



# **MUNICIPALITY OF TEMAGAMI**

2023 Bridge Inspection Report

Project #23-0658 August 2023

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#### 1. INTRODUCTION

TULLOCH Engineering Inc. has been retained by the Municipality of Temagami to undertake detailed visual inspections of the municipally owned bridges within their jurisdiction. In accordance with Ontario Regulation 104/97 – Standards for Bridges, the structural integrity, safety, and condition of every bridge shall be determined through the performance of at least one inspection in every second calendar year under the direction of a professional engineer and in accordance with the Ontario Structure Inspection Manual (OSIM). O. Reg. 472/10, s. 2.

The goal of the structural inspections is to ensure that an acceptable standard is being maintained for each bridge in terms of public safety, comfort, and convenience. The objectives of the inspections are as follows:

- To identify critical maintenance, rehabilitation, and or replacement needs of the bridges
- To protect and prolong the useful life of the bridges
- To provide a basis for scheduling and funding of maintenance, rehabilitation repairs, or replacement of the bridges

This report contains completed OSIM inspection forms, relevant photographs, suggested repairs, and estimated costs for repairs at each site. The bridges inspected as part of this assignment are shown on the key map provided in Figure 1 below.



Figure 1: Key Map - Bridge Locations



## 1.1 Inspection Procedures

Detailed visual inspections involve a review of each primary structural element. The structural elements are identified by primary groupings and sub-groupings of each element. Material defects such as wood rot or concrete spalling were recorded and measured in the field, refer to Appendix A for a full glossary of terms for the material defects. The condition of each element is quantified and assessed with a rating of 'excellent', 'good', 'fair', or 'poor'. The condition ratings are quantified for either a portion of the total structural element or the entirety of the structural element.

## 2. INSPECTION SUMMARIES

The results of the detailed visual inspections are recorded using standard Ontario Structure Inspection Manual (OSIM) forms. The forms provide a report of existing data and conditions at the time of the inspection for each bridge. Results of the previous inspections completed in 2021 were used as a template for this round of inspections. Updated OSIM forms are located in Appendix B. The reports identify additional inspections required and recommended work to repair deficiencies along with a schedule for such repairs. The following summarizes the results of our inspections.

# 2.1 Wilson Lake Bridge No. 1

Wilson Lake Bridge No.1 is located approximately 6.8 km southwest of Highway 11 on Wilson Lake Road. The structure is a triple span of 12.2 m long and 5.9 m wide with steel girders and a timber deck and wearing surface. The last major rehab occurred in 2014, with the installation of new steel pile caps, timber ballast walls, superstructure, and railings. Overall, the structure is in good condition with a BCI of 96 and a BSI of 89. The structure requires minor maintenance and no repairs.

## Recommended Maintenance

1 year

- Remove debris from pile caps and deck wearing surface
- Straighten wood offset blocks on the barrier posts
- Remove remnants of beaver dam under structure
- Trim back shoulder vegetation
- Clean deck wearing surface

## Recommended Repairs

None

# 2.2 Wilson Lake Bridge No. 2

Wilson Lake Bridge No.2 is located approximately 12.4 km southwest of Highway 11 on Wilson Lake Road. The structure is a single span 21.3 m long 3.3 m wide Bailey Bridge consisting of 7 Bailey truss bays with a timber deck and wearing surface. The last major rehab occurred in 2011,



with the replacement of all timber bearing cribs, guide rail posts, and the correction of settlement by adding an additional layer of 200x200 mm timber sections to the bearing cribs. Overall, the structure is in poor condition with a BCI of 42 and a BSI of 32. Given the age and condition of the structure, it would be prudent to consider replacing it within the next 1-5 years. The bridge requires several maintenance and repair items completed as listed below.

# Recommended Maintenance

## 1 year

- Monitor movement of the bearing cribs.
- Monitor for further deflection of approach ramps.
- Clean vegetation and debris from bearings, base plates, bailey panels.
- Reset the rotated wood offset blocks on the guide rail posts.
- Replace the curbs on structure wearing surface.
- Trim back the vegetation from the roadway and signage.
- Regrade potholes at approaches.

## Recommended Repairs

## 1 - 5 years

- Replace the missing 200x200 mm timber section in the northeast bearing crib.
- Sandblast structural steel and repaint or replace members.
- Replace the damaged steel beam guide rails.
- Replace severely pitted cross bracing members.
- Replace the timber wearing surface.

# 2.3 Temagami Lake Access Road Bridge

Lake Temagami Access Road Bridge is located approximately 5 km west of Highway 11 on Lake Temagami Access Road. The structure is a single span 7.3 m long 8.1 m wide steel girder bridge with a fibreglass deck and asphalt wearing surface, constructed in 2010. The last major rehab occurred in 2022, with the replacement of all approaching guide rails, west gabion baskets and correction of the undermining on the west abutment wall. Overall, the structure is in good condition with a BCI of 73 and a BSI of 67, however, there is moderate undermining occurring under the east abutment wall. Given the severity of the undermining the structure requires rehabilitation within the next 1-5 years to continue to function safely.

## Recommended Maintenance

## 1 year

- Clear the remnants of the beaver dam upstream of the structure.
- Remove the gravel from the deck and approaching wearing surface.



# Recommended Repairs

# 1 - 5 years

- Repair the undermining of the east abutment.
- Reinstall gabion baskets after the undermining repairs are completed.

# 3. IMPROVEMENT COSTS

The tables below summarize the estimated cost of the repair and rehabilitation required for the deficiencies identified through the inspection process. Cost tables have been split into maintenance items and repair item costs.

**Table 1: Repair Costs** 

Repairs	Wilson Lake	- College	Wilson Lake Bridge No. 2	Lake Temagami Access Road Bridge		Total Cost (Sum)	
Immediate	\$	0	\$ 0	\$	0	\$	0
1-5 years	\$	0	\$ 256,000	\$	150,000	\$	406,000
6-10 years	\$	0	\$ 0	\$	0	\$	0
					Total	\$	406,000

**Table 2: Maintenance Costs** 

Maintenance	Wilson Lake Bridge No. 1 Wilson Lake Bridge No. 2 Lake Temagami Access Road Bridge		Total Cost (Sum)		
Immediate	\$ 0	\$	0	\$ 0	\$ 0
1 year	\$ 4,000	\$	5,000	\$ 3,000	\$ 12,000
2 years	\$ 0	\$	2,000	\$ 0	\$ 2,000
				Total	\$ 14,000



## 4. CONCLUSIONS AND RECOMMENDATIONS

Upon completion of the biennial structure inspections, a number of recommendations have been identified for both short and long-term planning with municipal structures.

Critical items have been noted above and should be scheduled to be undertaken by the Municipality as soon as possible/practical.

Wilson Lake Bridge No.1 is in good condition and in our opinion does not require any major maintenance or repairs.

Given the age and structural deterioration of the Wilson Lake Bridge No.2, we feel it prudent for the Township to start planning for the replacement of the structure in the next 1-5 years.

Lake Temagami Access Road Bridge has moderate erosion occurring underneath the east abutment wall. It is our recommendation that this be addressed and repaired within one year.

