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Bridge Needs Study 2024

INSPECTION SUMMARY REPORT

Town of Parry Sound

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Issue	Date	Description
0	December 23, 2024	Draft Report
1	January 13, 2025	Final Report

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1 Introduction

Town of Parry Sound (Town) has an inventory of bridges that require regularly scheduled inspections to document their condition and performance to provide maintenance, rehabilitation, and replacement recommendations and associated costs, and to present data to enable compilation of an Asset Management Plan.

The purpose of this Bridge Needs Study is to compile the inspection data to form the basis for the Asset Management Plan. Inspections were conducted for all structures on the inventory provided by the client as illustrated in Figure 1. To ensure compliance with Ministry of Transportation (MTO) guidelines and consistency with the previous studies, the inspections were completed in general accordance with the Ontario Structure Inspection Manual (OSIM, Ministry of Transportation, May 2018).

The inspections and assessments will allow the client to:

- Maintain structures in a safe condition;
- Protect and extend the service life of structures;
- Identify maintenance, rehabilitation and replacement needs; and
- Provide a basis for a structure management system for the planning and funding of the recommendations.

In addition to this report, individual OSIM forms have been compiled in electronic spreadsheet format to enable quick and ready retrieval of the structure data. The data collected, and subsequent analyses and assessments are provided in both paper and electronic forms.

In order to convey the results of the visual inspections, certain terms are used to identify particular deficiencies with respect to material condition and defects. Definitions of these terms can be found in the OSIM document. Material defects and severity are classified and quantified, then the severity is translated to a condition state of Excellent, Good, Fair, or Poor. For example, a defect could consist of concrete scaling with a severity of Light, Medium, Severe or Very Severe. These severities are then translated to the OSIM defined condition states. Typically, elements with no observed defects are categorized as Excellent, a severity of Light are categorized as Good, a severity of Medium are categorized as Fair, etc. Material Defects can be found in the OSIM manual Part 1 Section 1.2 Material Defects. Part 1 also provides material defects for various elements and associated materials. Part 2 Section 2.4 Material Condition States, 2.5 Suspected Performance Deficiencies, and Section 2.9 Appendix A – Combined Summary of Material Defects and Condition States provide guidelines for determining the appropriate condition state of Excellent, Good, Fair, or Poor.

2 Structure Inventory and Assessment

Inspections were completed for the structures within the inventory provided by the Town. This section details the results of the inspections and identifies corresponding deficiencies.

2.1 INVENTORY AND APPRAISAL GUIDELINES

In total, 5 bridges were inspected. The Seguin Street Bridge was inspected on October 25, 2024 for the regular OSIM inspection, and inspected on November 21, 2024 utilizing a Bridgemaster unit to provide access to the underside of the structure to inspect the girders and soffit. The remaining 4 structures were inspected in mid-fall 2024 when water levels were relatively low which provided good access. Notwithstanding, a few structures access were somewhat restricted due to water levels or had a limited inspection of select elements due to lack of access such as larger bridge spans over waterways.

Inventory Data can be found in **Appendix A**. The Asset Management Plan can be found in **Appendix B**. Maintenance Needs can be found in **Appendix C**, and the individual OSIM inspection forms can be found in **Appendix D**.

The structure inspections were conducted in general accordance with the procedures within the OSIM which sets standards for detailed visual inspections and condition rating of structures and their components. It provides a uniform inspection approach for structures in Ontario. A detailed visual inspection as defined in the OSIM is as follows:

> *An element-by-element "close-up" visual assessment of material defects, performance deficiencies and maintenance needs of a structure. Close-up is defined as "a distance close enough to determine the condition of the element".*

For each structure, a detailed visual inspection was completed including an element-by-element visual assessment of material defects, performance deficiencies and maintenance. Inspection forms, as provided in the OSIM, were completed for each structure, documenting the inspection results.

In particular, the following were observed and recorded:

- field inspection information (date, inspector, weather, etc.);
- structure information (name, location, type and crossing type);
- structure geometry (span, length, width, area and skew);
- approach road characteristics; and
- element data (for each individual structure element - abutment, deck, embankment, etc.).

The OSIM reports may identify the need for an enhanced OSIM inspection that can include:

- special access equipment;
- tapping areas of concrete with a hammer to determine the limits of delamination and spalling;
- tapping areas of wood with a hammer to determine limits of rot, as well as selective wood coring to correlate tapping with the presence of inner rot or other damage; and
- cleaning and wire brushing areas of steel, including connections, to ascertain section loss.

2.2 STRUCTURE ASSESSMENTS

2.2.1 Identification of Needs & Improvements

For each individual structure element, confirmed or suspected condition and performance deficiencies can lead to the identification of maintenance, rehabilitation, or replacement needs. Needs then generally fall into two categories as follows:

Maintenance Needs can typically be completed by the owner's maintenance crews. These works can include annual bridge deck cleaning, installing signage, etc.

4 structures were identified as in need of specific maintenance work, as summarized in Appendix C.

Rehabilitation or Replacement Needs are typically larger scope of work projects that usually require the work to be contracted out for design and construction.

2 structures were identified as needing rehabilitation within 1-5 years, and 1 structure was identified as needing rehabilitation within a 6-10 year timeframe, as summarized in Appendix B.

2.2.2 Maintenance Needs

The maintenance needs would be in addition to, or in conjunction with, routine annual bridge maintenance activities. The OSIM defines that maintenance work is any type of work that does not require the issuing of a capital construction project. It includes routine maintenance items as well as targeted structural repairs to a specific element. OSIM Section 2.6 Maintenance Needs and Table 2.6.1 Maintenance Needs provide a guideline for Routine Maintenance and Structural Maintenance Work. Who completes the Maintenance Needs in Table 2.6.1 can depend on how an owner of the assets approaches maintenance. Some owners may not have the staffing, expertise, or equipment to complete some or all items in the table, and in that case the work may need to be awarded to a contractor through a request for quote, or a tendering process.

Routine annual bridge maintenance could consist of cleaning elements that include decks, curbs and sidewalks, joints, abutment seats and bearings, and drainage systems. Other routine maintenance needs could consist of bridge surface repairs, railing system repairs, and other needs as listed in Table 2.6.1. Maintenance time frames are categorized into Urgent, 1 Year, and 2 Year.

Although there are no firm guidelines on annual maintenance expenditures, the Transportation Association of Canada (TAC) in the past has provided a general target for annual bridge maintenance funding allocation of 0.2% of the replacement value of the assets. For example, if the value of the structure assets is $10M then $20,000 could be considered to be set aside for annual maintenance. Each jurisdiction has their own approach to maintenance funding, however, to begin establishing or re-assessing a maintenance program this could be a starting point.

The above are guidelines that can be referenced to establish a more thorough maintenance program beyond bridge cleaning and surface repairs. The types of work within the program need to be established, who will typically complete the work, costs per work activity determined for budgeting purposes, and determining an annual budget. A key is to ensure continuity year over year to maximize the benefit of a maintenance program.

2.2.3 Rehabilitation or Replacement Needs

The Ministry uses the Bridge Condition Index (BCI) to plan rehabilitation and replacement work. A BCI range of 70-100 is considered as good and work is not usually required within the next five years. A BCI range of 40-70 is considered fair and work is usually scheduled within the next five years. A BCI less than 40 is considered poor, and work is usually scheduled within one year which is categorized as Urgent.

Cost estimates for rehabilitation and replacement needs are provided in Appendix B, which summarize improvement costs over a 10-year implementation period, with a total estimated cost of $1,594,500.

The estimated costs include Engineering and Contingency costs, but do not include contract administration or construction inspection. The typical Engineering and Contingency costs are generally 10% to 20% of the estimated cost of work to be conservative. The breakdown of the estimated costs can be found in the OSIM forms in Appendix D.

3 Recommendations & Prioritization

As mentioned in Section 2 of this report, 'maintenance' work refers to those works that could potentially be completed by the owners works department, and 'rehabilitation' and 'replacement' refers to work that may require an engineered design and tendering of the works to a contractor. The costing information is preliminary and is for budgeting purposes only. The Asset Management Plan is in Appendix B. Further breakdown of the estimated costs is included in the OSIM forms in Appendix D.

3.1 RECOMMENDATIONS

The recommended improvements total $1,594,500 in structure rehabilitations. Based on the structure's age and condition, rehabilitation is recommended within the specified timeframe. These values do not include the costs associated with maintenance work or additional investigations. The OSIM reports include costs up to the 6-10 year time frame in accordance with the standard forms. Cost for work beyond that time frame are not included in the individual reports.

The following is a summary of the rehabilitation and replacement works:

- Rehabilitation cost of $1,364,500 in the next 1-5 years
  - Waubuno Street Bridge - $292,500
  - Seguin River Pedestrian Bridge - $1,072,000
- Rehabilitation cost of $230,000 in the next 6-10 years
  - Cascade Street Bridge 2 - $230,000

3.1.1 Waubuno Street Bridge

The structure is in generally fair to poor condition. A major rehabilitation should be planned within the 1–5 year timeframe, including replacing the deteriorated timber deck, curbs, ballast wall, stringers, columns and footing. Due to the extent of repairs, replacement could be considered in lieu of rehabilitation.

3.1.2 Seguin River Pedestrian Bridge

The structure is in generally good to fair condition. A major rehabilitation should be planned within the 1-5 year timeframe, including repairs to Span 12 steel, concrete repairs for the abutment wall and three piers within waterway, and repair railing system.

3.1.3 Cascade Street Bridge 2

The structure is in generally good condition. A major rehabilitation should be planned within the 6-10 year timeframe including replace waterproofing system, repave asphalt, repair concrete soffit, and upgrade north approach barriers to bridge connection to meet the current standards.

3.1.4 Additional Investigations

No Additional Investigations are recommended at this time.

3.2 PRIORITIZATION OF WORK

It is understood that an owner may not have the funding to complete all the works within the recommended timeframes. The distribution of work through the timeframe was allocated in a manner that provides a relatively even distribution of funding requirements, however there are opportunities to adjust to suit the availability of funds.

In accordance with the 2009 Bridge Condition Index (BCI): An Overall Measure of Bridge Condition published by the Ministry of Transportation Ontario Engineering Standards Branch, a BCI, BCIp and BSI value was calculated for each structure. Essentially the BCI is a weighted average of the bridge elements and condition states. The BCIp is limited to only the percentage of poor condition of four main areas of the structure: deck, beams, substructure, and barrier. The BCIp for structural culverts considers culvert barrels to be a substructure element and considers barriers along the roadway. The BCIp for the retaining walls considers the walls to be substructure and considers barriers along the top of the walls to be superstructure. The BSI is the Bridge Sufficiency Index which applies additional factors to the BCI based on sufficiency of the structure for use such as Traffic (AADT and load posting), Economic (economic importance and length of detour), Width (single lane, narrow lane, etc.), and Alignment (profile or alignment).

Table 2 in Section 3.3 lists the BCI, BCIp and BSI for each structure.

3.2.1 Lifecycle Consideration

The capital cost of a structure is one component of costs over its service life. A structure requires periodic maintenance, rehabilitation, replacement of various components and, eventually, replacement of the structure itself throughout its life cycle. A comparison of the net present values of different rehabilitation and replacement solutions can give an indication of which one will be most economical overall. The life cycle for the analysis is taken as 50 years as recommended by the MTO Structural Financial Analysis Manual (SFAM). Life cycle costs are applied at intervals reflecting the assumed lifespan of different works, and the residual value of

all work done in the 50-year period for each solution can be compared to determine the preferred alternative.

For example, a structure with recommended rehabilitation work could have the following alternative solutions:

- Rehabilitate;
- Replace; or
- Do nothing and replace in X years.

Each of these solutions would include rehabilitation work including items such as repaving, minor concrete repairs, and structural steel recoating within the 50-year period under consideration. The initial cost, accumulated costs through years 1-50, residual value at year 50, and net present value are determined, and the lowest net present value is the most economical alternative. Where rehabilitation work is extensive and the structure is currently safe and functional, delaying work and planning for replacement in the future might be a more cost-effective alternative. The MTO has documents available that provide guidelines for strategic management of structures, and rehabilitation strategies include Preservation Management, Structure Rehabilitation, and Structure Replacement.

The recommended improvements identified through these inspections do not include a lifecycle analysis, but they do consider the benefit of completing rehabilitation work versus replacement. Where rehabilitation is extensive it can be more cost effective to plan for replacement, and this is reflected in the recommendations.

3.3 STUDY UPDATES

Conditions can change based on the effects of the weather, flood events, traffic volume and types of traffic, use of de-icing chemicals, maintenance, unforeseeable circumstances, and continued deterioration. The condition data of the bridge system is updated through the bi-annual inspections. The inspection results are used to update the effectiveness of strategies, gauge sufficiency of funding levels, identify whether needs are being addressed, document the rate of deterioration of elements, and to ensure accurate information is used to determine improvement needs and implementation timing.

Priorities are generally based on the BSI and BCI values. As a guideline, high and medium values can have rehabilitation and replacement recommendations, and low values can have maintenance recommendations. Table 2 provides the current Structure Priority List based on the BSI, BCI, and BCIp values.

Table 1: Structure Priority List

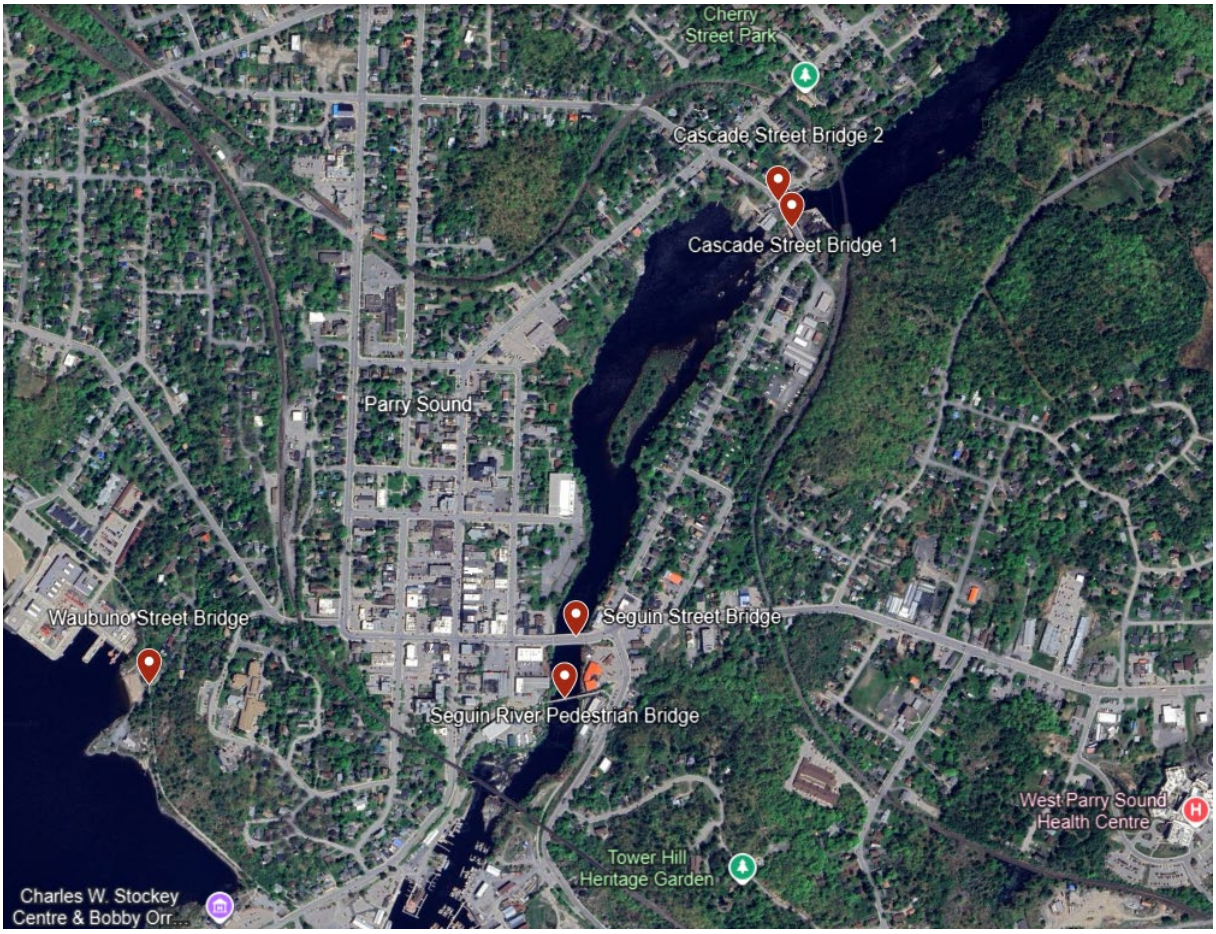
PRIORITY	ASSET ID	BCIp	BCI	BSI
(40 < BSI < 70) Medium	Cascade Street Bridge 2	99.14	72.11	69.11
	Seguin River Pedestrian Bridge	98.29	62.11	62.11
	Waubuno Street Bridge	93.07	52.48	50.48
(BSI > 70) Low	Cascade Street Bridge 1	99.94	75.40	72.40
	Seguin Street Bridge	99.92	79.41	74.41

4 Summary

The structures within the Town of Parry Sound are in generally good condition. Based on age and condition assessments, 2 structures are recommended for major rehabilitation within the next 1-5 years, and 1 structure is recommended for major rehabilitation within 6-10 years. Recommended maintenance activities with associated timelines are detailed in Appendix C.

Should the Town have any questions or comments regarding the above, please do not hesitate to contact us.

Figure 1: Location Map 1



BRIDGE NEEDS STUDY

Appendix A:
Inventory Data

2024 Inspection Cycle: Inventory Data

Project Title and description	Asset ID	Structure Type	Current Load Limit (Tonnes)	Year Built Structure		BCIp	BCI	Overall Bridge Sufficiency					Time of Need See 10-Year Implementation Plan
				Substructure	Superstructure			Traffic	Economic	Width	Alignment	BSI	
Bridge - 5 sites													
Bridge No. 1 - Cascade Street Bridge 1	Structure No.1	Bridge	-	1981	2023[2]	99.94	75.40	0	3	0	0	72.40	> 10 Years
Bridge No. 2 - Cascade Street Bridge 2	Structure No.2	Bridge	-	1984		99.14	72.11	0	3	0	0	69.11	6 - 10 Years
Bridge No. 3 - Seguin River Pedestrian Bridge	Structure No.3	Bridge	-	1920	2022[1]	98.29	62.11	0	0	0	0	62.11	1 - 5 Years
Bridge No. 4 - Seguin Street Bridge	Structure No.4	Bridge	-	1987	2024[1]	99.92	79.41	0	5	0	0	74.41	> 10 Years
Bridge No. 5 - Waubuno Street	Structure No.5	Bridge	-	1981		93.07	52.48	2	0	0	0	50.48	1 - 5 Years

[1] : Minor Rehabilitation
[2] : Major Rehabilitation
[3] : Replacement

BCIp: Bridge Condition Index for primary elements
BCI: Bridge Condition Index
BSI: Bridge Sufficiency Index

Appendix B:
Asset Management Plan

2024 Inspection Cycle: 10-Year Asset Management Plan

Project Title and description	Implementation Schedule										Total
	1 - 5 Years					6 - 10 Years					
	2024[1]	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Bridge - 5 sites											
Bridge No. 1 - Cascade Street Bridge 1											**$ -**
Bridge No. 2 - Cascade Street Bridge 2							$ 230,000				**$ 230,000**
Bridge No. 3 - Seguin River Pedestrian Bridge					$ 1,072,000						**$ 1,072,000**
Bridge No. 4 - Seguin Street Bridge											**$ -**
Bridge No. 5 - Waubuno Street		$ 292,500									**$ 292,500**
Total	**$ -**	**$ 292,500**	**$ -**	**$ -**	**$ 1,072,000**	**$ -**	**$ 230,000**	**$ -**	**$ -**	**$ -**	**$ 1,594,500**

Note: Costs do not include additional investigations and monitoring, they are included separately

[1] : Categorized as "Urgent" by the OSIM

Appendix C:
Maintenance Needs

2024 Inspection Cycle: Maintenance Needs			
Project Title and description	**Urgent**	**Within 1 Year**	**Within 2 Years**
Bridge - 5 sites			
Bridge No. 1 - Cascade Street Bridge 1			
Bridge No. 2 - Cascade Street Bridge 2			Repair asphalt, replace and reset railing end caps, repair abutment wall concrete, and repair scouring at bottom of retaining wall.
Bridge No. 3 - Seguin River Pedestrian Bridge		Replace: rotten timber deck, curbs, missing/detoriated barrier members, and damaged brace. Clean debris from bearing seat.	
Bridge No. 4 - Seguin Street Bridge		Clean joint gap and seals yearly.	
Bridge No. 5 - Waubuno Street			Relocate no motorized vehicles sign for better visibility.

