical full width.



Photo Name:
02939_059.jpg

Comments:

Looking southwest at stringer 8 at Abutment 1. Note: no change in previously documented 11 1/2-inch-long by 1-inch-high hole in web adjacent to bottom flange at end with up to 50% section loss to the end 2 feet of the stringer and knife edged bottom flange.



Photo Name:
02939_060.jpg

Comments:

Looking east at stringer 1 to FB1 connection west face. Note: one loose connection bolt.



Photo Name:
02939_061.jpg

Comments:

Looking west at end of stringer 5 top flange at FB1 east face.
Note: approximately 1-inch torsional displacement of stringer 4 and 5 at FB1.



Photo Name:
02939_062.jpg

Comments:

Looking east at stringer 1 at FB2 west face. Note: one missing connection bolt.



Photo Name:
02939_063.jpg

Comments:

Looking northwest at stringer 6 bottom flange at FB2. Note: pitting and laminating corrosion up to 1/16-inch deep.



Photo Name:
02939_064.jpg

Comments:

Looking south at stringer 8 bottom flange to web interface at FB2. Note: corrosion up to 3-foot long by 3-inch high with through holes up to 8-inch long by 3-inch tall.



Photo Name:
02939_065.jpg

Comments:

Looking south at stringer 8 web to bottom flange interface at FB3' south end. Note: corrosion measuring up to 36-inch long by 2-inch high with 2-inch long by up to 1 1/2-inch tall through holes.



Photo Name:
02939_066.jpg

Comments:

Looking southwest at stringer 1 to FB2' connection east face. Note: one loose connection bolt.



Photo Name:
02939_067.jpg

Comments:

Looking east at end of stringer 4 top flange at FB2' west face.
Note: approximately 1/2-inch torsional displacement of top flange.



Photo Name:
02939_068.jpg

Comments:

Looking east at stringer 7 top flange over FB2'. Note: up to full depth by 2-inch-wide section loss full length of the stringer.



Photo Name:
02939_069.jpg

Comments:

Looking west at stringer 8 top flange near FB2'. Note: corrosion with section loss and through holes up to 2-inch long by 2-inch high full length of the stringer.



Photo Name:
02939_070.jpg

Comments:

Looking southwest at stringer 8 top flange between FB2' and FB1'. Note: heavy section loss with through holes up to 1 1/4-inch wide with 1/8-inch remaining along top flange over the majority of the member worse at end 2 feet adjacent to FB1'.



Photo Name:
02939_071.jpg

Comments:

Looking northwest at stringer 4 at FB1' bay 2'-1'. Note: indication of lateral torsional buckling, stringer end is rotated approximately 3/4-inch to the south. Similar in approximately 10-15% of stringers.



Photo Name:
02939_072.jpg

Comments:

Looking southwest at stringer 8 top flange between FB1' and FB0'. Note: heavy section loss with through holes up to 1 1/4-inch wide and 1/8-inch remaining along top flange over the east end 6 feet.



Photo Name:
02939_073.jpg

Comments:

Looking southeast at stringer 1 at abutment 2. Note: 14-inch-long by up to 3-inch-high through hole in lower channel web.



Photo Name:
02939_074.jpg

Comments:

Looking southeast at stringer 6 at abutment 2. Note: typical up to 2-inch soil accumulation and surface corrosion with negligible pitting on all interior stringers.



Photo Name:
02939_075.jpg

Comments:

Looking northeast at stringer 8 at abutment 2. Note: 14-inch-long by up to 3 1/2-inch-high through hole in lower channel web.



STRUCTURE INSPECTION REPORT

MDT ID - 02939

NBI ID - L15672000+02001

Feature Intersected - SWAN RIVER

Facility - BRIDGE ST

110

Inspector - Edward Cinadr
 Inspection Type - Fracture Critical
 Inspection Date - 06/21/2023
 Inventory Direction - West to East

Photo Name:
02939_076.jpg

Comments:

Looking east at L0' south roller nest bearing at abutment 2.
 Note: the roller nest is slightly racked out of alignment. Heavy to severe laminating corrosion and pitting on roller nest components. North anchor bolt is missing (never installed) and the south anchor bolt is heavily bent towards the approach. Bearing is at limits of expansion at 52 degree F.



Photo Name:
02939_077.jpg

Comments:

Looking southwest at south truss fixed bearing at Abutment 1.
 Note: heavy laminating corrosion and pack rust with 1/8-inch max pitting on bearing components.



Photo Name:
02939_078.jpg

Comments:

Looking northwest at abutment 1 overall.



Photo Name:
02939_079.jpg

Comments:

Looking southwest at abutment 1 north wingwall. Note: moderate efflorescence in construction joint and 0.026-inch-wide transverse crack.



Photo Name:
02939_080.jpg

Comments:

Looking southwest at south end of Abutment 1 breast wall. Note: up to 1/16-inch wide horizontal and vertical cracks and corner spall under lower lateral bracing measuring 7-inch wide by 2-inch high by 4-inch deep.



Photo Name:
02939_081.jpg

Comments:

Looking southeast at abutment 2 overall.



Photo Name:
02939_082.jpg

Comments:

Looking southeast at abutment 2 wall. Note: bearing seat concrete is heavily raveling and spalled over 2-foot wide by 1-foot long up to 2-inch deep, slightly undermining the corner of the masonry plate.



Photo Name:
02939_083.jpg

Comments:

Looking southeast at abutment 2 wall. Note: up to 2-inch soil accumulation on the bearing seat. Also note, 1-foot-long by 1 1/2-inch-deep corner spall under stringer 3.



Photo Name:
02939_084.jpg

Comments:

Looking east at abutment 2 south end. Note: deep raveling and scaling nearly full height extending into the southeast wingwall, up to 4-foot total width by 1-inch deep.



Photo Name:
02939_085.jpg

Comments:

Looking northeast at abutment 2 south wingwall. Note 3/8-inch-wide full height vertical crack in unreinforced concrete.



Photo Name:
02939_086.jpg

Comments:

Looking southeast at upstream channel.



Photo Name:
02939_087.jpg

Comments:

Looking north at downstream channel.