We trust that the contents of this report sufficiently outline the requirements for bridge maintenance, repair, and replacement. Should you have any questions or comments on the contents of this report, please do not hesitate to contact our office.

Respectfully Submitted,

**TULLOCH ENGINEERING INC.** 

Kevin Louch, P. Eng. Project Engineer



# **APPENDIX A Glossary of Definitions**

**Abutment** - A substructure unit which supports the end of the structure and retains the approach fill.

**Auxiliary Components** - Any component which does not share in the load carrying capacity of the structure.

**Biennial Structure Inspection** - An inspection performed in every second calendar year to assess the condition of the structure, in accordance with the methodology described in OSIM.

**Bridge** - A structure which provides a roadway or walkway for the passage of vehicles, pedestrians or cyclists across an obstruction, gap or facility and is greater than or equal to 3 m in span.

**Bridge Condition Index (BCI)** - The BCI rating is a planning tool developed by the Ontario Ministry of Transportation that helps schedule maintenance and rehabilitation work. The BCI is not used to rate or indicate the safety of a bridge. The BCI result is organized into ranges from 0 to 100. To calculate the BCI rating, the current dollar value of the bridge is divided by the replacement cost of the bridge. The replacement value is based on the cost to reconstruct a new bridge. Using this formula enables the Owner to make an informed decision about the amount of work a bridge requires and whether or not to pursue replacement over repair in the near future.

Rating	Maintenance Schedule
Good: BCI Range 70 -100	Maintenance is not usually required within the next five years
Fair: BCI Range 60 -70	Maintenance work is usually scheduled within the next five years.  This is the ideal time to schedule major bridge repairs to get the most out of bridge spending.
Poor: BCI Less than 60	Maintenance work is usually scheduled within one year.

**Bridge Sufficiency Index (BSI)** – The BSI rating is a planning tool developed by the Ontario Ministry of Transportation. The BSI is calculated using the BCI rating less ratings for Importance Factors including Traffic, Economic Implications, Bridge Width and Bridge Profile or Alignment. It is a planning tool with a range of 0 to 100 and helps prioritize maintenance and rehabilitation work, and replacement, with bridges of equal BCI but lower BSI having importance over bridges with higher BSI.

**Chord** - The upper and lower main longitudinal component in trusses or arches extending the full length of the structure.

Coating - The generic term for paint, lacquer, enamel, sealers, galvanizing, metallizing, etc.

**Concrete Deck Condition Survey** - A detailed inspection of a concrete deck in accordance with The Structure Rehabilitation Manual.

**Culvert (Structural)** - A Structure that forms an opening through soil and has a span of 3 metres or more

**Defect** - An identifiable, unwanted condition that was not part of the original intent of design.

- Scaling Scaling is the local flaking, or loss of the surface portion of concrete or mortar as
  a result of the freeze-thaw deterioration of concrete. Scaling is common in non-airentrained concrete but can also occur in air-entrained concrete in the fully saturated
  condition. Scaling is prone to occur in poorly finished or overworked concrete where too
  many fines and not enough entrained air is found near the surface.
- Disintegration Disintegration is the physical deterioration or breaking down of the concrete into small fragments or particles. The deterioration usually starts in the form of scaling and, if allowed to progress beyond the level of very severe scaling is considered as disintegration. Disintegration may be caused by de-icing chemicals, sulphates, chlorides or by frost action.
- Erosion Erosion is the deterioration of concrete brought about by water-borne sand and gravel particles scrubbing against concrete surfaces. Similar, damage may be caused by flowing ice. Erosion is sometimes combined with the chemical action of air and waterborne pollutants which accelerate the breakdown of the concrete. Erosion is generally an indication that the concrete is not durable enough for the environment in which it has been placed.
- Corrosion of Reinforcement Corrosion is the deterioration of reinforcement by
  electrolysis. The alkali content in concrete protects the reinforcement from corrosion.
  However, when chloride ions above a certain concentration are dissolved in water and
  penetrate through the concrete to the reinforcement this protection breaks down and
  corrosion starts. In the initial stages, corrosion may appear as a rust-stain on the concrete
  surface. In the advanced stages, the surface concrete above the reinforcement cracks,
  delaminates and spalls off exposing heavily rusted reinforcement.
- Delamination Delamination is defined as a discontinuity of the surface concrete which is substantially separated but not completely detached from concrete below or above it. Visibly, it may appear as a solid surface but can be identified as a hollow sound by tapping or chain dragging. Delamination begins with the corrosion of reinforcement and subsequent cracking of the concrete. Delamination or debonding may also occur in concrete that has been patched or overlaid due to the continued deterioration of the older concrete. This may happen even in the absence of any rusting of reinforcing steel.
- Spalling A spall is a fragment, which has been detached from a larger concrete mass.
   Spalling is a continuation of the delamination process whereby the actions of external loads, pressure exerted by the corrosion of reinforcement or by the formation of ice in the delaminated area results in the breaking off of the delaminated concrete.

- Cracking A crack is a linear fracture in concrete which extends partly or completely through the member. Cracks in concrete occur as a result of tensile stresses introduced in the concrete. Tensile stresses are initially carried by the concrete and reinforcement until the level of the tensile stresses exceeds the tensile capacity of the concrete. After this point the concrete cracks and the tensile force is transferred completely to the steel reinforcement. The crack widths and distribution is controlled by the reinforcement in reinforced and prestressed concrete, whereas in plain concrete there is no such control.
- Alkali-Aggregate Reaction In Ontario, there exists several sources of aggregates that react adversely with the alkalis in cement to produce a highly expansive gel. Currently, these sources of reactive aggregates are generally avoided, but they do exist in many existing structures and still may occur in newer structures. The two general types of reactions in Ontario are alkali-carbonate and alkali-silica reaction. The expansion of the gel and aggregates occurs due to hydroxyl ions in the concrete pore solution, which under moist conditions, leads to cracking and deterioration of the concrete.
- Surface Defects Surface defects are not necessarily serious in themselves; however, they are indicative of a potential weakness in the concrete, and their presence should be noted but not classified as to severity, except for honeycombing and pop-outs.
  - STRATIFICATION is the separation of the concrete components into horizontal layers in over-wetted or over-vibrated concrete. Water, laitance, mortar and coarse aggregates occupy successively lower positions. A layered structure in concrete will also result from the placing of successive batches that differ in appearance.
  - SEGREGATION is the differential concentration of the components of mixed concrete resulting in nonuniform proportions in the mass. Segregation is caused by concrete falling from a height, with the coarse aggregates settling to the bottom and the fines on top. Another form of segregation occurs where reinforcing bars prevent the uniform flow of concrete between them.
  - COLD JOINTS are produced if there is a delay between the placement of successive pours of concrete, and if an incomplete bond develops at the joint due to the partial setting of the concrete in the first pour.
  - DEPOSITS are often left behind where water percolates through the concrete and dissolves or leaches chemicals from it and deposits them on the surface.
  - HONEYCOMBING is produced due to the improper or incomplete vibration of the concrete which results in voids being left in the concrete where the mortar failed to completely fill the spaces between the coarse aggregate particles.
  - POP-OUTS are shallow, typically conical depressions, resulting from the breaking away of small portions of the concrete surface, due to the expansion of some aggregates or due to frost action. The shattered aggregate particle may be found at the bottom of the depression, with a part of the aggregate still adhering to the pop-out cone.
  - ABRASION is the deterioration of concrete brought about by vehicles or snow-plough blades scraping against concrete surfaces, such as, decks, curbs, barrier walls or piers.

