

Routine & Special Member Inspection Report

Bridge No. 2399
BRIDGE AVENUE (INTERNATIONAL BRIDGE)
OVER
ST. JOHN RIVER & CNRR
MADAWASKA, MAINE (U.S.A.) / EDMUNDSTON, NEW BRUNSWICK (CANADA)



June 19, 2020

WIN #: 22035.20

Prepared For:



Prepared By:



MAINE DEPARTMENT OF TRANSPORTATION
STRUCTURES INSPECTION FIELD REPORT
ROUTINE & SPECIAL MEMBER INSPECTION

2-DIST **05** STR. NO. **2399**

WIN **022035.20**

CITY/TOWN MADAWASKA, ME – EDMUNDSTON, NB	8-STRUCTURE NO. 2399	11-MILE POINT 0.180	41-STATUS P:POSTED	SPECIAL MEM. INSP. DATE JUNE 19, 2020
07-FACILITY CARRIED BRIDGE AVE.	MEMORIAL NAME/LOCAL NAME INTERNATIONAL BRIDGE	27-YR BUILT 1921	106-YR REBUILT 2001	YR REHAB'D (NON 106) 2005, 2018
06-FEATURES INTERSECTED ST. JOHN RIVER & CNRR	26-FUNCTIONAL CLASS RURAL PRIN. ARTERIAL - OTHER	MaineDOT R. Taylor, PE		
43-STRUCTURE TYPE 310: STEEL TRUSS - THRU	22-OWNER State Highway Agency	21-MAINTAINER State Highway Agency	TEAM LEADER B. D'Artista, PE <i>B. D'Artista</i>	PM (HNTB) C. Morin, PE <i>C. Morin</i>
107-DECK TYPE 3: OPEN GRATING	WEATHER Varied	TEMP. (air) 86°F	TEAM MEMBERS J. McCAULEY	

ITEM 58 **4**

DECK DEF

1. Wearing Surface	N	-
2. Deck Condition	4	S-A
3. Stay-in-Place Forms	3	S-P
4. Curbs	6	M-P
5. Median	N	-
6. Sidewalks	4	M-A
7. Parapets	N	-
8. Railings	6	M-P
9. Anti Missile Fence	N	-
10. Drainage System	N	-
11. Lighting Standards	6	M-P
12. Utilities	6	M-P
13. Deck Joints	5	S-P
14. Traffic Signs	6	M-P

CURB REVEAL (In inches) S **10** N **10**

ITEM 59 **4**

SUPERSTRUCTURE DEF

1. Stringers	4	S-A
2. Floorbeams	4	S-A
3. Floor System Bracing	N	-
4. Girders or Beams	N	-
5. Trusses – General	5	-
a. Upper Chords	6	M-P
b. Lower Chords	5	S-P
c. Web Members	5	S-P
d. Lateral Bracing	5	M-P
e. Sway Bracing	4	S-P
f. Portals	4	S-P
g. End Posts	6	M-P
6. Gusset Plates	5	S-P
7. Conn Plates & Angles	4	S-P
8. Cover Plates	5	S-P
9. Bearing Devices	3	S-A
10. Diaphragms/Cross Frames	N	-
11. Rivets & Bolts	4	S-P
12. Welds	4	S-A
13. Member Alignment	6	S-P
14. Paint/Coating	6	M-P

Year Painted **2005**

COLLISION DAMAGE: *Please explain*
None () Minor () Moderate () Severe (**X**)

LOAD DEFLECTION: *Please explain*
None () Minor () Moderate (**X**) Severe ()

LOAD VIBRATION: *Please explain*
None () Minor () Moderate (**X**) Severe ()

Any Fracture Critical Members: (Y/N) **Y**

Any Cracks: (Y/N) **Y**

ITEM 60 **5**

SUBSTRUCTURE DEF

1. Abutments	Dive	Cur	5	
a. Pedestals	N	N		-
b. Bridge Seats	N	5		S-P
c. Backwalls	N	4		S-P
d. Breastwalls	N	5		S-P
e. Wingwalls	N	5		M-P
f. Slope Paving/Rip-Rap	N	N		-
g. Pointing	N	N		-
h. Footings	N	H		-
i. Piles	N	H		-
j. Scour	N	N		-
k. Settlement	N	7		-
l. Retaining Walls	N	5		S-P
2. Piers or Bents			5	
a. Pedestals	N	7		-
b. Caps	N	6		M-P
c. Columns	N	N		-
d. Stems/Webs/Pierwalls	N	5		S-P
e. Pointing	N	N		-
f. Footing	5	H		-
g. Piles	N	N		-
h. Scour	5	H		S-P
i. Settlement	N	7		-
3. Pile Bents			N	
a. Pile Caps	N	N		-
b. Piles	N	N		-
c. Diagonal Bracing	N	N		-
d. Horizontal Bracing	N	N		-
e. Fasteners	N	N		-

UNDERMINING (Y/N) If YES please explain **Y**

COLLISION DAMAGE:
None (**X**) Minor () Moderate () Severe ()

SCOUR: *Please explain*
None () Minor (**X**) Moderate () Severe ()

I-60 (Dive Report) **5** I-60 (This Report) **5**

93B-U/W (DIVE) Insp **07/18/16**

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

ITEM 61	5		
CHANNEL & CHANNEL PROTECTION			
	Dive	Cur	DEF
1. Channel Scour	X	H	-
2. Embankment Erosion	X	7	-
3. Debris	X	7	M-P
4. Vegetation	X	7	-
5. Utilities	N	N	-
6. Rip-Rap/Slope Protection	N	N	-
7. Aggradation	X	5	M-P
8. Fender System	N	N	-

ITEM 36	TRAFFIC SAFETY	COND		
	36	5		
1. Bridge Railing	0	5	DEF	
2. Transitions	0	4	S-P	
3. Approach Guardrail	0	4	S-A	
4. Approach Guardrail Ends	0	5	S-P	
	H	3	3S2	Single
Actual Posting	5	5	5	5
Recommended Posting	5	5	5	5
At bridge		Advance		
N	S	N	S	
N	Y	Y	Y	
-	7	6	7	
-	7	6	7	
	N	S	meter	
Actual Field Measurement	ft 14	in 3	4.32	
Posted Clearance	ft 13	in 9	-	
At bridge		Advance		
N	S	N	S	
Y	Y	N	N	
6	7	-	-	
4	7	-	-	

ACCESSIBILITY	(Y/N/P)	
	Needed	Used
Lift Bucket	Y	Y
Ladder	N	N
Boat	N	N
Waders	N	N
UBIU	Y	Y
Rigging	N	N
Staging	N	N
Traffic Control	Y	Y
RR Flagmen	Y	Y
Police	N	N
Roadway Flaggers	Y	Y

RATING

Rating Report (Y/N) Y

Date: 10/31/17

Inspection data at time of existing rating

I 58: 4 I 59: 4 I 60: 5 Date: 07/27/17

(To be filled out by DOT Project Manager)

Request for Rating or Rerating (Y/N)

If YES please give priority:
High () Medium () Low ()

REASON: _____

CONDITION RATING GUIDE			(For Items 58, 59, 60 and 61)
CODE	CONDITION	DEFECTS	
N	NOT APPLICABLE		
G 9	EXCELLENT	Excellent condition.	
G 8	VERY GOOD	No problems noted.	
G 7	GOOD	Some minor problems.	
F 6	SATISFACTORY	Structural elements show some minor deterioration.	
F 5	FAIR	All primary structural elements are sound, but may have minor section loss, cracking, spalling or scour.	
P 4	POOR	Advanced section loss, deterioration, spalling or scour.	
P 3	SERIOUS	Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.	
C 2	CRITICAL	Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.	
C 1	"IMMINENT FAILURE"	Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put it back in light service.	
0	FAILED	Out of service – beyond corrective action.	

DEFICIENCY:	A defect in a structure that requires corrective action
CATEGORIES OF DEFICIENCIES:	
M = Minor Deficiency-	Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion to steel, Minor scouring, Clogged drainage, etc.
S = Severe/Major Deficiency-	Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroding rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.
C-S = Critical Structural Deficiency-	A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.
C-H = Critical Hazard Deficiency-	A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples included but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.
URGENCY OF REPAIR:	
I = Immediate-	[Inspector(s) contact Bridge Inspection Engineer to report the Deficiency and to receive further instruction from him/her].
A = ASAP-	[Action/Repair should be initiated by Bridge Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].
P = Prioritize-	[Shall be prioritized by Bridge Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

REMARKS

BRIDGE ORIENTATION

The Madawaska International Bridge (MaineDOT Bridge No. 2399, New Brunswick DTI/MTI Bridge No. 320) is a four span structure carrying Bridge Avenue over the St. John River and Canadian National Railway (CN) tracks between the town of Madawaska, Maine (U.S.A.) and the city of Edmundston, New Brunswick (Canada) **(see sketch 1 and photos 1 through 10)**. This bridge crosses the International Border between the U.S.A. and Canada.

Each span of this structure has a Camelback style steel through truss with two truss lines (west and east) **(see sketches 2 & 3 and photos 1 & 2)**. All spans are symmetric about midspan (panel point 6) and identical in terms of geometry and member dimensions. The truss upper chords and end posts are comprised of two rolled steel channels riveted to a steel top plate. The truss lower chords consist of a built-up riveted steel H-shape section. The truss web members consist of a built-up riveted steel I-shape and C-shape section. The floor system is comprised of rolled steel floorbeams and rolled steel stringers, which support an open steel grid deck **(see photos 6 and 7)**. The concrete filled steel grid deck sidewalk with stay-in-place forms is supported by rolled steel sidewalk stringers, which frame into the built-up riveted steel floorbeam cantilevers.

The substructure consists of two reinforced concrete abutments (north and south) with reinforced concrete wingwalls **(see photos 8 and 9)** and three reinforced concrete pierwalls with a reinforced concrete cap **(see photo 10)**.

This bridge is oriented from north to south and the St. John River flows west to east. The spans and piers are numbered 1 to 4 and the piers 1 to 3 from north to south. The panel points of each span are numbered 0N to 0S from north to south with panel point 6 as the line of symmetry **(see sketch 2)**. The floorbeams of each span are numbered FB0N to FB0S from north to south with floorbeam FB6 as the line of symmetry **(see sketch 3)**. The stringers are numbered S1 to S12 from east to west. The nomenclature used for this report corresponds to the as-built plans and the previous inspection reports.

GENERAL REMARKS

Inspection Scope:

The scope of this inspection is limited to Special Members or components with a condition rating of "4" (poor) or lower. The following items are considered to be a Special Member:

- 58.2 Deck Condition (spans 1 and 2)
- 58.3 Stay-in-Place Forms (spans 1 and 2)
- 58.6 Sidewalks (spans 1 and 2)
- 59.1 Stringers (spans 1 and 2)
- 59.2 Floorbeams
- 59.5.c Web Members (west truss vertical U3NL3N in span 3 due to a flange angle crack)
- 59.5.e Sway Bracing (collision damage)
- 59.5.f Portals (collision damage)
- 59.7 Connection Plates & Angles (lower lateral bracing connection plates)
- 59.9 Bearing Devices (nested rollers at pier 3 and south abutment)
- 59.11 Rivets & Bolts, 59.12 Welds, 60.1.c Backwalls (south abutment)
- 59.13 Member Alignment
- 36.b Transitions
- 36.c Approach Guardrail

Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for additional information on elements that were not part of this Routine and Special Member Inspection.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

GENERAL REMARKS (cont.)

Inspection Coordination:

Extensive coordination was required due to the split ownership of this bridge and the International Border crossing. Coordination occurred with the following agencies:

- MaineDOT: Coordinated all aspects of the inspection with the Assistant Bridge Maintenance Engineer. The Bridge Maintenance Engineer and Region 5 Manager were notified of the inspection schedule.
- New Brunswick Department of Transportation and Infrastructure (DTI/MTI): Coordinated with the Assistant Director Multimodal Strategic Planning, Assistant Director Bridge Maintenance and District Bridge Maintenance Superintendent.
- United States Customs and Border Protection:
 - Address: 63 Bridge Avenue, Madawaska, ME 04756
 - Contact: Port Director
 - Phone: 207-728-4565
 - Website: <https://www.cbp.gov/contact/ports/madawaska#>
- Canada Border Service Agency:
 - Address: 66 Saint Francois Street, Edmundston NB E3V 1E6
 - Contact: Acting Chief, Operations
 - Phone: 506-739-0360
 - Website: <http://www.cbsa-asfc.gc.ca/do-rb/offices-bureaux/70-eng.html>
- Town of Madawaska:
 - Emailed the town manager regarding the upcoming inspection. Public notices were established and emergency personnel notified.
 - Website: <http://www.townofmadawaska.com/contact-us.html>
- City of Edmundston:
 - Emailed the Department of Public Works, police department and fire department regarding the upcoming inspection.
 - Website: <http://edmundston.ca/en/nous-joindre/departements-municipaux>
- Twin Rivers Paper Company: Coordinated with the Vice President of the Supply Chain.

The inspection team leader checked in with both border customs on a daily basis to provide an update on inspection activities. The United States Customs and Border Protection required a prescreening of all personnel (inspection crew, UBIU and bucket truck drivers, flaggers) involved in the inspection. Names, Date of Births and Passport/Passcard numbers were provided.

Madawaska is in the Eastern Standard Time (EST) zone and Edmundston is in the Atlantic Standard Time (AST) zone. Edmundston is one hour ahead of Madawaska.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

GENERAL REMARKS (cont.)

Inspection Access:

A 62' underbridge inspection unit (UBIU) was utilized to access the underside of deck and floor system. Future inspections should be cognizant of the tight fit of the UBIU booms through the truss web members. A 40' bucket truck was used to access the truss upper bracing.

This inspection was pulled forward from July into June to coincide with the mandated federal border closure as part of the COVID-19 pandemic restrictions, which permitted only essential personnel access for border crossing. Due to the current 5 ton bridge load posting, the bridge was closed to all traffic during the portion of the inspection utilizing the UBIU and bucket truck. The complete traffic closure occurred during the hours of 7:00am to 4:30pm (all times are in EST). A 7:00am start time allowed for an uninhibited morning commute to/from the Twin Rivers Paper Company. MaineDOT issued press releases and social media announcements regarding the complete traffic closure. MaineDOT also provided multiple portable changeable message signs (PCMS) along US Route 1 (including in downtown Madawaska), State Route 11 and I-95. New Brunswick DTI/MTI made radio and television announcements regarding the complete traffic closure. A temporary traffic closure plan was developed for the immediate area surrounding the bridge.

The local district of the New Brunswick DTI/MTI provided bilingual/graphic based roadway signs to be used on the Edmundston side. Use of bilingual/graphic based roadway signs was required since both English and French are the official languages of New Brunswick.

Groundhogs were observed on the south abutment bridge seat. Care should be taken when inspecting in this area.

Railroad Access:

The north half of span 1 crosses over three railroad tracks at mile post 219.05 of the CN Napadogan Subdivision (**see photo 2**). The northern track is the mainline track and the other two tracks are siding tracks for the nearby yard. Numerous trains would pass under the bridge daily on the siding tracks to access the track switch just east of the bridge. Many of these trains would stop under the bridge for an extended period of time.

A CN flagman was scheduled for two days to allow sufficient time to inspect the portion of span 1 over the tracks and the north abutment. During the 2017 Routine and Fracture Critical Inspection, no foul time was provided on the first day of the flagman due to railroad yard and maintenance activities.

Load Rating and Bridge Load Posting:

An updated load rating analysis and report was developed by HNTB Corporation in October 2018. This updated load rating incorporated the conditions documented in the 2017 Routine and Fracture Critical Inspection Report. A 5 ton bridge load posting was implemented by MaineDOT based on the results of this updated load rating. Refer to the 2018 Load Rating Report for additional information.

There is no north "At Bridge" bridge load posting sign (**see photo 3**). There are two north "Advance" bridge load posting signs, one permanent sign mounted on an aluminum post adjacent to the eastbound lane of Saint Francois Street and one temporary roadway sign with a sign stand on the bridge approach near the intersection with Saint Francois Street.

The south "At Bridge" bridge load posting sign is mounted on a timber post adjacent to the southeast approach guardrail (**see photo 4**). The south "Advance" bridge load posting sign is mounted on a timber post and located on the east sidewalk of Bridge Avenue near the intersection with Main Street (US Route 1).

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

REMARKS

GENERAL REMARKS (cont.)

Rehabilitation/Repairs:

This structure underwent a rehabilitation in 1961 and 2001, and multiple repairs including in 1986, 1989, 2005 and 2018. The 1961 rehabilitation consisted of:

- Replacing the original timber deck with an open steel grid deck.
- Installation of floorbeam top and bottom flange cover plates.
- Installation of a steel curb and fill plate along both trusses.
- Replacing the original timber sidewalk with a concrete filled steel grid deck.

The 2001 rehabilitation consisted of:

- Replacement of the steel grid deck in spans 3 and 4.
- Replacement of the steel curb and fill plate along both trusses in spans 3 and 4.
- Replacement of stringers S1 through S9 (roadway stringers) within all floorbeam bays in spans 3 and 4. All stringer to floorbeam connection angles for these stringers were also replaced.
- Concrete repair with steel post-tensioning rods in the south abutment bridge seat (**see photo 9**).
- Concrete repairs in the exposed surfaces of the south abutment breastwall and wingwalls.
- Concrete repair with steel post-tensioning rods in the pier 3 cap (**see photo 10**).

The north abutment was repaired in 1986. Undermining repairs and large boulders placement were performed along piers 1 and 2 as scour countermeasures in 1989. The 2005 repairs included a superstructure repainting in all spans and a sidewalk replacement in spans 3 and 4. The following span 1 roadway stringers were replaced in 2018: stringer 5 in floorbeam bays 2N and 3N; stringer 9 in floorbeam bays 3N and 4N.

Other notable repairs to the structure include (date not provided):

- Repairs to scattered sway and portal bracing members that sustained collision damage.
- Web repairs to scattered floorbeams in spans 3 and 4.
- Replacement of the original nested roller bearings at piers 1 and 2 with elastomeric bearings.

Four paper process pipes for the Twin Rivers Paper Company with associated supports were installed along the east truss in 1980 (**see photo 1**).

Vertical Clearance:

The minimum roadway vertical clearance was measured to be 14'-2" from the underside of the lower horizontal strut of the sway bracing at panel point 4S in span 2 to the northbound lane of Bridge Avenue. This measurement was taken at a location of collision damage.

There are two south "At Bridge" vertical clearance signs, one mounted on the portal bracing and the other on a timber post adjacent to bridge (**see photo 4**). Both of these signs have a 14'-2" posted vertical clearance. The north "At Bridge" vertical clearance sign is mounted on the portal bracing and has a 4.2 meter (13'-9") posted vertical clearance (**see photo 3**). There are no "Advance" vertical clearance signs for this bridge.

The minimum railroad vertical clearance was measured to be 22'-0 3/4" from the top of the rails for the mainline track and northern siding track to the bottom of the east truss lower chord in span 1. The abandoned pipe along the west truss appears to protrude below west truss and may govern the vertical clearance.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

REMARKS

GENERAL REMARKS (cont.)

Identification of Fracture Critical Members (FCMs):

Refer to **sketch 2** for the Fracture Critical Members (FCMs) of the trusses. All floorbeams and floorbeam cantilevers are considered to be Fracture Critical (**see sketch 3**). Refer to the Fracture Critical Plan with Fatigue Sensitive Details (FSDs) and the Fracture Critical Inspection Procedure in the MaineDOT bridge file for additional information.

ITEM 58 - DECK

Item 58.2 - Deck Condition

Spans 1 and 2:

The open steel grid deck in spans 1 and 2 is in poor condition and governs the condition rating of Item 58.2. Refer to **chart 1** for deck conditions in spans 1 and 2. Isolated areas of the steel grid deck in span 1 have been replaced at locations of the replaced stringers.

The deck in spans 1 and 2 exhibits numerous distressed areas comprised of cracked, failed or missing sections of the transverse and longitudinal distribution bars (**see chart 1 and photos 11 through 15**). Most of these distressed areas have multiple consecutive distribution bars (up to twelve) with full height cracks and/or missing sections (**see chart 1 and photos 11 through 15**). Isolated distressed areas deflect under truck tire loading (**see chart 1**). The missing sections of the distribution bars form up to 9" long by 6" wide openings in the deck.