Appendix D:
OSIM Forms

MTO Site Number:

Inventory Data:

Structure Name	**Cascade Street Bridge No.1**				
Main Highway #	**Cascade Street**	On [X] or Under [ ] Structure	Service on Structure	[ ] Navig. Water [ ] Non-Navig. Water [ ] Rail [X] Road [ ] Ped. [ ] Other	
Location Description	0.05 km east of Water Street		Service under:	[ ] Navig. Water [X] Non-Navig. Water [ ] Rail [ ] Road [ ] Ped. [ ] Other	
Owner/Custodian	Town of Parry Sound				
MTO Region	Northeastern	Latitude	45° 21' 01"N	Longitude	80° 01' 34"W
Regional Engineer		Heritage Designation:	[X] Not Cons. [ ] Cons./Not App. [ ] List/Not Desig. [ ] Desig. [ ] Desig./Not List [ ] Desig. & List		
MTO Area	**52 - Huntsville**	Hwy Class:	Freeway [ ] Arterial [X] Collector [ ] Local [ ]		
Old County	**44 - Parry Sound**	Posted Speed	**40**	No. of Lanes	**2**
Township	**452 - McDougall**	AADT	**Unknown**	% Truck	**Unknown**
Structure Type 1	**Box beam girders**				
Structure Material 1	**Concrete**	Traffic Directional Bound	**N-S**		
Structure Type 2	**Concrete Deck**				
Structure Material 2	**Concrete**	Inspection Frequency	**2** (years)		
Total Deck Length	**52.9** (m)	Inspection Year	**Even**		
Overall Str. Width	**11.2** (m)	Inspection Duration	**2** (hrs)		
Culvert Length	(m)				
Total Deck Area	**592.5** (sq.m)				
Roadway Width	**8.5** (m)	Min. Vertical Clearance	(m)		
Skew Angle	(Degree)	Detour Distance	**2.2** (km)		
No. of Spans	**2**	Fill on Structure	**N/A** (m)		
Span Lengths	**26.45, 26.45** (m)				
For retaining wall:					
Total Wall Length	(m)	Max. Wall Height	(m)		
Total Wall Area	(sq.m)	Ave. Wall Height	(m)		
		Angle of Backfill	(Degrees)		

Historical Data

Year Built	**1981**	Year of superstruct. Constructed	**N/A**
Last Reg. OSIM Inspection	**2022**	Year of Last Minor Rehab.	**N/A**
Last Enh. OSIM Inspection		Year of Last Major Rehab	**2023**
		Current Load Limit	/ / (tonnes)

Work History: (Date/description)

The 2023 major rehabilitation included concrete repairs to the sidewalks, exterior soffits, and girder soffit ends. A new waterproofing membrane with asphalt was placed.

Investigation History: (Date/description)

MTO Site Number:

Field Inspection Information:			
Date of Inspection:	**September 4, 2024**	Type of Inspection:	[X] Reg. OSIM [ ] Enh. OSIM
Inspected By	**Brian Wood, P. Eng.**		
Others in Party:			
Enh. Access Equipment:			
Special Access Equipment			
Weather	**Clear**	Temperature	**22** °C

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey	X			
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation:	X			
Post-Tensioned Strand Investigation:	X			
Underwater Investigation	X			
Fatigue Investigation	X			
Seismic Investigation	X			
Structure Evaluation:	X			
Monitoring	X			
Deformations, Settlements and Movements:	X			
Crack Widths:	X			
RSS Horizontal movements of face:	X			
RSS Vertical movements of overall structure:	X			
RSS Local movements or deterioration of face elements:	X			
RSS Horizontal movements within overall structure:	X			
RSS Vertical movements within overall structure	X			
RSS Lateral earth pressure at the back of facing elements	X			
Investigation Notes:	**Total Cost**			**$0.00**

Overall Structure Notes:	
Recommended Work on Structure	[X] None [ ] Minor Rehab. [ ] Major Rehab. [ ] Replace
Timing of Recommended Work	[ ] Urgent [ ] 1 to 5 years [ ] 6 to 10 years
Overall Comments:	**Rehabilitated in 2023, the bridge is generally in excellent to good condition. No work is recommended at this time.**
Date of Next inspection:	**2026**

Overall Bridge Condition					
% Poor in Deck	% Poor in Beams	% Poor in Substructure	% Poor in Barrier	Bridge Condition Index (BCI or BCIp)	
				BCIp	BCI
0%	0%	0%	0%	99.94	75.40

Overall Bridge Sufficiency				
Traffic	Economic	Width	Alignment	Bridge Sufficiency Index (BSI)
0	3	0	0	72.40

Element Data:

Element Group:	**Decks**	Length:	**52.8**
Element Name:	**Wearing Surface**	Width:	**8.5**
Location:		Height:	**0.1**
Material:	**Asphalt**	Count:	
Element Type:		Total Quantity:	**448.8**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**448.8**				

Comments: **No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Deck Wearing Surface

Element Data:

Element Group:	**Decks**	Length:	**52.8**
Element Name:	**Deck Top**	Width:	**11.2**
Location:		Height:	**0.13**
Material:	**Concrete**	Count:	
Element Type:	**Cast-in-Place**	Total Quantity:	**591.4**
Environment:	**Moderate**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Waterproofing and Asphalt**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	sq.m		**591.4**			

Comments: **Not visible for inspection. Drawings indicate a concrete distribution slab cast onto the precast concrete girders. In good condition based on the 2023 rehabilitation.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Deck Top

Element Data:

Element Group:	**Decks**	Length:	**52.9**
Element Name:	**Soffit**	Width:	**11.2**
Location:		Height:	**N/A**
Material:	**Concrete and Precast Concrete**	Count:	
Element Type:	**Cast-in-place ext. soffits, Precast Girders**	Total Quantity:	**592.5**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**22.2**	**570.3**			

Comments: **Limited inspection due to height. Light scaling, typ. 2023 repaired areas have no observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Exterior and Girder Soffit, Typical

Element Photo:

Description of Photo: Exterior and Girder Soffit, typ.

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Decks**	Length:	
Element Name:	**Drainage System**	Width:	
Location:	**East and West Side**	Height:	
Material:	**Steel Grate + CSP Pipe**	Count:	
Element Type:		Total Quantity:	**4**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Pipes are galvanized.**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	each		**4**			

Comments: **Light corrosion, typ. All drains clear.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Deck Drain

Element Photo:

Description of Photo: Deck Drain

Element Photo:

Description of Photo: Deck Drain

Element Data:

Element Group:	**Sidewalk/Curb**	Length:	**52.8**
Element Name:	**Sidewalks**	Width:	**1.8**
Location:	**East Side**	Height:	**0.15**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-place**	Total Quantity:	**103.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**80.0**	**22.6**	**0.4**		

Comments: **Light scaling, typ. Sidewalk east end at asphalt joint has one medium transverse crack. 2023 repaired areas have no other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Sidewalk

Element Photo:

Description of Photo: Sidewalk

Element Photo:

Description of Photo: Sidewalk

Element Photo:

Description of Photo: Sidewalk

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Sidewalk/Curb**	Length:	**59.25**
Element Name:	**Curbs**	Width:	**0.9**
Location:	**West Side**	Height:	**0.15**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-place**	Total Quantity:	**62.2**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**1.0**	**61.20**			

Comments: **Light scaling, typ. 2023 repaired areas have no observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Curb

Element Photo:

Description of Photo: Curb

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Barriers**	Length:	**2.36**
Element Name:	**Railing Systems**	Width:	
Location:	**East and West Side**	Height:	**1.12**
Material:	**Aluminum**	Count:	**48**
Element Type:	**4 Rail**	Total Quantity:	**113.3**
Environment:	**Severe**	Inspected	Yes ☐ No ☐ limited ☐
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**112.9**		**0.4**	

Comments: **Light corrosion, typ. East top rail has 1 x 0.2m length deformation at south end. West top rail has 1 x 0.2m length deformation at pier location.**

Recommended Work:	Rehab: ☐	Replace: ☐	Maintenance Needs:	
Urgent: ☐	1-5 Years: ☐	6-10 Years: ☐	None: ☒	Urgent: ☐ 1 Year: ☐ 2 Year: ☐

Element Photo:

Description of Photo: West Railing System

Element Photo:

Description of Photo: West railing system

Element Photo:

Description of Photo: East railing system

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**26.45**
Element Name:	**Girders**	Width:	**1.20**
Location:		Height:	**0.84**
Material:	**Precast Concrete**	Count:	**16**
Element Type:	**Box Girder**	Total Quantity:	**298.3**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**1.5**	**296.8**			

Comments: **Light scaling, typ. 2023 repaired areas have no observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Girder Soffit

Element Photo:

Description of Photo: Girder Soffit

Element Photo:

Description of Photo: Girder Soffit

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Abutment Walls**	Width:	**11.1**
Location:		Height:	**4.3**
Material:	**Concrete**	Count:	**2**
Element Type:	**Cast-in-place**	Total Quantity:	**95.5**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**81.9**	**13.5**	**0.1**	

Comments: **Light scaling, typ. with medium scaling generally within 1 m from bottom of wall. North abutment has 2 x 3.0m vertical medium cracks on older concrete section. South abutment has 1 x 3.0m vertical medium crack and 2 x 300mm vertical light cracks. 100 x 300 x25mm medium spall with medium corroded rebar at bottom of south abutment.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: North Abutment

Element Photo:

Description of Photo: South Abutment

Element Photo:

Description of Photo: South Abutment

Element Data:

Element Group:	**Abutments**	Length:	**6.7**
Element Name:	**Wingwalls**	Width:	
Location:	**All Quadrants**	Height:	**4.3**
Material:	**Concrete**	Count:	**4**
Element Type:	**Cast-in-place**	Total Quantity:	**114.4**
Environment:	**Benign**	Inspected	Yes ☐ No ☐ limited ☒
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**114.3**	**0.1**		

Comments: **Northwest and northeast walls have light map cracking. Northeast wall has light erosion at base of wall. Southeast wall has light scaling. Southwest wall has a 300mm medium crack.**

Recommended Work:	Rehab: ☐	Replace: ☐	Maintenance Needs:	
Urgent: ☐	1-5 Years: ☐	6-10 Years: ☐	None: ☒	Urgent: ☐ 1 Year: ☐ 2 Year: ☐

Element Photo:

Description of Photo: Southeast wingwall

Element Photo:

Description of Photo: Southwest wingwall

Element Photo:

Description of Photo: Northeast wingwall

Element Photo:

Description of Photo: Northeast wingwall

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Piers**	Length:	**2.2**
Element Name:	**Shafts**	Width:	**11.0**
Location:	**Center Pier**	Height:	**5.5**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-place**	Total Quantity:	**121.4**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**120.8**	**0.6**		

Comments: **Light scaling, typ. South side has 1-2.0m and 2-1.0m vertical light cracks near bottom of pier shaft. Steel angle nosing at east side has light corrosion at bottom. Footing has 1-1.2m and 1-1.2m horizontal and vertical medium cracks, south and north sides at centreline.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Pier

Element Photo:

Description of Photo: Pier

Element Photo:

Description of Photo: Pier

Element Data:

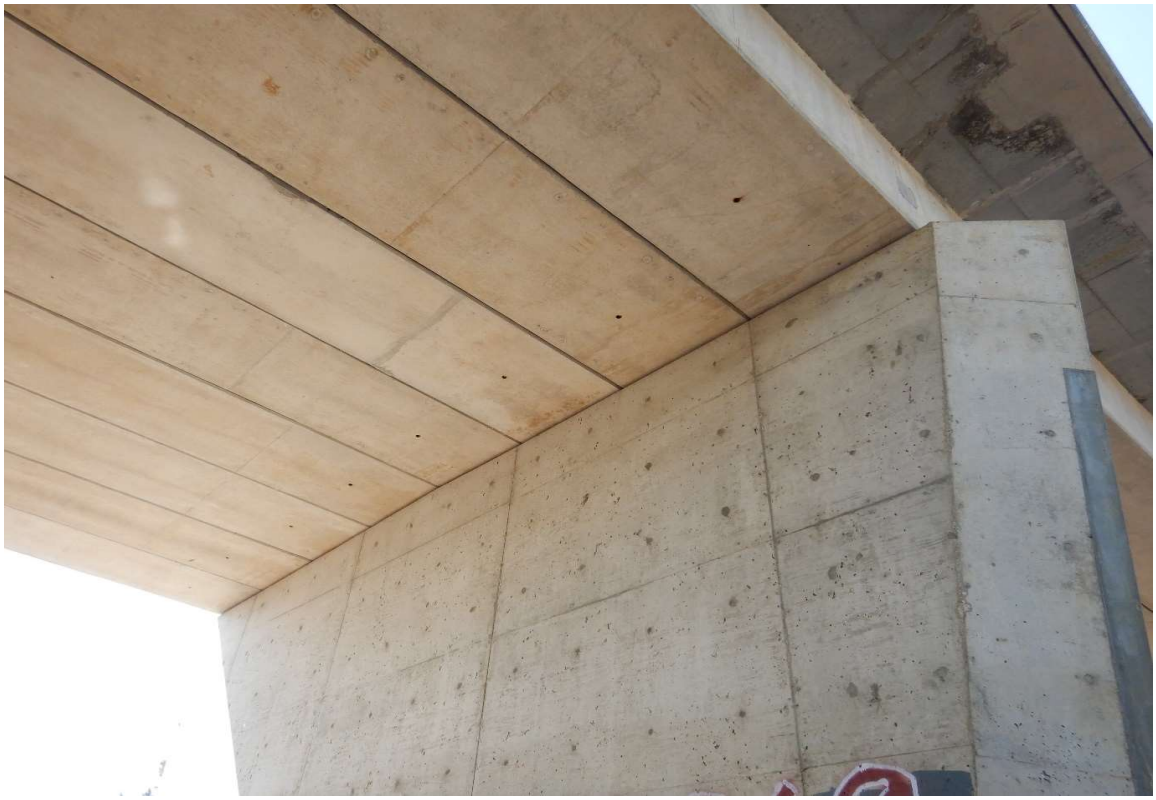
Element Group:	**Piers**	Length:	
Element Name:	**Bearings**	Width:	
Location:	**Center Pier**	Height:	
Material:	**Elastomeric**	Count:	**8**
Element Type:		Total Quantity:	**8**
Environment:	**Moderate**	Inspected	Yes [ ] No [ ] limited [X]

Protection System:						Performance Deficiencies
Condition Data:	Units	Excellent	Good	Fair	Poor*	
	each		**8**			

Comments: **Not accessible for inspection. Assumed to be in good condition.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:



Description of Photo: Pier Bearings

Element Data:

Element Group:	**Retaining Walls**	Length:	**10.0**
Element Name:	**Walls**	Width:	
Location:	**SW Embankment**	Height:	**1.2**
Material:	**Gabion Baskets**	Count:	**1**
Element Type:	**Rock**	Total Quantity:	**12.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**12.0**			

Comments: **No evidence of settlement or sliding. Minor deviations in horizontal alignment.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Retaining Wall

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Streams and Waterways**	Width:	
Location:		Height:	
Material:		Count:	**All**
Element Type:		Total Quantity:	**All**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	all	**X**				

Comments: **No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Streams and Waterways

Element Photo:

Description of Photo: Streams and Waterways

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Embankments**	Width:	
Location:	**SW, SE and NW Quadrants**	Height:	
Material:	**Trees, Shrubs and Earth**	Count:	**3**
Element Type:	**Vegetation**	Total Quantity:	**3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**3**			

Comments: **All 3 embankments are heavily vegetated. Light erosion on northwest quadrant. No embankment element present on northeast quadrant as it's part of the upstream dam.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ]	1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Southwest Embankment

Element Photo:

Description of Photo: Southeast Embankment

Element Photo:

Description of Photo: Northwest Embankment

Element Data:

Element Group:	**Approaches**	Length:	**6.9**
Element Name:	**Wearing Surface**	Width:	**8.5**
Location:		Height:	**0.10**
Material:	**Asphalt**	Count:	**2**
Element Type:		Total Quantity:	**116.5**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**116.5**				

Comments: **No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: North approach

Element Photo:

Description of Photo: South approach

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Approaches**	Length:	**6.9**
Element Name:	**Approach Slab**	Width:	**8.5**
Location:		Height:	**0.26**
Material:	**Concrete**	Count:	**2**
Element Type:		Total Quantity:	**116.5**
Environment:	**Moderate**	Inspected	Yes [ ] No [X] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	sq.m		**116.5**			

Comments: **Approach slabs are in good condition based on 2023 rehabilitation.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach slab

Element Data:

Element Group:	**Approaches**	Length:	**46.0**
Element Name:	**Barrier**	Width:	
Location:	**NW, SE and SW Quadrants**	Height:	
Material:	**Steel**	Count:	**1**
Element Type:	**Steel beam Guide Rail on Steel Posts**	Total Quantity:	**46.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Galvanized**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m	**17.0**	**26.0**		**3.0**	

Comments: **Northwest is in good condition with 1-0.5m length deformation. No guide rail northeast approach. Southwest older W-beam has 2.5m of deformations. Southwest new W-beam no observed defects. Southeast W-beam light weathering.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach Barrier

Element Photo:

Description of Photo: Approach Barrier

Element Photo:

Description of Photo: Approach Barrier

Element Photo:

Description of Photo: Approach Barrier

Element Photo:

Description of Photo: Approach Barrier

Element Data:

Element Group:	**Approaches**	Length:	**6.9**
Element Name:	**Curb and Gutters**	Width:	**0.3**
Location:	**West Side**	Height:	**0.14**
Material:	**Concrete**	Count:	**2**
Element Type:	**Curb**	Total Quantity:	**6.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**6.0**			

Comments: **Light scaling and abrasions, typ. Northwest curb has 2 light spalls.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Northwest curb

Element Photo:

Description of Photo: Southwest curb

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Approaches**	Length:	**6.85**
Element Name:	**Sidewalk/Curb**	Width:	**1.8**
Location:	**East Side**	Height:	**0.14**
Material:	**Concrete**	Count:	**2**
Element Type:	**Sidewalk**	Total Quantity:	**26.6**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**21.2**	**5.0**		**0.4**	

Comments: **Light scaling along northeast older sidewalk. Northeast new sidewalk has 1-1.4m length transverse wide crack at catch basin. No other observed defects. Southeast has no observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach sidewalk

Element Photo:

Description of Photo: Approach Sidewalk

Element Photo:

Description of Photo:

Repair and Rehabilitation Required:		Priority				Estimated Structural Cost
Element[1]	Repair and Rehabilitation Required[2]	6 to 10 Years	1 to 5 Years	Within 1 Year	Urgent	
Structure	Demolition					
Structure	Replacement					
OR						
Estimated Rehabilitated or Replacement Structure Dimensions[3]						
Total Deck Length (m)	Overall Str. Width (m)				Total Structural Cost	**$0**

1 - Indicate specific costs for structure replacement OR for rehabilitation under the given headings.

2 - Give a very brief description of the rehabilitation work required.

3 - Estimated structure dimensions after completion of the proposed work - if it is expected to change.

Associated Work	Comments	Estimated Associated Work Cost
Approaches	**Replace damaged rail sections, install end treatment**	
Detours		
Traffic Control		
Utilities		
Other	**Engineering and Contingency**	
	General, Mobilization/Demobilization, Access, General	
	Total Associated Work Cost	**$0**

Total Construction Cost	**$0**

Justification:
Rehabilited in 2023, the bridge is generally in excellent to good condition. No work is recommended at this time. The bridge had sidewalk and curb concrete repairs, new waterproofing membrane and asphalt, deck exterior soffit and girder soffit concrete repairs, and various other repairs and replacements.