- WEAR is usually the result of dynamic and/or frictional forces generated by vehicular traffic, coupled with the abrasive influx of sand, dirt, and debris. It can also result from the friction of ice or water-borne particles against partly or completely submerged members. The surface of the concrete appears polished.
- SLIPPERY CONCRETE SURFACES may result from the polishing of the concrete deck surface by the action of repetitive vehicular traffic.

**Detailed Visual Inspection -** An element by element visual assessment of material defects, performance deficiencies and maintenance needs of a structure.

**Deterioration** - A defect that has occurred over a period of time.

**Distress** - A defect produced by loading.

**Elements** - The individual parts of a structure defined for inspection purposes. Several bridge components may be grouped together to form one bridge element for inspection purposes

**Environment** - An element's exposure to salt spray:

- Benign Not exposed (e.g. River Pier)
- Moderate Exposed but element protected (e.g. Asphalt covered and waterproofed deck)
- Severe Exposed and element not protected (e.g. Exposed concrete deck, Barrier Wall)

**Evaluation** - The determination of the load carrying capacity of structures in accordance with the requirements of the Canadian Highway Bridge Design Code.

**Maintenance** - Any action which is aimed at preventing the development of defects or preventing deterioration of a structure or its components.

**Primary Components** - The main load carrying components of the structure.

**Rehabilitation** - Any modification, alteration, retrofitting or improvement to a structure subsystem or to the structure which is aimed at correcting existing defects or deficiencies.

**Remaining Service Life -** Remaining Service Life is an estimate of the useful remaining life of the structure and is based on the year of construction or major rehabilitation and a service life of 50 years for culverts that are not plastic, polymer coated or concrete, 50 years for bridges constructed prior to 2000, 50 years for steel bridges and 70 years for other structures.

**Repair** - Any modification, alteration, retrofitting or improvement to a component of the structure which is aimed at correcting existing defects or deficiencies.

**Retaining Wall** - Any structure that holds back fill and is not connected to a bridge.

**Secondary Components** - Any component which helps to distribute loads to primary components, or carries wind loads, or stabilizes primary components.

**Sign Support** - A metal, concrete, or timber structure, including supporting brackets, service walks and mechanical devices where present, which support a luminaire, sign or traffic signal and which span or extend over a highway.

**Span** - The horizontal distance between adjacent supports of the superstructure of a bridge, or the longest horizontal dimension of the cross-section of a culvert or tunnel taken perpendicular to the walls.

**Stringers** - Stringers span between floor beams and provide the support for the deck above.

**Structure** - Bridge, culvert, tunnel, retaining wall or sign support.

**Suspected Performance Deficiency** - A Suspected Performance Deficiency should be recorded during an inspection, if an element's ability to perform its intended function is in question, and one or more performance defects exist.

# **APPENDIX B**

**OSIM Forms** 

Ontario Structure Inspection Manual – Inspection Form MTO Site Number:			
Ontario Structure Inspection Manual – Inspection Form MTO Site Number:			
	Ontario Structure Inspection Manual – Inspection Form	MTO Site Number:	

<b>Inventory Data:</b>						
Structure Name	Wilson Lake Road Bridge 1					]
Main Highway#	On <b>Z</b> or U Structure	J <b>nder</b> □	Service on structure:	☐ Navig. Water☐ Rail ☐ Road	_	Water Other
Location description	6.8 km Southwest of Hwy 11		Service under	□ Navig. Water □ Rail □ Road	_	Water Other
Owner/Custodian	Municipality of Temagami		LHRS:		LHRS offset:	
MTO Region	Northern		Latitude:	46° 55' 28" N	Longitude:	79° 48' 35" W
Regional Engineer			Heritage Designation:	☑ Not Cons. Desig. ☐ De	1.1	List/not Desig. & List
MTO Area	Sudbury		Hwy Class:	Freeway 🛘 A	Arterial   Collecte	or 🛘 Local 🗗
Old County			Posted Speed		No. of Lanes	2
Township	Temagami		AADT		% Truck	
Structure Type 1	Girder		Travel Stream		Е	]
Structure Material 1	Steel		Traffic Directio	nal Bound	S-N	]
Structure Type 2	Deck		Inspection Rout	e Sequence		]
Structure Material 2	Timber		Inspection Freq	uency	2	(years)
Total Deck Length	12.2 (m	n)	Inspection Year		2023	]
Overall Str. Width	5.9 (m	n)	Inspection Dura	ution		(hrs)
Culvert length	(m	n)	Interchange Nu	mber		]
Total Deck Area	72.0 (so	q.m)	Interchange Str	ucture Number		]
Roadway Width	5.2 (m	n)	Min. Vertical C	learance		(m)
Skew Angle	0 (D	Degree)	Detour Distance	e		(km)
No. of Spans	3		Fill on Structure	e		(m)
Span Lengths	North 3.9; 4.2; 3.9 South					(m)
For retaining wall:						
Total Wall Length	(m	n)	Max. Wall Heig	ght		(m)
Total Wall Area	(sc	q.m)	Ave. Wall Heig	ht		(m)
			Angle of Backf	ill		(Degree)

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Historical Data:						
Year Built Last Reg OSIM Inspection Last Enh. OSIM Inspection	2021	Year of superstruct. constructed Year of Last Minor Rehab. Year of Last Major Rehab. Current Load Limit	Aug 2014 (tonnes)			
Work History: (Date/descripti	ion) 2014: New st	teel pile caps, timber ballast walls. Entirely	new superstructure and railing			
Investigation History: (Date/description)  Scheduled Improvements:						
Regional Priority Number		Programmed Work Year				
Nature of Program Work:						

Appraisal Indices:		Comments
Fatigue	None	
Seismic	None	
Scour	None	
Flood	None	
Barrier	None	
Curb	None	
Load Capacity	None	

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# **Ontario Structure Inspection Manual – Inspection Form**

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Field Inspection Informa						
Date of Inspection: June 20, 2023		Type of Inspection:	<b>☑</b> Re	g. OSIM	☐ Enh. OSIM	
Inspected By:	Kevin Louch, P.Eng.					
Others in Party:	Kaitlyn Hunt	aitlyn Hunt				
Enh. Access Equipment:	Measuring Tape, Camera, Hammer					
Special Access Equipment:						
Weather:	Sunny	Temperature:		26°C		

Additional Investigations Required:	Priority		
· ·	None Normal Urge		Urgent
Material Condition Survey	1		
Detailed Deck Condition Survey:	V		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	V		
Concrete Substructure Condition Survey:	V		
Detailed Coating Condition Survey:	V		
Detailed Timber Investigation	V		
Post-Tensioned Strand Investigation	1		
Underwater Investigation:	/		
Fatigue Investigation:	V		
Seismic Investigation:	V		
Structure Evaluation:			
Monitoring	V		
Deformations, Settlements and Movements:	<b>✓</b>		
Crack Widths:	/		
RSS Horizontal movements of face:			
RSS Vertical movements of overall structure:	V		
RSS Local movements or deterioration of facing elements:			
RSS Horizontal movements within overall structure:			
RSS Vertical movements within overall structure:			
RSS Lateral earth pressure at the back of facing elements:			
Investigation Notes: No further investigation required.			