Scattered transverse bearing bars have 100% section loss by up to 2 1/4" high by 3" long around the longitudinal circular diaphragm bar (**see chart 1 and photo 16**). There is up to 1" impacted rust between adjacent grid deck panels at isolated floorbeams. This impacted rust is causing advanced section loss to the edges of the transverse bearing bars (**see chart 1 and photo 15**). In span 1, four transverse welds between the grid deck and the floorbeam FB5N top flange are cracked between stringers S6 and S9 (**see chart 1 and photo 13**). These cracked welds do not propagate into the floorbeam top flange.

There are numerous previous repairs in the deck in spans 1 and 2 (**see photos 12 and 13**). Scattered repairs have failed, particularly adjacent to distressed areas of distribution bars (**see chart 1 and photos 12 & 13**). Some of these failed repairs have become detached with sharp edges and/or deflect under truck tire loading (**see chart 1 and photo 12**). Isolated failed repairs protrude up to 1/2" higher than the top of the deck. Some repairs have been performed since the 2019 Routine and Fracture Critical Inspection.

The deck in span 2 rattles under live load potentially due to multiple consecutive cracked welds between the grid deck panels and the stringer top flanges.

Spans 3 and 4:

The open steel grid deck in spans 3 and 4 is in good condition and was not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Item 58.3 - Stay-in-Place Forms

The stay-in-place forms in spans 1 and 2 are in serious condition and govern the condition rating of Item 58.3. The stay-in-place forms for the sidewalk in spans 1 and 2 exhibit extensive areas of 100% section loss by full width between the longitudinal bars of the concrete filled steel grid deck sidewalk throughout (**see photo 17**). These areas of 100% section loss extend up to full sidewalk width by up to full floorbeam bay length. The remaining areas of stay-in-place forms in spans 1 and 2 exhibit heavy rust and advanced section loss. Refer to Item 58.6 for additional comments.

The stay-in-place forms for the sidewalk in spans 3 and 4 are in good condition and were not part of this Routine and Special Member Inspection.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 58 - DECK (cont.)

Item 58.6 - Sidewalks

Top of Sidewalk:

The top of the concrete filled steel grid deck sidewalk in spans 1 and 2 is in poor condition and governs the condition rating of Item 58.6. There is a thin concrete patch layer on top of the sidewalk in spans 1 and 2, particularly the north half of span 1 (**see photo 18**). This thin concrete patch layer does not cover the full width of the sidewalk and is in scattered areas for the south half of span 1 and all of span 2. The thin concrete patch layer on top of the sidewalk is breaking up along the interface with the approach sidewalk at the north abutment. The top of the distribution bars of the steel grid deck sidewalks in spans 1 and 2 are exposed throughout with moderate surface rust (**see photos 18 and 19**).

There are scattered full width 1/16" wide transverse cracks in the top of the sidewalk in spans 1 and 2. The top of the sidewalk in spans 1 and 2 exhibits areas of 1/2" deep scaling, particularly throughout span 1 and near pier 1 in span 2 (**see photos 18 and 19**). The top of the sidewalk in spans 1 and 2 exhibits scattered up to 3'-0" long by up to 5" wide by 3/4" deep spalls along the edges, isolated extending up to 5'-8" long by up to 1 1/4" deep. The sidewalk in span 1 has scattered full depth spalls along the edges extending up to 11" long by 9" wide or 1'-6" long by up to 3" wide (**see photos 17 through 19**).

There are scattered concrete repairs in the in the top of the sidewalk in spans 1 and 2 (**see photos 17 through 19**). Some of these repairs were performed by New Brunswick DTI/MTI at the conclusion of the 2019 Routine and Fracture Critical Inspection.

There is a 15/16" vertical differential at pier 2 between the top of the sidewalk in spans 2 and 3 (**see photo 20**).

The top of the sidewalk in spans 3 and 4 is in good condition and was not part of this Routine and Special Member Inspection.

Underside of Sidewalk:

The longitudinal (main) bars of the concrete filled steel grid deck sidewalk in spans 1 and 2 exhibit a failed paint system and moderate rust (**see photo 17**). The underside of the concrete infill for the sidewalk in spans 1 and 2 is predominately exposed due to the 100% section loss of the stay-in-place forms and exhibits isolated areas of up to 1 1/2" deep spalling (**see photo 17**).

The underside of the sidewalk in spans 3 and 4 is in good condition and was not part of this Routine and Special Member Inspection.

ITEM 59 - SUPERSTRUCTURE

Item 59.1 - Stringers

Spans 1 and 2 Roadway Stringers:

The roadway stringers (stringers S1 to S9) in spans 1 and 2 are in poor condition and govern the condition rating of Item 59.1, particularly in span 1. The roadway stringers in spans 1 and 2 exhibit advanced section loss of the top flange throughout including areas of 100% section loss by up to 1 5/8" wide of one/both edges within the midspan region (**see sketches 4 through 8 and photos 21 through 25**). Many of these areas of 100% section loss in the top flanges encompass a vacant 7/8" diameter drilled hole, which is most likely from the anchors for the removed timber deck (**see sketches 4, 5 & 8, and photos 21 & 22**). Numerous roadway stringers have 100% section loss by up to full width of one/both halves of the top flange at the floorbeams (**see sketches 5 through 7 and photos 23 through 25**).

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.1 - Stringers (cont.)

The bottom flanges of the roadway stringers in spans 1 and 2 exhibits moderate to advanced section loss throughout (**see sketches 4 through 8 and photos 21 through 25**). Scattered roadway stringers have 100% section loss by up to 1 5/16" wide of one/both edges of the bottom flange at the floorbeams (**see sketches 6 & 7 and photos 23 through 25**).

The web of the roadway stringers in spans 1 and 2 exhibits moderate to advanced section loss at/near the floorbeams and minor to moderate section loss elsewhere (**see sketches 4 through 8 and photos 21 through 25**). Scattered roadway stringers have an area of 100% section loss by up to 3/4" high by up to 2 3/4" long in the lower web below the connection angles to the floorbeams (**see sketches 5 through 7 and 23 through 25**). Isolated roadway stringers have areas of 100% section loss by up to 1 7/8" high by up to 5/8" long or an up to 15/16" long/high corrosion crack in the web adjacent to the connection angles to the floorbeams (**see sketch 5 through 7 and photo 23 through 25**).

Stringer S5 at midspan of most floorbeam bays in spans 1 and 2 exhibits up to 5/16" section loss by 7" high of the web along the vertical bent plate of the lower lateral bracing connection (**see photo 26**). Stringer S5 at midspan between floorbeams FB4N and FB5N in span 1 exhibits the most severe web section loss along the vertical bent plate of the lower lateral bracing connection including an area of 100% section loss by 2 3/4" high by up to 1 7/16" long (**see sketch 6 and photo 27**).

Stringer S9 between floorbeams FB3N and FB4N in span 1 has a full length by full height by 5/16" wide bow to the east and a 1.6° rotation over the full width of the bottom flange. This stringer was replaced in 2018 and the bow and rotation appear to be from erection.

All section loss has been painted over and typically shows no signs of active corrosion. Isolated stringers have active corrosion at the floorbeam connection.

Refer to Items 59.7 and 59.11 for additional comments.

Spans 3 and 4 Roadway Stringers:

The roadway stringers (stringers S1 through S9) in spans 3 and 4 are in good condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Sidewalk Stringers:

The sidewalk stringers (stringers S10 to S12) in all spans are in fair condition. Isolated sidewalk stringers exhibit advanced section loss of the top flange including areas of 100% section loss by up to 1 1/2" wide of one/both edges. Stringer S10 at the south side of the floorbeam FB3N cantilever in span 4 has 100% section loss by up to 1 1/4" wide of the top flange including a vacant drilled hole and 100% section loss by 3/16" high by 7/16" long in the upper web (**see photo 28**).

Stringer S10 at the floorbeam FB0N cantilever in span 1 and the floorbeam FB0S cantilever in span 4 is not connected to the floorbeam cantilever web due to 100% section loss of the floorbeam cantilever (**see photos 29 and 30**). These stringers only have a bottom flange seat angle with two rivets connecting to the floorbeam cantilever as a result of this 100% section loss. Stringer S10 at the floorbeam FB0N cantilever in span 1 only has one rivet engaged at the seat angle and the seat angle appears to have rotated down and is in contact with the web repair plate (**see photo 29**). Refer to Item 59.2 for additional comments.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.2 - Floorbeams

The floorbeam webs exhibit moderate to advanced section loss throughout, particularly at the stringer connections and in span 4 (**see sketches 9 through 11 and photos 31 through 37**). The floorbeam webs have 1/16" minimum remaining thickness by up to 2" high above and/or up to 4" high below numerous stringer connections. Isolated floorbeams have areas of 100% section loss by up to 1 5/8" high by up to 2 5/8" long in the web above/below the stringer connection angles (**see sketches 9 and 10**). Floorbeams FB2S and FB0S in span 4 exhibit areas of 100% section loss by up to 4 1/2" high by up to 10 1/2" long in the web above/below the stringer connections (**see sketch 11 and photos 33, 34 & 37**). Floorbeam FB2S in span 4 has repair plates on the web surrounding but not encompassing the areas of 100% section loss (**see sketch 11 and photos 33 & 34**). Floorbeam FB0N between stringers S2 and S3 in span 2 has 5/16" average section loss by most of the height (**see sketch 9 and photo 31**). Floorbeams FB2N and FB3N in span 1 exhibits minor charring on the west face of the web at stringer S9 due to the torch cutting of the stringer connection rivets during the 2018 stringer replacement.

There is up to 5/16" section loss by full width of the underside of the floorbeam top flanges on of one/both sides (**see sketches 9 through 11 and photo 31**). Isolated floorbeams have areas of 100% section loss by up to 1/2" wide of one edge of the top flange. Floorbeam FB0S between stringers S1 and S3 in span 3 exhibits 100% section loss by up to 2" wide of the south edge of the top flange encompassing a vacant drilled hole (**see photo 38**). The top flange cover plate of the floorbeams in spans 3 and 4 is hidden by the asphaltic binder between the adjacent grid deck panels.

The bottom flange and bottom flange cover plate of the floorbeams exhibit moderate to advanced section loss throughout, particularly at the stringers (**see sketches 9 through 11 and photos 32, 34 through 36 & 39**). Isolated floorbeams have areas of 100% section loss by 1/4" wide of one edge of the bottom flange. Numerous floorbeams in spans 3 and 4 have an up to 2'-7" long by full width by up to 5/16" downward bend of the bottom flange cover plate (**see chart 2 and photo 40**). These bends appear to have occurred during erection. Scattered floorbeams have up to 1/2" impacted rust between the bottom flange and cover plate at the cover plate terminations (**see chart 2 and photo 41**).

Floorbeam FB1S in span 4 exhibits rotation and an approximate 1/2" sweep to the north over the full length (**see photo 39**). The rotation extends up to 0.7° on the web and 2.3° over the full width of the bottom flange cover plate. This rotation and sweep appear to have occurred during erection.

The floorbeam bottom flange to cover plate welds extend to the edge of the cover plate termination, which form stress risers in the bottom flange and represent a Fatigue Sensitive Detail (FSD) (**see photo 41**). Isolated floorbeams in spans 3 and 4 have gaps and/or cracks in the weld between the bottom flange and bottom flange cover plate (**see chart 2 and photos 34 & 40 through 42**). These cracked welds show no signs of propagation into the floorbeam bottom flange or cover plate. Refer to Item 59.12 for additional comments.

Isolated floorbeam cantilevers exhibit advanced section loss of the top flange including 100% section loss of the outer edge. Floorbeam FB3N cantilever at stringer S10 in span 4 has areas of 100% section loss by full width of the outstanding leg of both top flange angles (**see photo 28**). The floorbeam cantilevers at both abutments are in serious condition and exhibit the following conditions:

- Span 1, Floorbeam FB0N Cantilever at Stringer S10: 100% section loss by up to 9" high by 2'-0 1/4" long of the web, 100% section loss by up to full width of the outstanding leg of both top flange angles and 100% section loss by full width of the outstanding leg of the north bottom flange angle (**see photo 29**). Stringer S10 is not connected to the floorbeam cantilever web due to the 100% section loss.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.2 - Floorbeams (cont.)

- Span 4, Floorbeam FB0S Cantilever: 100% section loss by up to full height by 1'-6" long of the web, 100% section loss by up to full width of the outstanding leg of both top flange angles and 100% section loss by 1 3/4" wide of the outstanding leg of the south bottom flange angle (**see photo 30**). Stringer S10 is not connected to the floorbeam cantilever web due to the 100% section loss.
- Repairs have been performed to web of these floorbeam cantilevers that do not completely encompass the areas of 100% section loss (**see photos 29 and 30**).

Refer to Items 59.7, 59.11 and 59.13 for additional comments.

Item 59.5 - Trusses – General

Item 59.5.c - Web Members

Diagonals:

The diagonals are in fair condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Verticals:

The verticals are in fair condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

West truss vertical U3NL3N in span 3 was inspected during this Routine and Special Member Inspection due to a previously identified crack in one of the flange angles:

- Span 3, West Truss Vertical U3NL3N near Curb: East flange angles have an up to 1 1/2" sweep to the south and a slight rotation (**see photo 43**). Northeast flange angle has a 1'-4" long by 3" wide by up to 2" high bend of the outstanding leg. This flange angle also has a transverse crack extending from the flange edge to a drilled hole for the top horizontal rivet of the panel point L3N east gusset plate connection (**see photo 44**). There is an area of 100% section loss by 3/8" wide by 1/2" long at the north edge of the drilled hole resulting in 1/4" wide remaining edge distance of the outstanding leg of the flange angle. This crack appears to be caused from the combination of collision damage above the curb and section loss along the edge of the drilled hole. The crack has not propagated into the vertical leg of the flange angle or into the gusset plate and appears to be arrested by the drilled hole.

Item 59.5.e - Sway Bracing

Scattered upper horizontal struts of the sway bracing exhibit up to 3/16" section loss by up to full height of the vertical leg and/or up to 3/16" section loss by up to full width of the outstanding leg of the flange angles, particularly the bottom flange angles on the high side. The sway bracing upper horizontal strut at panel point 4S in spans 1, 2 and 4 has scattered areas of 100% section loss by up to 2" high of the vertical leg and/or 1 1/2" wide of the outstanding leg of the north bottom flange angle. All section loss has been painted over and shows no signs of active corrosion.

The sway bracing upper horizontal strut at panel points 2N to 4N and 2S to 4S of both trusses in all spans exhibits an up to 1'-8" long (measured to end of brace) by full width by up to 1" high bend of the outstanding leg of the flange angles on the high side. These bends appear to be a fit-up issue from erection/fabrication.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.5.e - Sway Bracing (cont.)

Isolated sway bracing upper horizontal struts have minor bends elsewhere in the outstanding leg of the top flange angles. These bends appear to have occurred during erection. The lower east diagonal brace of the sway bracing at panel point 5S in span 4 has an approximate 1" sweep to the north over the lower half due to collision damage.

Numerous lower horizontal struts of the sway bracing have minor collision scrapes, gouges and bends in the outstanding leg of one/both flange angles. Scattered sway bracing lower horizontal struts exhibit moderate to heavy collision damage. The most severe locations of sway bracing lower horizontal strut collision damage are:

- Span 1, Panel Point 2N above Northbound Lane: 3'-1" long by up to 3 1/2" wide by up to 11/16" high alternating bend of the outstanding leg of the south flange angle.
- Span 1, Panel Point 4N above Northbound Lane: East half of both flange angles has an up to 1" sweep to the north. South flange angle has an 8 1/2" long by 2 1/2" wide by up to 11/16" upward bend of the outstanding leg.
- Span 2, Panel Point 4N: Both flange angles have an up to 8" sweep to the north over the full length of the brace (**see photo 45**). Both flange angles above the northbound lane have up to 1 1/4" wide separation between the back to back vertical legs and an up to 3'-0" long by up to full width by up to 2 3/4" downward bend of the outstanding leg.
- Span 2, Panel Point 4S: Both flange angles have an up to 6" sweep to the north over the full length of the brace (**see photo 46**). Both flange angles above the northbound lane exhibit twisting, up to 5 1/4" wide separation between the back to back vertical legs and an up to 3'-6" long by 4" wide by up to 3" high alternating bend of the outstanding leg.
- Span 2, Panel Point 2S above Northbound Lane: East half of both flange angles have an up to 4" sweep to the north and welded crack repairs. South flange angle has a 1'-0" long by 4" wide by 1 3/8" upward bend of the outstanding leg.
- Span 3, Panel Point 2N above Northbound Lane: East half of the south flange angle has 9'-0" long by 3" wide by up to 1" upward bend of the outstanding leg.
- Span 3, Panel Point 4S above Northbound Lane: East half of both flange angles have an up to 3" sweep to the south. North flange angle has a 2'-2" long by 4" wide by up to 1 1/2" downward bend of the outstanding leg.
- Span 4, Panel Point 4N above Northbound Lane: South flange angle has a 9'-0" long by up to 2 1/2" upward bend and separation between the back to back vertical legs.
- Span 4, Panel Point 2S above Northbound Lane: East half of both flange angles have an up to 8" sweep to the north and separation between the back to back vertical legs (**see photo 47**). The outstanding leg of the south flange angle has two full width tears and a 2'-4 1/2" long by full width cut out portion. North flange angle has a 1'-0" long by 4 1/4" wide by up to 1 1/4" downward bend of the outstanding leg at midspan.

Refer to Item 59.7 for additional comments.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.5.f - Portals

The high side of the lower transverse braces of the portal bracing exhibits minor debris accumulation and up to 1/8" section loss by the lower 3" of the web. All section loss has been painted over and shows no signs of active corrosion.

The lower transverse braces of the portal bracing have been replaced and most have minor collision scrapes and bends in the bottom flange. Isolated lower transverse braces of the portal bracing exhibit moderate to heavy collision damage:

- Span 1, North Portal above Southbound Lane: North half of the bottom flange has a 2'-2" long by full width by up to 3" downward bend with a 7" long by full thickness by 3/8" wide corner gouge in the edge (**see photo 48**). The lower 5" of the north web stiffener at this location has a 2" wide by up to 5/16" bend to the east and is detached from the bottom flange due to a full length cracked weld. The north edge of the bottom horizontal connection plate has an 8 1/2" long by 2" wide by up to 3/4" downward bend with full thickness by 3/16" wide corner gouges (**see photo 48**). South half of the bottom flange has a 2'-2" long by 3" wide by up to 3/4" upward bend.
- Span 1, South Portal above Southbound Lane, South Face: 9 1/2" long by 2 1/2" wide by up to 3/8" downward bend of the bottom flange. The top flange near the east truss has 9" long by 2 1/2" wide by up to 3/8" downward bend with a 4 1/2" long by 3/8" high by 5/8" wide corner gouge in the edge.
- Span 4, South Portal above Northbound Lane: Bottom flange exhibits rotation/twisting, a 6'-0" long by up to 2" upward sweep and a 3'-0" long by full width by up to 2 3/4" downward bend (**see photo 49**). The south half of the bottom flange has a 1'-1" long by 3 1/2" wide torn/cut out portion with an above repair plate.

The westmost diagonal brace of the north portal bracing in span 1 exhibits a 7" long by 2" wide by up to 3/8" upward bend in the outstanding leg of the lower angle.

Refer to Item 59.7 for additional comments.

Item 59.7 - Conn Plates & Angles

Stringer to Floorbeam Connection Angles:

The stringer to floorbeam connection angles are in satisfactory condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Floorbeam to Lower Chord Connection Angles:

The floorbeam to lower chord connection angles are in fair condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Lower Lateral Bracing Connection Plates:

The lower lateral bracing connection plates are in poor condition and govern the condition rating of Item 59.7. Numerous lower lateral bracing connection plates at the panel points exhibit advanced section loss including areas of 100% section loss by up to 5" wide by up to 1'-8" combined length, particularly in the end panels and spans 1 and 4 (**see photo 50**).