MTO Site Number:

Inventory Data:

Structure Name	**Cascade Street Bridge No.2**				
Main Highway #	**Cascade Street**	On [X] or Under [ ] Structure	Service on Structure	[ ] Navig. Water [ ] Non-Navig. Water [ ] Rail [X] Road [ ] Ped. [ ] Other	
Location Description	0.019km east of Water St.		Service under:	[ ] Navig. Water [X] Non-Navig. Water [ ] Rail [ ] Road [X] Ped. [ ] Other	
Owner/Custodian	Town of Parry Sound				
MTO Region	North Eastern	Latitude	45° 21' 02"N	Longitude	80° 01' 35"W
Regional Engineer		Heritage Designation:	[X] Not Cons. [ ] Cons./Not App. [ ] List/Not Desig. [ ] Desig. [ ] Desig./Not List [ ] Desig. & List		
MTO Area	**52 - Huntsville**	Hwy Class:	Freeway [ ] Arterial [ ] Collector [X] Local [ ]		
Old County	**44 - Parry Sound**	Posted Speed	**40**	No. of Lanes	**2**
Township	**452 - McDougall**	AADT	**Unknown**	% Truck	**Unknown**
Structure Type 1	**Rigid Frame Vertical Leg**				
Structure Material 1	**Concrete**	Traffic Directional Bound	**N-S**		
Structure Type 2	**Concrete Deck**				
Structure Material 2	**Concrete**	Inspection Frequency	**2** (years)		
Total Deck Length	**11.5** (m)	Inspection Year	**Even**		
Overall Str. Width	**11.2** (m)	Inspection Duration	**2** (hrs)		
Culvert Length	(m)				
Total Deck Area	**128.8** (sq.m)				
Roadway Width	**8.0** (m)	Min. Vertical Clearance	(m)		
Skew Angle	**10** (Degree)	Detour Distance	**2.4** (km)		
No. of Spans	**1**	Fill on Structure	**0** (m)		
Span Lengths	**10.0** (m)				
For retaining wall:					
Total Wall Length	**6.0** (m)	Max. Wall Height	**2.8** (m)		
Total Wall Area	**16.8** (sq.m)	Ave. Wall Height	**2.8** (m)		
		Angle of Backfill	(Degrees)		

Historical Data

Year Built	**1984**	Year of superstruct. Constructed	**N/A**	
Last Reg. OSIM Inspection	**2022**	Year of Last Minor Rehab.	**N/A**	
Last Enh. OSIM Inspection		Year of Last Major Rehab	**Unknown**	
		Current Load Limit	/ /	(tonnes)

Work History: (Date/description)	Investigation History: (Date/description)

MTO Site Number:

Field Inspection Information:			
Date of Inspection:	**Sept. 4, 2024**	Type of Inspection:	[X] Reg. OSIM [ ] Enh. OSIM
Inspected By	**Brian Wood, P.Eng**		
Others in Party:			
Enh. Access Equipment:			
Special Access Equipment			
Weather	**Sun/clouds**	Temperature	**23** °C

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation:	X			
Post-Tensioned Strand Investigation:	X			
Underwater Investigation	X			
Fatigue Investigation	X			
Seismic Investigation	X			
Structure Evaluation:	X			
Monitoring				
Deformations, Settlements and Movements:	X			
Crack Widths:	X			
RSS Horizontal movements of face:	X			
RSS Vertical movements of overall structure:	X			
RSS Local movements or deterioration of face elements:	X			
RSS Horizontal movements within overall structure:	X			
RSS Vertical movements within overall structure	X			
RSS Lateral earth pressure at the back of facing elements	X			
Investigation Notes:	**Total Cost**			**$0.00**

Overall Structure Notes:	
Recommended Work on Structure	[ ] None [ ] Minor Rehab. [X] Major Rehab. [ ] Replace
Timing of Recommended Work	[ ] Urgent [ ] 1 to 5 years [X] 6 to 10 years
Overall Comments:	**The structure is in generally good condition. Rehabilitation should be planned within 6-10 years, scope of work including replace waterproofing membrane system, repave asphalt, repair soffit concrete, and upgrade north approach barriers to bridge connection to meet the current standard.**
Date of Next inspection:	**2026**

Overall Bridge Condition					
% Poor in Deck	% Poor in Beams	% Poor in Substructure	% Poor in Barrier	Bridge Condition Index (BCI or BCIp)	
				BCIp	BCI
1%	0%	2%	2%	99.14	72.11

Overall Bridge Sufficiency				
Traffic	Economic	Width	Alignment	Bridge Sufficiency Index (BSI)
0	3	0	0	69.11

Element Data:

Element Group:	**Decks**	Length:	**11.2**
Element Name:	**Wearing Surface**	Width:	**8.5**
Location:		Height:	**0.09**
Material:	**Asphalt**	Count:	**1**
Element Type:		Total Quantity:	**95.2**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**74.2**	**19.5**	**1.5**	**9 - Rough riding surface**

Comments: **Light raveling, typical. Light to medium rutting along wheel lines, typical. 12 m of medium cracking along centerline, and a 6 m severe crack. 8.5m medium cracks at both abutment. 1.8 x 1.2m medium loss of bond at centerline at north abutment.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	**12 - Bridge Surface Repair**
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [X] None: [ ]	Urgent: [ ] 1 Year: [ ]	2 Year: [X]
Repave asphalt		**Repair Asphalt.**	

Element Photo:

Description of Photo: Deck wearing surface

Element Photo:

Description of Photo: Deck wearing surface

Element Photo:

Description of Photo: Deck wearing surface

Element Data:

Element Group:	**Decks**	Length:	**11.2**
Element Name:	**Deck Top (with Thick Slab)**	Width:	**8.5**
Location:	**Deck**	Height:	**Varies**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-Place**	Total Quantity:	**95.2**
Environment:	**Moderate**	Inspected	Yes [ ] No [X] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**95.2**			

Comments: **Not visible for inspection. Assumed to be in good condition based on wearing surface.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Deck top

Element Data:

Element Group:	**Decks**	Length:	**10.2**
Element Name:	**Soffit - Thick Slab**	Width:	**11.2**
Location:		Height:	**N/A**
Material:	**Concrete**	Count:	**1.0**
Element Type:	**Cast-in-Place**	Total Quantity:	**113.7**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**109.8**	**2.4**	**1.5**	

Comments: **Limited inspection due to height. Light scaling, typ. 4 medium cracks with efflorescence extending to 2m away from abutments. 12.0m of light cracks along centerline. 1-6.0m wide crack extending way from east abutment. Five 300mm light to medium cracks on west fascia. Four 300mm light to medium cracks on east fascia.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [X] None: [ ]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]
Crack repair			

Element Photo:

Description of Photo: Soffit typical

Element Photo:

Description of Photo: Cracks with Efflorescence

Element Photo:

Description of Photo: Cracks with Efflorescence

Element Photo:

Description of Photo: Soffit fascia

Element Photo:

Description of Photo: Soffit fascia

Element Data:

Element Group:	**Sidewalk/Curb**	Length:	**11.2**
Element Name:	**Sidewalk and Curb**	Width:	**1.4**
Location:	**East and West Side of Deck**	Height:	**0.14**
Material:	**Concrete**	Count:	**2**
Element Type:	**Cast-in-place**	Total Quantity:	**33.4**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**33.0**	**0.4**		

Comments: **Light scaling, typ. West curb 1.5m medium transverse crack 2.0m south of north joint. East sidewalk has 2.0m of light cracks. East sidewalk has light abrasions. West curb has one 400mm light crack.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: West curb

Element Photo:

Description of Photo: West curb light cracks

Element Photo:

Description of Photo: East sidewalk

Element Data:

Element Group:	**Barriers**	Length:	**15.0**
Element Name:	**Railing Systems**	Width:	
Location:	**East and West Side**	Height:	**1.12**
Material:	**Aluminum**	Count:	**2**
Element Type:	**4 Rail**	Total Quantity:	**30.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**15.5**	**14.0**	**0.5**	

Comments: **East side has localized abrasion on all 4 rails the entire length. East rail has two end caps missing at north ends. East rail has two end caps dislodged.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**3 - Railing System Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [X]	
		Replace 2 missing end caps, and reset 2 end caps.	

Element Photo:

Description of Photo: East Railing System

Element Photo:

Description of Photo: West Railing System

Element Photo:

Description of Photo: East Rail, Note Missing End Caps

Element Photo:

Description of Photo: East Rail, Note Dislodged End Caps

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Barriers**	Length:	**1.0**
Element Name:	**End Walls**	Width:	**0.34**
Location:	**East and West Side**	Height:	**1.1**
Material:	**Concrete**	Count:	**2**
Element Type:		Total Quantity:	**2.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	m		**2.0**			

Comments: **Concrete barriers have light scaling, typ. Southeast concrete barrier has isolated areas of light spalls at corners. Southwest concrete barrier has isolated rust staining. Four light cracks at northeast concrete barrier.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Concrete Barrier, Typical

Element Photo:

Description of Photo: Concrete Barrier, Typical

Element Photo:

Description of Photo: Concrete Barrier, Typical

Element Photo:

Description of Photo: Concrete Barrier, Typical

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Abutment Walls**	Width:	**11.3**
Location:	**North and South**	Height:	**5.1**
Material:	**Concrete**	Count:	**2**
Element Type:	**Cast-in-place**	Total Quantity:	**115.6**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**106.7**	**5.0**	**5.0**	

Comments: **Light scaling, typical. Light erosion at both ends of the footings. 4.0m of light cracking. 15.0m of medium cracking. 800mm of severe cracking at center of footing. Bottom of south wall has localized area of very severe scouring with a 500mm x 300mm x 100mm deep void with water churning within the void. 300mm x 100mm light scouring @ northwest corner. Severe scaling 200mm from bottom of wall for the full length on bridge on both sides. 400mm x 200mm spall at south footing.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**8 - Concrete Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [X]	
		Repair concrete void.	

Element Photo:

Description of Photo: South Abutment

Element Photo:

Description of Photo: North Abutment

Element Photo:

Description of Photo: North Footing

Element Photo:

Description of Photo: North Footing

Element Photo:

Description of Photo: South Footing

Element Photo:

Description of Photo: Void in South Footing, Water Churning

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Abutments**	Length:	**6.7**
Element Name:	**Wingwalls**	Width:	
Location:	**All Quadrants**	Height:	**4.9**
Material:	**Concrete**	Count:	**4**
Element Type:	**Cast-in-place**	Total Quantity:	**132.4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**126.9**	**4.5**	**1.0**	

Comments: **Light scaling typical. Southwest wingwall has light diagonal 2.0m cracks. Southeast has 1.5m of medium vertical cracking at the center of the wall. All wingwalls have a severe 500mm long horizontal crack the width of the abutment wall at the top of wingwall at bearing seat. Medium scaling on the southeast wingwall 600mm(H) x 6.0m(L) and 2.0m light vertical crack and 2 x 200mm x 50mm medium honeycombing.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Northwest wingwall

Element Photo:

Description of Photo: Southwest wingwall

Element Photo:

Description of Photo: Northeast wingwall

Element Photo:

Description of Photo: Southeast wingwall

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Retaining Walls**	Length:	**15.0**
Element Name:	**Walls**	Width:	
Location:	**Southwest Quadrant**	Height:	**1.8**
Material:	**Mortar and Stone**	Count:	**1**
Element Type:		Total Quantity:	**27.0**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**14.4**	**12.2**	**0.5**	

Comments: **Retaining wall is possibly part of the Cascade Street Generating Station operated by Bracebridge Generation. Light to medium loss of mortar and stones typical. Efflorescence deposits throughout emanating from the mortar. Severe scouring 1.5m x 300 x 300mm and medium scouring 0.6 x 75 x 250mm at bottom center of wall with loss of mortar and stones.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	18 - Other Maintenance
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [X]	
		Repair scouring at bottom of retaining wall. Confirm if this element belongs to the generation facility prior to undertaking repairs.	

Element Photo:

Description of Photo: Retaining wall

Element Photo:

Description of Photo: Retaining wall

Element Photo:

Description of Photo: Scouring in retaining wall

Element Photo:

Description of Photo: Retaining wall

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Streams and Waterways**	Width:	
Location:	**East and West**	Height:	
Material:	**Exposed Bedrock**	Count:	**All**
Element Type:		Total Quantity:	**All**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	all	**X**				

Comments: **No observed defects. Channel consists of exposed bedrock and is a spillway channel for an upstream dam.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Waterway

Element Photo:

Description of Photo: Waterway

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Embankments**	Width:	
Location:	**NE, SW, NW Quadrants**	Height:	
Material:	**Vegetation, shrubs and rocks**	Count:	**3**
Element Type:		Total Quantity:	**3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]

Protection System:						Performance Deficiencies
Condition Data:	Units	Excellent	Good	Fair	Poor*	
	each	**2**	**1**			

Comments: **Northeast embankment has light undermining at waterline with loss of material <10%. No other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Northeast embankment

Element Photo:

Description of Photo: Void at northeast embankment

Element Photo:

Description of Photo: Northwest embankment

Element Photo:

Description of Photo: Southwest embankment

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Slope Protection**	Width:	
Location:	**NE and NW Quadrants**	Height:	
Material:	**Stone**	Count:	**2**
Element Type:	**Rip Rap**	Total Quantity:	**2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**2**				

Comments: **No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Slope Protection

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Signs**	Width:	
Location:	**Northwest Approach**	Height:	
Material:	**Steel**	Count:	**1**
Element Type:		Total Quantity:	**1**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	each		**1**			

Comments: **Bridge freezes sign is in good condition. Tab portion has light map cracking**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Sign

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Wearing Surface**	Width:	**8.5**
Location:	**North and South**	Height:	**0.10**
Material:	**Asphalt**	Count:	**2**
Element Type:		Total Quantity:	**102.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**86.5**	**13.5**	**2.0**	**9 - Rough riding surface**

Comments: **North approach has 23.0m of medium cracking and 0.8 x 6.0m medium and severe loss of bond. South approach has 10 of medium cracking.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**12 - Bridge Surface Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [X]	
		Repair asphalt	

Element Photo:

Description of Photo: North Approach

Element Photo:

Description of Photo: Cracking in North Approach

Element Photo:

Description of Photo: South Approach

Element Photo:

Description of Photo: Cracking in South Approach

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Approaches**	Length:	**52.0**
Element Name:	**Barrier**	Width:	
Location:	**All Quadrants**	Height:	
Material:	**Steel, Timber, Concrete, Aluminum**	Count:	
Element Type:	**Steel Beam Guide Rail**	Total Quantity:	**52.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Galvanized**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	m		**47.5**	**4.0**	**0.5**	

Comments: **Northeast rail has substandard connection to bridge, approach rail has 1 missing bolt, three posts with 50x50mm splintering and localized light abrasions. Northwest rail has substandard connection to bridge, with medium corrosion towards the end of the rail. Southeast rail concrete wall has light scaling, typical.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [X] None: [ ]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]
Upgrade NE and NW barrier to bridge connection			

Element Photo:

Description of Photo: Northeast approach barrier

Element Photo:

Description of Photo: Damage on northeast approach barrier

Element Photo:

Description of Photo: Northeast approach barrier, note substandard connection and missing bolt

Element Photo:

Description of Photo: Northwest approach barrier

Element Photo:

Description of Photo: Northwest approach barrier, note corrosion

Element Photo:

Description of Photo: Southeast approach barrier

Element Photo:

Description of Photo: Southwest approach barrier, note light scaling

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Curb and Gutters**	Width:	
Location:	**All Quadrants**	Height:	**0.2**
Material:	**Concrete**	Count:	**4**
Element Type:		Total Quantity:	**23.2**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**23.2**			

Comments: **Light scaling, typ. Light abrasions along curb edges typ and light spall at southwest curb.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach curb

Element Photo:

Description of Photo: Approach curb

Element Photo:

Description of Photo: Approach curb

Element Photo:

Description of Photo: Approach curb

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Sidewalk/Curb**	Width:	**1.4**
Location:	**NE and SE Quadrants**	Height:	**0.14**
Material:	**Concrete**	Count:	**2**
Element Type:		Total Quantity:	**32.4**
Environment:	**Severe**	Inspected	Yes ☐ No ☐ limited ☐
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**32.4**			

Comments: **Light scaling, typ. No other observed defects.**

Recommended Work:	Rehab: ☐	Replace: ☐	Maintenance Needs:	
Urgent: ☐	1-5 Years: ☐	6-10 Years: ☐	None: ☒	Urgent: ☐ 1 Year: ☐ 2 Year: ☐

Element Photo:

Description of Photo: Approach sidewalk

Element Photo:

Description of Photo: Approach sidewalk

Element Photo:

Description of Photo:

Repair and Rehabilitation Required:		Priority				Estimated Structural Cost
Element[1]	Repair and Rehabilitation Required[2]	6 to 10 Years	1 to 5 Years	Within 1 Year	Urgent	
Structure	Demolition					
Structure	Replacement					
OR						
Deck	Rehab. = Repave asphalt	**X**				**$75,000**
Sidewalk/Curb	Rehab. =					
Barrier	Rehab. =					
Joints	Rehab. =					
Beams	Rehab. =					
Abutment	Rehab. =					
Pier	Rehab. =					
Other	Soffit concrete crack repair	**X**				**$15,000**
Estimated Rehabilitated or Replacement Structure Dimensions[3]						
Total Deck Length (m)	Overall Str. Width (m)				Total Structural Cost	**$90,000**

1 - Indicate specific costs for structure replacement OR for rehabilitation under the given headings.

2 - Give a very brief description of the rehabilitation work required.

3 - Estimated structure dimensions after completion of the proposed work - if it is expected to change.

Associated Work	Comments	Estimated Associated Work Cost
Approaches	**Upgrade barrier to bridge connection**	**$20,000**
Detours		
Traffic Control	**Road closure**	**$10,000**
Utilities		
Other	**Engineering and Contingency**	**$40,000**
	General, Mobilization/Demobilization, Access	**$70,000**
	Total Associated Work Cost	**$140,000**

Total Construction Cost	**$230,000**

Justification:

The structure is in generally good condition. Rehabilitation should be planned within 6-10 years, scope of work including replace waterproofing membrane system, repave asphalt, repair soffit concrete, and upgrade north approach barriers to bridge connection to meet the current standard.

MTO Site Number:

Inventory Data:

Structure Name	**Seguin River Pedestrian Bridge**								
Main Highway #	**Parry Sound Fitness Trail**	On [X] Structure	or Under [ ]	Service on Structure	[ ] Navig. Water	[ ] Non-Navig. Water	[ ] Rail	[ ] Road	[X] Ped. [ ] Other
Location Description	0.1km South of Seguin Street			Service under:	[X] Navig. Water	[ ] Non-Navig. Water	[ ] Rail	[ ] Road	[ ] Ped. [ ] Other
Owner/Custodian	Town of Parry Sound								
MTO Region	Northeastern	Latitude	45° 20' 33" N	Longitude	80° 01' 53" W				
Regional Engineer		Heritage Designation:	[X] Not Cons.	[ ] Cons./Not App.	[ ] List/Not Desig.	Desig. [ ] Desig./Not List	[ ] Desig. & List		
MTO Area	**52 - Huntsville**	Hwy Class:	Freeway [ ]	Arterial [ ]	Collector [ ]	Local [X]			
Old County	**44 - Parry Sound**	Posted Speed	**0**	No. of Lanes	**0**				
Township	**452 - McDougall**	AADT	**0**	% Truck	**0**				
Structure Type 1	**Timber deck**								
Structure Material 1	**Timber**	Traffic Directional Bound	**E-W**						
Structure Type 2	**Steel Girders**								
Structure Material 2	**Steel**	Inspection Frequency	**2**	(years)					
Total Deck Length	**96.5** (m)	Inspection Year	**Even**						
Overall Str. Width	**4.6** (m)	Inspection Duration	**2**	(hrs)					
Culvert Length	**0** (m)								
Total Deck Area	**332.9** (sq.m)								
Roadway Width	**3.45** (m)	Min. Vertical Clearance		(m)					
Skew Angle	**0** (Degree)	Detour Distance	**N/A**	(km)					
No. of Spans	**12**	Fill on Structure		(m)					
Span Lengths	**3.4, 3.8, 4.0, 4.0, 3.9, 3.8, 3.8, 3.75, 3.65, 22.6, 14.3, 25.5 (east to west)** (m)								
For retaining wall:									
Total Wall Length	(m)	Max. Wall Height		(m)					
Total Wall Area	(sq.m)	Ave. Wall Height		(m)					
		Angle of Backfill		(Degrees)					

Historical Data

Year Built	**1920**	Year of superstruct. Constructed	**N/A**	
Last Reg. OSIM Inspection	**2022**	Year of Last Minor Rehab.	**N/A**	
Last Enh. OSIM Inspection		Year of Last Major Rehab	**N/A**	
		Current Load Limit	/ /	(tonnes)

Work History: (Date/description)

1990 - Converted from a railway traffic bridge to a pedestrian bridge
2014 / 2015 - Deteriorated timber planks and railing pickets replaced
2022 - Deteriorated timber planks replaced and railing installed at east approach

Investigation History: (Date/description)

2007 - Condition Survey and an evaluation for load capacity was completed
2008 - Additional steel thickness measurements completed to confirm web thickness
2022 - Underwater Inspection

MTO Site Number:

Field Inspection Information:

Date of Inspection:	**September 14, 2024**	Type of Inspection:	[X] Reg. OSIM [ ] Enh. OSIM
Inspected By	**Junjie Yang, M.Eng., E.I.T.**		
Others in Party:	**Brian Wood P.Eng.**		
Enh. Access Equipment:			
Special Access Equipment			
Weather	**Sun**	Temperature	**26** °C

Additional Investigations Required:

	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey	X			
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation:	X			
Post-Tensioned Strand Investigation:	X			
Underwater Investigation	X			
Fatigue Investigation	X			
Seismic Investigation	X			
Structure Evaluation:	X			
Monitoring	X			
Deformations, Settlements and Movements:	X			
Crack Widths:	X			
RSS Horizontal movements of face:	X			
RSS Vertical movements of overall structure:	X			
RSS Local movements or deterioration of face elements:	X			
RSS Horizontal movements within overall structure:	X			
RSS Vertical movements within overall structure	X			
RSS Lateral earth pressure at the back of facing elements	X			
Investigation Notes:	**Total Cost**			**$0.00**

Overall Structure Notes:

Recommended Work on Structure	[ ] None [ ] Minor Rehab. [X] Major Rehab. [ ] Replace
Timing of Recommended Work	[ ] Urgent [X] 1 to 5 years [ ] 6 to 10 years
Overall Comments:	**The bridge is in generally good to fair condition. An underwater investigation is recommended for the piers to confirm concrete condition. Rehabilitation is recommended to include Span 12 steel repairs, and concrete repairs for the three piers within the waterway.**
Date of Next inspection:	**2026**

Overall Bridge Condition

% Poor in Deck	% Poor in Beams	% Poor in Substructure	% Poor in Barrier	Bridge Condition Index (BCI or BCIp)	
				BCIp	BCI
1%	3%	2%	0%	98.29	62.11

Overall Bridge Sufficiency

Traffic	Economic	Width	Alignment	Bridge Sufficiency Index (BSI)
0	0	0	0	62.11

Element Data:

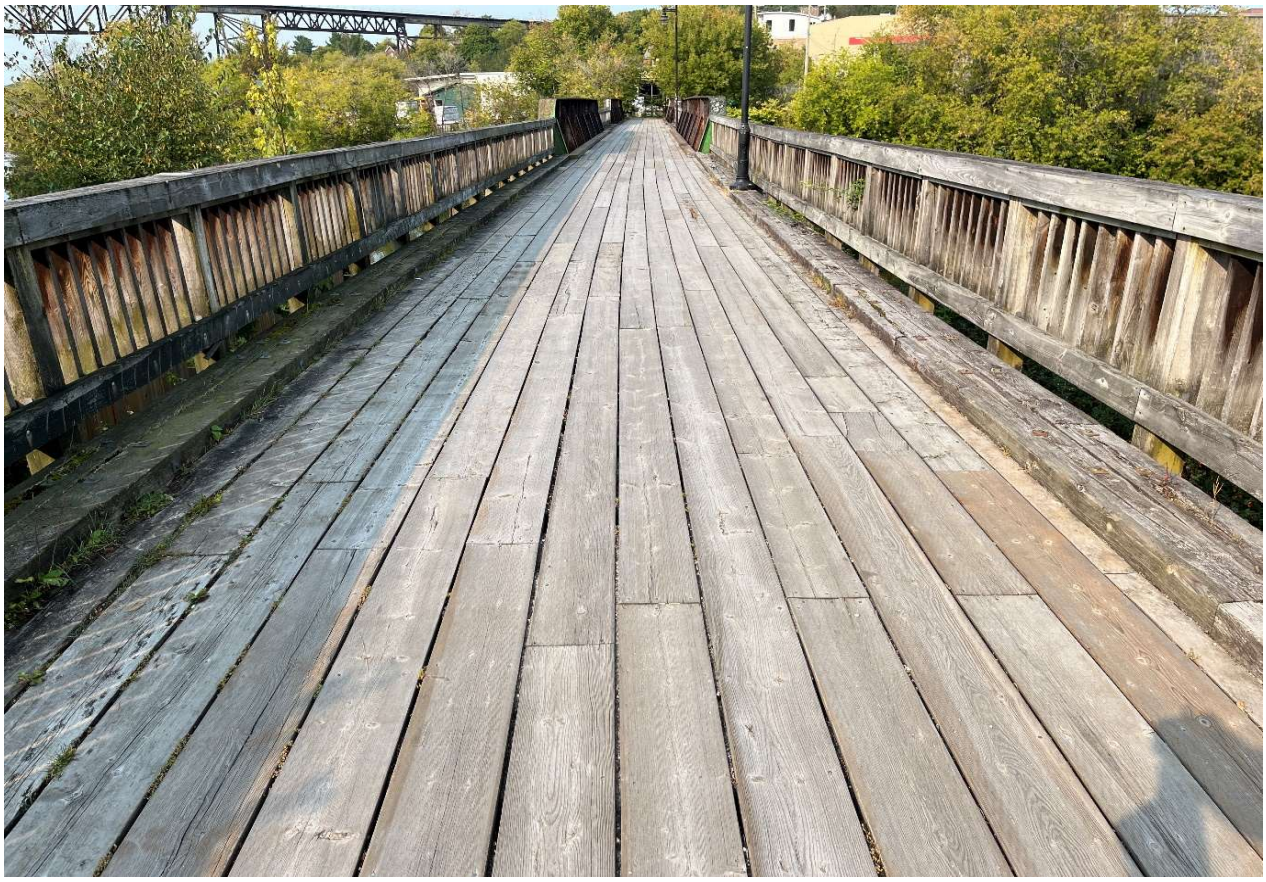
Element Group:	**Decks**	Length:	**98.8**
Element Name:	**Wearing Surface**	Width:	**3.25**
Location:		Height:	**0.05**
Material:	**2x10 Timber Planks**	Count:	**1**
Element Type:		Total Quantity:	**321.1**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Pressure Treated**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**10.0**	**305.1**	**5.0**	**1.0**	

Comments: **Light to medium checks, typ. Severe split board at west end. Severe rot at 1 plank. Boards along center of path have light wear. There are several new planks with no observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**12 - Bridge Surface Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [X] 2 Year: [ ]	
		Replace 1 split board and 1 rotten board	

Element Photo:

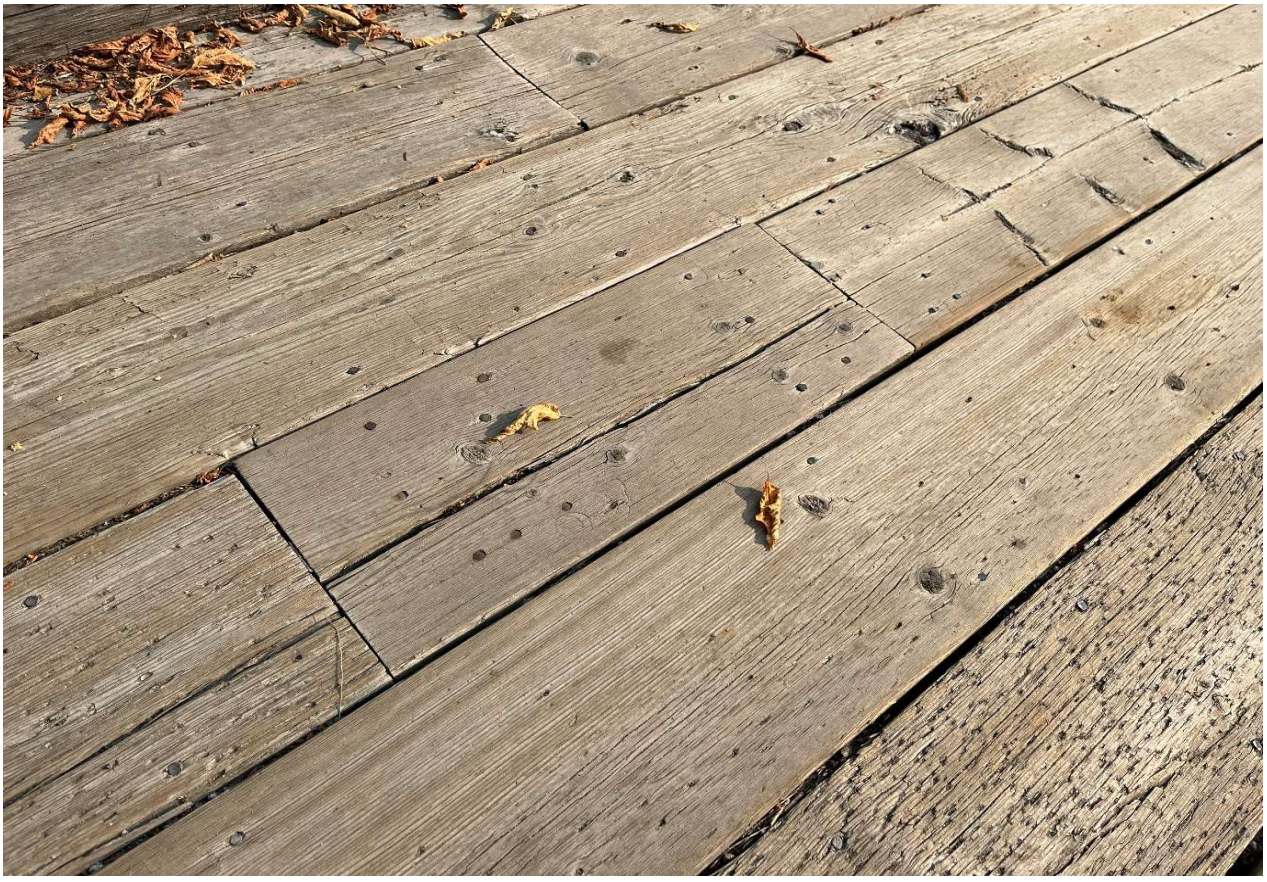


Description of Photo: Wearing surface, typ.

Element Photo:

Description of Photo: Rotten board

Element Photo:



Description of Photo: Split board

Element Data:

Element Group:	**Decks**	Length:	**4.4**
Element Name:	**Deck Top**	Width:	**0.2**
Location:	**Deck plate girder / Through plate girder**	Height:	**0.4**
Material:	**Timber**	Count:	**205**
Element Type:	**Transverse Cross Ties**	Total Quantity:	**1082.4**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Pressure Treated**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**1026.9**	**46.0**	**9.5**	

Comments: **Light weathering typ. Localized light to severe checks and splits, typ . Moisture indicated in timbers. East end, one cross ties has severe rot at end of member. Limited inspection due to middle section of timbers covered by timber deck.**

Note: 74 timers at east end, 88 at north end, and 43 along centre of bridge.

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ]	1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Deck top

Element Photo:

Description of Photo: Rotten timber

Element Photo:

Description of Photo: Deck top

Element Data:

Element Group:	**Decks**	Length:	**4.6**
Element Name:	**Crossties**	Width:	**0.25**
Location:	**Timber Trestle Spans**	Height:	**0.25**
Material:	**Timber**	Count:	**114**
Element Type:	**Cross Ties**	Total Quantity:	**524.4**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**466.8**	**52.4**	**5.2**	

Comments: **Light weathering typical. Localized light to medium checks and splits, typical. Isolated severe checks and splits.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Deck top

Element Photo:

Description of Photo: Crossties

Element Photo:

Description of Photo: Crossties

Element Data:

Element Group:	**Sidewalk/Curb**	Length:	**98.8**
Element Name:	**Curbs**	Width:	**0.40**
Location:	**North and South Side of Deck**	Height:	**0.125**
Material:	**Timber**	Count:	**2**
Element Type:	**0.2 x 0.125 x 3m members**	Total Quantity:	**207.5**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**20.7**	**93.4**	**51.9**	**41.5**	**8 - Pedestrian / vehicular hazard**

Comments: **Light to medium weathering, checks and splits, typ. Severe rot, north side 17 timbers and south side 13 timbers. Single curb at plate through girder spans. Newer timbers have no observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**9 - Timber Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [X] 2 Year: [ ]	
		Replace rotten timbers	

Element Photo:

Description of Photo: Rotten curb

Element Photo:

Description of Photo: Rotten curb

Element Photo:

Description of Photo: Curb

Element Data:

Element Group:	**Barriers**	Length:	**48.0 (Timber), 50.8 (Steel)**
Element Name:	**Railing Systems**	Width:	
Location:		Height:	**1.2 (Timber), 2.5 (Steel)**
Material:	**Steel and Timber**	Count:	**2**
Element Type:	**Post and Steel Barriers**	Total Quantity:	**198.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**197.6**	**0.2**	**0.2**	

Comments: **Timber railing system is in generally good condition. 1 missing timber picket at northeast and 1 split timber post at southeast. Isolated areas of light splintering at bolt hole locations. Steel through plate girder span girders acts as railing system and is in generally good condition with light corrosion, typ. Consider increasing timber barrier height to 1.37 m to meet current code requirements for cyclists, however 1.2m can be used based on owner approval.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**3 - Railing System Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [X] 2 Year: [ ]	
		Replace missing and deteriorated members	

Element Photo:

Description of Photo: Railing system

Element Photo:

Description of Photo: Railing system

Element Photo:

Description of Photo: Missing picket at north

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**22.6**
Element Name:	**Girders**	Width:	**0.5**
Location:	**Span 10 from east**	Height:	**2.45**
Material:	**Steel**	Count:	**2**
Element Type:	**Through Plate Girder**	Total Quantity:	**311.9**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**251.1**	**45.2**	**15.6**	

Comments: **Light corrosion, typical. Assumed medium corrosion along bottom components, and isolated locations of severe corrosion based on Span 12 steel through plate girder observations.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Inside face of girder

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**14.3**
Element Name:	**Girders**	Width:	**0.5**
Location:	**Span 11 from east**	Height:	**2.0**
Material:	**Steel**	Count:	**2**
Element Type:	**Deck Plate Girders**	Total Quantity:	**171.6**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**141.3**	**28.6**	**1.7**	

Comments: **Light corrosion, typical. Assumed medium corrosion along bottom components, and isolated locations of severe corrosion based on Span 12 steel through plate girder observations.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Deck Plate girder span

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**25.5**
Element Name:	**Girders**	Width:	**0.5**
Location:	**Span 12 from east**	Height:	**2.5**
Material:	**Steel**	Count:	**2**
Element Type:	**Through Plate Girders**	Total Quantity:	**357.0**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**288.2**	**51.0**	**17.9**	

Comments: **Light corrosion typical. Significant areas of the bottoms of stiffeners have medium to very severe corrosion with up to approximately 50% section loss. Several bottoms of stiffeners have very severe corrosion with up to 100% section loss, particularly along the north side. The severe corrosion is generally located towards the abutment end of the span.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Select repairs to structural steel			

Element Photo:

Description of Photo: West through plate girder span

Element Photo:

Description of Photo: Exterior face, Note corrosion at bottom of stiffeners

Element Photo:

Description of Photo: Severe corrosion along bottom flange

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**4.4**
Element Name:	**Floor Beams**	Width:	**0.2**
Location:	**Spans 10 and 12**	Height:	**0.65**
Material:	**Steel**	Count:	**15**
Element Type:	**Through Plate Girders**	Total Quantity:	**112.2**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	sq.m		**107.2**	**5.0**		

Comments: **Limited inspection due to lack of access. Light corrosion, typical. Assumed isolated areas of medium corrosion.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Floor beams

Element Photo:

Description of Photo: Floor beams

Element Photo:

Description of Photo: Floor beams

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**34.1**
Element Name:	**Stringers**	Width:	**0.25**
Location:	**Timber Trestle Spans**	Height:	**0.4**
Material:	**Timber**	Count:	**8**
Element Type:		Total Quantity:	**354.6**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**333.4**	**17.7**	**3.5**	

Comments: **Light weathering, typical. Light to medium checks and splits, typical. Isolated severe checks and splits.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Stringers

Element Photo:

Description of Photo: Stringers

Element Photo:

Description of Photo: Stringers

Element Data:

Element Group:	**Bracing**	Length:	**5.9**
Element Name:	**Bracing**	Width:	**0.8**
Location:	**Timber Trestle Spans**	Height:	**0.25**
Material:	**Timber**	Count:	**18**
Element Type:		Total Quantity:	**106.2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**99.8**	**5.3**	**1.1**	

Comments: **Localized light to severe checks and splits, typical. One brace near first east pier has severe rot at the end of the member.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**9 - Timber Repair**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [X]	
		Replace damaged brace	

Element Photo:

Description of Photo: Pier column bracings

Element Photo:

Description of Photo: Pier column bracings

Element Photo:

Description of Photo: Pier column bracings

Element Data:

Element Group:	**Coating**	Length:	
Element Name:	**Structural Steel**	Width:	
Location:	**3 Steel spans**	Height:	
Material:	**Paint**	Count:	
Element Type:		Total Quantity:	**840.5**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**168.1**	**168.1**	**504.3**	

Comments: **The two Through Plate Girder spans, interior faces, were painted by the Rotary Club in 2005 and the paint is in generally good condition. The remaining coatings are generally in poor condition with some fair, in combination with Category 2 and 3 rust conditions, and isolated Category 4 rust conditions. Isolated paint loss at northwest area.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Coating

Element Photo:

Description of Photo: Coating at inside of span 12

Element Photo:

Description of Photo: Coating

Element Data:

Element Group:	**Abutments**	Length:	**6.4**
Element Name:	**Abutment Walls**	Width:	
Location:	**East Abutment**	Height:	**1.6**
Material:	**Timber**	Count:	**1**
Element Type:	**10 x 10 Timber**	Total Quantity:	**10.2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Pressure Treated**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**9.7**	**0.5**			

Comments: **Recently replaced. Isolated areas of light checks. No other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: East abutment

Element Data:

Element Group:	**Abutments**	Length:	**5.0**
Element Name:	**Abutment Walls**	Width:	
Location:	**West Abutment**	Height:	**1.2**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-Place**	Total Quantity:	**6.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**2.7**	**2.0**	**1.3**	

Comments: **Light scaling, typical. Evidence of wet areas with efflorescence and localized light to severe disintegration around edges. Some spalls have wet areas and efflorescence. Very severe 1,000x250x75 mm disintegration. Severe 1,500x600x25 deep scaling and disintegration. Two very severe 1,500x50x25 mm deep spalls. Medium 200x250x25 mm spall. Ballast wall behind end diaphragm not inspected.**

Recommended Work:	Rehab: [X]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [X]	6-10 Years: [ ]	None: [ ]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]
Repair concrete				

Element Photo:

Description of Photo: West abutment

Element Photo:

Description of Photo: West abutment

Element Photo:

Description of Photo: West abutment

Element Data:

Element Group:	**Abutments**	Length:	**2.4**
Element Name:	**Wingwalls**	Width:	
Location:	**West Abutment, South Side**	Height:	**1.2**
Material:	**Concrete**	Count:	**2**
Element Type:	**Cast-in-Place**	Total Quantity:	**5.8**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**5.2**	**0.5**	**0.1**	

Comments: **Light scaling, typical. Isolated medium scaling. Medium 150x150x30mm deep spall and four medium 250x50x15mm deep spalls. Some efflorescence at the connection to the abutment.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Wingwall

Element Photo:

Description of Photo: Efflorescence at interface with abutment

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Bearings**	Width:	
Location:	**West Abutment**	Height:	
Material:	**Steel**	Count:	**2**
Element Type:		Total Quantity:	**2**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each			**2**		

Comments: **Bearings have medium corrosion with debris accumulating around the bearings.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**2 - Bridge Cleaning**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [X] 2 Year: [ ]	
		Clean debris from bearing seat.	

Element Photo:

Description of Photo: Bearings

Element Photo:

Description of Photo: Bearings

Element Photo:

Description of Photo: Bearings

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Pile Bents**	Width:	**0.3 dia.**
Location:	**East Abutment**	Height:	**0.6**
Material:	**Timber**	Count:	**6**
Element Type:		Total Quantity:	**3.4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**3.4**			

Comments: **Light weathering typical. Localized light checks and splits.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Abutment piles

Element Data:

Element Group:	**Piers**	Length:	
Element Name:	**Pile Bents**	Width:	**0.3 dia.**
Location:	**Timber Trestle Spans**	Height:	**3.0**
Material:	**Timber**	Count:	**36**
Element Type:		Total Quantity:	**102.0**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**95.9**	**5.1**	**1.0**	

Comments: **Light weathering, typ. Localized light to severe medium checks and splits, typ.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Pier piles

Element Data:

Element Group:	**Piers**	Length:	**5.0**
Element Name:	**Shafts**	Width:	**3.5**
Location:	**Spans 10, 11, and 12**	Height:	**4.8**
Material:	**Concrete**	Count:	**3**
Element Type:	**Cast-in-Place**	Total Quantity:	**297.3**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**168.8**	**64.3**	**64.3**	

Comments: **Limited inspection due to lack of access. Light to very severe scaling and large areas of light to severe disintegration. East pier has localized exposed rebar. Narrow to medium cracking with staining and efflorescence noted at all piers. Areas of light to severe erosion at base of all piers at waterline.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Abutments originally designed for railway loading - deterioration not anticipated to impact load carrying capacity at this time. Future repairs should be planned for.			

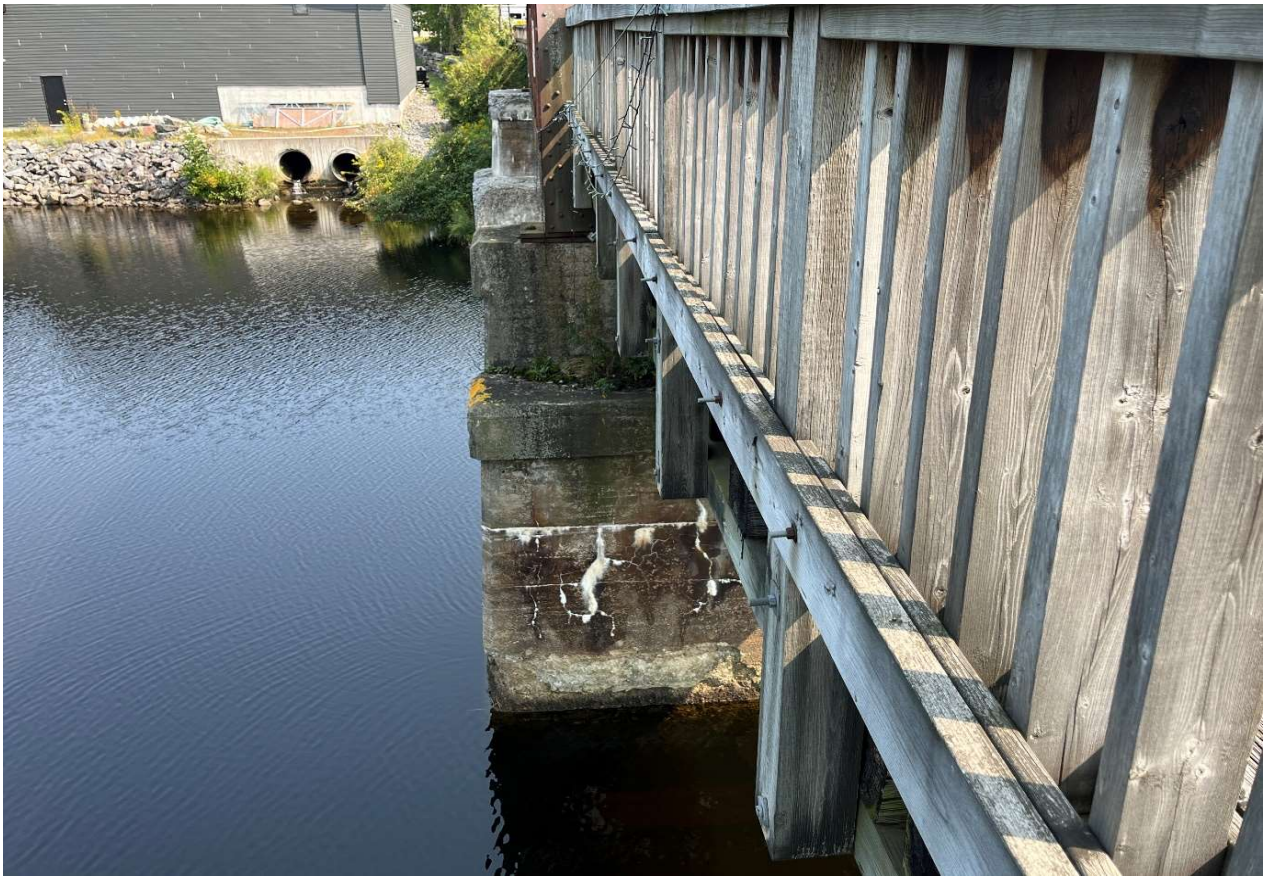
Element Photo:

Description of Photo: West pier west face

Element Photo:

Description of Photo: Middle pier west face

Element Photo:



Description of Photo: Middle pier west face

Element Data:

Element Group:	**Abutments**	Length:	**4.3**
Element Name:	**Caps**	Width:	**0.3**
Location:	**East Abutment**	Height:	**0.3**
Material:	**Timber**	Count:	**1**
Element Type:		Total Quantity:	**5.2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**5.2**			

Comments: **Light weathering, typ. Localized light checks and splits.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Abutment cap

Element Data:

Element Group:	**Piers**	Length:	**5.0**
Element Name:	**Caps**	Width:	**0.35**
Location:	**Timber Trestle Spans**	Height:	**0.35**
Material:	**Timber**	Count:	**6**
Element Type:		Total Quantity:	**42.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	sq.m		**37.4**	**4.2**	**0.4**	

Comments: **Light weathering, typ. Localized light to severe medium checks and splits.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Pier cap

Element Data:

Element Group:	**Piers**	Length:	
Element Name:	**Bearings**	Width:	
Location:		Height:	
Material:	**Steel**	Count:	**12**
Element Type:		Total Quantity:	**12**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**6**	**6**		

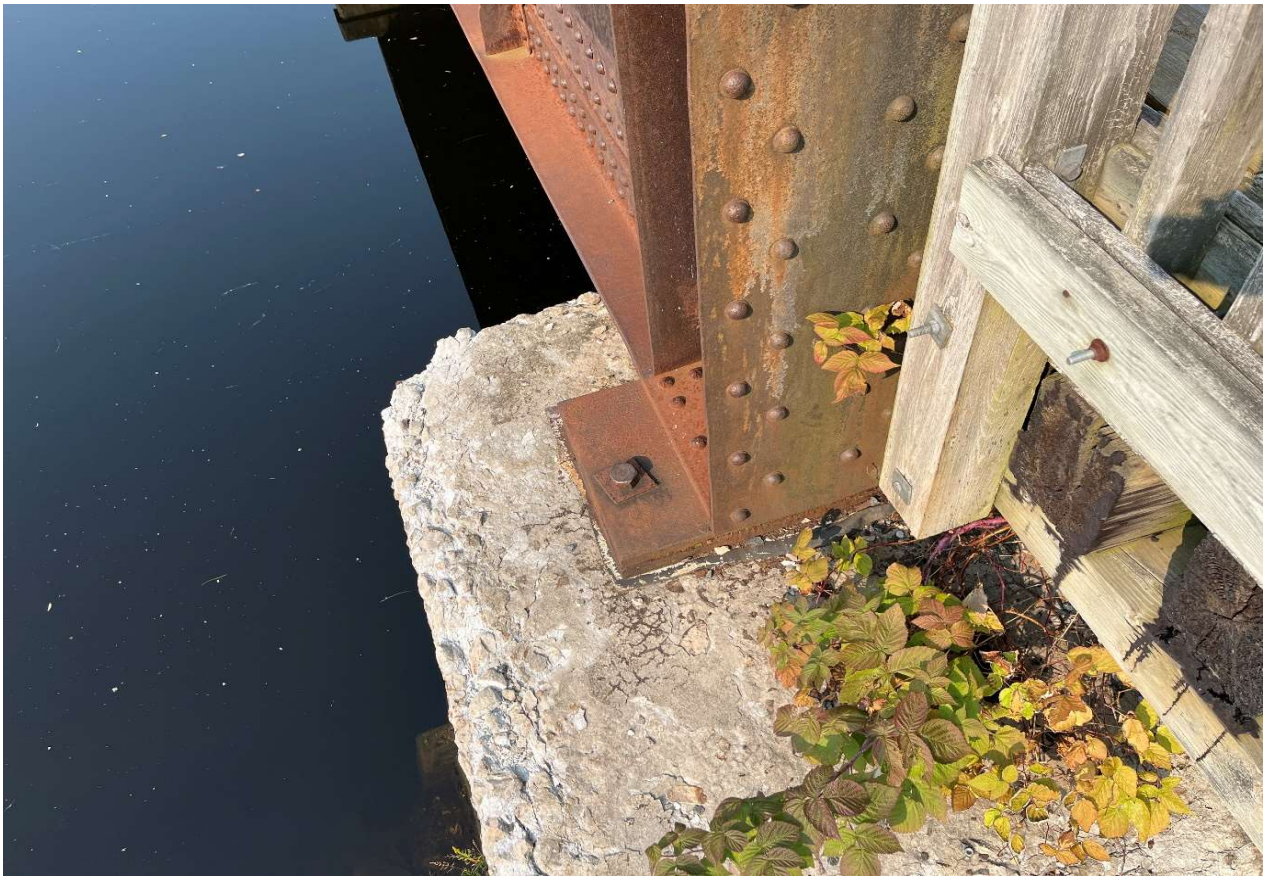
Comments: **Limited inspection due to height restriction. Deck Plate Girder span, bearings appear to have medium corrosion at east end. Remaining bearings assumed to be in good to fair condition as a result of corrosion.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Pier bearings

Element Photo:



Description of Photo: Pier bearings

Element Photo:

Description of Photo: Pier bearings

Element Data:

Element Group:	**Retaining Walls**	Length:	**40.0**
Element Name:	**Walls**	Width:	
Location:	**Southwest**	Height:	**1.2**
Material:	**Concrete**	Count:	**2**
Element Type:	**Cast-in-Place**	Total Quantity:	**96.0**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**96.0**			

Comments: **Light scaling, typ.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Retaining wall

Element Data:

Element Group:	**Retaining Walls**	Length:	**40.0**
Element Name:	**Railing System on Walls**	Width:	
Location:	**Southwest**	Height:	**1.1**
Material:	**Timber**	Count:	**2**
Element Type:		Total Quantity:	**80.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**50.0**	**20.0**	**10.0**	

Comments: **Light weathering, typ. 18 broken post or missing posts. 3.0m of top rail is missing. Several post anchors have become unattached. West railing next to the steel chain link fence has tilted, provide potential risks of falling. Top rail is not aligned at southwest end.**

Recommended Work:	Rehab: [X]	Replace: [ ]	Maintenance Needs:	**3 - Railing System Repair**
Urgent: [ ]	1-5 Years: [X]	6-10 Years: [ ]	None: [ ]	Urgent: [ ] 1 Year: [X] 2 Year: [ ]
Repair Railing system			**Replace missing and broken pickets, anchors and top rail.**	

Element Photo:

Description of Photo: Railing system

Element Photo:

Description of Photo: Railing system

Element Photo:

Description of Photo: Railing system

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Streams and Waterways**	Width:	
Location:	**North and South**	Height:	
Material:		Count:	
Element Type:		Total Quantity:	**1**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	all	**X**				

Comments: **Waterway is free flowing. No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Watercourse upstream

Element Photo:

Description of Photo: Watercourse downstream

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Embankments**	Width:	
Location:	**All Quadrants**	Height:	
Material:	**Trees, Shrubs and Earth**	Count:	**4**
Element Type:	**Vegetation**	Total Quantity:	**4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**4**			

Comments: **Loss of material is less than 10%. Embankments are vegetated and appear stable.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Embankment

Element Photo:

Description of Photo: Embankment

Element Photo:

Description of Photo: Embankment

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Signs**	Width:	
Location:	**East End**	Height:	
Material:		Count:	**3**
Element Type:		Total Quantity:	**3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*
	each		**1**	**1**	**1**

Comments: **One caution sign in poor condition and has been damaged, bent and is weathered. One stop sign ahead sign has graffiti.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Signs

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Utilities**	Width:	
Location:	**Along Bridge**	Height:	
Material:	**Steel Light Posts**	Count:	**4**
Element Type:	**Lighting**	Total Quantity:	**4**
Environment:	**Moderate**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Paint**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**4**			

Comments: **Posts are in good condition. One light stand missing bottom housing.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Light utility

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Other**	Width:	
Location:	**Length of Structure**	Height:	
Material:	**PVC**	Count:	**1**
Element Type:	**Electrical**	Total Quantity:	**1**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Conduit**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**1**				

Comments: **Conduit repaired from previous inspection. No observed defects.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Electrical utility

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Wearing Surface**	Width:	**3.0**
Location:	**West and East End**	Height:	
Material:	**Gravel**	Count:	**2**
Element Type:		Total Quantity:	**36.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**36.0**			

Comments: **Light wear typ. No other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach wearing surface

Element Data:

Element Group:	**Approaches**	Length:	**3.65**
Element Name:	**Barrier**	Width:	
Location:	**East End**	Height:	**1.1(SW), 1.3 (SE)**
Material:	**Timber**	Count:	**2**
Element Type:		Total Quantity:	**7.3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Pressure Treated**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m	**6.6**	**0.7**			

Comments: **One 3.0m light check at southeast top timber. No other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach barrier

Repair and Rehabilitation Required:		Priority				Estimated Structural Cost
Element[1]	Repair and Rehabilitation Required[2]	6 to 10 Years	1 to 5 Years	Within 1 Year	Urgent	
Structure	Demolition					
Structure	Replacement					
OR						
Deck	Rehab. =					
Sidewalk/Curb	Rehab. =					
Barrier	Rehab. =					
Joints	Rehab. =					
Beams	Rehab. =		**X**			**$100,000.00**
Abutment	Rehab. =		**X**			**$20,000.00**
Pier	Rehab. =		**X**			**$600,000.00**
Wingwalls	Rehab. =					
Retaining Wall	Rehab. =					
Estimated Rehabilitated or Replacement Structure Dimensions[3]						
Total Deck Length (m)		Overall Str. Width (m)			Total Structural Cost	**$720,000.00**

1 - Indicate specific costs for structure replacement OR for rehabilitation under the given headings.

2 - Give a very brief description of the rehabilitation work required.

3 - Estimated structure dimensions after completion of the proposed work - if it is expected to change.

Associated Work	Comments	Estimated Associated Work Cost
Approaches	**Trail Closure Signage**	**$2,000.00**
Detours		
Traffic Control		
Utilities		
Other	**Engineering and Contingency**	**$100,000.00**
	Mobilization / Demobilization, General, Insurance	**$100,000.00**
	Access / Dewatering / Environmental	**$150,000.00**
	Total Associated Work Cost	**$352,000.00**

Total Construction Cost	**$1,072,000.00**

Justification:

The most westerly Span 12 Through Plate Girder has several vertical stiffeners with 100% section loss at the interface with the bottom flange, and there is isolated severe corrosion and section loss on other members generally towards the abutment, however load carrying capacity is not a concern at this time. The three concrete piers supporting Spans 10, 11 and 12 have severe concrete deterioration along the waterline. Rehabilitation is recommended to include Span 12 steel repairs and concrete repairs for the three piers. For maintenance, timber member replacements will be ongoing, and the west abutment bearings should be cleaned to remove debris and other deleterious material. Note that the barrier height could be considered to be increased to 1.37 m to meet current code requirements for cyclists, however 1.2 m can be used based on owner approval.

MTO Site Number:

Inventory Data:

Structure Name	**Seguin Street Bridge**				
Main Highway #	**Seguin Street**	On [X] or Under [ ] Structure	Service on Structure	[ ] Navig. Water [ ] Non-Navig. Water [ ] Rail [X] Road [X] Ped. [ ] Other	
Location Description	0.08km West of River Street		Service under:	[X] Navig. Water [ ] Non-Navig. Water [ ] Rail [ ] Road [ ] Ped. [ ] Other	
Owner/Custodian	Town of Parry Sound				
MTO Region	Northeastern	Latitude	45° 20' 37" N	Longitude	80° 01' 52" W
Regional Engineer		Heritage Designation:	[X] Not Cons. [ ] Cons./Not App. [ ] List/Not Desig. Desig. [ ] Desig./Not List [ ] Desig. & List		
MTO Area	**52 - Huntsville**	Hwy Class:	Freeway [ ] Arterial [X] Collector [ ] Local [ ]		
Old County	**44 - Parry Sound**	Posted Speed	**50**	No. of Lanes	**4**
Township	**452 McDougall**	AADT	**Unknown**	% Truck	**Unknown**
Structure Type 1	**Trapezoidal Box Beam Girders**				
Structure Material 1	**Weathering Steel**	Traffic Directional Bound	**W-E**		
Structure Type 2	**Concrete Deck**				
Structure Material 2	**Cast-in-Place Concrete**	Inspection Frequency	**2** (years)		
Total Deck Length	**55.9** (m)	Inspection Year	**odd**		
Overall Str. Width	**20.6** (m)	Inspection Duration	**3** (hrs)		
Culvert Length	**0** (m)				
Total Deck Area	**1151.54** (sq.m)				
Roadway Width	**15.0** (m)	Min. Vertical Clearance	(m)		
Skew Angle	**0** (Degree)	Detour Distance	**2.2** (km)		
No. of Spans	**1**	Fill on Structure	**0** (m)		
Span Lengths	**55.0** (m)				
For retaining wall:					
Total Wall Length	(m)	Max. Wall Height	(m)		
Total Wall Area	(sq.m)	Ave. Wall Height	(m)		
		Angle of Backfill	(Degrees)		

Historical Data

Year Built	**1987**	Year of superstruct. Constructed	**1987**		
Last Reg. OSIM Inspection	**2022**	Year of Last Minor Rehab.	**N/A**		
Last Enh. OSIM Inspection		Year of Last Major Rehab	**N/A**		
		Current Load Limit	/ /	(tonnes)	

Work History: (Date/description)

The 2024 minor rehabilitation included concrete sidewalks repairs, expansion joint concrete end dam and steel armouring angle repair, approach guide rail connection upgrade, and girder inside cleaning.

Investigation History: (Date/description)

2007 - Steel thickness measurements were completed and an evaluation for load capacity was completed

MTO Site Number:

Field Inspection Information:

Date of Inspection:	**October 25, 2024**	Type of Inspection:	[ ] Reg. OSIM [X] Enh. OSIM
Inspected By	**Eduardo Brizola**		
Others in Party:	**Brian Wood P.Eng., Junjie Yang**		
Enh. Access Equipment:			
Special Access Equipment	**Bridgemaster, Aspen Aerials A-62**		
Weather	**Cloudy**	Temperature	**10** °C

Additional Investigations Required:

	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey	X			
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation:	X			
Post-Tensioned Strand Investigation:	X			
Underwater / Boat Access Investigation	X			
Fatigue Investigation	X			
Seismic Investigation	X			
Structure Evaluation:	X			
Monitoring	X			
Deformations, Settlements and Movements:	X			
Crack Widths:	X			
RSS Horizontal movements of face:	X			
RSS Vertical movements of overall structure:	X			
RSS Local movements or deterioration of face elements:	X			
RSS Horizontal movements within overall structure:	X			
RSS Vertical movements within overall structure	X			
RSS Lateral earth pressure at the back of facing elements	X			
Investigation Notes: "Underwater/Boat Access Investigation" refers to using a Bridgemaster to inspect outside faces of box girders, and	**Total Cost**			**$0.00**

Overall Structure Notes:

Recommended Work on Structure	[X] None [ ] Minor Rehab. [ ] Major Rehab. [ ] Replace
Timing of Recommended Work	[ ] Urgent [ ] 1 to 5 years [ ] 6 to 10 years
Overall Comments:	**The bridge is in good condition, with 2024 minor rehabilitation work including sidewalk concrete repairs, patches over the concrete end dams, armouring repairs, and upgrades to the approach guide rail connections. The rehab was in preparation for a future major rehabilitation in +/- 10 years.**
Date of Next inspection:	**2026**

Overall Bridge Condition

% Poor in Deck	% Poor in Beams	% Poor in Substructure	% Poor in Barrier	Bridge Condition Index (BCI or BCIp)	
				BCIp	BCI
0%	0%	0%	0%	99.92	79.41

Overall Bridge Sufficiency

Traffic	Economic	Width	Alignment	Bridge Sufficiency Index (BSI)
0	5	0	0	74.41

Element Data:

Element Group:	**Decks**	Length:	**55.9**
Element Name:	**Wearing Surface**	Width:	**15.0**
Location:		Height:	**0.1**
Material:	**Asphalt**	Count:	**1**
Element Type:		Total Quantity:	**838.5**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**726.7**	**111.8**		

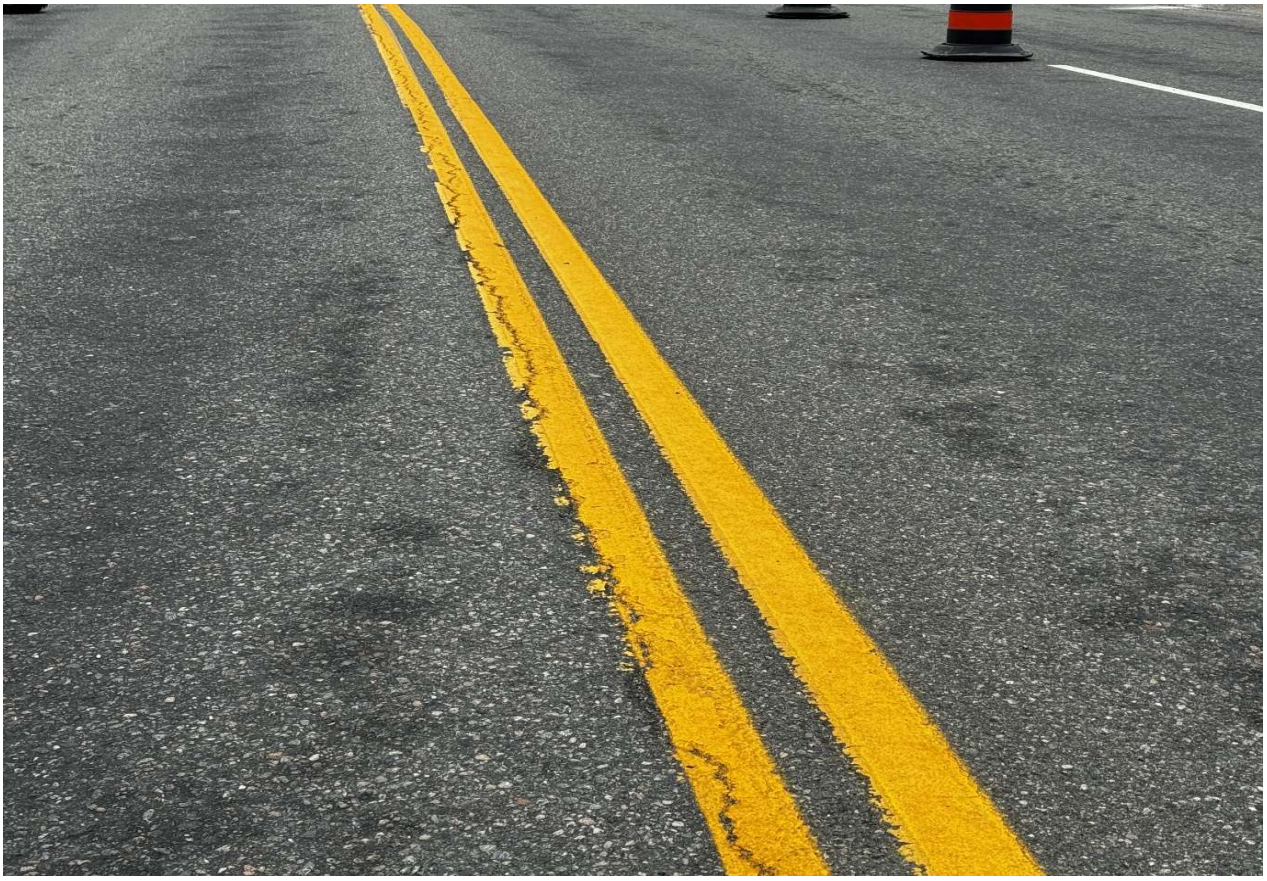
Comments: **Light ravelling, typ. Center 2 lanes have medium wheel rutting full length of bridge (55.9m x 0.5m x 4).**
Light to medium crack along the centerline of the deck surface, with an isolated light cracks observed on the north side.

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Wearing surface

Element Photo:



Description of Photo: Crack along centerline

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Decks**	Length:	**55.9**
Element Name:	**Deck Top**	Width:	**20.6**
Location:		Height:	**0.25**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-Place**	Total Quantity:	**1151.5**
Environment:	**Moderate**	Inspected	Yes [ ] No [X] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**1151.5**			

Comments: **Assumed to be in good condition based on asphalt.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Deck top

Element Data:

Element Group:	**Decks**	Length:	**55.9**
Element Name:	**Soffit**	Width:	**9.8**
Location:		Height:	
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-Place**	Total Quantity:	**547.8**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**535.8**	**9.0**	**3.0**	

Comments: **Light scaling typical. Narrow to medium cracks with some water staining along overhang soffit at regular intervals (+/- 2.0m c/c avg.). Several cracks with wet areas and leachate deposits. A concrete spall (300x200) was noted along the northwest region.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Exterior soffit

Element Photo:

Description of Photo: Exrterior soffit

Element Photo:

Description of Photo: Interior soffit

Element Photo:

Description of Photo: Deck soffit, typ.