<b>Overall Structure Notes:</b>			Overall E	BCI 96	
Recommended Work on Structure:	☑ None □ N	Minor Rehab.	☐ Major Rehab.	☐ Replace	
Timing of Recommended Work:	☐ 1 to 5 years	□ 6 to 10 year	ars		
Overall Comments:	No work needed, condition.	only maintenance	e on wearing surface a	and stream. Overal	I in good
Date of Next Inspection:	2025				

# **Suspected Performance Deficiencies**

01 02 03	Load carrying capacity Excessive deformations (deflections & rotations) Continuing settlement	06 07 08 09	Bearing not uniformly loaded/unstable Jammed expansion joint Pedestrian/vehicular hazard Rough riding surface		12 13 14 15	Slippery surfaces Flooding/channel blockage Undermining of foundation Unstable embankments
04 05	Continuing movements Seized bearings	10 11	Surface ponding Deck/Wall drainage		16	Other performance deficiencies
Main	tenance Needs					
01	N/A	07	Structural Steel Repair	13	Ero	sion Control at Bridges
02	Bridge Cleaning	08	Concrete Repair	14	Cor	ncrete Sealing
03	Railing System Repair	09	Timber Repair	15	N/A	Λ
04	N/A	10	Works for Modular bridges	16	Wo	rks for Drainage System

01	N/A	07
02	Bridge Cleaning	08
03	Railing System Repair	09
04	N/A	10
05	Bridge Deck Joint Repair	11

Bridge Deck Joint Repair

12

17

18

Other Maintenance

Scaling (Loose Concrete or ACR Steel)

Municipal Structure Inspection Form
Wilson Lake Road Bridge 1

MTO Site Number:	

Repair and Reh	abilitation Required:	Priority			Estimated	
Element	Repair and Rehabilitation Required	6 to 10 years	Urgent			
				Total Cost	\$0	

Associated Work:	Comments	Estimated
Associated Work.	Comments	Cost
Other:	Engineering (15%)	\$0
Contingencies:	Contingency (10%)	\$0
	Total Cost	\$0

Total Repair and Rehabilitation Cost	\$0

Replacement Cost \$0

Maintenance Required			Priority			
Element	Repair and Rehabilitation Required	2 year	Within 1 year	Urgent	Construction Cost	
Streams	Remove daming under bridge		х		\$1,000	
Deck WS	Remove gravel and sand from top		х		\$1,000	
Abutment Pile Caps	Remove debris from top of cap		х		\$500	
Barrier Post	Straighten offset block		х		\$500	
Approach WS	Trim back vegetation		Х		\$1,000	
			Total Ma	aintenance Cost	\$4,000	

Justification:	





Municipal Structure Inspection Form
Wilson Lake Road Bridge 1

MTO Site Number:	

Element Group:	Abutments			Length:		0.25	(m)	
Element Name:	Pile Cap			Width:		5.94	(m)	
Location:	North and South Abutme	ents		Hei	ight:	0.25	(m)	
Material:	Steel			Со	unt:	2	each	
Element Type:	W 250x73			Total C	Quantity:	11.9	(m <sup>2</sup> )	
Environment:	Benign Mod	erate / Sev	/ere	Limited	d Insp'n:			
Protection System:	Steel Coating						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies		
Data: m <sup>2</sup>	m / each / % / all	11.9				None		
Comments: Light corrosion and flaking of steel coating. Light debris on top of pile cap steel beams.								
Performance Deficiencies:	_							
Recommended Work:	Minor Rehab Replace		Major Re ✓ None	hab	Mai Urgent	ntenance Ne		
Timeframe:	Urgent 1	L - 5 Years	6 - 10 Ye	ears	Remove del	oris from pile	e caps.	
Comments:								



<b>Municipal Structure Inspection Form</b>
Wilson Lake Road Bridge 1

MTO Site Number:	

Element Grou	ıp:	Abutments	Length:		0.3	(m)			
Element Nam	ne:	Pile Bents	Width:		0.3	(m)			
Location:		North and South Abutme	nts		Hei	ight:	0.4	(m)	
Material:		Wood			Со	unt:	10	each	
Element Type	2:	Timber Piles			Total C	uantity:	3.8	(m <sup>2</sup> )	
Environment	:	Benign Moderate Severe			Limited	d Insp'n:	<b>I</b>		
Protection Sy	rstem:	Creoste			Performance				
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	$m^2$ m	n / each / % / all 3 0.8					None		
Comments: Crack in south abutment diagonal brace.									
Performance	Deficiencies:								
Recommended Work: Minor Rehab Major Re		Rehab Maintenance		ntenance Ne	eds:				
		Replace		✓ None		Urgent	1 Ye	ear 2 Year	
Timeframe:	_	Urgent 1	- 5 Years	6 - 10 Ye	ears				

# **Element Photos**

Timeframe: Comments:



Municipal Structure Inspection Form		
Wilson Lake Road Bridge 1	MTO Site Number:	

Element Group:		Abutments			Length:		n/a		(m)
Element Name:		Ballast Walls			Width:		7.14		(m)
Location:		North and South Abutments			Height:		0.84		(m)
Material:		Wood			Со	unt:	2		each
Element Type:		Dimension Lumber				Quantity:	12.0		(m <sup>2</sup> )
Environment:		Benign Mod	lerate Se	vere		d Insp'n:	<b>/</b>		
Protection System:		Treated						Performa	ance
Condition		Units	Exc.	Good	Fair	Poor		Deficien	
	m²) m	/ each / % / all	12		-			None	
Comments: Minor									-
	•								
Performance Defic	iencies:								
Recommended Wo	ork:	Minor Rehab		Major Re	hab	Mai	ntenance No	eeds:	
		Replace		✓ None		Urgent	1 Y	'ear	2 Year
Timeframe:		Urgent 1	1 - 5 Years	6 - 10 Ye	ears				
Comments:									
Element Photos						•			
Comments:									
Comments:									

Municipal Structure Inspection Form
Wilson Lake Road Bridge 1

Element Grou	ıp:	Piers				Length:		(m)	
Element Nam	ie:	Pile Caps			Wi	dth:	5.94	(m)	
Location:		North and South Piers			Hei	ght:	0.25	(m)	
Material:		Steel			Cor	unt:	2	each	
Element Type	::	W 250x73			Total Q	uantity:	11.9	(m <sup>2</sup> )	
Environment		Benign Mode	erate / Sev	/ere	Limited	l Insp'n:			
Protection Sy	stem:	Steel Coating						Performance	
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	m <sup>2</sup> m	/ each / % / all	11.5	0.4				None	
Performance	Deficiencies:								
Recommende	ed Work:	Minor Rehab		Major Re	hab <b>M</b> a		aintenance Needs:		
		Replace		✓ None		Urgent	1 Ye	ear 2 Year	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ears				
Comments:									
Element Phot	os								
			- 16						



Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	

MTO Site Number:	

Element Grou	n·	Piers			Length:		0.3	(m)	
Element Nam		Pile Bents			Wic		0.3	(m)	
Location:	<u>.                                    </u>	North and South Piers				ght:	1.3	(m)	
Material:		Wood			Cou		10	each	
Element Type		Timber <u>Pile</u>				uantity:	12.3	(m <sup>2</sup> )	
Environment:	•		erate / Sev	/ere	Limited		√	(111 )	
Protection Sys	rtom:	Creosote	crate / Set		Limited	Performance			
	stem.	Units	Enir						
Condition Data:	m <sup>2</sup> m		Exc.	Good 11.3	Fair 1	P001	Deficiencies		
Comments:		/ Each / 70 / an		11.5	1			None	
Performance	Deficiencies:								
Recommende		Minor Rehab		Major Rel	hab	Mai	ntenance N	a a d c i	
Recommende	u work.	Replace		✓ None		Urgent		ear 2 Yea	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars				
Comments:									
Element Photo	os								
Comments:									

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	MTO Site Number:

Element Normal   Girdes   G													
Endest   Endes   Height:   0,403   (m)	Element Gro	up:	Main L	ongitudinal E	leme	nts		Len	gth:	4			of both ends
Material:   Steel     Count:   5   each	Element Nan	ne:	Girder	S				Wi	dth:	0.177	,	(	(m)
Material:   Steel   Count:   5   each	Location:		Ends					Hei	ght:	0.403	3		(m)
Benign   Moderate   Severe   Limited Inspin:   Performance	Material:		Steel					Cor	unt:	5		e	each
Sever   Condition   Data:   Steel Coating   Sever   Condition   Data:	Element Type	e:	W 410	)x54				Total Q	uantity:	26.7		(	m²)
Units   Exc.   Good   Fair   Poor   Deficiencies				Benign (	Mode	erate Sev	/ere	Limited	l Insp'n:				
Units   Exc.   Good   Fair   Poor   Deficiencies	Protection Sy	/stem:	Steel C	teel Coating							Perfo	ormano	ie.
Data:								Fair					
Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work:		m <sup>2</sup> m											
Recommended Work:    Minor Rehab		Light corrosion			oatin								
Replace Volument 1 Year 2 Year  Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Element Photos				Minor Rehab			Maior Re	ehab	Mai	ntononoc	Mooder		
Timeframe: Urgent 1-5 Years 6-10 Years Comments:  Element Photos	Recommend	eu work.		=									
Element Photos	T: f					I F Vor-			urgent		1 rear		_∠ Year
Element Photos			L	Urgent	1	5 Years	6 - 10 Ye	ears					
	Comments:												
Comments:	Element Phot	tos											
estiments.	Comments												
	Comments:												

Element Group: Main Longitudinal Elements Length: 8.22 (m)  Element Name: Girders Width: 0.177 (m)  Location: Middle Height: 0.403 (m)  Material: Steel Count: 5 each  Element Type: W 410x54 Total Quantity: 55.0 (m²)  Environment: Steel Coating Performance  Condition Units Exc. Good Fair Poor Deficiencies  Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Major Rehab Viscons (Green Comments)  Replace Viscons (Green Comments)  Comments: Light corrosion and flaking of steel Coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Green Comments  Comments: Light corrosion and flaking of Steel Coating.	Municipal Structu Wilson Lake Road		on Form			М	O Site Numl	ber:	
Element Name: Girders Width: 0.177 (m)  Location: Middle Height: 0.403 (m)  Material: Steel Count: 5 each  Element Type: W 410x54 Total Quantity: 55.0 (m²)  Environment: Benign Moderate / Severe Limited Insp'n:  Protection System: Steel Coating Performance  Condition Units Exc. Good Fair Poor Deficiencies  Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Major Rehab Vone Urgent 1 Year 2 Year  Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Comments: Comments:	lement Data								
Element Name: Girders Width: 0.177 (m)  Location: Middle Height: 0.403 (m)  Material: Steel Count: 5 each  Element Type: W 410x54 Total Quantity: 55.0 (m²)  Environment: Benign Moderate / Severe Limited Insp'n:  Protection System: Steel Coating Performance  Condition Units Exc. Good Fair Poor Deficiencies  Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Major Rehab Vone Urgent 1 Year 2 Year  Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Comments: Comments:	Element Group:		Main Longitudinal Elei	ments		Len	gth:	8.22	(m)
Material: Steel Count: 5 each  Element Type: W 410x54 Total Quantity: 55.0 (m²)  Environment: Benign Moderate / Severe Limited Insp'n:  Protection System: Steel Coating Performance  Condition Units Exc. Good Fair Poor Deficiencies  Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Major Rehab Maintenance Needs:  Replace None Urgent 1 - 5 Years 6 - 10 Years  Comments: Comments: Light County Major Rehab Major								0.177	
Element Type: W 410x54 Total Quantity: 55.0 (m²)  Environment: Benign Moderate / Severe Limited Insp'n:  Protection System: Steel Coating Performance  Condition Units Exc. Good Fair Poor Deficiencies  Data: m² m / each / % / all 54.5 0.5  Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Major Rehab Maintenance Needs: Urgent 1 Year 2 Year  Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Comments:			Middle			Hei	ght:	0.403	(m)
Environment:    Benign   Moderate   Severe   Limited Insp'n:	Material:		Steel			Cor	unt:	5	each
Environment:  Benign   Moderate / Severe   Limited Insp'n:   Protection System:   Steel Coating   Performance    Condition   Units   Exc.   Good   Fair   Poor   Deficiencies    Data:   m²   m / each / % / all   54.5   0.5    Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work:   Minor Rehab   Major Rehab   Maintenance Needs:   Urgent   1 Year   2 Year    Timeframe:   Urgent   1 - 5 Years   6 - 10 Years    Comments: Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Comments:   Commen	Element Type:		W 410x54					55.0	
Condition Data:    Major Rehab			Benign DM	oderate / Se	vere				
Condition Data:	Protection System	1:	Steel Coating		•				Performance
Data: m² m / each / % / all 54.5 0.5  Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work: Minor Rehab Major Rehab Maintenance Needs: Urgent 1 - 5 Years  Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Comments:				Exc.	Good	Fair	Poor		
Comments: Light corrosion and flaking of steel coating.  Performance Deficiencies:  Recommended Work:		m²) m	/ each / % / all		1 1				
Recommended Work:  Minor Rehab Replace  None  Major Rehab Urgent 1 Year 2 Year  Urgent 1 - 5 Years  Comments:	_								
Replace None Urgent 1 Year 2 Year  Timeframe: 0 Urgent 1 - 5 Years 6 - 10 Years  Comments:			Minor Rehab		Major Rel	hab	Mai	ntenance Ne	eds:
Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Comments:				<b>=</b>					
Comments:			Replace		✓ None		Urgent	1 Ye	ear    2 Year
Element Photos	Timeframe:			] 1 - 5 Years		ars	Urgent	1 Ye	ear 2 Year
				] 1 - 5 Years		ars	Urgent	1 Ye	ear 2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	aar]2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	ar 2 Year
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	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	ar2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	ar 2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	aar2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	aar 2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	aar 2 Year
	Comments:			] 1 - 5 Years		ars	Urgent	1 Ye	ar 2 Year
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	Comments:			] 1 - 5 Years		ars	Urgent		ar 2 Year
	Comments:			] 1 - 5 Years		ars	Urgent		aar 2 Year
	Comments:			] 1 - 5 Years		ars	Urgent		ar 2 Year