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.7 - Conn Plates & Angles (cont.)

There are vertical angles and bent plates connecting the lower lateral bracing members to the stringer S5 web at midspan. These vertical angles and bent plates exhibit moderate to advanced section loss throughout. Isolated vertical angles have 100% section loss by full width/height by 1 1/2" long of one leg. Scattered lower lateral bracing midspan connections have 100% section loss by up to 5 5/8" high by up to 3 1/2" long of the bent plate (**see photo 51**). The lower lateral bracing midspan connection between floorbeams FB5N and FB6 in span 1 has 100% section loss by full height by 1 1/2" long of the bent plate (**see photo 26**). This area of 100% section loss has caused the lower lateral bracing members to be detached from the midspan connection and not restrained from deflection/vibration.

There is up to 3/4" impacted rust between the horizontal legs of lower lateral bracing members and the panel point and midspan connection plates.

Upper Lateral Bracing, Sway Bracing and Portal Bracing Connection Plates:

The upper lateral bracing, sway bracing and portal bracing connection plates are in satisfactory condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Item 59.9 - Bearing Devices

The trusses have steel fixed bearings at the north abutment and all piers, elastomeric expansion bearings at piers 1 and 2, and nested steel roller expansion bearings at pier 3 and the south abutment.

Fixed Bearings:

The steel fixed bearings are in satisfactory condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Elastomeric Bearings:

The elastomeric expansion bearings are in fair condition and were not part of this Routine and Special Member Inspection. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

Nested Roller Bearings:

The nested steel roller expansion bearings at pier 3 and the south abutment are in serious condition and govern the condition rating of Item 59.9. The nested roller bearings are fully expanded at 75°F with the nested roller assembly expanded beyond the south edge of the masonry plate and in contact with the adjacent fixed bearing/backwall (**see photos 52 through 55**). The southernmost roller of the nested roller assemblies is either aligned with the edge or completely off the masonry plate. The anchor bolts are severely bent, in contact with the north edge of the sole plate slotted hole and exhibit moderate to advanced section loss between the sole and masonry plates (**see photos 52 through 55**). The nested roller bearings exhibit the following conditions (measured at 75°F for span 3 bearings and 95°F for span 4 bearings):

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.9 - Bearing Devices (cont.)

- Span 3, East Truss Bearing at Pier 3 (**see photo 52**):
 - The east and west vertical plates of the nested roller assembly have expanded beyond the south edge of the masonry plate by up to 7 1/4". These vertical plates are in contact with and gouging components of the adjacent fixed bearing. The west vertical plate is detached from the north vertical plate. The southernmost roller of the assembly is completely off the masonry plate.
 - South vertical plate of the nested roller assembly is bowed approximately 5/8" wide over the full length.
 - The anchor bolts are severely bent, in contact with the north edge of the sole plate slotted hole and have 11/16" minimum remaining diameter (1 1/2" original diameter) between the sole and masonry plates.
 - The north edge of the masonry plate has 1'-6" long by 2 1/4" wide undermining due to pier cap spalling (**see photo 56**).
- Span 3, West Truss Bearing at Pier 3 (**see photo 53**):
 - The east and west vertical plates of the nested roller assembly have expanded beyond the south edge of the masonry plate by up to 6 1/8". These vertical plates are in contact with and gouging components of the adjacent fixed bearing. The southernmost roller of the assembly is completely off the masonry plate.
 - South vertical plate of the nested roller assembly is slightly bowed over the full length.
 - The anchor bolts are severely bent, in contact with the north edge of the sole plate slotted hole and have 1 1/16" minimum remaining diameter (1 1/2" original diameter) between the sole and masonry plates.
- Span 4, East Truss Bearing at South Abutment (**see photo 54**):
 - Nested roller assembly has significantly twisted evident by the variation in the distance of the vertical plates beyond the masonry plate edge. The east vertical plate has expanded beyond the south edge of the masonry plate by 9 1/4", in contact with the backwall and detached from all rollers. The west vertical plate has expanded beyond the south edge of the masonry plate by 4 1/4" and is detached from all rollers and the south vertical plate. The southernmost roller of the assembly is completely off the masonry plate.
 - The anchor bolts are severely bent, in contact with the north edge of the sole plate slotted hole and have 3/8" minimum remaining diameter (1 1/2" original diameter) between the sole and masonry plates.
 - Both angles have 1/8" section loss by full height of the vertical leg and up to 90% rivet head loss.
 - The west vertical bearing plate has 1/4" section loss by up to 6" high at both ends.
 - The west edge of the masonry plate has full length by up to 3" wide undermining due to bridge seat spalling. This undermining extends 7" long along the north edge of the masonry plate.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.9 - Bearing Devices (cont.)

- Span 4, West Truss Bearing at South Abutment (**see photo 55**):
 - The east and west vertical plates of the nested roller assembly have expanded beyond the south edge of the masonry plate by up to 6 1/4" and are in contact with the backwall. The east and west vertical plates are detached from all rollers. The southernmost roller of the assembly is completely off the masonry plate.
 - The anchor bolts are severely bent, in contact with the north edge of the sole plate slotted hole and have 3/8" minimum remaining diameter (1 1/2" original diameter) between the sole and masonry plates.
 - Both angles have 1/8" section loss by full height of the vertical leg and up to 90% rivet head loss.
 - The east vertical bearing plate has 1/4" section loss by up to 6" high at both ends.
 - The north edge of the masonry plate has 2'-4" long by up to 2" wide undermining due to bridge seat spalling.
 - The south and east edges of the masonry plate have full length by up to 3 3/4" wide undermining due to bridge seat spalling.

There is 1/4" impacted rust between the pin nut and the pin plate on both faces of the nested roller bearings. There is heavy sand and debris accumulation between adjacent rollers and the rollers and masonry plate of the nested roller bearings, potentially inhibiting proper bearing movement.

Refer to Items 60.1.b and 60.2.b in the Routine and Fracture Critical Inspection Report dated July 29, 2019 for additional comments.

Item 59.11 - Rivets & Bolts

Scattered rivets of the stringer to floorbeam connections in spans 1 and 2 exhibit heavy blooming with up to 25% head loss, particularly along floorbeams FB2S and FB1S in span 2. Rivets have been replaced by high strength bolts for the stringer to floorbeam connections in spans 3 and 4. One bolt of the stringer S5 connection to the south side of floorbeam FB5S in span 3 has a backed off nut on the east face of the stringer web. There is up to 90% head loss of the rivets within the lower 6" of the floorbeam to lower chord connections (**see photo 37**).

The top surface of the lower chords exhibits 50% rivet head loss throughout including the batten and splice plates. Isolated batten and splice plates have up to 90% rivet head loss. Isolated rivets of the panel points L0N and L0S interior gusset plate exhibit up to 95% head loss, particularly within gusset plate section loss regions along the lower lateral bracing connection angles (**see photo 37**).

The interior gusset plate of panel points U1N and U1S of both trusses in all spans has two rivets with no head adjacent to the portal/upper lateral bracing connection plate. This appears to be from a fit-up issue during erection. The west gusset plate of west truss panel point U2N in span 3 and west truss panel point U2S in span 4 has two rivets with no head at the diagonal connection.

Isolated rivets of the end post bottom flanges have up to 60% head loss within regions of bottom flange section loss.

The rivets of the lower lateral bracing within the panel point and midspan connection plates exhibit up to 95% head loss (**see photo 37**).

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

ITEM 59 - SUPERSTRUCTURE (cont.)

Item 59.12 - Welds

This bridge is a riveted/bolted structure. However, welds are present at the following locations:

- Between the bottom flange and cover plate of the floorbeams (**see chart 2 and photos 34 & 40 through 42**).
- Abandoned anchor point on lower chord L4NL5N of both trusses in span 1 (**see photo 57**).
- Luminaire connection plates at the truss verticals.

The floorbeam bottom flange cover plates were field welded to the bottom flanges during the 1961 rehabilitation (**see photos 34 and 40 through 42**). These welds are of rough/poor quality throughout and appear to have numerous areas of moderate to heavy section loss, particularly in spans 3 and 4. The floorbeam bottom flange to cover plate welds extend to the edge of the cover plate termination creating stress risers in the bottom flange and a FSD (**see photo 41**). Scattered floorbeam bottom flange cover plate terminations have cracked welds (**see chart 2 and photo 41**). Scattered floorbeams have a crack/separation in the cover plate weld along the bottom flange due to weld deterioration and/or lack of fusion (**see chart 2 and photos 34, 40 & 42**). The cracked/separated/poor quality welds have caused an up 1/2" high gap between the bottom flange and cover plate at isolated floorbeams (**see chart 2 and photos 34, 40 & 42**). The cracked cover plate termination welds and the cracked/separated welds at the fusion line show no signs of propagation into the floorbeam bottom flange or cover plate.

The welds of the abandoned anchor point on lower chord L4NL5N of both trusses in span 1 appear to be field welded and have areas of rough/poor quality (**see photo 57**). These welds intersect (biaxial and triaxial) on the lower chord flange angles and represent a FSD.

There are poor quality welds between the luminaire connection plates and the truss verticals.

Item 59.13 - Member Alignment

The floorbeam bottom flange cover plate (8" width) typically projects 1/2" beyond both edges of the bottom flange (7" width). Isolated floorbeams have up to 1 1/2" projection (1" misalignment) of the cover plate beyond the bottom flange edge. Floorbeam FB0S in span 1 has up to 2 3/8" projection (1 7/8" misalignment) of the cover plate beyond the bottom flange edge (**see photo 36**).

ITEM 60 - SUBSTRUCTURE

Item 60.1 - Abutments

Item 60.1.c - Backwalls

The north abutment backwall is in satisfactory condition. Refer to the Routine and Fracture Critical Inspection Report dated July 29, 2019 for comments.

The south abutment backwall is in poor condition and governs the condition rating of Item 60.1.c. The south abutment backwall exhibits 1/32" wide map cracking with moisture throughout (**see photo 58**). The south abutment backwall exhibits the following spalling:

- Along the Bridge Seat: Full length by up to 1'-9" high by up to 9" deep spall with punky concrete (**see photo 58**).
- Along the Deck Joint: Full length by up to 8" high by 6 1/2" deep spall.
- At East Truss: 3'-0" long by up to 1'-0" high by 4" deep spall at mid-height (**see photo 58**).
- At West End: 2'-0" long by up to 2'-0" high by up to 3" deep spall near the top and a 2'-0" long by up to 9" high by up to 9" deep spall near the base.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

REMARKS

TRAFFIC SAFETY

Item 36b - Transitions

There is no connection between the east bridge railing and the W-beam guardrail on the north approach (**see photo 3**). The northwest concrete traffic barrier terminates with an encased steel end section at the north abutment deck joint. This approach barrier aligns with the curb on the bridge.

The transition between the east bridge railing and the W-beam guardrail on the south approach consists of a tall W-beam rail post mounted on the approach curb (**see photo 59**). This tall W-beam rail post appears to have been connected to the bridge railing by steel angles protruding through torch cut holes in the rail post web. There is no connection for the approach guardrail to the tall W-beam rail post. The tall W-beam rail post exhibits severe collision damage resulting in full height warping (3 1/4" to the north and 7 1/2" to the east), flange bends, 4 1/2" high fracture of the web along the base plate and a full width fracture of both flanges along the base plate (**see photo 59**). The upper steel angle for the bridge railing to tall W-beam rail post is missing due to this collision damage (**see photo 59**).

Item 36c - Approach Guardrail

There are galvanized steel W-beam guardrails along the east side of both approaches. The northeast approach guardrail exhibits the following conditions:

- Throughout: Guardrail offset 10" to the east measured from the face of the approach curb.
- North Two Rail Sections: Full length by full height by up to 2" wide outward bend of the guardrail section due to collision damage.

The southeast approach guardrail exhibits the following conditions:

- First Rail Post from South Abutment: All four anchor bolts are debonded/pulled out of the approach curb due to spalling caused by collision damage (**see photo 59**). The guardrail section at this location is loose and movable by hand.
- At Third Rail Post from South Abutment: Guardrail splice with 2 of 4 bolts in place (**see photo 60**). Horizontal bolt connecting guardrail to rail post is loose.
- South Rail Section: Full length by full height by up to 2 3/4" wide outward bend of the guardrail section with two slightly twisted rail posts due to collision damage (**see photo 60**).

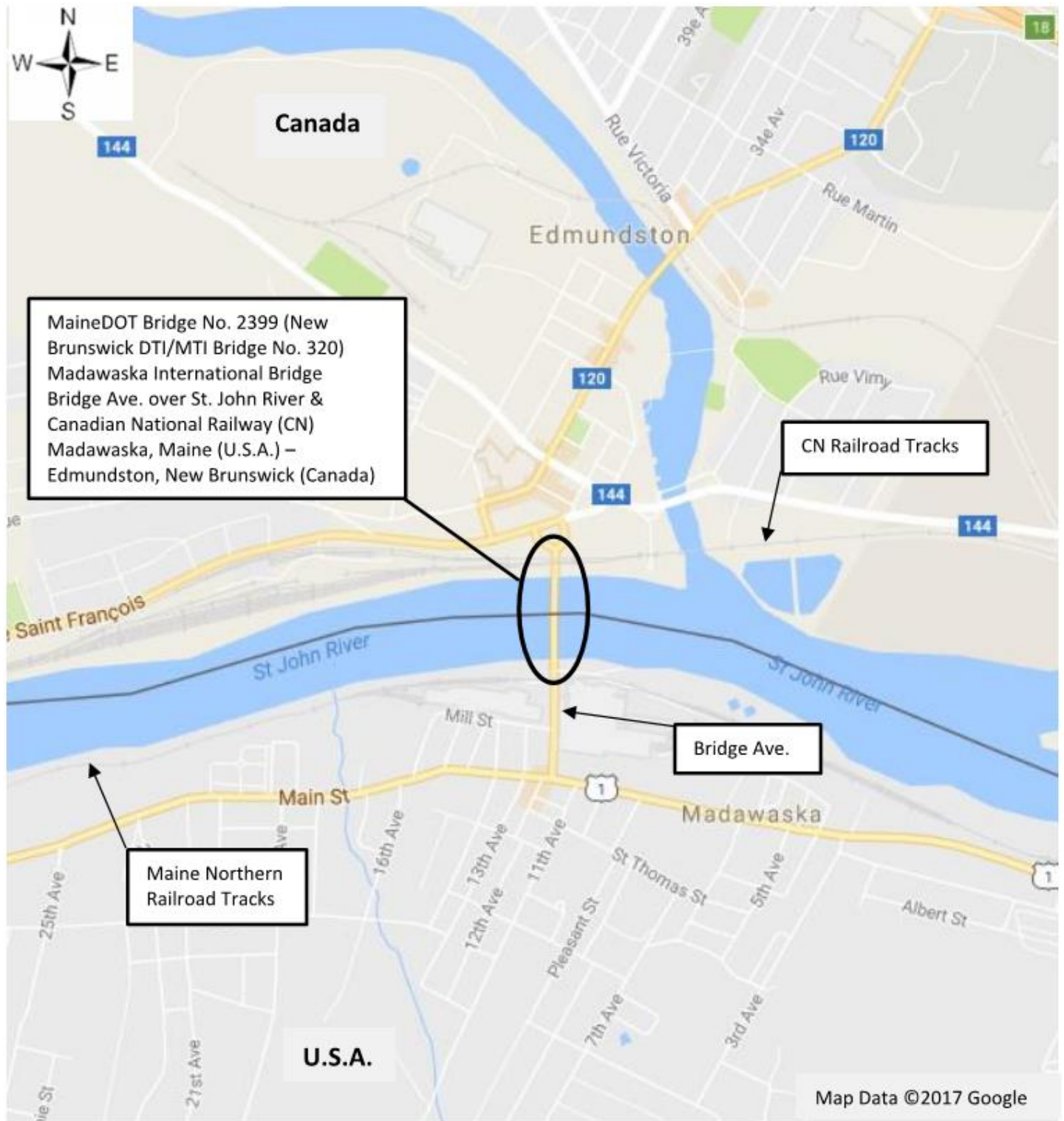
There is a corrugated concrete traffic barrier along the west side of the north approach. This barrier exhibits extensive map cracking with moisture and heavy efflorescence throughout, hairline on east face and up to 3/16" wide on west face (**see photos 61 and 62**). The south end of the northwest traffic barrier has a full height 1/8" wide diagonal crack in the east face. The top and upper 1'-0" of both faces of the northwest traffic barrier is delaminated throughout, scattered areas on the east face and full length on the west face (**see photos 61 and 62**). This delamination extends up to 2'-0" high in isolated areas on both faces. There are isolated areas of up to 9" high by 3" deep spalling at the top of the east face of the northwest traffic barrier (**see photos 61 and 62**). The top of the west face of the northwest traffic barrier has a 12'-0" long by 6 1/2" high by up to 5" wide corner spall at the middle and a 2'-4" long by up to 1'-0" high by up to 4" wide corner spall near the south end (**see photo 62**).

There is a transverse corrugated concrete pedestrian barrier at the north end of the northwest sidewalk, which directs pedestrian traffic exiting the bridge toward the Canada Border Service Agency building (**see photo 3**).

There is no southwest approach guardrail for this bridge due to the United States Customs and Border Protection checkpoint plaza.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

SKETCHES



Sketch 1: Location Map.

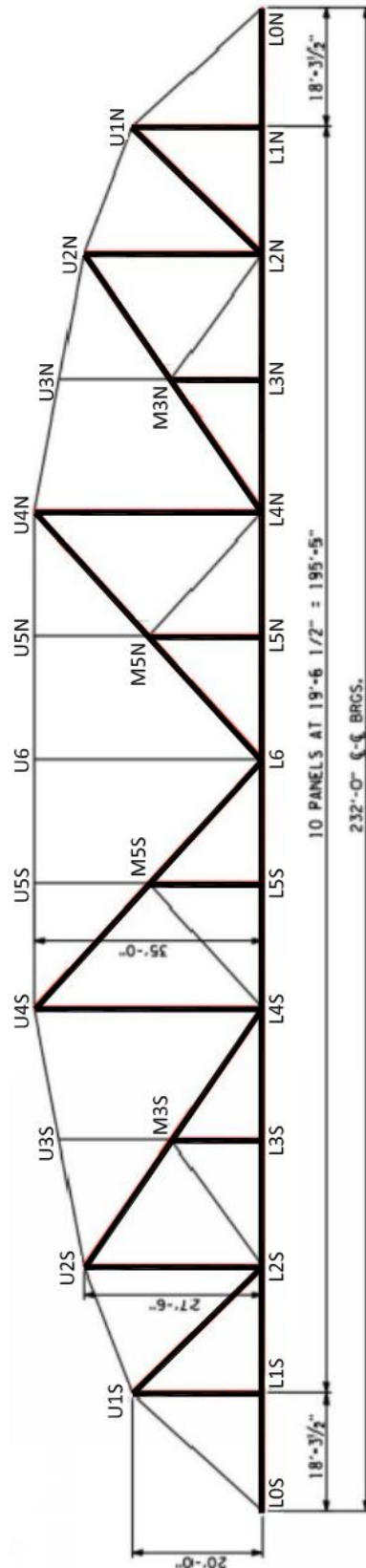
CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

SKETCHES



— FRACTURE CRITICAL MEMBER (FCM)

TRUSS ELEVATION WITH FRACTURE CRITICAL MEMBERS (FCMs)
(EAST ELEVATION SHOWN, WEST SIMILAR)

Sketch 2: Truss Elevation with Fracture Critical Members (FCMs).