Element Photo:

Description of Photo: Crack with efflorescence along exterior soffit

Element Data:

Element Group:	**Decks**	Length:	**0.5**
Element Name:	**Drainage System**	Width:	**0.2**
Location:	**Along face of sidewalks**	Height:	
Material:	**Steel**	Count:	**8**
Element Type:	**Metal Drain Pipes**	Total Quantity:	**8**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Hot Dip galvanizing**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**8**			

Comments: **Light corrosion at bottom of drain pipes, typical. No other observed defects. Some debris buildup in drain grates.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Drainage

Element Data:

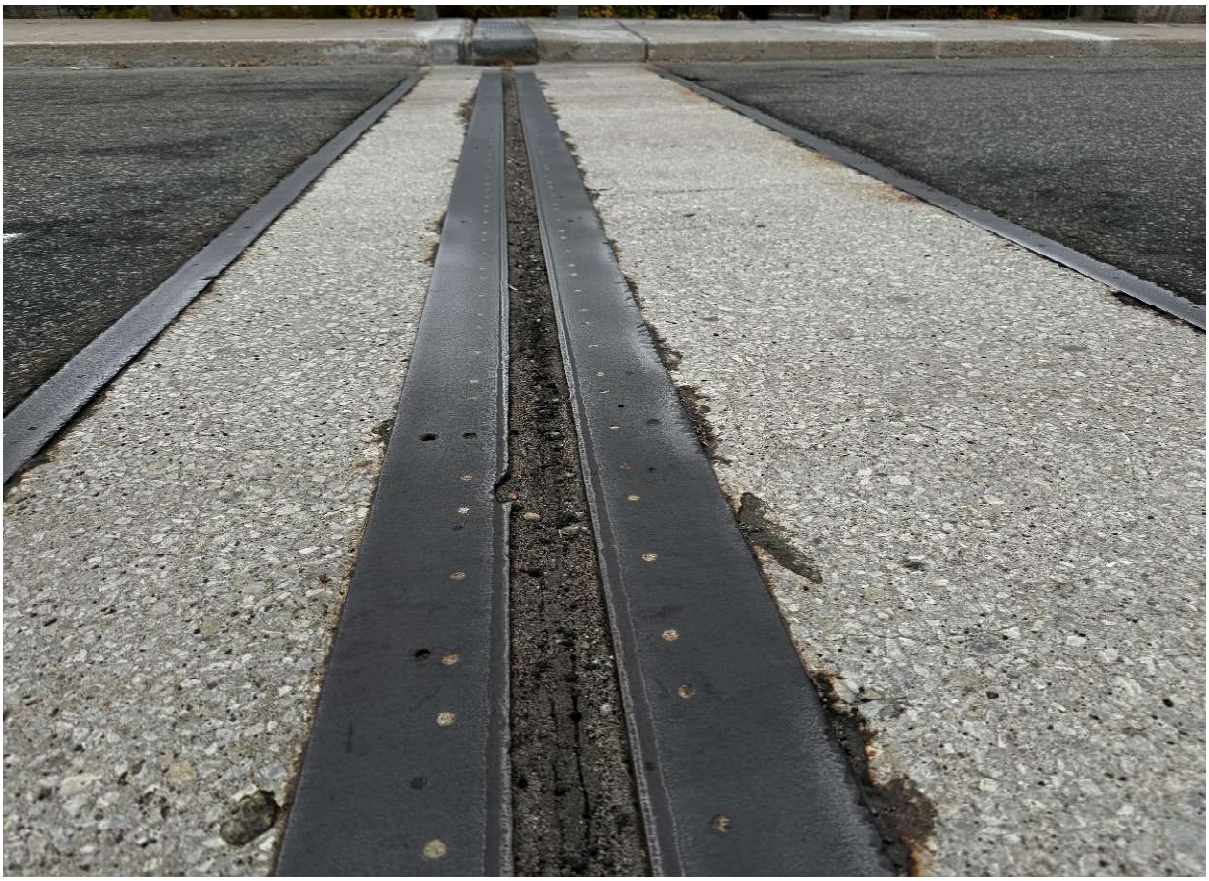
Element Group:	**Joints**	Length:	**20.6**
Element Name:	**Seals/sealants**	Width:	
Location:		Height:	
Material:	**Neoprene**	Count:	**2**
Element Type:	**Strip Seal**	Total Quantity:	**2**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**2**			

Comments: **Seals are in generally good condition. No evidence of leakage or other performance deficiencies.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**2 - Bridge Cleaning**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [X] 2 Year: [ ]	
		Clean joints annually.	

Element Photo:



Description of Photo: Joint seals

Element Data:

Element Group:	**Joints**	Length:	**15.0**
Element Name:	**Concrete End Dams**	Width:	**0.5**
Location:		Height:	
Material:	**Concrete**	Count:	**4**
Element Type:		Total Quantity:	**30.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**1.0**	**29.0**			

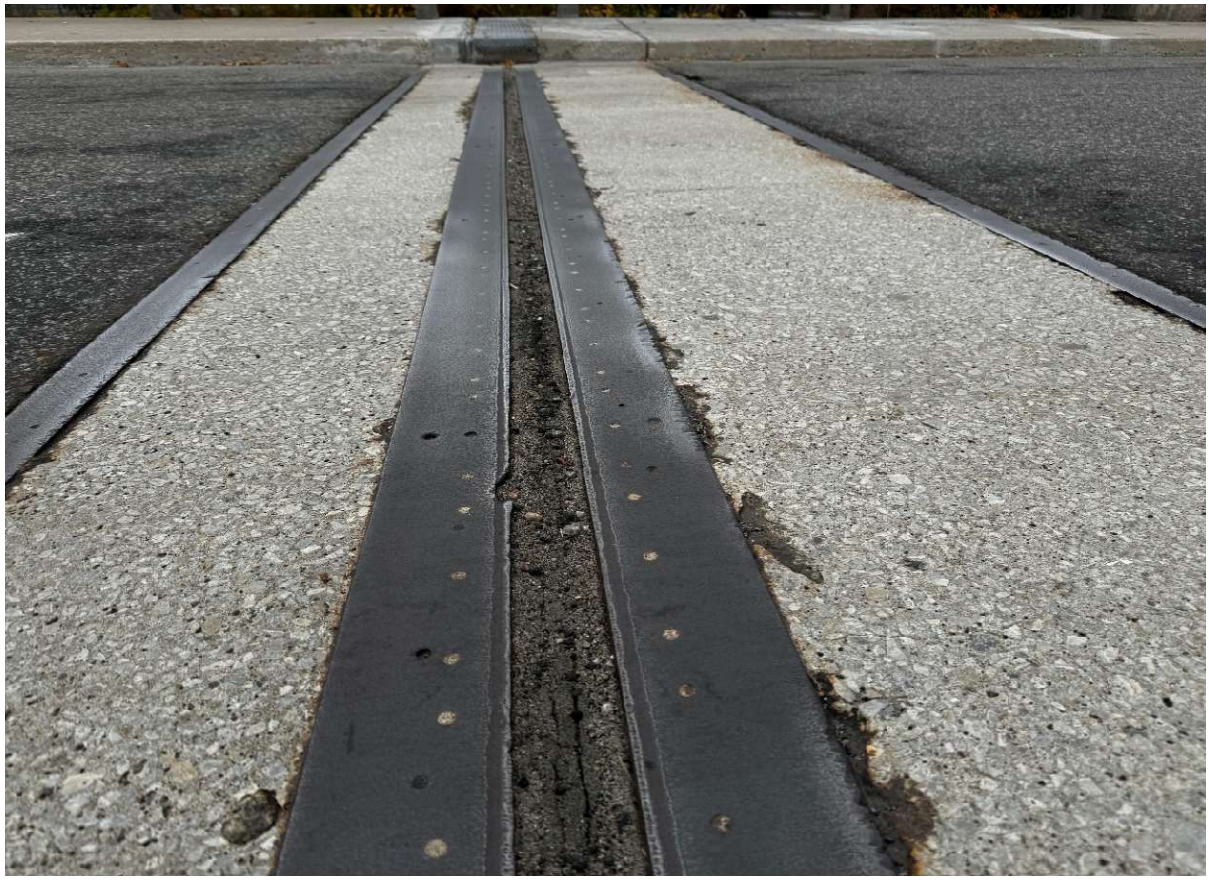
Comments: **Light scaling and abrasion, typ. Concrete repaired in 2024 rehabilitation, no observed defects in new concrete.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Concrete end dams

Element Photo:



Description of Photo: Concrete end dam

Element Photo:

Description of Photo: Concrete end dams rehab patch work

Element Data:

Element Group:	**Joints**	Length:	**20.6**
Element Name:	**Armouring/Retaining Devices**	Width:	
Location:		Height:	
Material:	**Steel**	Count:	**8**
Element Type:	**Angle**	Total Quantity:	**164.8**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m	**4.0**	**160.8**			

Comments: **Light corrosion,typ. Steel armouring angle repaired in 2024 rehabilitation, no observed defects in new steel.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Joint Concrete end dam

Element Data:

Element Group:	**Sidewalk/Curb**	Length:	**55.9**
Element Name:	**Sidewalks and Medians**	Width:	**2.8**
Location:		Height:	**0.25**
Material:	**Concrete**	Count:	**2**
Element Type:	**Sidewalk**	Total Quantity:	**313.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**5.3**	**307.7**			

Comments: **Light scaling, typ. Wear and abrasions along top edges, typ. Sidewalk concrete repaired in 2024 rehabilitation, no observed defects in new concrete.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Sidewalk

Element Photo:

Description of Photo: Sidewalk

Element Photo:

Description of Photo: Sidewalk

Element Data:

Element Group:	**Barriers**	Length:	**72.0**
Element Name:	**Railing Systems**	Width:	
Location:		Height:	
Material:	**Aluminum**	Count:	**2**
Element Type:	**4 Rail**	Total Quantity:	**144.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**135.8**	**8.0**	**0.2**	

Comments: **Two 100x100mm deformations with perforations on north rail. Localized abrasions throughout with some wear of aluminum surface.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: North rail perforations

Element Photo:

Description of Photo: North railing perforations

Element Photo:

Description of Photo: Railing system

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**2**
Element Name:	**Girders Exterior**	Width:	**2.2**
Location:	**Ends**	Height:	**2.8**
Material:	**Steel**	Count:	**6**
Element Type:	**Trapezoidal Box**	Total Quantity:	**93.6**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Weathering Steel with Epoxymastic Coating**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**92.6**	**1.0**		

Comments: **Five 200x200mm areas of medium corrosion at the bottom flange at drain holes. Light corrosion at top of southwest girder. Re-coating of girder ends should be included in the future major rehab.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Girder - Exterior end

Element Photo:

Description of Photo: Girder Exterior end

Element Photo:

Description of Photo: Girder Exterior end drain holes

Element Data:

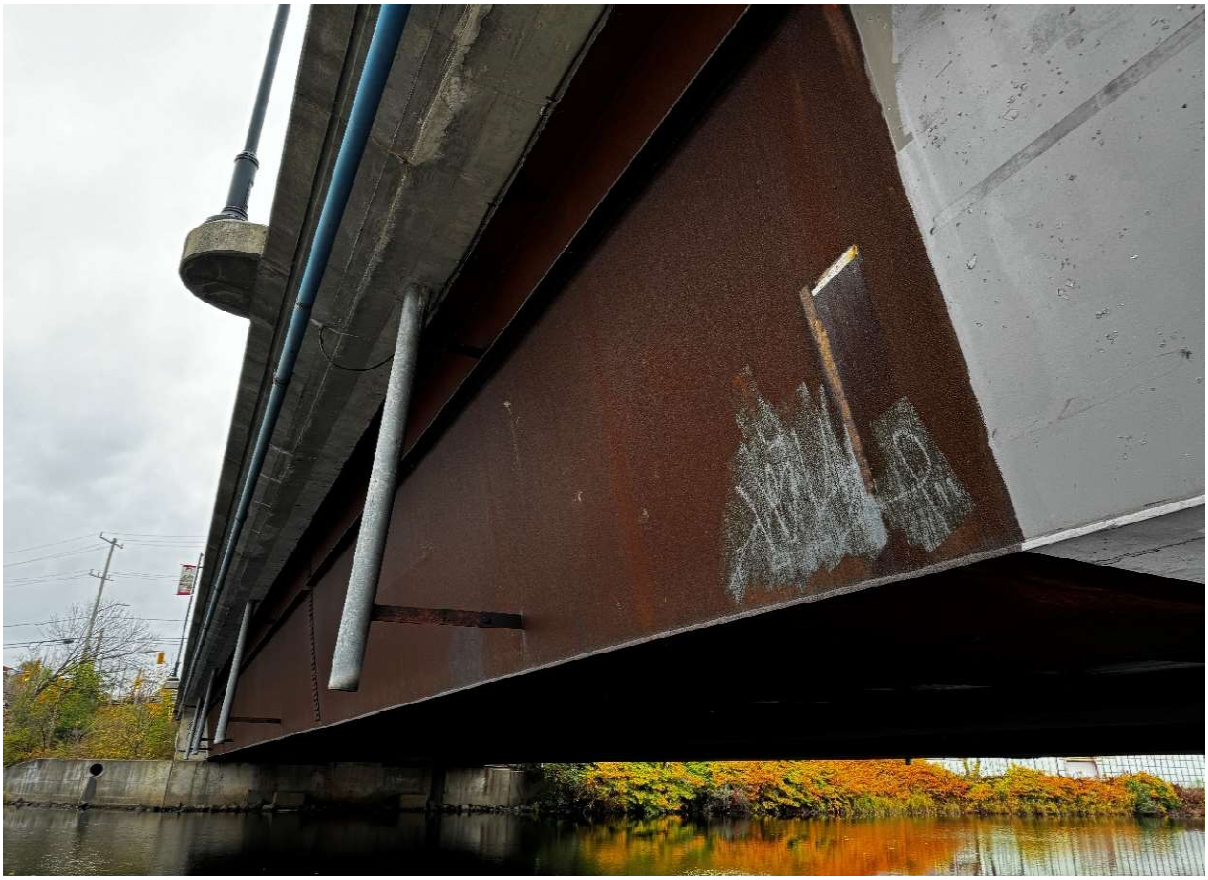
Element Group:	**Beams/Main Longitudinal Elements**	Length:	**52.7**
Element Name:	**Girders Exterior**	Width:	**2.2**
Location:	**Middle**	Height:	**2.8**
Material:	**Steel**	Count:	**3**
Element Type:	**Trapezoidal Box**	Total Quantity:	**1233.2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Weathering Steel**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	sq.m	**1233.2**				

Comments: **No observed defects. Patina is formed and uniform.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:



Description of Photo: Girders exterior

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**6.8**
Element Name:	**Diaphragms**	Width:	
Location:	**End**	Height:	**2.4**
Material:	**Steel**	Count:	**4**
Element Type:		Total Quantity:	**4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Weathering Steel and Paint**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**3**	**1**			

Comments: **Graffiti was present at the west end, but no deterioration of the steel was noted. The coating appears to still be in good condition. Northwest end diaphragm bottom flange has areas of light corrosion.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: End Diaphragms

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**15.85**
Element Name:	**Diaphragms**	Width:	**0.15**
Location:	**Intermediate**	Height:	**2.4**
Material:	**Steel**	Count:	**75**
Element Type:		Total Quantity:	**75**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Weathering Steel**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**75**				

Comments: **No observed defects, patina is formed and uniform.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Diaphragms

Element Data:

Element Group:	**Coating**	Length:	**2**
Element Name:	**Structural Steel**	Width:	**2.2**
Location:	**End of Girders**	Height:	**2.8**
Material:		Count:	**6**
Element Type:		Total Quantity:	**93.6**
Environment:	**Moderate**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**45.0**	**30.6**	**18.0**	

Comments: **Interior coating at ends of north and south girder have failed along the bottom flange and stiffener plates exhibiting Category 3 and 4 rusting. Category 2 to 3 rusting around the drain holes in the bottom flange. Remaining coating exhibiting chalking and Category 2 rusting, typ. Re-coating of girder ends should be included in the future major rehab.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Coating

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Abutment Walls**	Width:	**19.5**
Location:		Height:	**5.7**
Material:	**Concrete**	Count:	**2**
Element Type:	**Conventional Closed**	Total Quantity:	**223.5**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**222.0**	**1.5**		

Comments: **Light scaling, typ. Wall drains are clear. West abutment wall has been repainted, there is graffiti present. 5.7m long medium vertical crack (shown in chalk). 4.0m of light cracks.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

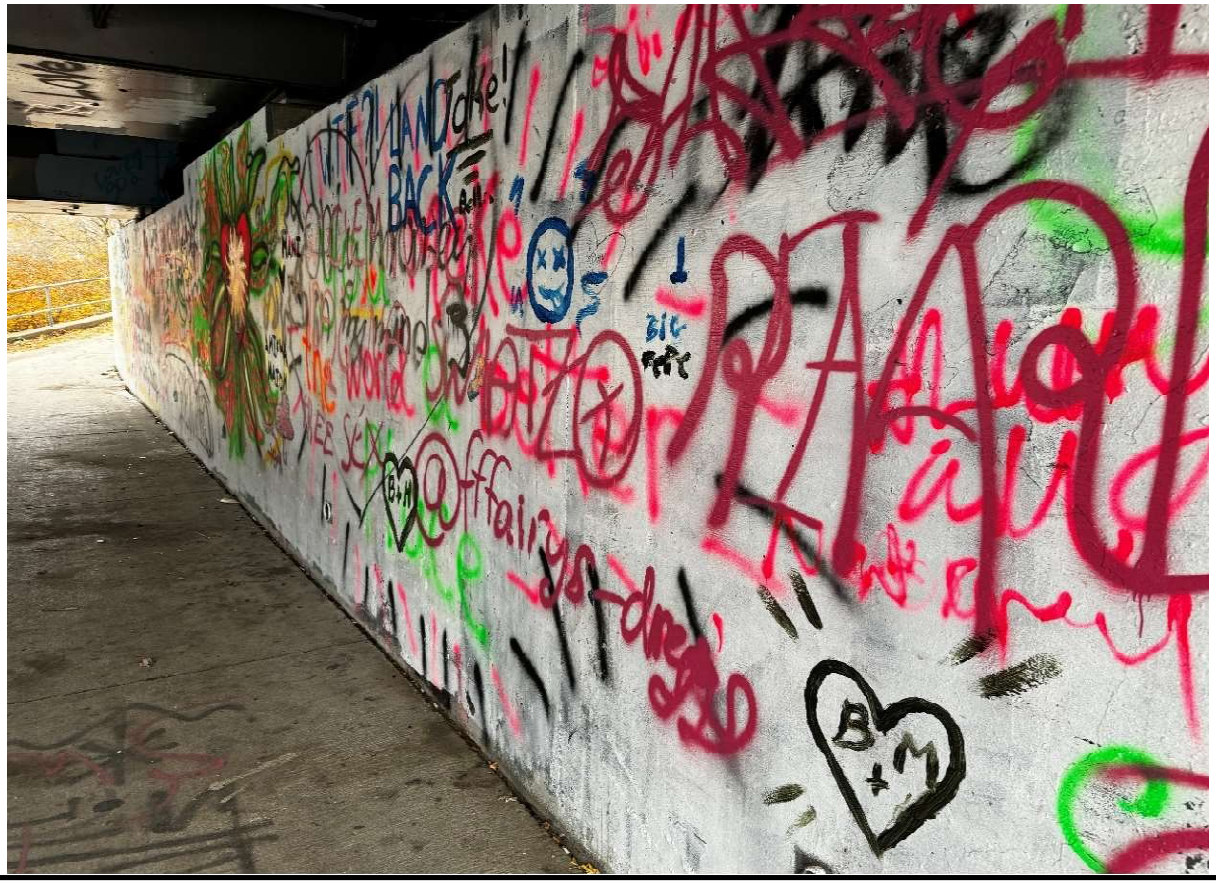
Element Photo:

Description of Photo: Abutment wall

Element Photo:

Description of Photo: Abutment wall

Element Photo:



Description of Photo: Abutment wall

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Ballast Walls**	Width:	**19.5**
Location:		Height:	**3.2**
Material:	**Concrete**	Count:	**2**
Element Type:		Total Quantity:	**126.0**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**125.2**	**0.8**		

Comments: **Limited inspection, portions hidden by the diaphragms. Light scaling, typ. 3.0m medium crack at southwest area.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Ballast wall

Element Data:

Element Group:	**Abutments**	Length:	**8.5**
Element Name:	**Wingwalls**	Width:	
Location:	**All Quadrants**	Height:	**2.1**
Material:	**Concrete**	Count:	**4**
Element Type:	**Cast-in-Place**	Total Quantity:	**71.4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**71.4**			

Comments: **Light scaling, typical. No other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Wingwall

Element Data:

Element Group:	**Abutments**	Length:	**0.5**
Element Name:	**Bearings**	Width:	**0.6**
Location:		Height:	**0.1**
Material:	**Elastomeric**	Count:	**6**
Element Type:		Total Quantity:	**6**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**6**			

Comments: **Light weathering, typ.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Bearings

Element Photo:

Description of Photo: Bearings

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Retaining Walls**	Length:	**40.2**
Element Name:	**Walls**	Width:	
Location:	**NW and SW Quadrants**	Height:	**4.0**
Material:	**Concrete**	Count:	**1**
Element Type:	**Cast-in-Place**	Total Quantity:	**160.8**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**159.8**	**1.0**		

Comments: **Light scaling, typical. Northwest side has cracks at 7th and 11th railing post and one 300x500mm light spall. Southwest side has medium cracks at 1st, 2nd and 7th railing post.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Retaining wall

Element Photo:

Description of Photo: Retaining wall

Element Photo:

Description of Photo: Retaining wall

Element Data:

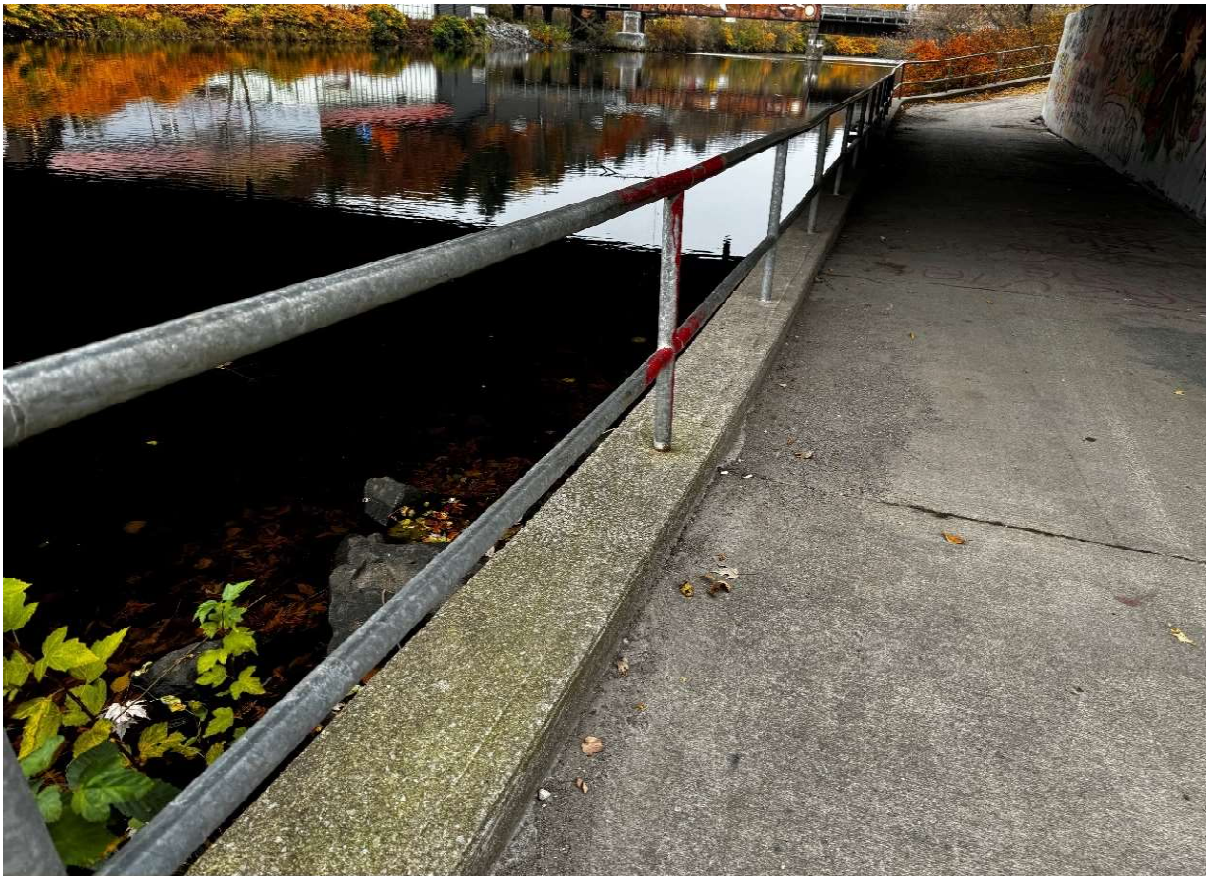
Element Group:	**Retaining Walls**	Length:	**50.0**
Element Name:	**Railing System on Walls**	Width:	
Location:	**Under Bridge**	Height:	
Material:	**Steel**	Count:	**1**
Element Type:	**Pedestrian Handrail**	Total Quantity:	**50.0**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Hot-Dip Galvanized**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**50.0**			

Comments: **Pedestrian handrail along path under the west end of the bridge. Localized light corrosion and abrasion throughout. 0.5 mm narrow crack in the concrete base of a post.**

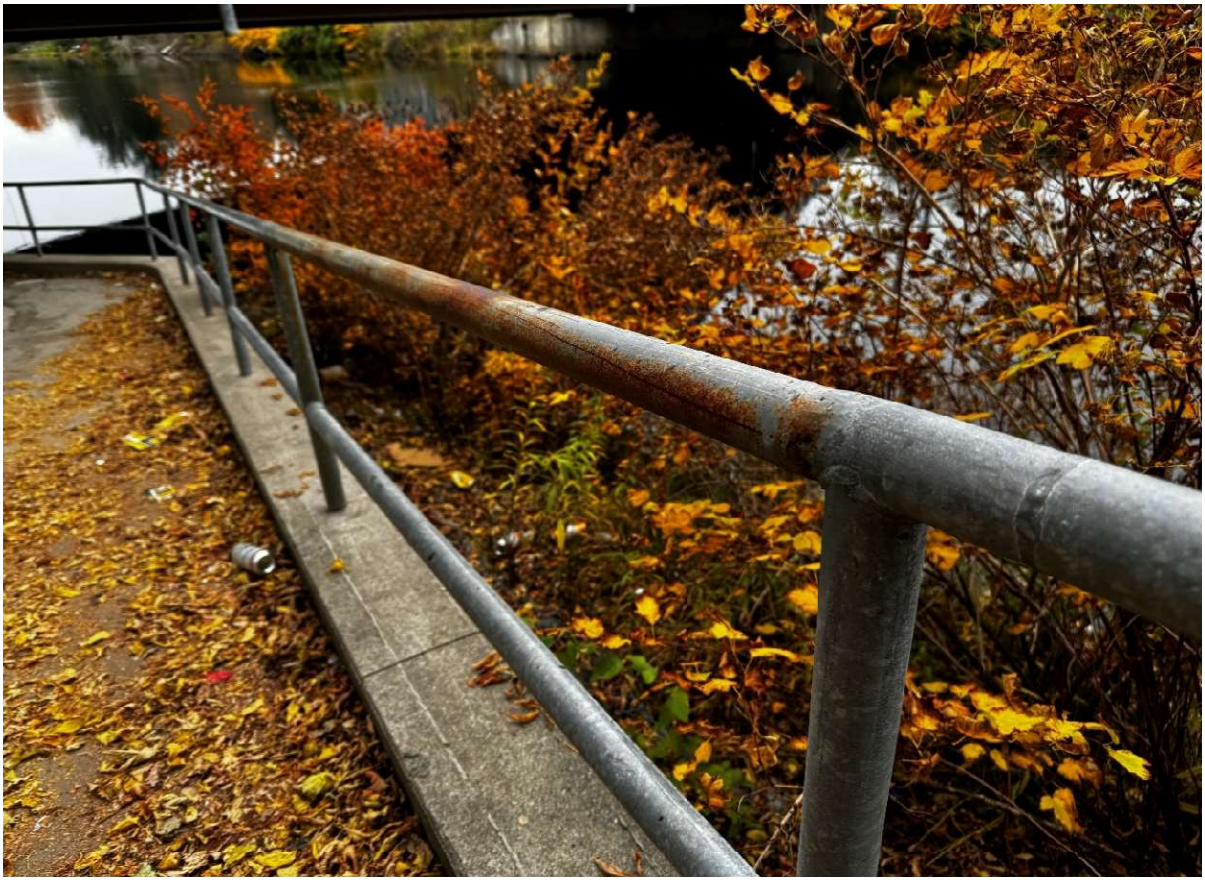
Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:



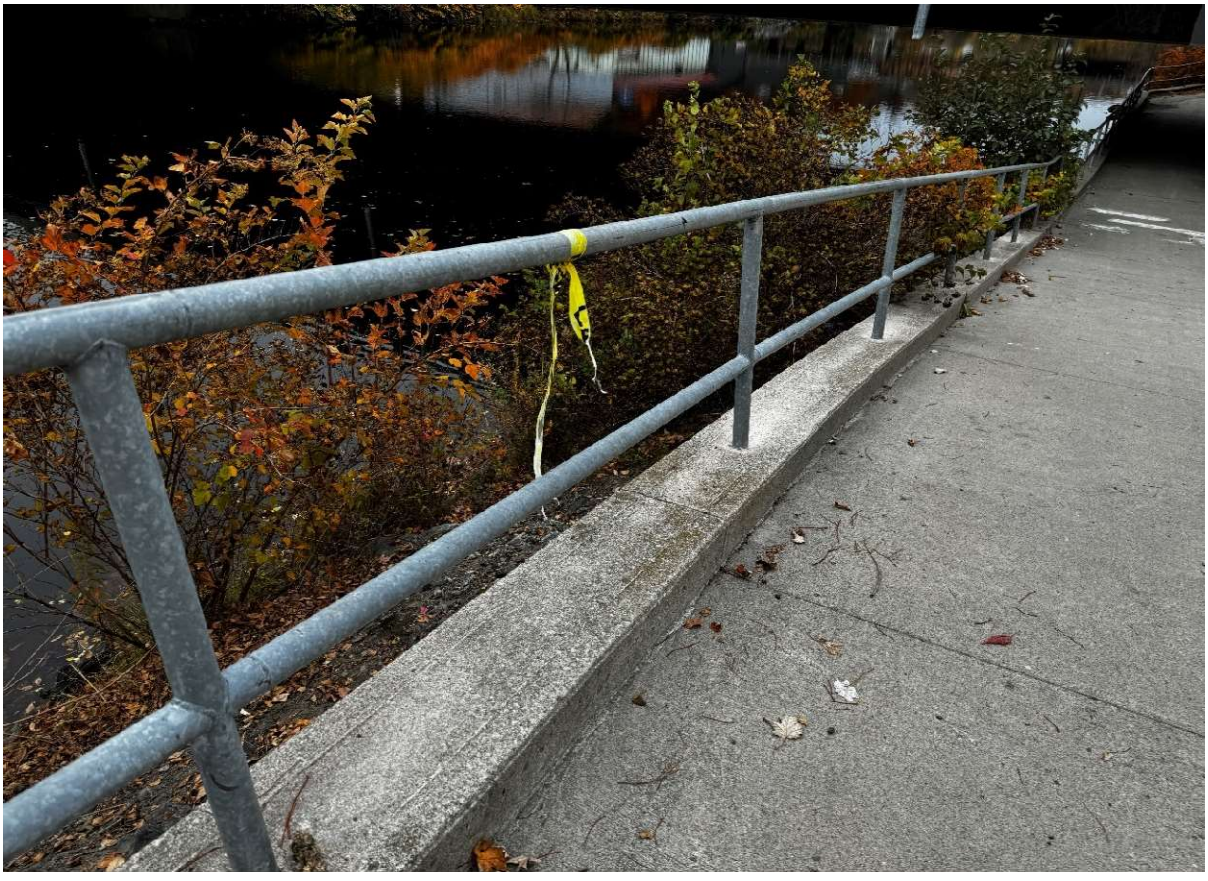
Description of Photo: Retaining wall railing

Element Photo:



Description of Photo: Retaining wall railing

Element Photo:



Description of Photo: Retaining wall railing

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Streams and Waterways**	Width:	
Location:		Height:	
Material:		Count:	
Element Type:	**Waterway**	Total Quantity:	**All**
Environment:		Inspected	Yes ☐ No ☐ limited ☐
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	all	**x**				

Comments: **No observed defects.**

Recommended Work:	Rehab: ☐ Replace: ☐	Maintenance Needs:	
Urgent: ☐ 1-5 Years: ☐ 6-10 Years: ☐ None: **X**		Urgent: ☐ 1 Year: ☐ 2 Year: ☐	

Element Photo:

Description of Photo: Waterway

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Embankments**	Width:	
Location:	**All Quadrants**	Height:	
Material:	**Trees, Vegetation**	Count:	**4**
Element Type:		Total Quantity:	**4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**4**				

Comments: **No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Embankments

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Slope Protection**	Width:	
Location:		Height:	
Material:	**Rocks and Gabion Basket**	Count:	**2**
Element Type:		Total Quantity:	**2**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**1**	**1**			

Comments: **No observed defects for rock protection in front of east abutment. West side has < 20% loss of material along gabion baskets beneath walkway along the waterline.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Rock protection

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Utilities**	Width:	
Location:		Height:	
Material:		Count:	**14**
Element Type:	**Various**	Total Quantity:	**14**
Environment:		Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**13**	**1**		

Comments: **There is gas line supported along the north face of the bridge, hangers have exhibited medium to severe corrosion. An insulated pipe (likely a watermain) under the north interior soffit, electrical and bell also appear to be supported under the north interior soffit. There are some punctures in the watermain insulation protective covering. Electrical lines are also supported along both ballast walls. 8-90mm diameter ducts are in each sidewalk. Electrical box at northwest quadrant has a damaged latch and can be opened.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**18 - Other Maintenance**
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [X] 2 Year: [ ]	
		Replace latch and ensure electrical box can be closed and locked.	

Element Photo:

Description of Photo: Utilities

Element Photo:

Description of Photo: Utilities

Element Photo:

Description of Photo: Utilities

Element Data:

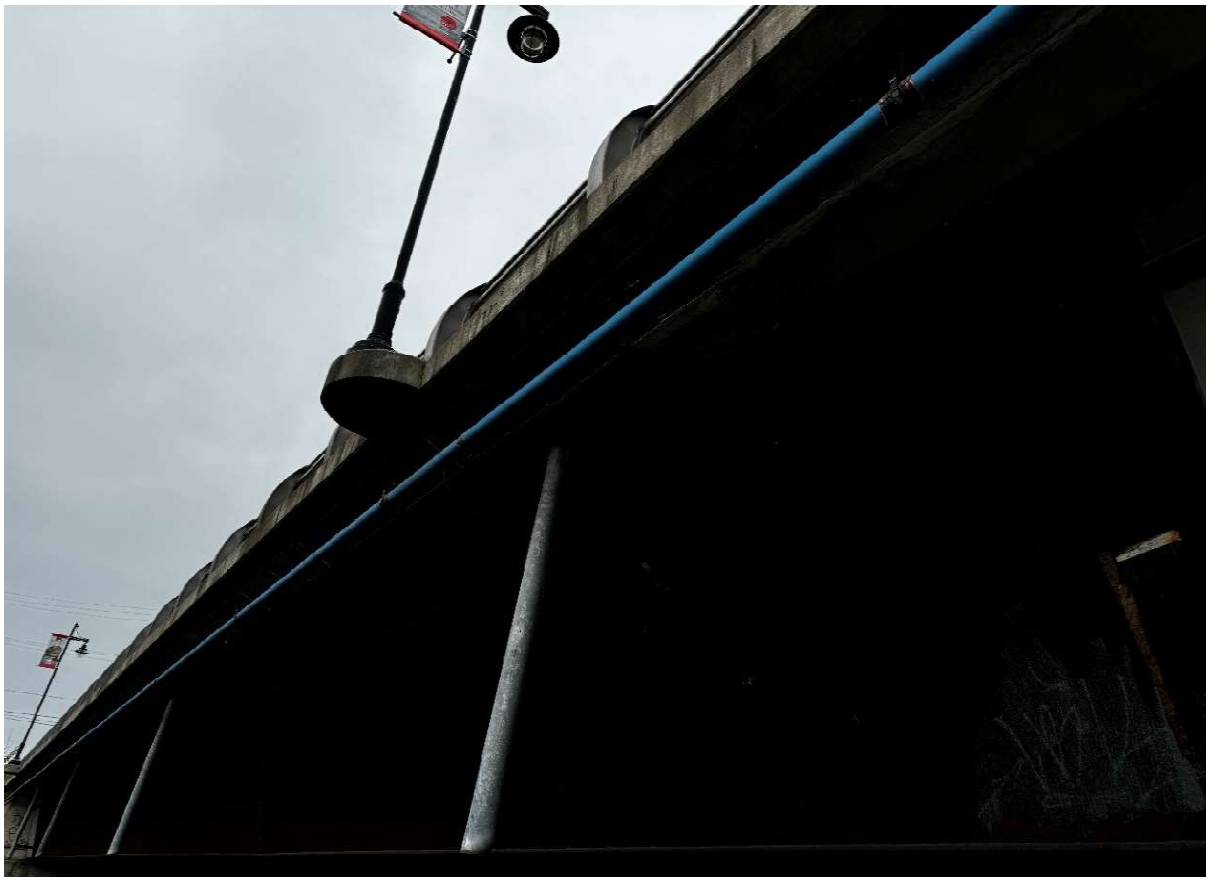
Element Group:	**Accessories**	Length:	
Element Name:	**Other**	Width:	
Location:		Height:	
Material:		Count:	**3**
Element Type:	**Light Poles**	Total Quantity:	**3**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each	**3**				

Comments: **No observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:



Description of Photo: Light poles

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Wearing Surface**	Width:	**15.0**
Location:		Height:	**0.1**
Material:	**Asphalt**	Count:	**2**
Element Type:		Total Quantity:	**180.0**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**175.1**	**4.9**		

Comments: **Light ravelling, typical. West lane has medium wheel rutting 6.0m x 500 x 8mm. Southeast 7m of medium transverse cracks. Medium loss of bond (300mm x 300mm).**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: East approach

Element Photo:

Description of Photo: East approach

Element Photo:

Description of Photo: West approach

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Approach Slab**	Width:	**15.0**
Location:		Height:	**0.25**
Material:	**Concrete**	Count:	**2**
Element Type:		Total Quantity:	**180.0**
Environment:	**Moderate**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**180.0**			

Comments: **Assumed to be in good condition based on asphalt.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Approach slab

Element Data:

Element Group:	**Approaches**	Length:	**14.6 (NE) , 11.0 (SW), 3.6 (SE)**
Element Name:	**Barrier**	Width:	
Location:	**SW, SE and NE Quadrants**	Height:	
Material:	**Steel Beam Guiderail**	Count:	**3**
Element Type:	**Beam**	Total Quantity:	**29.2**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Galvanized**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*
	m	**13.8**	**15.1**	**0.3**	

Comments: **Light coating chalking typical. Northeast end is flared with a standard end terminal hidden behind flower box with retaining wall. New approach guide rail to bridge railing connection were installed during 2024 rehabilitation.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Southwest approach guide rail

Element Photo:

Description of Photo: Northwest approach railing

Element Photo:

Description of Photo: Southwest approach railing, to be installed in January 2025

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Sidewalk/Curb**	Width:	**1.8**
Location:	**All Quadrants**	Height:	
Material:	**Concrete**	Count:	**4**
Element Type:		Total Quantity:	**43.2**
Environment:	**Severe**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m	**4.3**	**43.2**			

Comments: **Light scaling, typical.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Approach sidewalk

Element Photo:

Description of Photo: Approach sidewalk

Element Photo:

Description of Photo: Approach sidewalk

Repair and Rehabilitation Required:		Priority				Estimated Structural Cost
Element[1]	Repair and Rehabilitation Required[2]	6 to 10 Years	1 to 5 Years	Within 1 Year	Urgent	
Structure	Demolition					
Structure	Replacement					
OR						
Deck	Rehab. =					
Sidewalk/Curb	Rehab. =					
Barrier	Rehab. =					
Joints	Rehab. =					
Beams	Rehab. = Recoat the girders					
Abutment	Rehab. =					
Pier	Rehab. =					
Other						
Estimated Rehabilitated or Replacement Structure Dimensions[3]						
Total Deck Length (m)	Overall Str. Width (m)				Total Structural Cost	

1 - Indicate specific costs for structure replacement OR for rehabilitation under the given headings.

2 - Give a very brief description of the rehabilitation work required.

3 - Estimated structure dimensions after completion of the proposed work - if it is expected to change.

Associated Work	Comments	Estimated Associated Work Cost
Approaches		
Detours		
Traffic Control		
Utilities		
Other	**Engineering**	
	Contingency	
	Total Associated Work Cost	**$0.00**

Total Construction Cost	**$0.00**

Justification:

The structure is in generally good condition. The 2024 minor rehab was in preparation for a future major rehabilitation in +/- 10 years which could consist of deck joint replacements, waterproof and pave, re-coating of girder ends, etc.