Municipal Structure Insp Wilson Lake Road Bridg Element Data		MTO Site Numl	ber:	
Element Group:	Main Longitudinal Elements	Length:	1.22	(m)
Element News	Disabasem	\	0.005	()

Element Grot	<b>.</b> γμ.	Iviairi Lorigitudiriai Lierrie	,1113		Len	gui.	1.22	<b></b>	(111)
Element Nam	ie:	Diaphragm			Wid	dth:	0.065		(m)
Location:		End (at abutments)			Hei	ght:	0.254		(m)
Material:		Steel				unt:	4	e	ach side
Element Type	<u>،</u>	C 250x23				uantity:	8		each
Environment			derate Y Se	vere		Insp'n:	П		
Protection Sy		Steel Coating				-  -		Dorforma	200
	300111.	Units	Exc.	Good	Enir	Performance Poor Deficiencies			
Condition	2 /		8 8	Good	Fair	P001			ies
Data:		each / % / all and flaking of steel coating		<u> </u>			<u> </u>	None	
Comments: L	ignit corrosion	and naking of steel coath	ng.						
_									
	Deficiencies:								
Recommend	ed Work:	Minor Rehab		Major Rel	nab		ntenance Ne		
		Replace		✓ None		Urgent	1 Ye	ar	2 Year
Timeframe:		Urgent 1	1 - 5 Years	6 - 10 Ye	ars				
Comments:									
<b>Element Phot</b>	os								
i									
ĺ									
<u> </u>									
Comments:									

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	

MTO Site Number:	

Element Grou	ıp:	Main Longitudinal Eleme	nts		Len	gth:	1.22	(m)
Element Nam	e:	Diaphragm			Wie	dth:	0.065	(m)
Location:		Intermediate (at piers)	Hei	Height:		(m)		
Material:		Steel			Cor	unt:	4	each side
Element Type	::	C 250x23			Total Q	uantity:	8	each
Environment:		Benign Mod	erate / Sev	/ere	Limited	l Insp'n:		
Protection Sy	stem:	Steel Coating						Performance
Condition		Units	Exc.	Good	Fair	Poor		Deficiencies
Data:	m² / m	(each)/ % / all	8					None
Comments: L	ight corrosion	and flaking of steel coatir	ng.					
Performance	Deficiencies							
Recommende		Minor Rehab		Major Rel	nab	Maintenance Needs:		
		Replace Non				Urgent	1 Ye	ear 2 Year
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars			
Comments:		_						

# **Element Photos**



Municipal Str Wilson Lake	•				M	ΓΟ Site Numl	ber:		
Element Data									
Element Grou	up:	Coating			Len	igth:	n/a	(m)	
Element Nam		Structural Steel				dth:	n/a	(m)	
Location:		Ends			Hei	ght:	n/a	(m)	
Material:		Epoxy Paint				unt:	n/a	each	
Element Type	e:	Epoxy-Zinc Epoxy-Polyur	ethane		Total Q	uantity:	32.9	(m <sup>2</sup> )including diaphragm	
Environment				vere		d Insp'n:			
Protection Sy	stem:	Steel Coating						Performance	
Condition		Units	Exc.	Good	Fair	Poor		Deficiencies	
Condition Data:		Units Om / each / % / all of coating throughout.	Exc. 22.9	Good 10	Fair	Poor		None None	
Condition Data: Comments: L Performance	ight flaking o	om / each / % / all of coating throughout.		10				None	
Condition Data: Comments: L	ight flaking o	om / each / % / all of coating throughout.				Mai	intenance No	None eeds:	
Condition Data: Comments: L Performance	ight flaking o	om / each / % / all of coating throughout.  :    Minor Rehab   Replace		10  Major Re	hab			None eeds:	
Condition Data: Comments: L Performance Recommend	ight flaking o	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	
Condition Data: Comments: L Performance Recommend	ight flaking o	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	
Condition Data: Comments: L Performance Recommend Timeframe: Comments:	ight flaking o	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	
Condition Data: Comments: L Performance Recommend Timeframe: Comments:	ight flaking o	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	
Condition Data: Comments: L Performance Recommend Timeframe: Comments:	ight flaking of Deficiencies ed Work:	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	
Condition Data: Comments: L Performance Recommend Timeframe: Comments:	ight flaking of Deficiencies ed Work:	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	
Condition Data: Comments: L Performance Recommend Timeframe: Comments:	ight flaking of Deficiencies ed Work:	om / each / % / all of coating throughout.  :    Minor Rehab   Replace	22.9	Major Rel	hab	Mai		None eeds:	

	ucture Inspec Road Bridge 1				M	ΓΟ Sit	e Numl	oer:		
lement Data										
Element Grou	ıp:	Coating			Ler	ngth:		n/a		(m)
Element Nam		Structural Steel			dth:		n/a		(m)	
Location:		Middle			He	ight:		n/a		(m)
Material:		Epoxy Paint				unt:		n/a		each
lement Type	::	Epoxy -Zinc Epoxy Ployu	ırethane		Total C		ity:	61.2		(m²)
nvironment:				vere	Limited			<b>7</b>		
Protection Sy	stem:	Steel Coating			•				Perform	ance
Condition		Units	Exc.	Good	Fair	P	oor		Deficien	
Data:	$m^2$	m / each / % / all	55.7	5.5					None	9
	Deficiencies:	f coating throughout.								
Recommende		Minor Rehab		Major Rel	nab		Mai	ntenance N	eeds:	
		Replace		✓ None			Urgent		ear	2 Year
Timeframe:		Urgent	1 5 1/	П						
Comments:			1 - 5 Years	6 - 10 Ye	ars					
	os		1 - 5 Years	6 - 10 Ye	ars	-				
	os		I - 5 Years	6 - 10 Ye	ars					
Comments: Element Phot	os		1 - 5 Years	6 - 10 Yes	ars					
	os		1 - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years	6 - 10 Yes	ars					
	os		1 - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years	6 - 10 Yes	ars					
	OS		I - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years	6 - 10 Yes	ars					
	OS		I - 5 Years	6 - 10 Yes	ars					
	OS		I - 5 Years	6 - 10 Yes	ars					
	os		I - 5 Years		ars					
	OS		I - 5 Years	6 - 10 Yes	ars					
	OS		I - 5 Years	6 - 10 Yes	ars					
	OS		I - 5 Years	6 - 10 Yes	ars					
	OS		I - 5 Years	6 - 10 Yes	ars					

<b>Municipal Structure Inspection Form</b>
Wilson Lake Road Bridge 1

MTO Site Number:	
VIIO Site Mulliber.	