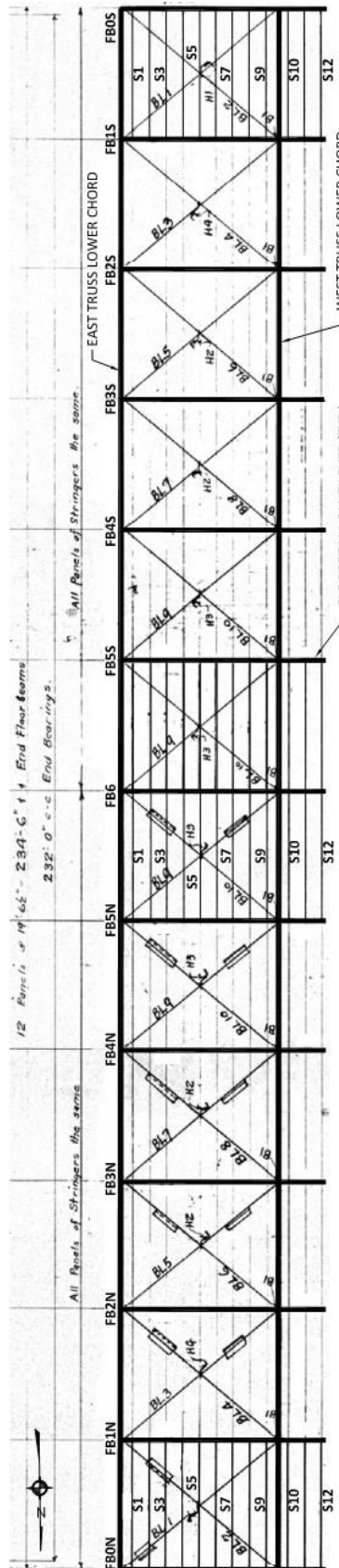
CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

SKETCHES



FRAMING PLAN WITH FRACTURE CRITICAL MEMBERS (FCMs)

Sketch 3: Framing Plan with Fracture Critical Members (FCMs).

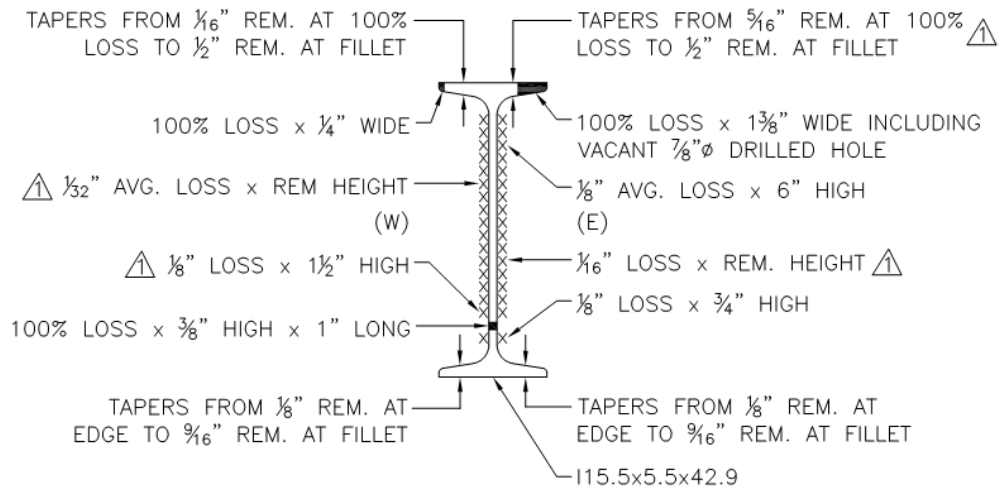
CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

SKETCHES



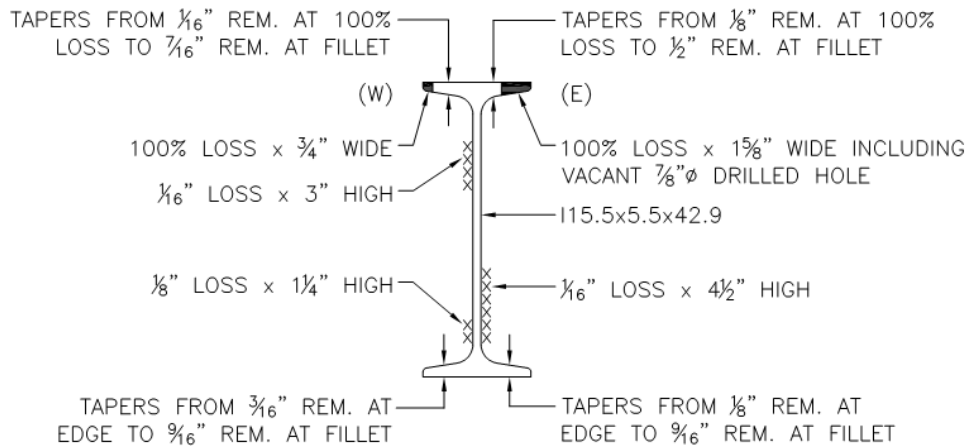
NOTES:

1. SIMILAR CONDITION FOR FULL LENGTH OF STRINGER.
2. SPAN 1, STRINGER S9 BETWEEN FB0N & FB1N: SIMILAR LESS SEVERE CONDITION FOR FULL LENGTH.

SPAN 1, STRINGER S8 AT 5'-6" FROM FLOORBEAM FB0N

AS-BUILT PROP. (I15x5.5x42.9):

d = 15.000"
tw = 0.410"
bf = 5.500"
m = 0.726"
n = 0.464"



NOTES:

1. SIMILAR CONDITION FOR FULL LENGTH OF STRINGER.
2. SPAN 1, STRINGERS S7 THROUGH S9 BETWEEN FB1N & FB2N: SIMILAR LESS SEVERE CONDITION FOR FULL LENGTH.

SPAN 1, STRINGER S6 AT MIDSPAN BTWN FLOORBEAMS FB1N & FB2N

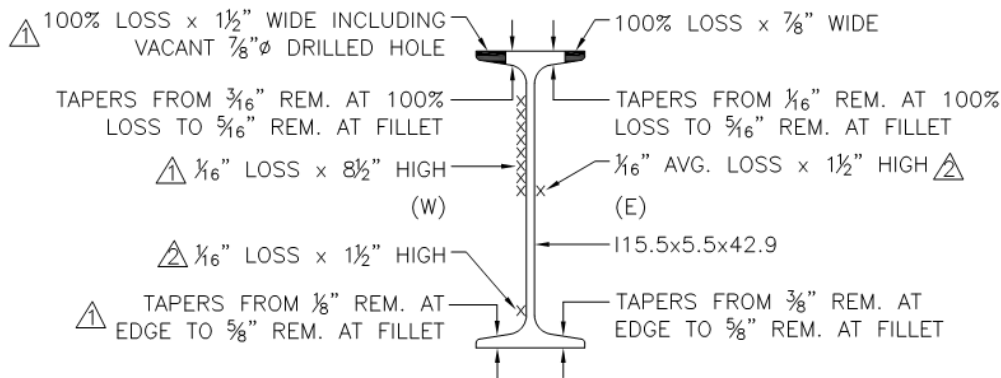
△ UPDATED INFORMATION SINCE PREVIOUS INSPECTION.

△ NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

Sketch 4: Stringer Conditions 1 of 5.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

SKETCHES



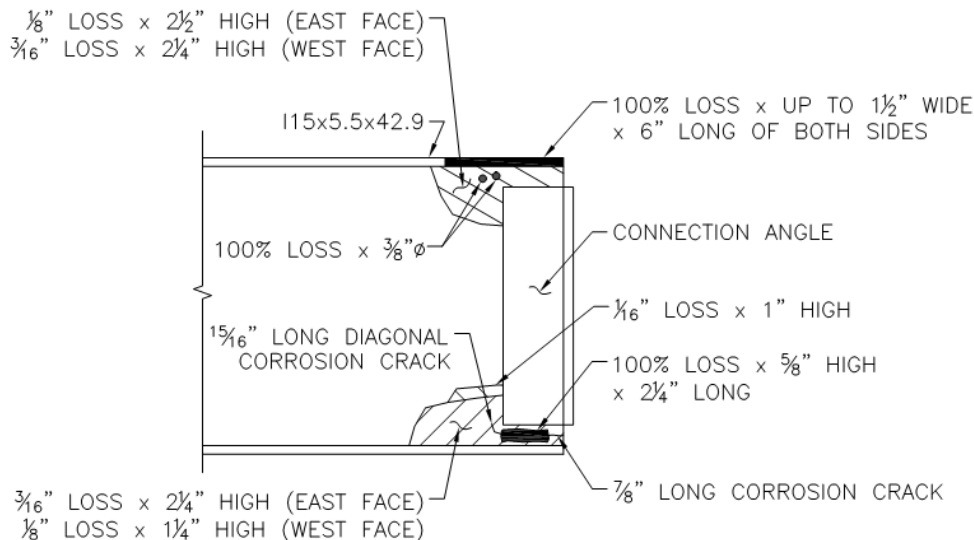
NOTES:

1. SIMILAR CONDITION FOR FULL LENGTH OF STRINGER.
- △ 2. EAST HALF OF TOP FLANGE AT 8 1/2" NORTH OF SECTION WITH 1 1/2" WIDE CORROSION CRACK.
3. SPAN 1, STRINGERS S6 & S8 BETWEEN FB2N & FB3N: SIMILAR CONDITION FOR FULL LENGTH.

SPAN 1, STRINGER S7 AT MIDSPAN BTWN FLOORBEAMS FB2N & FB3N

AS-BUILT PROP. (I15x5.5x42.9):

- d = 15.000"
- tw = 0.410"
- bf = 5.500"
- m = 0.726"
- n = 0.464"



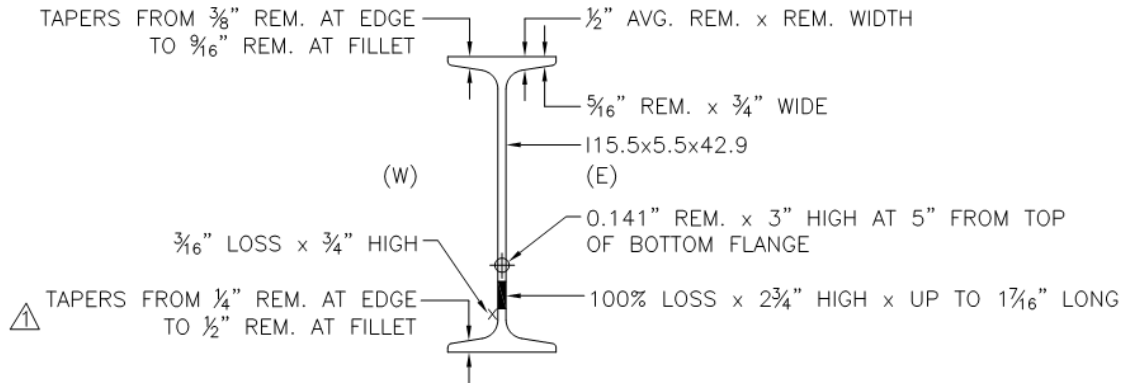
SPAN 1, EAST FACE OF STRINGER S7 AT SOUTH SIDE OF FLOORBEAM FB3N

- △ UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
- △ NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

Sketch 5: Stringer Conditions 2 of 5.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

SKETCHES

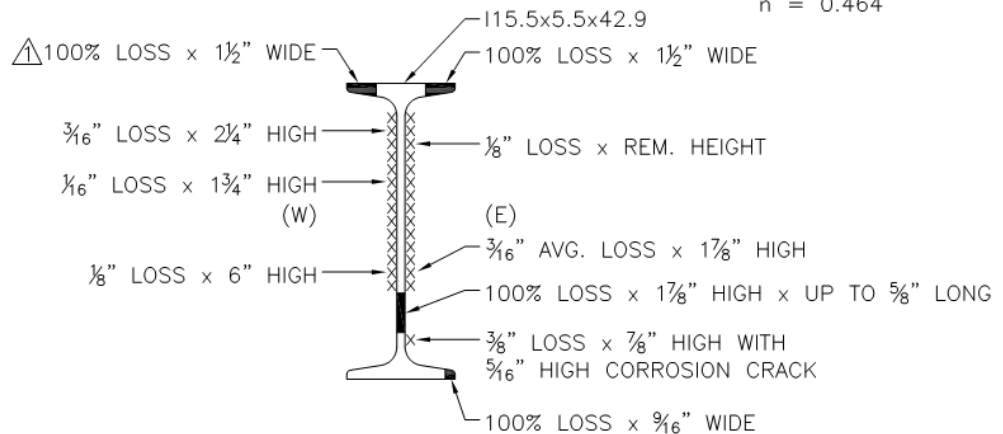


NOTE:
SECTION TAKEN ADJACENT TO LOWER LATERAL BRACING BENT CONNECTION PLATE.

SPAN 1, STRINGER S5 AT MIDSPAN BTWN FLOORBEAMS FB4N & FB5N

AS-BUILT PROP. (I15x5.5x42.9):

d = 15.000"
tw = 0.410"
bf = 5.500"
m = 0.726"
n = 0.464"



NOTE:
LOWER WEB BEYOND THIS SECTION WITH 100% LOSS x $\frac{1}{2}$ " HIGH x $1\frac{3}{4}$ " LONG BELOW STRINGER CONNECTION ANGLES TO FLOORBEAM.

SPAN 1, STRINGER S6 AT SOUTH SIDE OF FLOORBEAM FB5S

- \triangle UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
- \triangle NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

Sketch 6: Stringer Conditions 3 of 5.

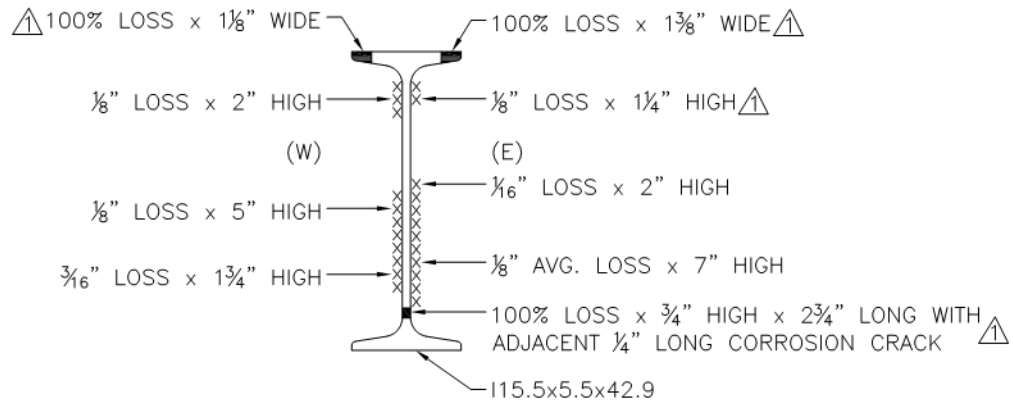
CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

SKETCHES



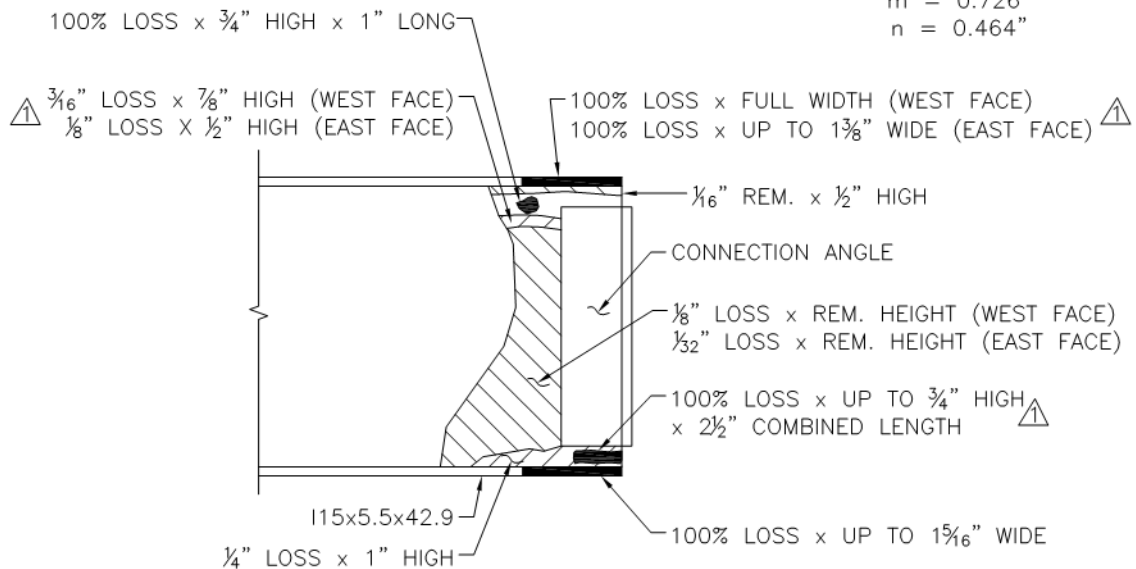
NOTES:

1. SPAN 1, STRINGERS S4, S6 & S8 AT SOUTH SIDE OF FB2N: SIMILAR LESS SEVERE CONDITION.
2. SPAN 1, STRINGERS S5 & S8 AT SOUTH SIDE OF FB3N: SIMILAR LESS SEVERE CONDITION.
3. SPAN 1, STRINGERS S6 & S7 AT SOUTH SIDE OF FB3S: SIMILAR LESS SEVERE CONDITION.

SPAN 1, STRINGER S8 AT SOUTH SIDE OF FLOORBEAM FB3S

AS-BUILT PROP. (I15x5.5x42.9):

d = 15.000"
tw = 0.410"
bf = 5.500"
m = 0.726"
n = 0.464"



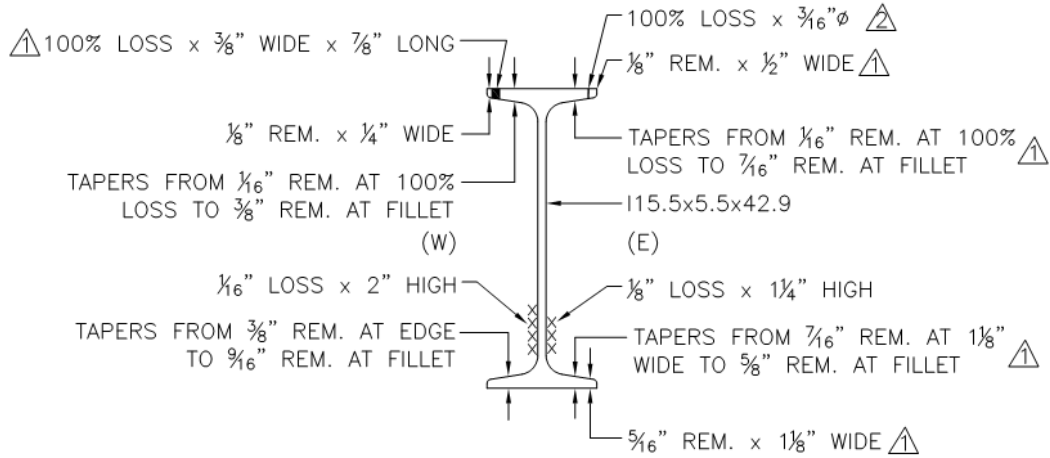
SPAN 1, WEST FACE OF STRINGER S8 AT FLOORBEAM FB0S

- ⚠ UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
- ⚠ NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

Sketch 7: Stringer Conditions 4 of 5.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

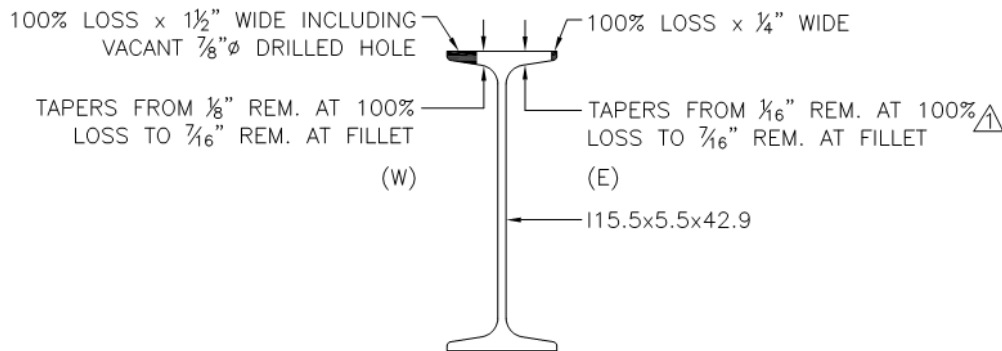
SKETCHES



SPAN 2, STRINGER S4 AT 8'-8" FROM FLOORBEAM FB1S BTWN FLOORBEAMS FB1S & FB0S

AS-BUILT PROP. (I15x5.5x42.9):