MTO Site Number:

Inventory Data:

Structure Name	**Waubuno Street Bridge**						
Main Highway #	**Waubuno Street**	On [X] Structure	or Under [ ]	Service on Structure	[ ] Navig. Water	[ ] Non-Navig. Water	
					[ ] Rail	[ ] Road	[X] Ped. [ ] Other
Location Description	Waubuno Street at Georgian Bay			Service under:	[ ] Navig. Water	[ ] Non-Navig. Water	
					[ ] Rail	[X] Road	[ ] Ped. [ ] Other
Owner/Custodian	Town of Parry Sound						
MTO Region	Northeastern	Latitude	45° 20' 34"N	Longitude	80° 02' 28"W		
Regional Engineer		Heritage Designation:	[X] Not Cons.	[ ] Cons./Not App.	[ ] List/Not Desig.		
			Desig.	[ ] Desig./Not List	[ ] Desig. & List		
MTO Area	**52 - Huntsville**	Hwy Class:	Freeway [ ]	Arterial [ ]	Collector [ ]	Local [X]	
Old County	**44 - Parry Sound**	Posted Speed	**N/A**	No. of Lanes	**Pathway**		
Township	**452 - McDougall**	AADT	**N/A**	% Truck	**Unknown**		
Structure Type 1	**Timber Stringers**						
Structure Material 1	**Timber**	Traffic Directional Bound	**N-S**				
Structure Type 2	**Timber Deck**						
Structure Material 2	**Timber**	Inspection Frequency	**2**	(years)			
Total Deck Length	**12.9** (m)	Inspection Year	**Even**				
Overall Str. Width	**3.6** (m)	Inspection Duration	**2**	(hrs)			
Culvert Length	(m)						
Total Deck Area	**46.1** (sq.m)						
Roadway Width	**3.2** (m)	Min. Vertical Clearance	**2.96**	(m)			
Skew Angle	(Degree)	Detour Distance	**N/A**	(km)			
No. of Spans	**3**	Fill on Structure	**N/A**	(m)			
Span Lengths	**3.73, 4.18, 3.53** (m)						
For retaining wall:							
Total Wall Length	(m)	Max. Wall Height	**N/A**	(m)			
Total Wall Area	(sq.m)	Ave. Wall Height	**N/A**	(m)			
		Angle of Backfill	**N/A**	(Degrees)			

Historical Data

Year Built	**1981**	Year of superstruct. Constructed	**N/A**	
Last Reg. OSIM Inspection	**2022**	Year of Last Minor Rehab.	**N/A**	
Last Enh. OSIM Inspection		Year of Last Major Rehab	**2009**	
		Current Load Limit	/ /	(tonnes)

Work History: (Date/description)	Investigation History: (Date/description)

MTO Site Number:

Field Inspection Information:			
Date of Inspection:	**September 14, 2024**	Type of Inspection:	[X] Reg. OSIM [ ] Enh. OSIM
Inspected By	**Junjie Yang**		
Others in Party:	**Brian Wood, P.Eng.**		
Enh. Access Equipment:			
Special Access Equipment			
Weather	**Clear**	Temperature	**24** °C

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation:	X			
Post-Tensioned Strand Investigation:	X			
Underwater Investigation	X			
Fatigue Investigation	X			
Seismic Investigation	X			
Structure Evaluation:	X			
Monitoring				
Deformations, Settlements and Movements:	X			
Crack Widths:	X			
RSS Horizontal movements of face:	X			
RSS Vertical movements of overall structure:	X			
RSS Local movements or deterioration of face elements:	X			
RSS Horizontal movements within overall structure:	X			
RSS Vertical movements within overall structure	X			
RSS Lateral earth pressure at the back of facing elements	X			
Investigation Notes:	**Total Cost**			**$0.00**

Overall Structure Notes:	
Recommended Work on Structure	[ ] None [ ] Minor Rehab. [X] Major Rehab. [ ] Replace
Timing of Recommended Work	[ ] Urgent [X] 1 to 5 years [ ] 6 to 10 years
Overall Comments:	**The bridge has a number of timber members with rot, with replacement of these members recommended. The key members consist of pier columns and stringers.**
Date of Next inspection:	**2026**

Overall Bridge Condition					
% Poor in Deck	% Poor in Beams	% Poor in Substructure	% Poor in Barrier	Bridge Condition Index (BCI or BCIp)	
				BCIp	BCI
5%	5%	20%	2%	93.07	52.48

Overall Bridge Sufficiency				
Traffic	Economic	Width	Alignment	Bridge Sufficiency Index (BSI)
2	0	0	0	50.48

Element Data:

Element Group:	**Decks**	Length:	**12.8**
Element Name:	**Deck Top**	Width:	**3.6**
Location:		Height:	**0.04**
Material:	**Wood**	Count:	**1**
Element Type:	**Wood Planks**	Total Quantity:	**46.1**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Pressure treated**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**40.6**	**3.0**	**2.5**	

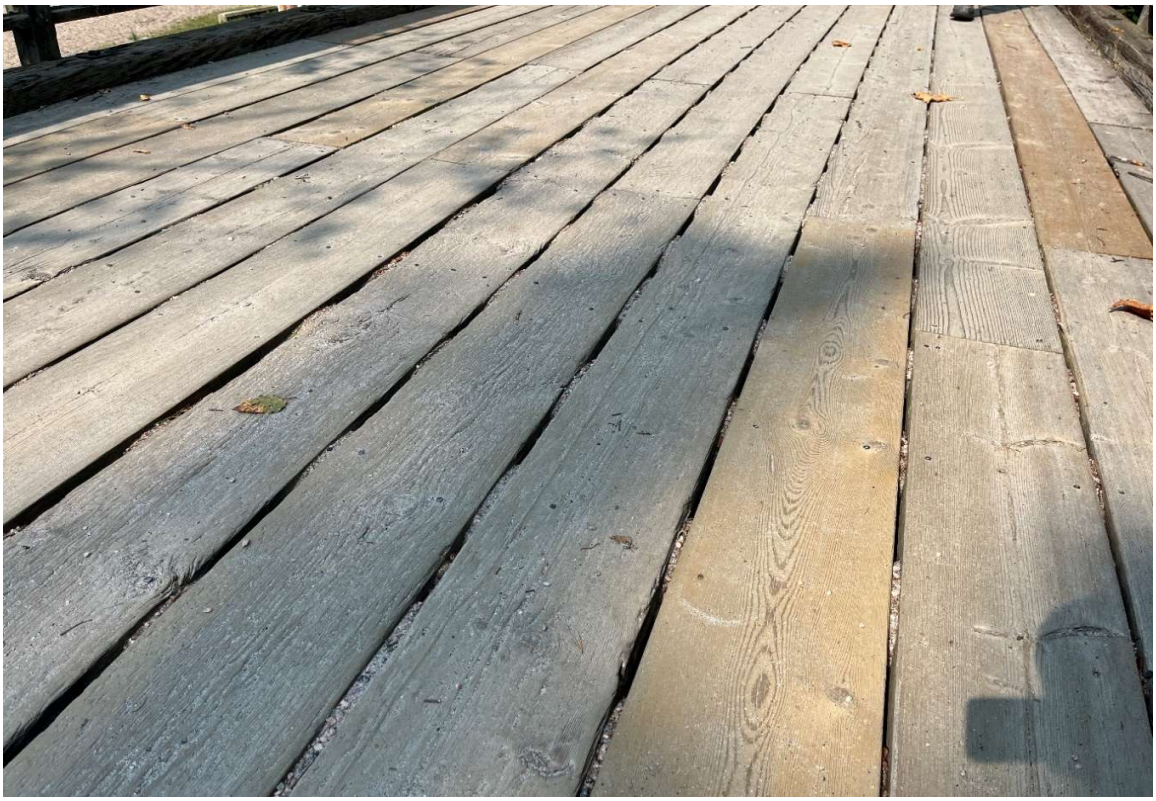
Comments: **Light weathering, typical. Light to medium checks, typical. 1 plank end at south end has raised 15mm. Severe rot in 10 planks (6 - 500 x 250mm and 4 - 300 x 250mm). 1 rotten plank at southwest corner. 1 plank tilted up at north end, creates potential tripping hazard.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Replace rottent planks			

Element Photo:

Description of Photo: Deck top

Element Photo:



Description of Photo: Deck top

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Sidewalk/Curb**	Length:	**12.8**
Element Name:	**Curbs**	Width:	**0.2**
Location:		Height:	**0.2**
Material:	**Wood**	Count:	**2**
Element Type:		Total Quantity:	**10.2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**3.7**	**3.3**	**3.3**	

Comments: **Light weathering, typ. Light to severe checks, typ. Isolated rot on multiple curb members.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Replace rotten timbers			

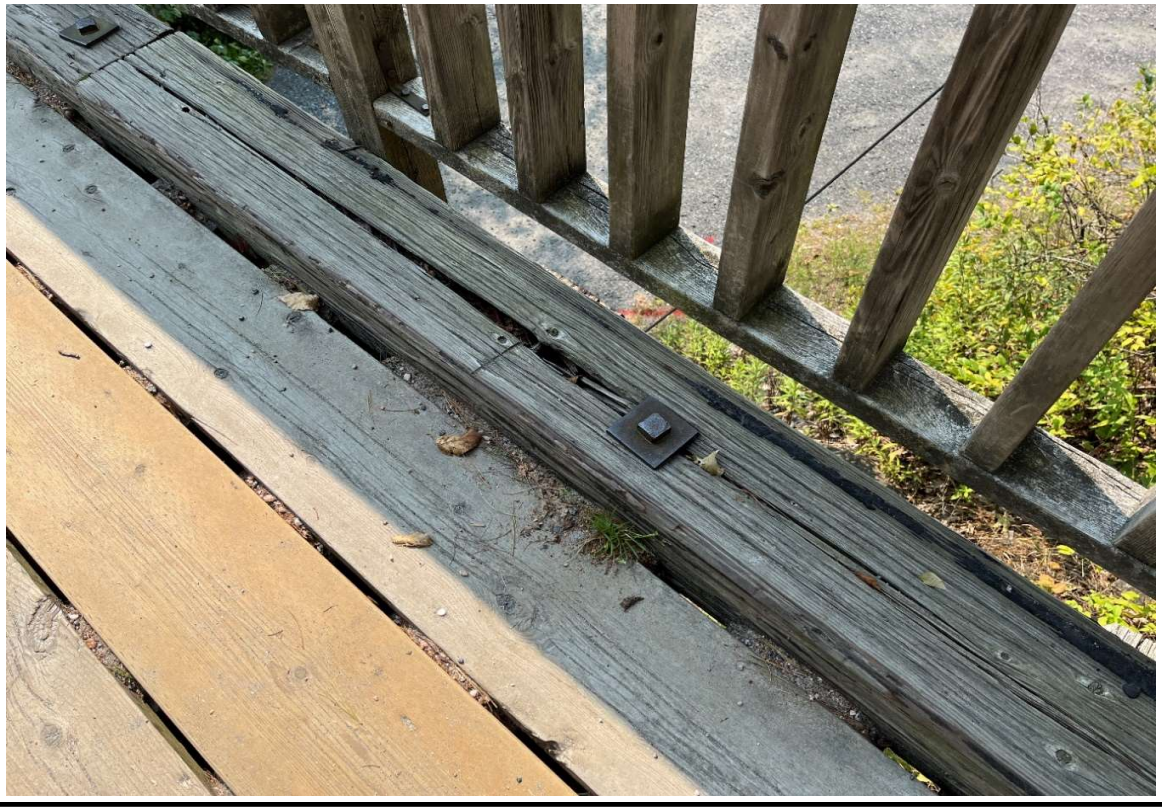
Element Photo:

Description of Photo: Curb

Element Photo:

Description of Photo: Curb

Element Photo:



Description of Photo: Rot on curb

Element Data:

Element Group:	**Barriers**	Length:	**12.8**
Element Name:	**Railing Systems**	Width:	
Location:	**East and West**	Height:	**1.3**
Material:	**Wood**	Count:	**2**
Element Type:	**Rails and pickets**	Total Quantity:	**25.6**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	m		**24.6**		**1.0**	

Comments: **Light weathering, typical. Lose connection at northeast rail 4th post. Bottom rail detached from post.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Barrier

Element Data:

Element Group:	**Barriers**	Length:	**0.14**
Element Name:	**Posts**	Width:	**0.14**
Location:		Height:	**1.0**
Material:	**Wood**	Count:	**18**
Element Type:	**6x6 Timber Post**	Total Quantity:	**18**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**16**	**2**		

Comments: **Light to medium weathering, checks and splits, typ. 2 posts exhibit some medium splintering.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ]	1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Railing Post

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**3.6**
Element Name:	**Crossties**	Width:	**0.20**
Location:	**Under Deck**	Height:	**0.20**
Material:	**Wood**	Count:	**42**
Element Type:	**8x8 Timbers**	Total Quantity:	**60.0**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Creosote**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	
	sq.m		**43.5**	**15.0**	**1.5**	

Comments: **Only ends of crossties were visible for inspection. Light to medium checks and splits typical. Isolated severe checks and splits.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Crossties

Element Photo:

Description of Photo: Crossties

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Beams/Main Longitudinal Elements**	Length:	**3.73, 4.18, 3.53**
Element Name:	**Stringers**	Width:	**0.25**
Location:		Height:	**0.45**
Material:	**Wood**	Count:	**18**
Element Type:	**Rectangular Solid**	Total Quantity:	**288.3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		Performance Deficiencies

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**244.1**	**28.8**	**15.4**	**1 - Load carrying capacity**

Comments: **Light weathering typical. Isolated medium to severe checks and splits. Center span light splintering on the east and west exterior stringers, likely from vehicle impact. North span center stringer 2.0m of rot from abutment with severe bulging, 2nd girder from west 2.0m of rot from abutment, 6th stringer has 1.0m of rot from abutment with severe bulging and 8th stringer has 1.0m of rot from abutment. South span at pier 3rd and 7th stringer has 1.0m of rot from pier, 7th stringer has 1.0 of rot from abutment. Center span at south pier 9th stringer has 1.0m of rot from pier and 8th stringer has 1.0m of rot from north pier.**

Recommended Work:	Rehab: [X]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [X]	6-10 Years: [ ]	None: [ ]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]
Replace 8 rotten stringers				

Element Photo:

Description of Photo: South span 7th stringer rot

Element Photo:

Description of Photo: North span 5th stringer rot and bulging

Element Photo:

Description of Photo: Centre span stringer rot

Element Data:

Element Group:	**Bracing**	Length:	**5.8**
Element Name:	**Bracing**	Width:	**0.76**
Location:	**Piers**	Height:	**0.25**
Material:	**Wood**	Count:	**2**
Element Type:	**Timber**	Total Quantity:	**24.2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	m		**24.2**			

Comments: **Light weathering, checks and splits, typ.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Bracing

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Abutment Walls/Sill**	Width:	**3.4**
Location:		Height:	**0.69**
Material:	**Wood**	Count:	**2**
Element Type:	**Timber Wall**	Total Quantity:	**4.6**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**2.8**	**1.2**	**0.6**	

Comments: **Light weathering, typical. Isolated severe checks and splits. North sill has severe rot in 3rd and 6th timbers from west. South sill has severe check at 4th timber from west.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Replace deteriorated timber sills			

Element Photo:

Description of Photo: Sill

Element Photo:

Description of Photo: Sill rot

Element Photo:

Description of Photo: Sill

Element Data:

Element Group:	**Abutments**	Length:	
Element Name:	**Ballast Walls**	Width:	**3.4**
Location:		Height:	**0.70**
Material:	**Wood**	Count:	**2**
Element Type:	**Timber Wood**	Total Quantity:	**4.7**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m			**2.4**	**2.4**	**1 - Load carrying capacity**

Comments: **Medium weathering throughout. Very severe rot at south ballast wall.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Replace south ballast wall			

Element Photo:

Description of Photo: South Ballast Wall, Rot

Element Photo:

Description of Photo: Ballast wall

Element Photo:

Description of Photo: Ballast wall

Element Data:

Element Group:	**Piers**	Length:	**5.60**
Element Name:	**Sill**	Width:	**0.30**
Location:		Height:	**0.30**
Material:	**Wood**	Count:	**2**
Element Type:		Total Quantity:	**13.4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**5.4**	**2.7**	**5.4**	**1 - Load carrying capacity**

Comments: **Light to medium weathering, checks and splits, typ. Isolated 2.2m rot along south timber sill, isolated 3m rot along north timber sill.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Replace 5 timber columns			

Element Photo:

Description of Photo: South timber sill

Element Photo:

Description of Photo: North timber sill

Element Photo:

Description of Photo: Isolated rot along timber sill

Element Data:

Element Group:	**Piers**	Length:	**0.30**
Element Name:	**Columns**	Width:	**0.30**
Location:		Height:	**2.52**
Material:	**Wood**	Count:	**12**
Element Type:	**Columns with Capping Beam**	Total Quantity:	**36.3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**17.5**	**3.6**	**15.1**	**1 - Load carrying capacity**

Comments: **Light weathering, typical. Newer timber pile cap with medium end splits. Southwest pile has been replaced. Light splintering on outer piles, likely from vehicle collisions. North pier has full height rot in column 1, 2 and 5. South pier has full height rot in 4th column and rot in top half of column 5.**

Recommended Work:	Rehab: [X] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [X] 6-10 Years: [ ] None: [ ]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	
Replace 5 timber columns			

Element Photo:

Description of Photo: Pier

Element Photo:

Description of Photo: Pier rot

Element Photo:

Description of Photo: Pier rot

Element Photo:

Description of Photo: South Pier

Element Photo:

Description of Photo: North Pier

Element Data:

Element Group:	**Piers**	Length:	**4.35**
Element Name:	**Caps**	Width:	**0.30**
Location:		Height:	**0.30**
Material:	**Wood**	Count:	**2**
Element Type:	**Timber Cap**	Total Quantity:	**5.6**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:	**Creosote**		

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**4.0**	**1.6**		

Comments: **Light weathering, light to medium checks, typical.**

Recommended Work:	Rehab: [ ]	Replace: [ ]	Maintenance Needs:	
Urgent: [ ]	1-5 Years: [ ]	6-10 Years: [ ]	None: [X]	Urgent: [ ] 1 Year: [ ] 2 Year: [ ]

Element Photo:

Description of Photo: Pier Cap

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Embankments**	Width:	
Location:	**All Quadrants**	Height:	
Material:	**Soil, Rocks and Shrubs**	Count:	**4**
Element Type:		Total Quantity:	**4**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**3**	**1**		

Comments: **Medium erosion at the northwest corner and below north abutment timbers resulting in some loss of material at edges of path. Light erosion at all quadrants.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Northwest Embankment erosion

Element Photo:

Description of Photo: Southwest Embankment

Element Photo:

Description of Photo: Northeast Embankment

Element Data:

Element Group:	**Embankments & Streams**	Length:	
Element Name:	**Slope Protection**	Width:	
Location:		Height:	
Material:	**Rock**	Count:	**2**
Element Type:	**Rock Protection**	Total Quantity:	**2**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**1**	**1**		

Comments: **South end in good condition. North end has some medium loss of material with some rock protection appearing to have fallen to the base of the slope.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Slope protection

Element Photo:

Description of Photo: North slope protection

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Signs**	Width:	
Location:	**North and South of Bridge**	Height:	
Material:	**Steel**	Count:	**3**
Element Type:		Total Quantity:	**3**
Environment:	**Benign**	Inspected	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each		**1**	**2**		

Comments: **Clearance sign is bent and worn at corners. Still in good condition. 2 no motorized vehicles signs bent and not easily visible.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	**18 - Other Maintenance**
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ]	1 Year: [ ] 2 Year: [X]
		Relocate no motorized vehicles to be easily visible.	

Element Photo:

Description of Photo: No motorized vehicles sign

Element Photo:

Description of Photo: Clearence sign

Element Photo:

Description of Photo:

Element Data:

Element Group:	**Accessories**	Length:	
Element Name:	**Utilities**	Width:	
Location:	**North and South of Bridge**	Height:	
Material:		Count:	**1**
Element Type:	**Cable**	Total Quantity:	**1**
Environment:	**Benign**	Inspected	Yes [ ] No [ ] limited [X]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	each			**1**		

Comments: **Limited inspection due to cable height. It is not properly supported.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ] 6-10 Years: [ ] None: [X]		Urgent: [ ] 1 Year: [ ] 2 Year: [ ]	

Element Photo:

Description of Photo: Utility

Element Data:

Element Group:	**Approaches**	Length:	**6.0**
Element Name:	**Wearing Surface**	Width:	**3.6**
Location:		Height:	
Material:	**Gravel**	Count:	**2**
Element Type:		Total Quantity:	**43.2**
Environment:		Inspected:	Yes [X] No [ ] limited [ ]
Protection System:			

Condition Data:	Units	Excellent	Good	Fair	Poor*	Performance Deficiencies
	sq.m		**43.2**			

Comments: **Light rutting. No other observed defects.**

Recommended Work:	Rehab: [ ] Replace: [ ]	Maintenance Needs:	
Urgent: [ ] 1-5 Years: [ ]	6-10 Years: [ ] None: [X]	Urgent: [ ] 1 Year: [ ]	2 Year: [ ]

Element Photo:

Description of Photo: Approach looking south

Element Photo:

Description of Photo: Approach looking north

Element Photo:

Description of Photo:

Repair and Rehabilitation Required:		Priority				Estimated Structural Cost
Element[1]	Repair and Rehabilitation Required[2]	6 to 10 Years	1 to 5 Years	Within 1 Year	Urgent	
Structure	Demolition					
Structure	Replacement					
OR						
Deck	Replace Timber Deck Planks		X			**$5,000**
Sidewalk/Curb	Replace Timber Curbs		X			**$7,000**
Stringers	Replace Timber Stringers		X			**$50,000**
Columns	ReplaceTimber Pier Columns		X			**$20,000**
Ballast Wall	Replace Timber Ballast Walls		X			**$20,000**
Footings	Replace Timber Footings		X			**$50,000**
Abutments	Replace Abutment Caps		X			**$10,000**
Other	Structural Backfill - Granular B Type 1					**$15,000**
Estimated Rehabilitated or Replacement Structure Dimensions[3]						
Total Deck Length (m)	Overall Str. Width (m)				Total Structural Cost	**$177,000**

1 - Indicate specific costs for structure replacement OR for rehabilitation under the given headings.

2 - Give a very brief description of the rehabilitation work required.

3 - Estimated structure dimensions after completion of the proposed work - if it is expected to change.

Associated Work	Comments	Estimated Associated Work Cost
Approaches		
Detours		
Traffic Control		
Utilities		
Other	**Engineering and Contingency**	**$45,500**
	General, Mobilization/Demobilization, Access	**$70,000**
	Total Associated Work Cost	**$115,500**

Total Construction Cost	**$292,500**

Justification:

The deteriorated timber deck, curbs, ballast wall, stringers and columns should be replaced as the rot will continue to progress. Due to the extent of timber replacement that will require significant removals to access the timbers, and challenges with staging due to the road being the only access to a local sailing club, consideration should be given to both rehabilitation and replacement. replacement could consist of a similar style of structure, or a clear span prefabricated structure.