Element Grou	ıp:	Decks	Length:		12.22	(m)		
Element Nam	ne:	Deck Top			Width:		5.5	(m)
Location:		-			Hei	Height:		(m)
Material:		Wood			Cou	unt:	n/a	each
Element Type	2:	Dimension Lumber			Total Q	uantity:	67.21	(m²)
Environment	:	Benign Mode	erate Sev	vere	Limited	d Insp'n:		
Protection Sy	rstem:	Wood Preservative Treat	Wood Preservative Treatment					Performance
Condition		Units Exc. Good Fair Poor Def				Deficiencies		
Data:	$m^2$ m	/ each / % / all	65	2.21	None			None
Comments: Hidden under deck wearing surface. Appears to be in good condition based on board ends and soffit. Light twisting and					ight twisting and			
checking in board ends.								
Performance Deficiencies:								
Recommend	ed Work:	Minor Rehab Major Reh			ehab Maintenance Needs:			eds:
		Replace None				Urgent	1 Ye	ar 2 Year
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars			_

# **Element Photos**



Municipal Structure Inspection Form
Wilson Lake Road Bridge 1

MTO Site Numbe	er:	

Element Grou	ıp:	Decks			Length:		12.22		(m)	
Element Nam	ie:	Soffit Wid			dth:	5.0		(m)		
Location:		-			He	ight:	n/a		(m)	
Material:		Wood			Co	unt:	n/a		each	
Element Type	2:	Dimension Lumber			Total C	Quantity:	61.1		(m²)	
Environment		Benign Mod	erate / Se	vere	Limited	d Insp'n:				
Protection Sy	stem:	Wood Preservative Treat	ment			•		Perfor	rmance	
Condition		Units	Exc.	Good	Fair	Poor	or Deficiencies			
Data:		n / each / % / all	59.6	1.5				No	one	
	Aoisture stains	throughout.								
	Deficiencies:									
Recommend	ed Work:	Minor Rehab		Major Rel	nab	Mai	ntenance No	eeds:		
		Replace		✓ None		Urgent	1 Ye	ear	2 Year	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars	]				
							Ñ			

<b>Municipal Structure Inspection Form</b>
Wilson Lake Road Bridge 1

MTO Site Number:	
WITO Site Number.	

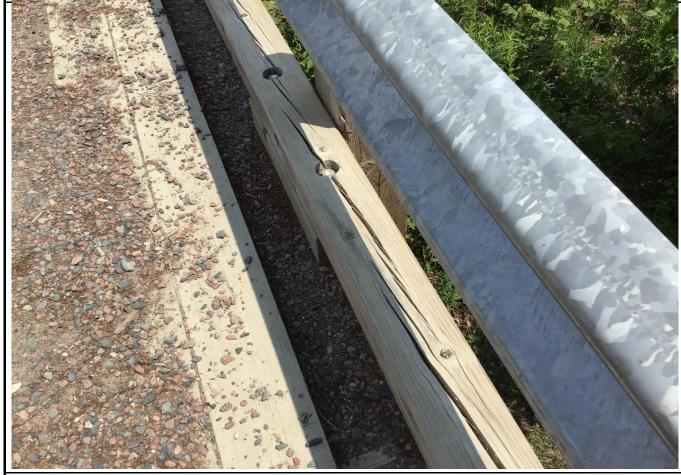
Element Group:	Deck	Deck			Length:		(m)	
Element Name:	Wearing Surface			Width:		4.9	(m)	
Location:	-			Height:		n/a	(m)	
Material:	Wood			Со	unt:	n/a	each	
Element Type:	Dimension Wood			Total C	Quantity:	59.9	(m²)	
Environment:	Benign / Mod	erate Sev	vere	Limited	d Insp'n:			
Protection System:	-						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies		
Data: m² n	n / each / % / all	50	9.9			None		
Comments: Covered in sand and gravel. Light wear in timber running boards.								
Performance Deficiencies:								
Recommended Work:	Recommended Work: Minor Rehab Major Re			nab	Maintenance Needs:			
	Replace		✓ None		Urgent	✓ 1 Ye	ar 2 Year	
Timeframe:	☐ Urgent ☐ 1 - 5 Years ☐ 6 - 10 Y			ars	Remove gra	vel and sand	from wearing surface.	
Comments:								



Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	

MTO Site Number:	

Element Grou	ıp:	Sidewalks/Curbs	Sidewalks/Curbs				12.22	(m)		
Element Nam	ne:	Curbs	Curbs			Width:		(m)		
Location:		East and West sides			Hei	ight:	0.14	(m)		
Material:		Wood			Со	unt:	2	each		
Element Type	2:	Dimension Lumber			Total C	Quantity:	6.84	(m²)		
Environment:	:	Benign / Mode	erate 🕡 Se	vere	Limited	d Insp'n:				
Protection Sy	rstem:	Wood Preservative Treat	ment					Performance		
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies			
Data:	$m^2$ m	/ each / % / all	6	0.84	0.84 None					
Comments: Light weather checks. Wide splits in the top of curbs.										
Performance	Deficiencies:									
Recommende	Recommended Work: Minor Rehab Major Rel			nab	Maintenance Needs:					
		Replace		✓ None		Urgent	1 Yea	ar 2 Year		
Timeframe:		Urgent 1	- 5 Years	6 - 10 Yea	ars					
Comments:										
Flamont Phot	00									



Municipal Structure Inspection Form
Wilson Lake Road Bridge 1

MTO Site Number:	
WITO SILE MUITIBET.	

Element Data	I								
Element Grou	ıp:	Barriers			Length:		0.19		(m)
Element Nam		Posts				idth:	0.19		(m)
Location:		East and West side			He	eight:	0.9		(m)
Material:		Wood			Count:		11		each side
Element Type	):	Dimension Lumber			Total Quantity:		22		each
Environment:		Benign / Mode	Limited Insp'n:						
Protection Sy	stem:	Wood Preservative Treat	ment				Performance		
Condition		Units	Exc.	Good	Fair	Poor		Deficie	ncies
Data:		each/ % / all	15	7				Nor	ne
	Deficiencies:	k twisted at the northwes	T side of suit		_			1	
Recommende	ea work:	Replace		☐ Major Reh	iab		ntenance Ne		
Timeframe:			- 5 Years	6 - 10 Yea		Urgent Straighten o	√ 1 Yea	ar	2 Year
Comments:									
Element Phot	os								
								To the same	

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	M

Element Name:   Raling Systems										
Element Name:	Element Group:		Barriers			Length:		3.81	(m)	
Location:   East and West sides of Deck   Height:   0.9   (m)			· ·					n/a	(m)	
Material:	Location:		East and West sides of De	eck					(m)	
Element Photos   Environment:   Elex Beam			Steel							
Benign / Moderate   Severe   Limited Inspir:   Protection System:   Galvanized   Severe   Units   Severe   Condition   Oats   Major Rehab		2:	Flex Beam					38.1		
Comdetion Data:    Major Rehab   Major Rehab				erate / Sev	rere					
Comdetion Data:    Major Rehab   Major Rehab	Protection Sv	stem:	Galvanized						Performance	
Data:				Exc.	Good	Fair	Poor			
Performance Deficiencies:  Recommended Work:		m² (m								
Performance Deficiencies:  Recommended Work: Replace R			<i>y</i> each <i>y</i> , o <i>y</i> an	07.12	_					
Minor Rehab   Major Rehab   Urgent   1 Year   2 Year										
Minor Rehab   Major Rehab   Urgent   1 Year   2 Year	Performance	Deficiencies:								
Replace V None Urgent 1 Year 2 Year  Timeframe: Urgent 1 - 5 Years 6 - 10 Years  Element Photos			Minor Rehah		Major Reh	nah	Mai	ntonanco No	ods:	
Timeframe:	necommend	cu work.	_			lab				
Element Photos	Timefrance			F Voors		arc	Urgent		ar    2 Year	
Element Photos			orgent1	- 5 Years	0 - 10 fee	dis				
	comments:									
	Flement Phot	ns								
Comments:	Licincii i iio									
Comments:										
Comments:										
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Comments:										
Comments:										
Comments:										
Comments:										
Comments:										
Comments:										
Comments.	Comments									
	Comments:									