- d = 15.000"
- tw = 0.410"
- bf = 5.500"
- m = 0.726"
- n = 0.464"



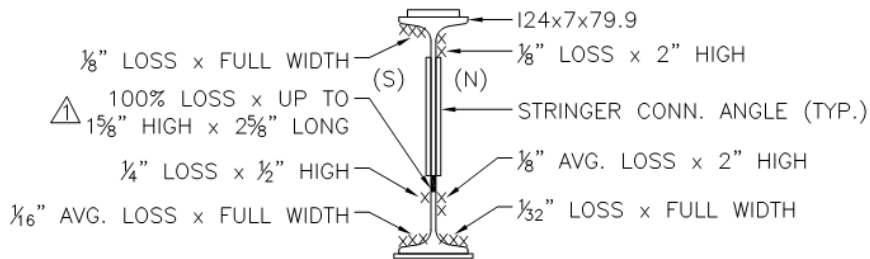
SPAN 2, STRINGER S1 AT MIDSPAN BTWN FLOORBEAMS FB1S & FB0S

- ⚠ UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
- ⚠ NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

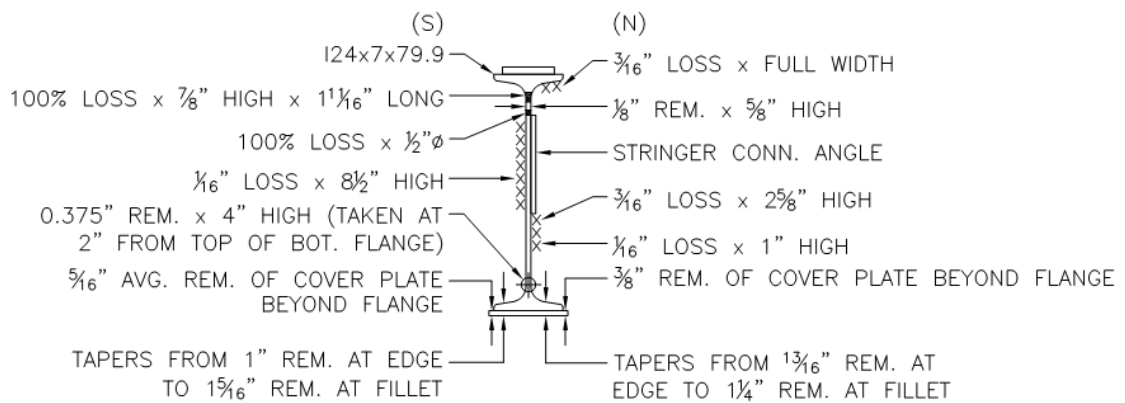
Sketch 8: Stringer Conditions 5 of 5.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

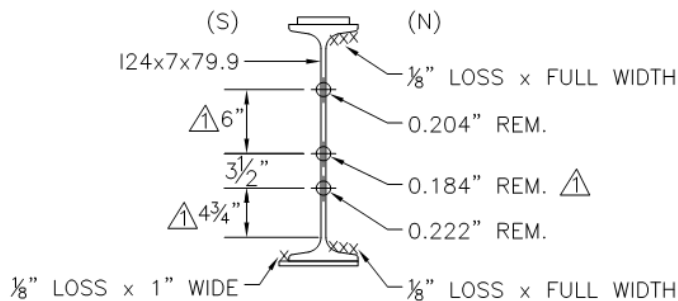
SKETCHES



SPAN 1, FLOORBEAM FB1S AT STRINGER S8



SPAN 1, FLOORBEAM FB0S AT STRINGER S5



NOTE:
SPAN 1, FLOORBEAM FB0S AT STRINGERS S2 & S4: SIMILAR LESS SEVERE CONDITION.

SPAN 2, FLOORBEAM FB0N BETWEEN STRINGERS S2 & S3

⊕ INDICATES THICKNESS
REM. PER D-METER

- ⚠ UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
- ⚡ NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

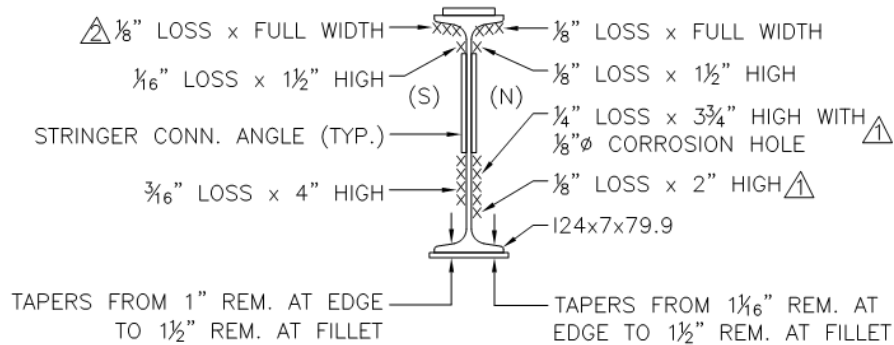
AS-BUILT PROP. (124x7x79.9):

d = 24.000"
tw = 0.500"
bf = 7.000"
m = 1.020"
n = 0.659"

TOP FLG COVER PL = 3/4"x5 1/4"
BOT. FLG COVER PL = 1/2"x8"

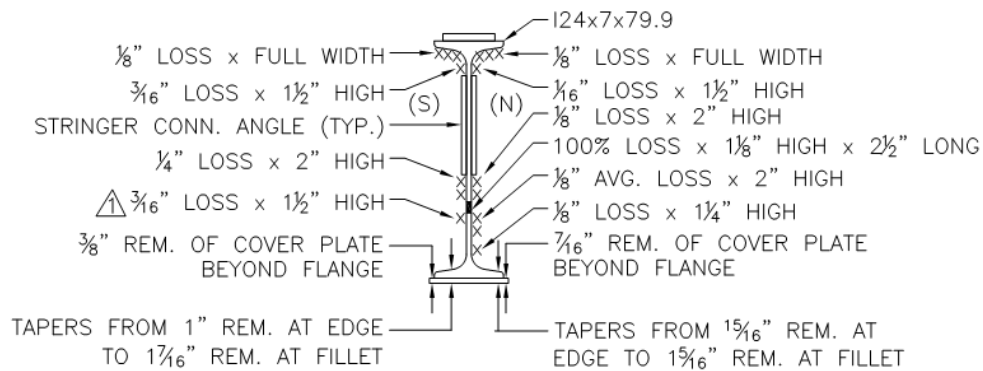
CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
---------------------------------------	-------------------------	--------------------------------	------------------------------------

SKETCHES



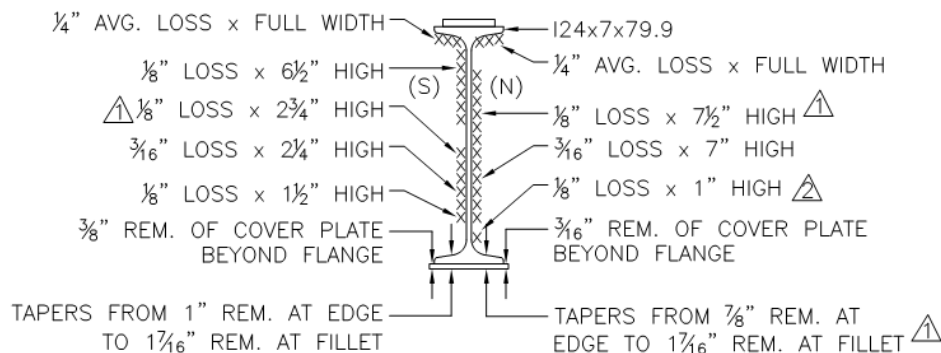
NOTE:
SIMILAR LESS SEVERE CONDITION ON THIS FLOORBEAM AT STRINGERS S7 & S8 (NO CORROSION HOLE).

SPAN 3, FLOORBEAM FB5S AT STRINGER S6



NOTE:
 \triangle EAST OF THIS SECTION WITH $\frac{1}{4}$ " LOSS x 1'-3" HIGH ON NORTH FACE AND $\frac{1}{8}$ " AVG. LOSS x 10" HIGH ON SOUTH FACE.

SPAN 4, FLOORBEAM FB1N AT STRINGER S2



NOTES:
1. SIMILAR CONDITION ON THIS FLOORBEAM AT STRINGER S5.
2. SPAN 4, FLOORBEAMS FB2N, FB3N, FB4N & FB6 AT STRINGER S2: SIMILAR LESS SEVERE CONDITION.

AS-BUILT PROP. (I24x7x79.9):

$d = 24.000$ "
 $tw = 0.500$ "
 $bf = 7.000$ "
 $m = 1.020$ "
 $n = 0.659$ "

SPAN 4, FLOORBEAM FB5S AT STRINGER S2

\triangle UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
 \triangle NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

TOP FLG COVER PL = $\frac{3}{4}$ "x $5\frac{1}{4}$ "
 BOT. FLG COVER PL = $\frac{1}{2}$ "x8"

Sketch 10: Floorbeam Conditions 2 of 3.

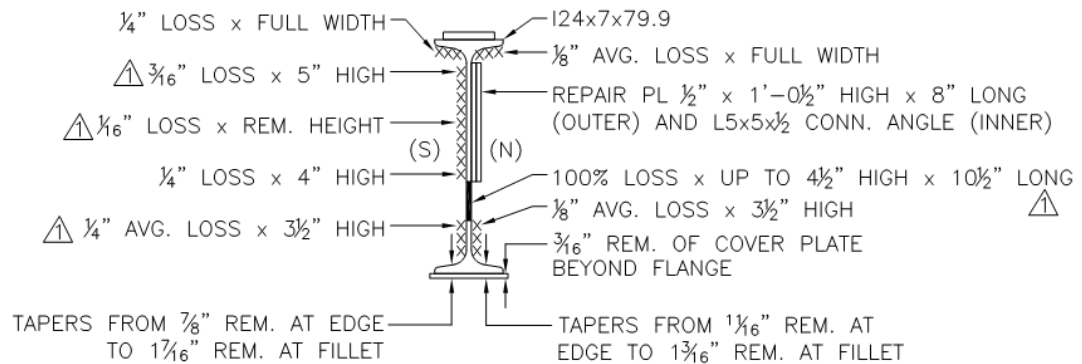
CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

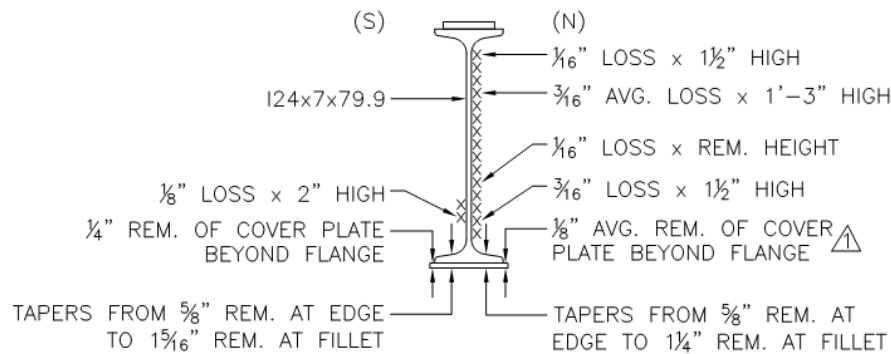
SKETCHES



NOTES:

1. SIMILAR CONDITION ON THIS FLOORBEAM AT STRINGERS S3 & S4.
2. SIMILAR LESS SEVERE CONDITION ON THIS FLOORBEAM AT STRINGERS S5 THROUGH S8.
3. WEB WITH 100% LOSS x 2"φ AT REPAIR 5" EAST OF THIS SECTION.

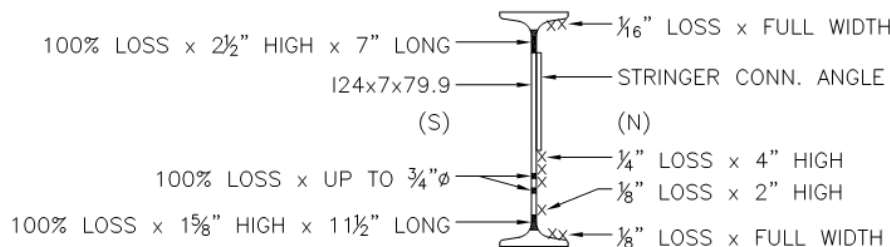
SPAN 4, FLOORBEAM FB2S AT STRINGER S2



NOTE:

SIMILAR LESS SEVERE CONDITION FOR FULL LENGTH OF FLOORBEAM.

SPAN 4, FLOORBEAM FB1S AT STRINGER S2



NOTE:

SOUTH FACE INACCESSIBLE DUE TO BACKWALL.

AS-BUILT PROP. (124x7x79.9):

- d = 24.000"
- tw = 0.500"
- bf = 7.000"
- m = 1.020"
- n = 0.659"

SPAN 4, FLOORBEAM FB0S AT STRINGER S9

- △ UPDATED INFORMATION SINCE PREVIOUS INSPECTION.
- △ NEW CONDITION/SKETCH SINCE PREVIOUS INSPECTION.

TOP FLG COVER PL = 3/4"x5 1/4"
BOT. FLG COVER PL = 1/2"x8"

Sketch 11: Floorbeam Conditions 3 of 3.

CITY/TOWN
MADAWASKA-EDMUND.WIN
022035.208-STRUCTURE NO.
2399INSP. DATE
JUNE 19, 2020

CHARTS

Spans 1 and 2 Deck Conditions

Span	At/Btwn Floorbeams	Location	Conditions	
1	Throughout	S5 - S7	Scattered up to 6'-0" long x up to 4'-0" wide areas with missing sections of longitudinal and transverse distribution bars forming up to 9" long x 6" wide openings in the deck.	⚠
	FB1N - FB3N	S8 - S9	22'-0" long x 3'-0" wide area with numerous failed repairs and failed/missing longitudinal and transverse distribution bars.	
	FB3N	S4 - S6	3'-6" long x 3'-0" wide area with scattered missing longitudinal and transverse distribution bars and failed repairs.	
	FB4N	S4 - S9	5'-0" long x 13'-0" wide area of numerous repairs with scattered missing longitudinal and transverse distribution bars. One repair has sharp edges along distribution bars.	
	FB4N - FB5N	S7 - S8	One transverse bearing bar with 100% section loss x 1/2" high x 2 1/4" long around the circular longitudinal diaphragm bar.	⚠
	FB5N	S2 - S3	6" long x 1'-3" wide area with failed distribution bars.	
		S6 - S9	Four cracked transverse welds between deck and floorbeam top flange. One repair with two missing longitudinal distribution bars.	⚠
	FB5S	S5 - S6	9" long x 9" wide area with failed distribution bars. 1" impacted rust between adjacent grid deck sections at the floorbeam causing 1/16" minimum remaining thickness of the transverse bearing bar edges.	⚠
	FB3S	S2 - S4	6" long x 3'-0" wide area with 12 consecutive longitudinal distribution bars conditions as follows: 2 bars with 2" long missing sections, 10 bars with full height cracks.	
	FB3S - FB2S	Throughout	Scattered transverse bearing bars with 100% section loss x up to 1 3/4" high x up to 2 1/4" long around the circular longitudinal diaphragm bar.	
		S6 - S7	One transverse bearing bar with 100% section loss x 1 3/4" high x 3" long around the circular longitudinal diaphragm bar.	
	FB2S - FB1S	S7 - S8	Two adjacent transverse bearing bars with 100% section loss x 1/2" high x 1" long around the circular longitudinal diaphragm bar.	
	FB1S - FB0S	S5 - S6	2'-0" long x 2'-0" wide area with failed repairs and failed longitudinal distribution bars.	
S7 - S8		6" long x 1'-3" wide failed repair with two adjacent missing longitudinal distribution bars.	⚠	
2	FB1N - FB2N	S2 - S5	2" long x 9" wide area with failed longitudinal distribution bars. 1" impacted rust between adjacent grid deck sections at the floorbeam causing 1/16" minimum remaining thickness of the transverse bearing bar edges.	
	FB3N	S5 - S7	1'-6" long x 1'-9" wide area with failed repairs with a 6" long by 1'-6" wide failed area with 3 missing longitudinal distribution bars.	⚠
	FB3N - FB4N	S2 - S3	Isolated transverse bearing bars with 100% section loss x up to 1 5/8" high x up to 3/4" long around the circular longitudinal diaphragm bar. One longitudinal distribution bar with 2" long missing section.	
		S4 - S6	Two 6" long transverse distribution bar repairs are 1/2" higher than adjacent bars. 6" long missing section of the transverse distribution bar between the repairs.	
		S5 - S6	4'-8" long x 5'-4" wide area with previous repair and seven full height cracked longitudinal distribution bars (up to four in a row) and three longitudinal distribution bars with an up to 3 1/4" long missing section. Cracked longitudinal distribution bars are deflecting under truck tire loading.	⚠
	FB4N - FB5N	S2 - S3	One transverse bearing bar with 100% section loss x 1 1/4" high x 1 1/4" long around the circular longitudinal diaphragm bar.	
		S7 - S8	1'-0" long x 2'-0" wide failed repair.	⚠
	FB5N	S4 - S6	3'-0" long x 5'-0" wide area with cracked/failed longitudinal distribution bars. 1" impacted rust between adjacent grid deck sections at the floorbeam causing 1/16" minimum remaining thickness of the transverse bearing bar edges.	⚠
	FB4S - FB3S	S7 - S8	Two adjacent transverse bearing bars with 100% section loss x up to 2 1/4" high x up to 3" long around the circular longitudinal diaphragm bar. Two longitudinal distribution bars with 2" long missing section.	⚠
		S4 - S5	One transverse distribution bar with 11" long missing section.	⚠
	FB3S - FB2S	S4 - S5	One transverse distribution bar with 2'-3" long missing section.	⚠
	FB1S - FB0S	S3 - S4	5 cracked longitudinal distribution bars at two transverse distribution bars.	⚠

Notes:

- This chart contains the most notable open steel grid deck conditions.
- Length and longitudinal bars are taken along the length of the deck (north to south direction). Width and transverse bars are taken along the width of the deck (east to west direction).
- The longitudinal distribution bars span btwn the bearing bars. The transverse distribution bars span btwn the longitudinal distribution bars.

Legend:

- ⚠ Updated information since previous inspection.
 ⚠ New condition since previous inspection.

Chart 1: Spans 1 and 2 Deck Conditions.

CITY/TOWN
MADAWASKA-EDMUND.WIN
022035.208-STRUCTURE NO.
2399INSP. DATE
JUNE 19, 2020

CHARTS

Floorbeam Bottom Flange Cover Plate Conditions				
Span	Floorbeam	Location	Conditions	
1	FB3N	S1 - S2	Up to 1/2" impacted rust x full width along the east edge.	
	FB6	S1 - S2	Cover plate termination with a 5/16" long cracked weld along the south edge and up to 1/4" impacted rust x full width along the east edge.	
	FB5S	S8 - S9	South Face: 7/8" long cracked weld at the cover plate termination. At stringer S8, 1'-0 1/4" long cracked/separated weld along the fusion line with up to 7/16" impacted rust and an adjacent 15/16" long cracked weld to the west.	⚠
	FB0S	S1 - S2	Cover plate termination with an 1 9/16" cracked/separated weld along the north fusion line and up to 1/4" impacted rust x full width along the east edge.	⚠
2	FB5S	S8 - S9	Cover plate termination with a 4" long cracked weld along the north edge and up to 7/16" impacted rust x full width along the west edge.	
	FB4S	S1 - S2	Cover plate termination with an 1 3/4" long potential future cracked weld along the north edge and up to 7/16" impacted rust x full width along the east edge.	⚠
	FB3S	S1 - S2	Cover plate termination with an 1 3/4" long potential future cracked weld along the north edge and up to 7/16" impacted rust x full width along the east edge.	⚠
	FB1S	S8 - S9	Cover plate termination with a 2 1/4" long cracked weld along the south edge.	⚠
3	FB1N	S1 - S2	Cover plate termination with an 1 3/4" long cracked weld along the north edge.	⚠
		S5	2'-7" long by full width by up to 5/16" downward bend of the cover plate with a 5/16" high gap in the weld along the south edge.	⚠
	FB2N	S1 - S2	Cover plate termination with a 5/8" long cracked weld along the north edge and a 1/8" long cracked weld along the south edge.	⚠
		S5	2'-0" long by full width by up to 1/4" downward bend of the cover plate with a 3/16" high gap in the weld along the south edge.	
	FB5N	S8 - S9	Cover plate termination with a 3/16" long cracked weld along the north edge.	⚠
	FB4S	S3	1'-3" long cracked/separated weld along the north fusion line with an up to 1/2" high gap and failed sealant.	
FB1S	S5	2'-1" long by full width by up to 5/16" downward bend of the cover plate with a 3/8" high gap in the weld along the south edge.	⚠	
4	Most	S5	Up to 2'-0" long by full width by up to 1/4" downward bend of the cover plate.	
	FB4N	S2 - S3	1'-0 1/4" long cracked/separated weld along the north fusion line with an 1/8" high gap.	⚠
	FB6	S1 - S2	Cover plate termination with an 1 1/4" long cracked weld along the south edge.	⚠
		S2 - S3	11" long cracked/separated weld along the south fusion line.	
	FB5S	S3	4" long cracked/separated weld along the south fusion line with a 3" long by 1/8" high gap.	⚠
	FB4S	S4	1'-8" long by full width by up to 5/16" downward bend of the cover plate. 1'-0" long cracked/separated weld along the north fusion line with a 5/8" long by 1/16" high gap at the east end. 1'-4" long cracked/separated weld along the south fusion line with an 1/8" high gap and an adjacent 3" long cracked/separated weld.	⚠
	FB3S	S8 - S9	4 1/4" long cracked/separated weld along the north fusion line.	⚠
	FB2S	S2 - S3	3 3/4" long cracked/separated weld along the north fusion line. 2'-0 3/4" long cracked/separated weld along the south fusion line with a 1/16" high gap.	⚠
S4		<u>Both Faces:</u> 1'-4" long cracked/separated weld along the fusion line with an 1/8" high gap. <u>North Face:</u> 1'-6" long section with a slight separation and future crack potential at 9" east of this location.		

Notes:

- This chart contains the most notable floorbeam bottom flange cover plate conditions.
- Length is taken along the floorbeam (east to west direction) and width perpendicular to the floorbeam (north to south direction).

Legend:

- ⚠ Updated information since previous inspection.
 ⚠ New condition since previous inspection.

Chart 2: Floorbeam Bottom Flange Cover Plate Conditions.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 1: East Elevation, Looking Southwest. Note paper process pipes for the Twin Rivers Paper Company along east truss.



Photo 2: West Elevation, Looking Southeast. Note span 1 over CN railroad tracks.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 3: North Approach, Looking Southeast. Note "At-Bridge" vertical clearance sign, no "At Bridge" bridge load posting sign and no connection of east bridge railing to approach guardrail.



Photo 4: South Approach, Looking North. Note "At-Bridge" bridge load posting and vertical clearance signs.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS



Photo 5: Typical Top of Deck near Pier 1, Looking South into Span 2.



Photo 6: Underside of Span 1 near North Abutment, Looking South. Note conduits/abandoned pipe along west truss and areas of a failed paint system on the stringers and floorbeams.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 7: Underside of Span 4 near South Abutment, Looking North. Note areas of a failed paint system on the floorbeams.



Photo 8: North Abutment, Looking North.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 9: South Abutment, Looking South. Note bridge seat with steel post-tensioning rods.



Photo 10: Pier 3, South Face. Note steel post-tensioning rods in pier cap.

CITY/TOWN

MADAWASKA-EDMUND.

WIN

022035.20

8-STRUCTURE NO.

2399

INSP. DATE

JUNE 19, 2020

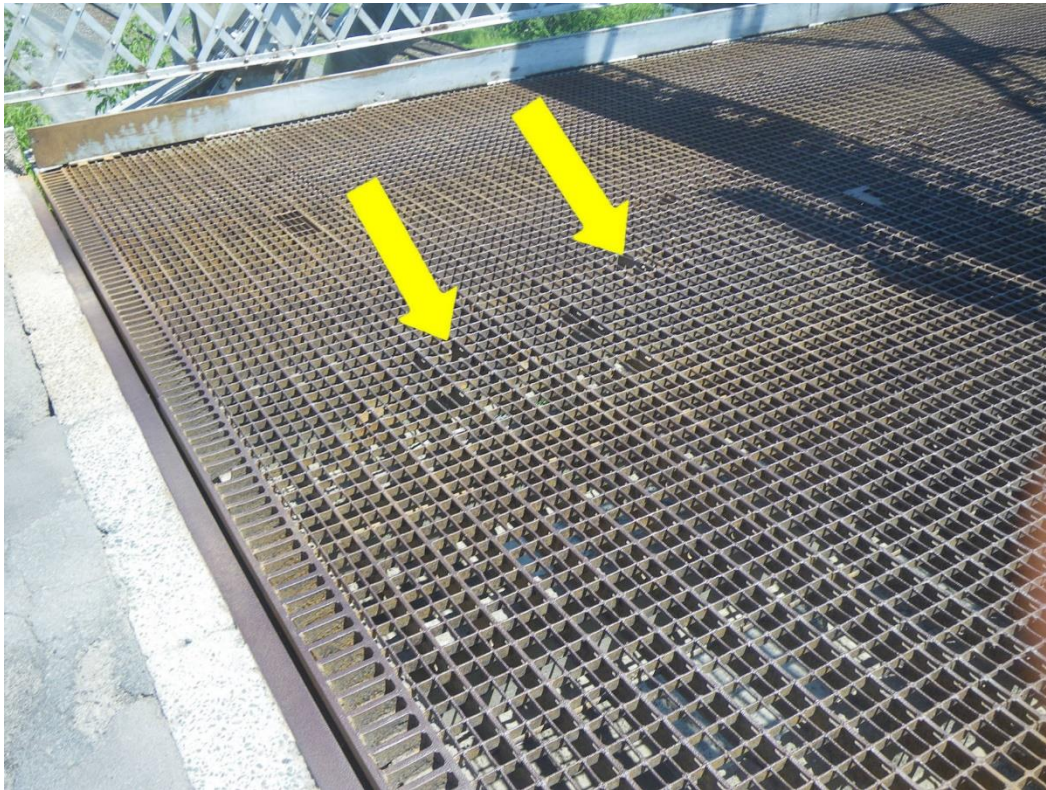
PHOTOS

Photo 11: Deck between Stringers S5 and S6, near North Abutment, Span 1, Looking Southeast - Transverse and longitudinal distribution bars with missing sections.

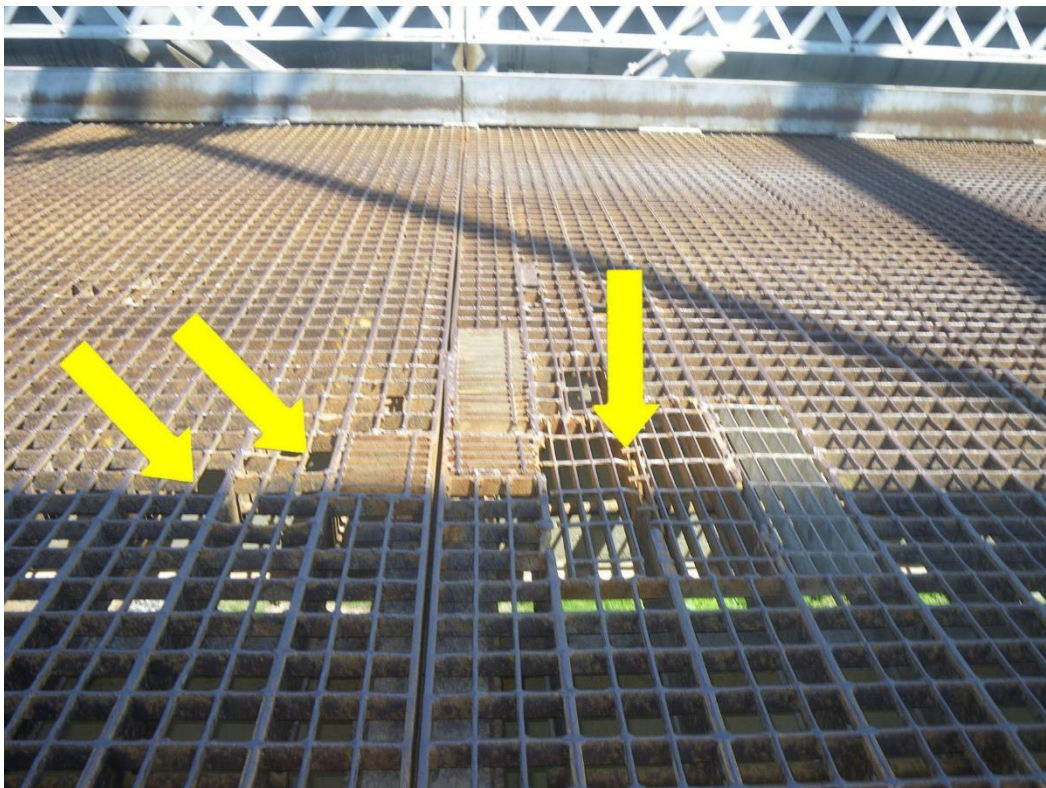


Photo 12: Deck between Stringers S4 and S9, at Floorbeam FB4N, Span 1, Looking East - Area of repairs and missing longitudinal and transverse distribution bars. Note one repair with sharp edges.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

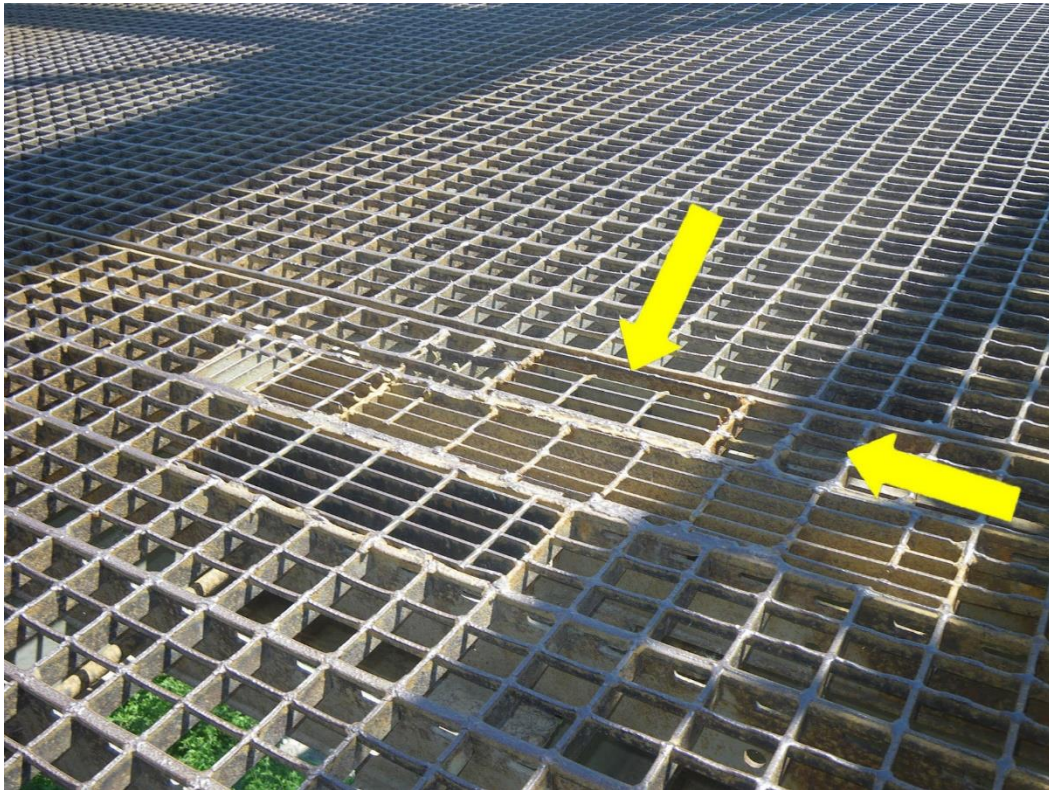


Photo 13: Deck between Stringers S6 and S9 at Floorbeam FB5N, Span 1, Looking Southeast - Repair with missing longitudinal distribution bars. Note cracked transverse welds between the grid deck and floorbeam top flange.



Photo 14: Deck between Stringers S2 and S3, at South Side of Floorbeam FB3S, Span 1, Looking West - Transverse distribution bars with full height cracks or missing sections.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

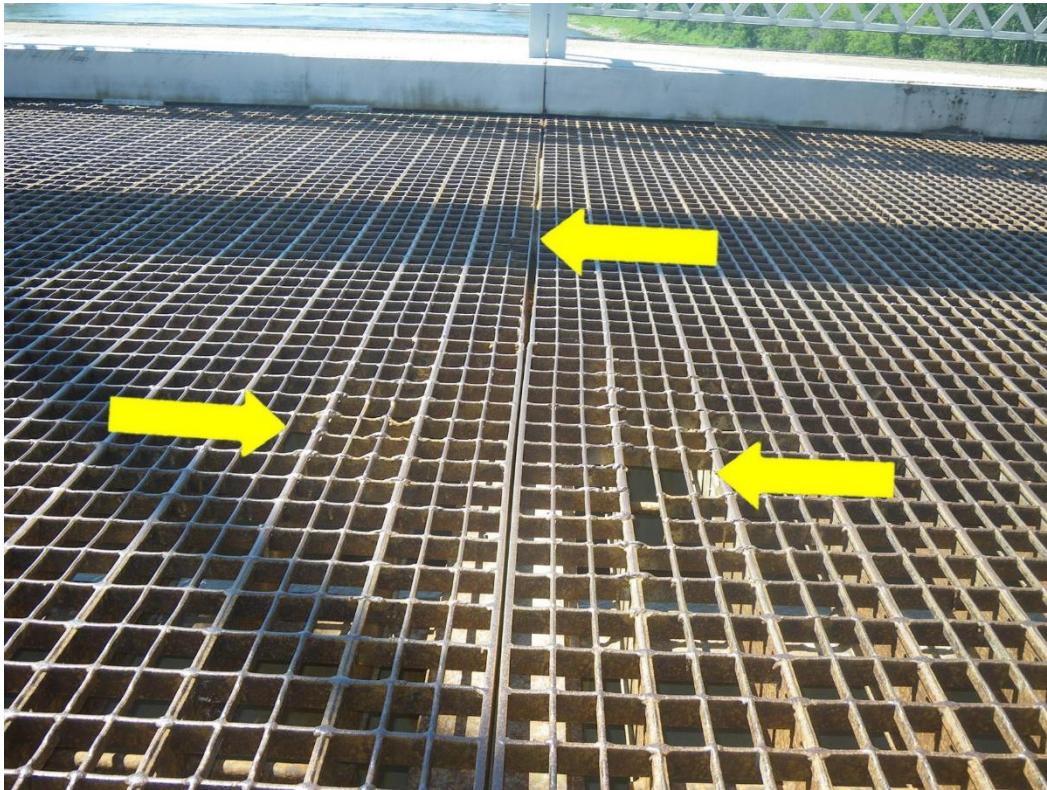


Photo 15: Deck between Stringers S4 to S6, at Floorbeam FB5N, Span 2, Looking West - Failed/missing distribution bars. Note impacted rust between adjacent grid deck panels causing section loss to the edges of the transverse bearing bars.



Photo 16: Deck between Stringers S6 and S7, at 3'-6" North of Floorbeam FB2S, Span 1, Looking South - Transverse bearing bar with area of 100% section loss around the longitudinal circular diaphragm bar.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 17: Stay-In-Place Forms between Floorbeams FB4S and FB3S, Span 1, Looking North - 100% section loss by full sidewalk width by full floorbeam bay length. Note sidewalk with failed paint system and rust of longitudinal bars, up to full depth spalls and previous repairs.



Photo 18: Top of Sidewalk between Panel Points L3N and L4N, Span 1, Looking North - Thin concrete patch layer not covering full width of sidewalk, exposed distribution bars with rust, scaling, full depth spalling along curb and previous repairs.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS

Photo 19: Top of Sidewalk at Panel Point L3S, Span 1, Looking North - Exposed top of distribution bars with surface rust, scaling, full depth spall and previous repairs.

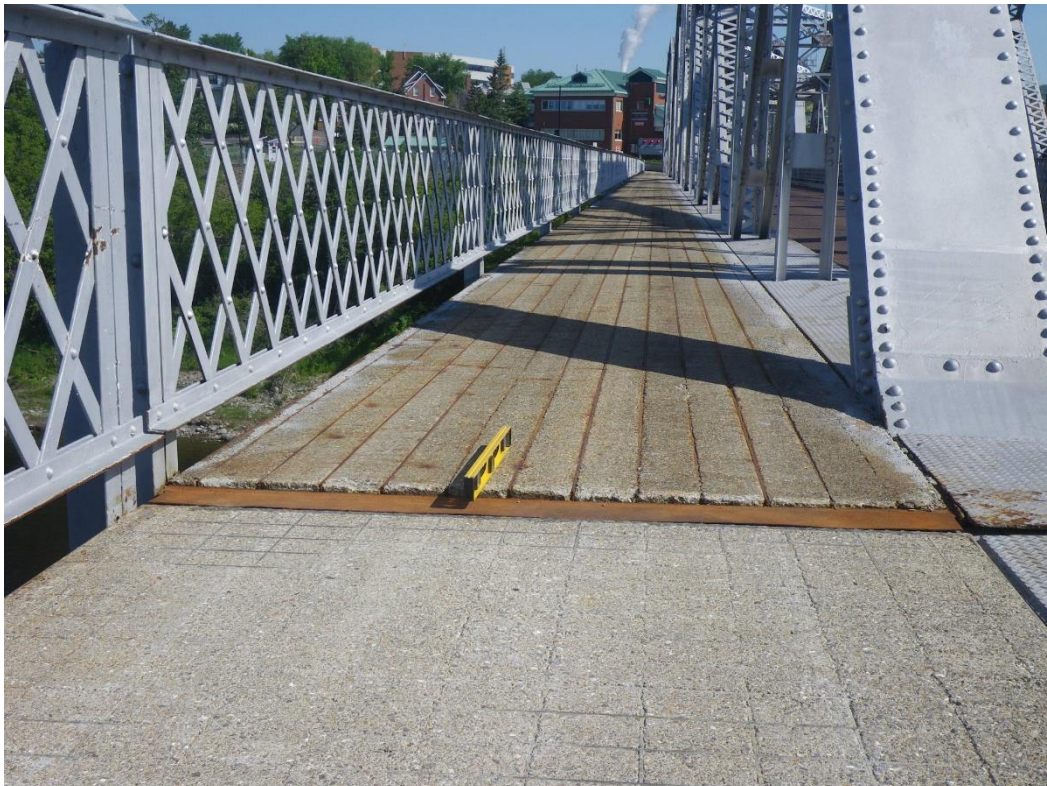


Photo 20: Deck Top of Sidewalk at Pier 2, Spans 2 and 3, Looking North - Vertical differential between spans.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

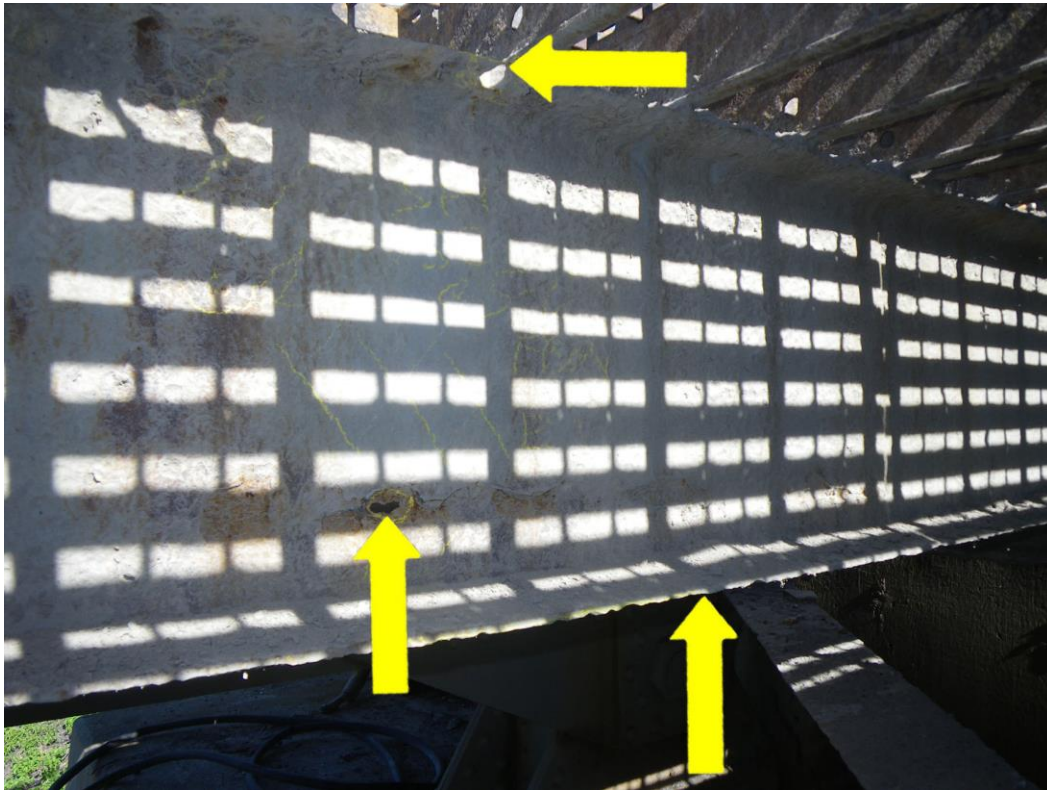


Photo 21: Stringer S8 at 5'-6" from Floorbeam FB0N, East Face, Span 1 - Section loss of flanges and web including areas of 100% section loss. Note top flange 100% section loss encompasses a vacant drilled hole.

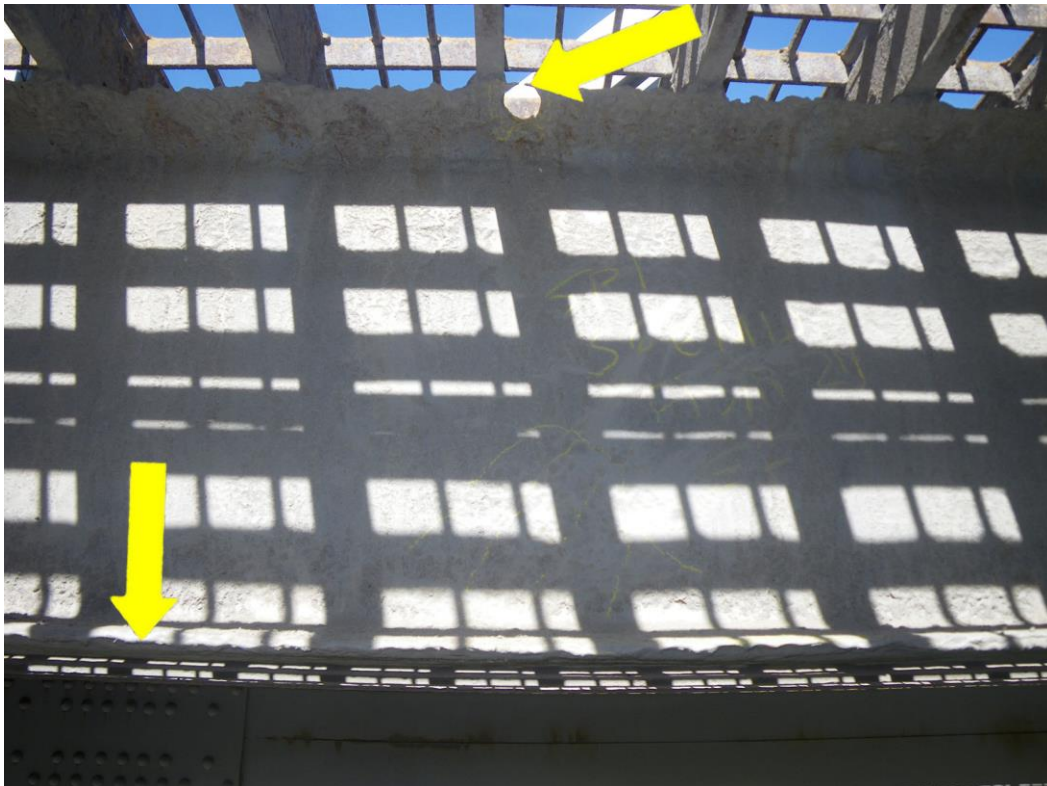


Photo 22: Stringer S6 at Midspan, between Floorbeams FB1N and FB2N, East Face, Span 1 - Section loss of flanges and web. Note top flange with 100% section loss of the outer edge including a vacant drilled hole.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

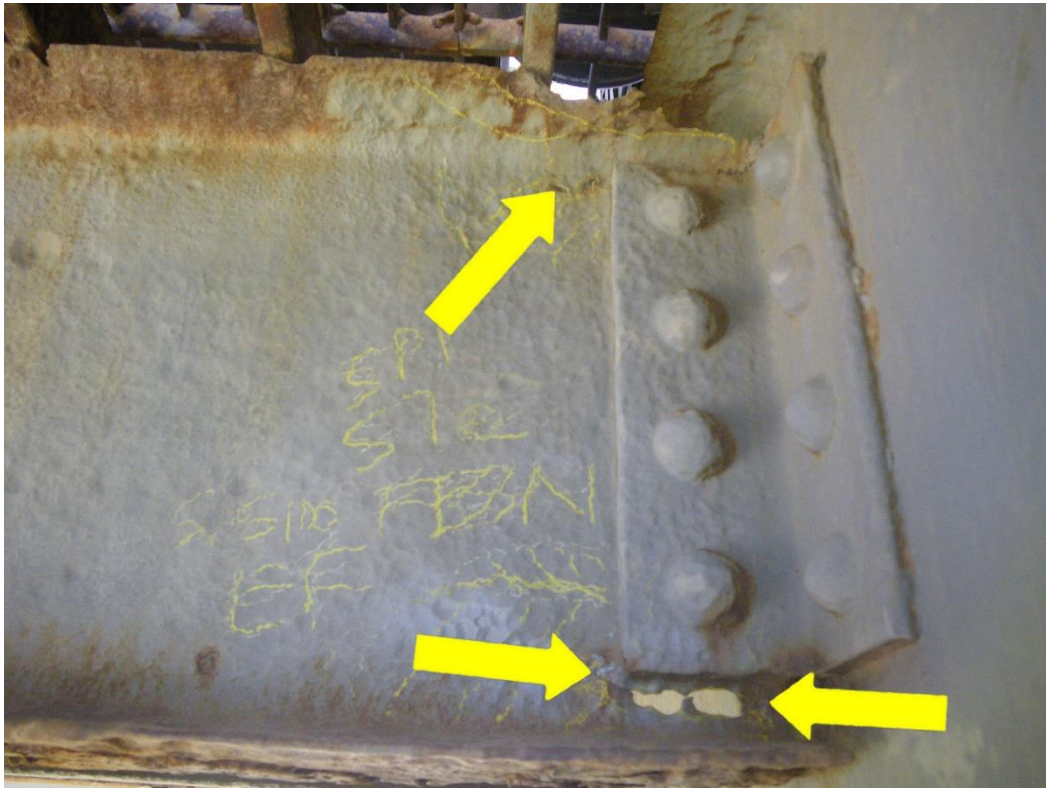


Photo 23: Stringer S7 at South Side of Floorbeam FB3N, East Face, Span 1 - Section loss of flanges and web including areas of 100% section loss. Note corrosion cracks in web.



Photo 24: Stringer S6 at South Side of Floorbeam FB5S, East Face, Span 1 - Section loss of flanges and web including areas of 100% section loss. Note corrosion crack in web and failed paint system.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

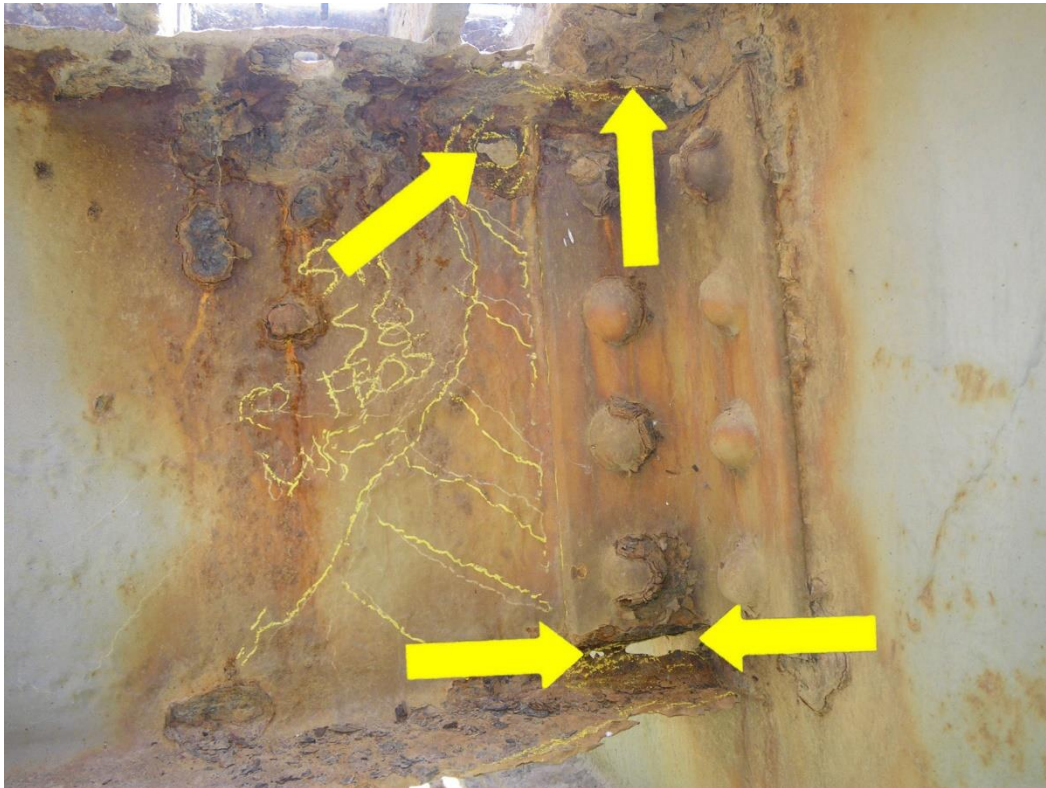


Photo 25: Stringer S8 at North Side of Floorbeam FB0S, West Face, Span 1 - Section loss of flanges and web including areas of 100% section loss. Note failed paint system.



Photo 26: Stringer S5 at Midspan, btwn Floorbeams FB5N & FB6, West Face, Span 1, Looking North - Web section loss adj. to lateral bracing conn. plate. Note lower lateral bracing bent plate w/ 100% section loss by full height.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 27: Stringer S5 at Midspan, between Floorbeams FB4N and FB5N, West Face, Span 1, Looking North - Web section loss adjacent to lateral bracing connection plate including area of 100% section loss.



Photo 28: Stringer S10 at South Side of Floorbeam FB3N, West Face, Span 4, Looking Northeast - Areas of 100% section loss in top flange and web. Note area of 100% section loss in floorbeam cantilever top flange.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS



Photo 29: Stringer S10 at Floorbeam FB0N Cantilever, South Face, Span 1 - Not connected to floorbeam web due to 100% section loss of floorbeam web. Note rotated stringer seat angle and 100% section loss of the floorbeam cantilever top flange.

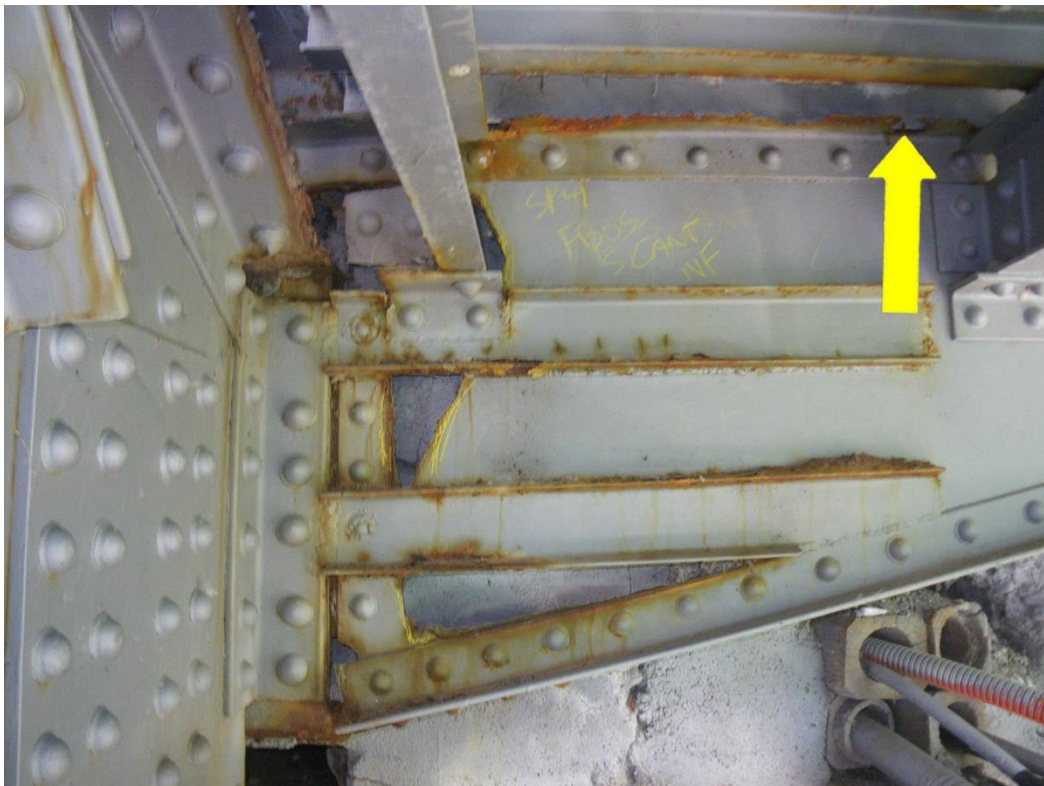


Photo 30: Stringer S10 at Floorbeam FB0S Cantilever, North Face, Span 4 - Not connected to floorbeam web due to 100% section loss of floorbeam web. Note 100% section loss of floorbeam cantilever top flange and repairs.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 31: Floorbeam FB0N between Stringers S2 and S3, South Face, Span 2, Looking West - Web section loss. Note failed paint system.



Photo 32: Floorbeam FB5S at Stringer S2, South Face, Span 4 - Web section loss adjacent to/above stringer connection and flange section loss.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

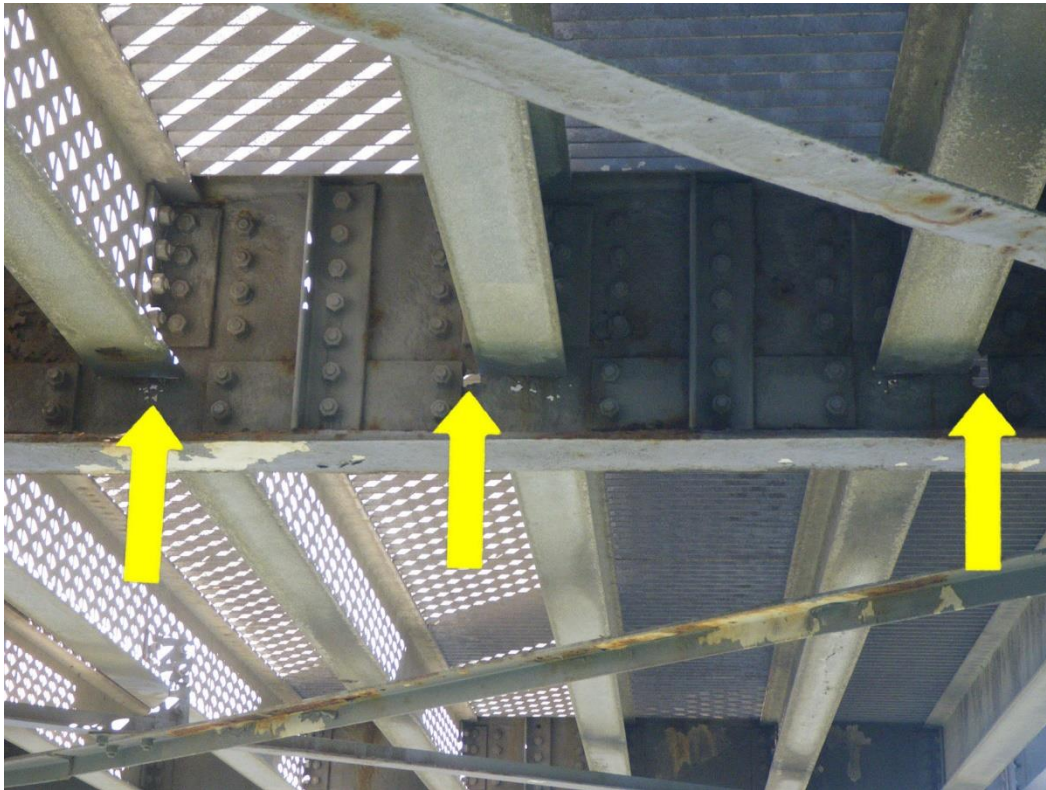


Photo 33: Floorbeam FB2S btwn Stringers S2 & S4, South Face, Span 4 - Web section loss below stringer connections including areas of 100% section loss. Note repair plates not covering 100% section loss & failed paint system.



Photo 34: Floorbeam FB2S at Stringer S4, South Face, Span 4 - Web section loss below stringer connection including area of 100% section loss and bottom flange section loss. Note repair plates not covering 100% section loss and cracked/separated weld between bottom flange and cover plate.

CITY/TOWN

MADAWASKA-EDMUND.

WIN

022035.20

8-STRUCTURE NO.

2399

INSP. DATE

JUNE 19, 2020

PHOTOS



Photo 35: Floorbeam FB1S at Stringer S2, North Face, Span 4 - Web and bottom flange section loss adjacent to/below stringer connection. Note rust forming under paint system.



Photo 36: Floorbeam FB0S at Stringer S8, North Face, Span 4 - Web, bottom flange and cover plate section loss adjacent to/below stringer connection. Note misaligned bottom flange cover plate.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS



Photo 37: Floorbeam FB0S at Stringer S9, North Face, Span 4 - Web section loss below stringer connection including areas of 100% section loss. Note floorbeam connection, lower lateral bracing and lower chord gusset plate with rivet head loss.



Photo 38: Floorbeam FB0S between Stringers S1 and S3, North Face, Span 2, Looking East - Top flange section loss including area of 100% section loss encompassing a vacant drilled hole. Note failed paint system.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS



Photo 39: Floorbeam FB1S between Stringers S8 and S9, Span 4, Looking East - Bottom flange cover plate section loss and rotation. Note floorbeam sweep.



Photo 40: Floorbeam FB1N at Stringer S5, South Face, Span 3 - Bottom flange cover plate with bend. Note gap in weld between bottom flange and cover plate.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS



Photo 41: Floorbeam FB5S between Stringers S8 and S9, North Face, Span 2 - Impacted rust between the bottom flange and cover plate. Note weld between bottom flange and cover plate extends to cover plate edge and is cracked.



Photo 42: Floorbeam FB4S at Stringer S3, North Face, Span 3 - Bottom flange cover plate weld with crack/separation and gap.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 43: Vertical U3NL3N near Curb, East Face, West Truss, Span 3 - Flange angles with sweep, rotation and bend due to collision damage.



Photo 44: Vertical U3NL3N at Panel Point L3N, West Face, West Truss, Span 3 - Crack in outstanding leg of flange angle due to collision damage above the curb and section loss along the edge of the drilled hole.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 45: Sway Bracing Lower Horizontal Strut above Northbound Lane, Panel Point 4N, Span 2, Looking East - Flange angles with sweep and bend in outstanding leg due to collision damage.



Photo 46: Sway Bracing Lower Horizontal Strut above Northbound Lane, Panel Point 4S, Span 2, Looking East - Flange angles with sweep, twisting, separation between back to back vertical legs and upward bend in outstanding leg due to collision damage.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS

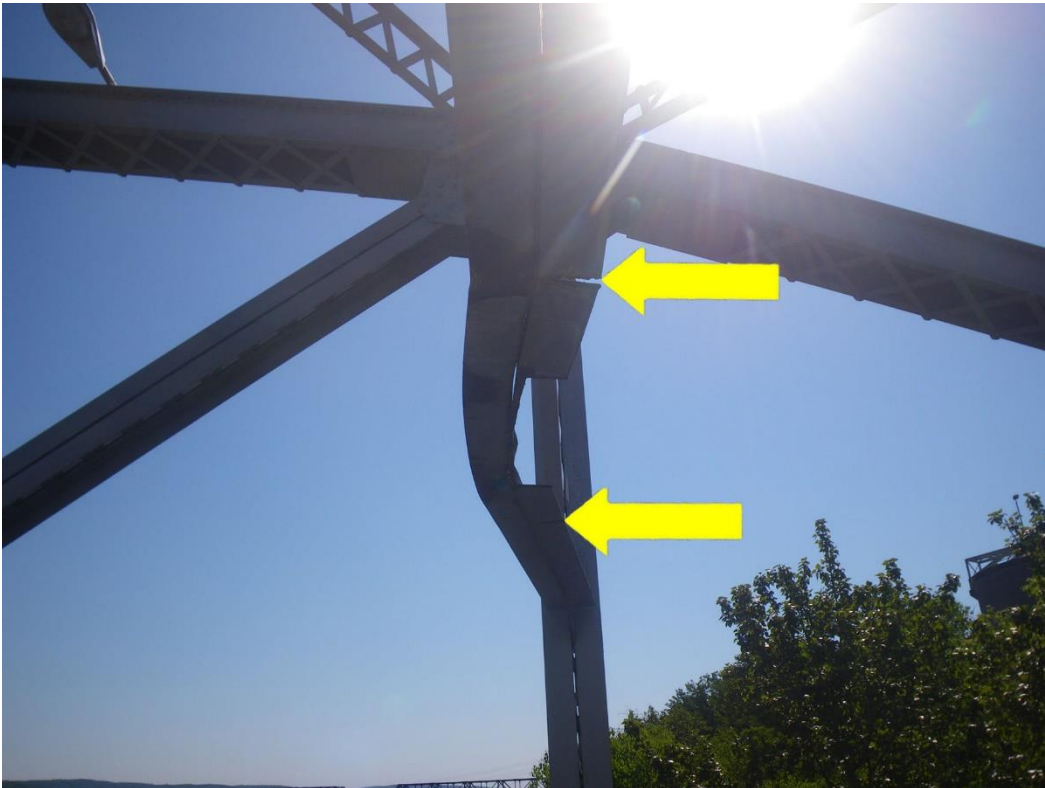


Photo 47: Sway Bracing Lower Horizontal Strut above Northbound Lane, Panel Point 2S, Span 4, Looking East - Flange angles with sweep, separation between back to back vertical legs, tear and cut out portion the outstanding leg due to collision damage.



Photo 48: Portal Bracing Lower Transverse Brace above SB Lane, North Face, North Portal, Span 1 - Bottom flange with bend and gouge, bent and detached web stiffener and bent connection plate due to collision damage.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 49: Portal Bracing Lower Transverse Brace above NB Lane, South Portal, Span 4, Looking East - Bottom flange with rotation/twisting, sweep and bend due to collision damage. Note cut out portion with above repair plate.



Photo 50: Lower Lateral Bracing Connection Plate at Panel Point L1S, East Truss, Span 4, Looking East - Areas of 100% section loss.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS

Photo 51: Lower Lateral Bracing Midspan Connection at Stringer S5, between Floorbeams FB5S and FB4S, Span 3, Looking East - Area of 100% section loss.

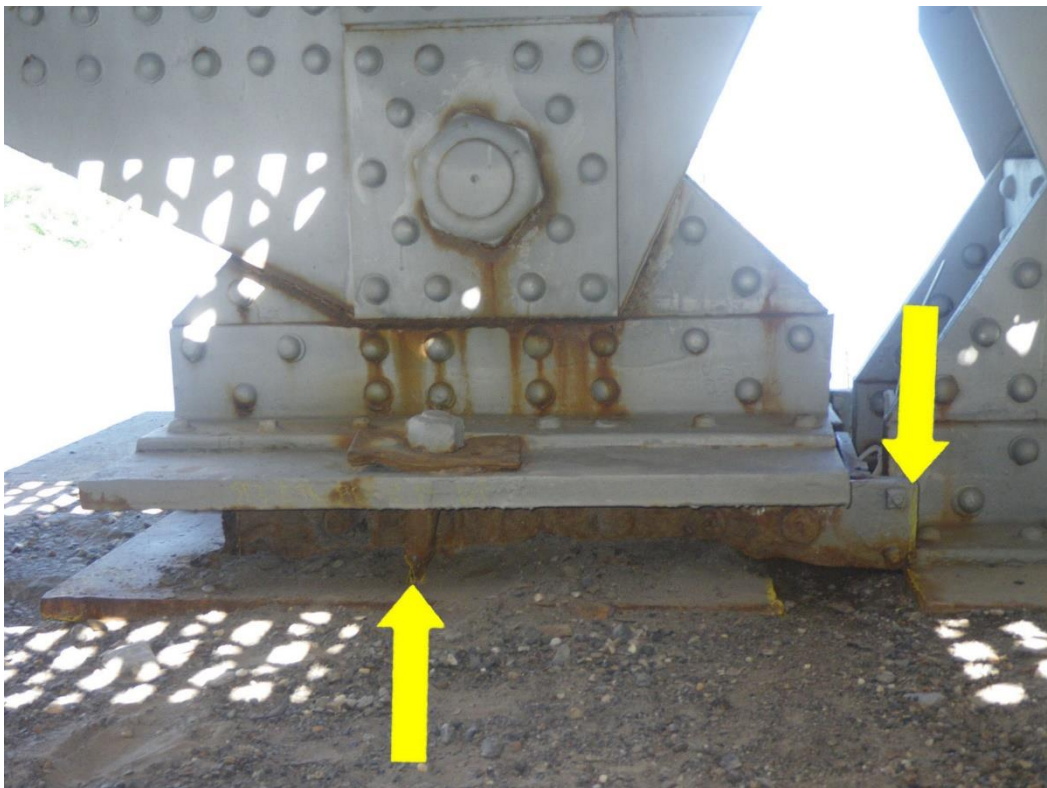


Photo 52: East Truss Bearing at Pier 3, West Face, Span 3 - Nested roller assembly expanded beyond the masonry plate edge and in contact with adjacent fixed bearing. Note anchor bolt severely bent with section loss.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS

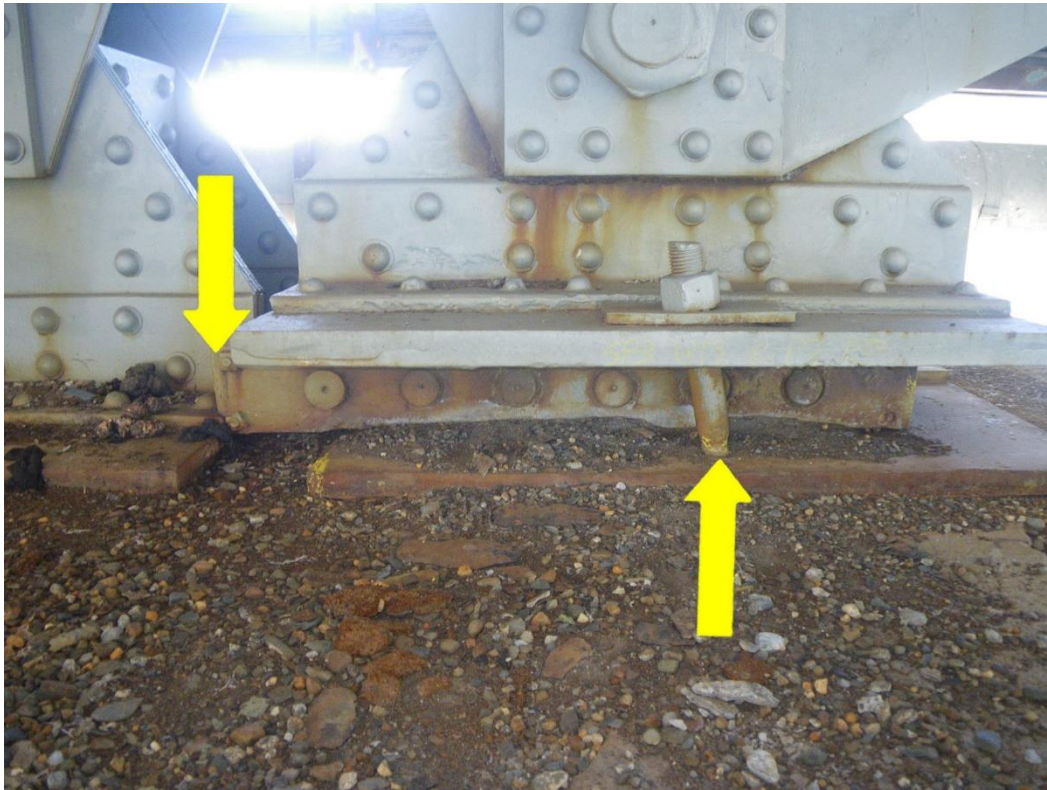


Photo 53: West Truss Bearing at Pier 3, East Face, Span 3 - Nested roller assembly expanded beyond the masonry plate edge and in contact with adjacent fixed bearing. Note anchor bolt severely bent with section loss.

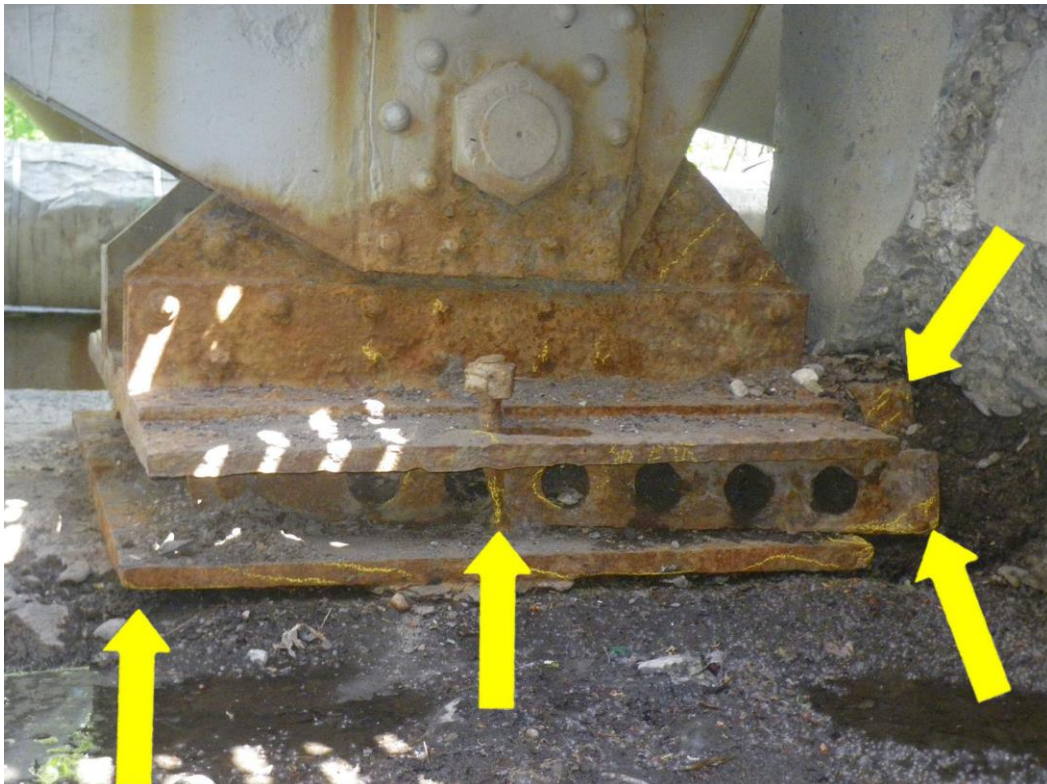


Photo 54: East Truss Bearing at South Abut., West Face, Span 4 - Nested roller assembly twisted, expanded beyond masonry plate edge, in contact w/ backwall & detached vertical plate. Note anchor bolt severely bent w/ section loss and in contact w/ sole plate slotted hole edge, & angle section loss w/ rivet head loss.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS

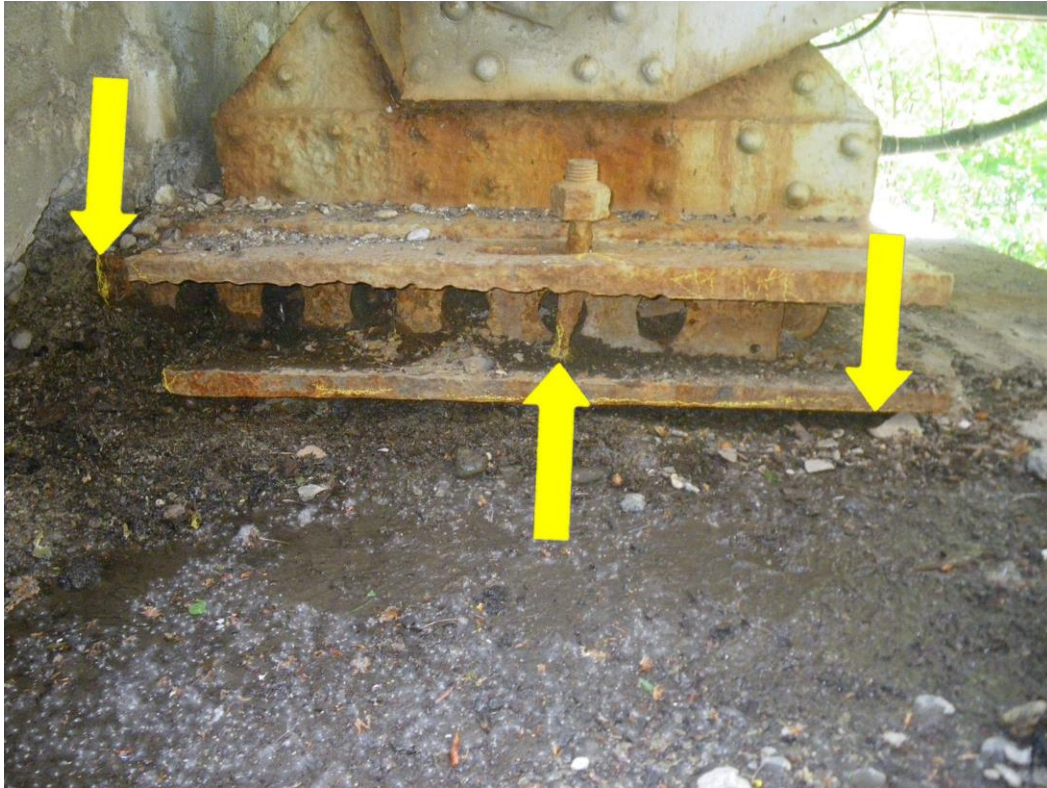


Photo 55: West Truss Bearing at South Abut., East Face, Span 4 - Nested roller assembly expanded beyond masonry plate, in contact w/ backwall & detached vertical plate. Note anchor bolt severely bent w/ section loss & in contact w/ sole plate slotted hole edge, angle section loss w/ rivet head loss & undermining of masonry plate.



Photo 56: East Truss Bearing at Pier 3, North Face, Span 3, Looking Southeast - Undermining of masonry plate due to pier cap spall.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 57: Lower Chord L4NL5N at South Third Point, East Face, East Truss, Span 1, Looking Northwest - Intersecting welds of the abandoned anchor point on the flange angles.



Photo 58: South Abutment Backwall between East and West Trusses, Looking East - Spalling and map cracking with moisture.

CITY/TOWN
MADAWASKA-EDMUND.

WIN
022035.20

8-STRUCTURE NO.
2399

INSP. DATE
JUNE 19, 2020

PHOTOS

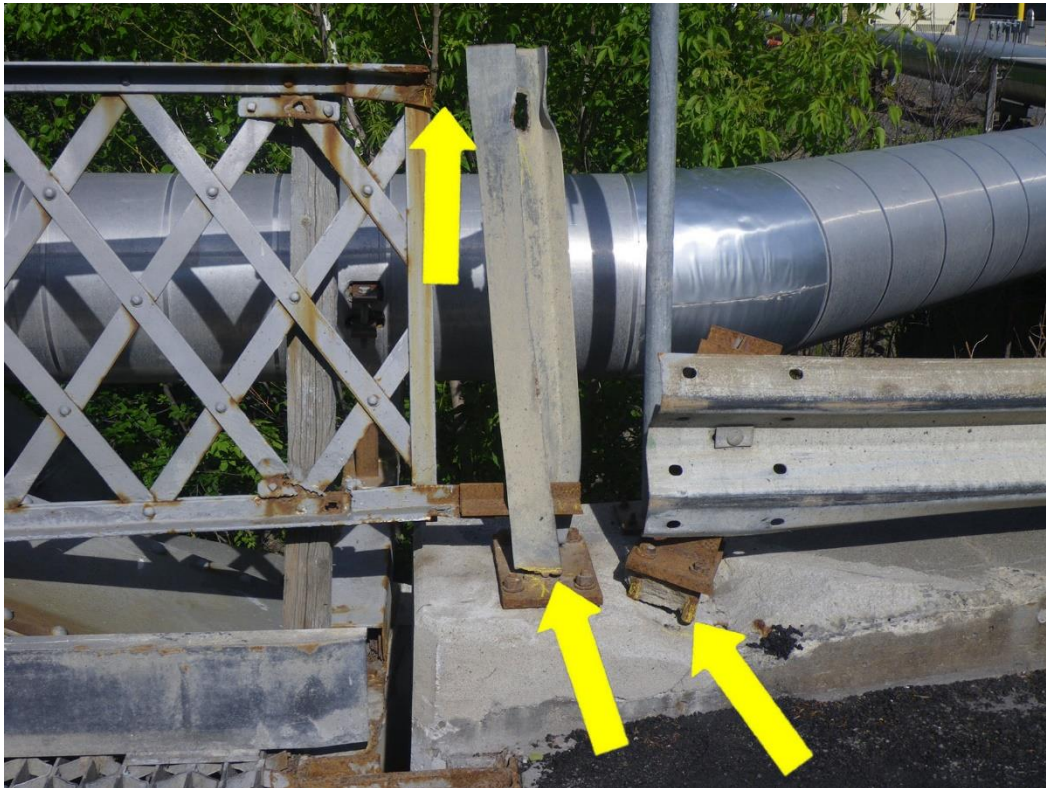


Photo 59: SE Bridge Railing Transition, Looking East - Tall rail post with warping, bent flanges, full width fracture in both flanges along the base plate, partially connected to bridge railing and not connected to guardrail. Note guardrail rail post with debonded/pulled out anchor bolts.



Photo 60: SE Approach Guardrail at Third Rail Post from South Abutment, Looking SE - Splice with 2 of 4 bolts in place, loose horizontal bolt connecting guardrail to rail post and bend of rail section due to collision damage.

CITY/TOWN MADAWASKA-EDMUND.	WIN 022035.20	8-STRUCTURE NO. 2399	INSP. DATE JUNE 19, 2020
--------------------------------	------------------	-------------------------	-----------------------------

PHOTOS



Photo 61: Northwest Traffic Barrier near North End, East Face, Looking Northwest - Extensive map cracking with moisture and efflorescence, diagonal crack, delamination and spalls.



Photo 62: Northwest Traffic Barrier near North End, West Face, Looking Southeast - Extensive map cracking with moisture and efflorescence, delamination and spalls.