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	

MTO Site Number:	

Element Grou	ıp:	Approaches			Ler	igth:	6	(m)	
Element Nam	e:	Wearing Surface			Wi	dth:	4.9	(m)	
Location:		East and West Approach	es		Hei	ight:	n/a	(m)	
Material:		Gravel			Со	unt:	2	each	
Element Type	<b>:</b>	1			Total C	uantity:	58.8	(m²)	
Environment:		Benign / Mod	erate Sev	vere	Limited	d Insp'n:			
Protection Sy	stem:	=						Performance	
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	$m^2$ m	/ each / % / all		58.8			None		
Comments: Gravel approaching wearing surface. Light vegetation over sides of approaching entrances.									
Performance Deficiencies:									
Recommended Work: Minor Rehab Major Re		hab Maintenance Needs:		eds:					
		Replace		✓ None		Urgent	✓ 1 Ye	ar 2 Year	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars	Trim back ex	xcess vegeta	tion.	
Comments:									

# Element Photos



Comments:

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 1	MTO Site Number:

Element Grou	ıp:	Approaches			Length:		n/a	(m)
Element Nam	ie:	Signage		Width:		n/a	(m)	
Location:		North and South Approaches		Hei	ght:	n/a	(m)	
Material:		- Troi and South Approaches				unt:	2	each side
Element Type	·	_				uantity:	4	each
Environment		Benign / Mod	derate / Se	word		l Insp'n:	4	eacii
		berlight / Moc	derate / Se	evere	Lillitet	ı ilisp ii.		
Protection Sy	stem:	-	ı					erformance
Condition		Units	Exc.	Good	Fair	Poor	D	eficiencies
Data:	m² / m	each / % / all	4					None
Comments:								
Performance	Deficiencies:							
Recommend		Minor Rehab		Major Reh	ab	Mai	ntenance Nee	de.
		Replace		✓ None		Urgent	1 Year	
			- F.V			Urgent	1 Tear	2 Year
Timeframe:		Urgent 1	- 5 Years	6 - 10 Yea	irs	ŀ		
Comments:								
Element Phot	os							
								· ·
Comments:								

<b>Municipal Structure Inspection Form</b>
Wilson Lake Road Bridge 1

MTO Cita Namaham	
MTO Site Number:	

Element Grou	up:	ip: Embankments and Streams			Ler	ngth:	n/a	(m)
Element Nam	ne:	Streams and Waterway	/S		Wi	idth:	n/a	(m)
Location:		-			He	eight:	n/a	(m)
Material:		-			Со	ount:	1	each
Element Type	2:	-			Total C	Quantity:	1	all
Environment:	:	Benign / Mo	oderate / Sev	vere	Limiter	d Insp'n:		
Protection Sy	/stem:	-					ı	Performance
Condition		Units	Exc.	Good	Fair	Poor		Deficiencies
Data:	m² / m	ı / each / % (all		1				None
Comments: L	ight beaver da	m noted at the middle o	of structure.					
Performance	Deficiencies:							
Recommende	ed Work:	Minor Rehab		Major Reh	ıab	Mai	intenance Ne	eds:
		Replace		✓ None		Urgent	√ 1 Yea	ar 2 Year
Timeframe:		Urgent	1 - 5 Years	6 - 10 Yea	ars	Remove bea	aver dam.	
Comments:								
Element Phot	os							
				-		931	7 10 10 10 10 10 10 10 10 10 10 10 10 10	



Ontario Structure Inspection Manual – Inspection Form MTO Site Number:			
Ontario Structure Inspection Manual – Inspection Form MTO Site Number:			
	Ontario Structure Inspection Manual – Inspection Form	MTO Site Number:	

<b>Inventory Data:</b>		
Structure Name	Wilson Lake Road Bridge 2	
Main Highway #	On <b>2</b> or Under <b>1</b> Structure	Service on ☐ Navig. Water ☐ Non-Navig. Water structure: ☐ Rail ☐ Road ☐ Ped. ☐ Other
Location description	12.4 km Southwest of Hwy 11	Service
Owner/Custodian	Municipality of Temagami	LHRS: LHRS offset:
MTO Region	Northern	Latitude: 46° 52' 38" N Longitude: 79° 48' 36" W
Regional Engineer		Heritage
MTO Area	Sudbury	Hwy Class: Freeway □ Arterial □ Collector □ Local ☑
Old County		Posted Speed No. of Lanes 1
Township	Temagami	AADT % Truck
Structure Type 1	Bailey Bridge (Triple-Single)	Travel Stream W
Structure Material 1	Steel	Traffic Directional Bound S-N
Structure Type 2	Deck	Inspection Route Sequence
Structure Material 2	Wood	Inspection Frequency 2 (years)
Total Deck Length	21.3 (m)	Inspection Year 2023
Overall Str. Width	5.49 (m)	Inspection Duration (hrs)
Culvert length	(m)	Interchange Number
Total Deck Area	116.9 (sq.m)	Interchange Structure Number
Roadway Width	3.3 (m)	Min. Vertical Clearance (m)
Skew Angle	0 (Degree)	Detour Distance (km)
No. of Spans	1	Fill on Structure (m)
Span Lengths	21.3 (7 bays)	(m)
For retaining wall:		
Total Wall Length	(m)	Max. Wall Height (m)
Total Wall Area	(sq.m)	Ave. Wall Height (m)
		Angle of Backfill (Degree)

Page 1

PART 2 2-68

Ontario Structure	Inspection	Manual – I	nspection Forn

MTO Site Number:	
THE CONTENT OF THE	

Historical Data:					
Year Built		Year of superstruct. constructed			
Last Reg OSIM Inspection	2021	Year of Last Minor Rehab.			
Last Enh. OSIM Inspection		Year of Last Major Rehab.	2011		
		Current Load Limit	50/36/21 (tonnes)		
Work History: (Date/description)  2011: Replaced all bearing timbers and approaching guide rail posts. Raised north end of bridge by installing additional bearing timbers to correct settlement.  Investigation History: (Date/description)					
Scheduled Improvement	nts:		_		
Regional Priority Number		Programmed Work Year			
Nature of Program Work:	None				

Appraisal Indices	:	Comments
Fatigue	None	
Seismic	None	
Scour	None	
Flood	None	
Barrier	None	
Curb	None	
Load Capacity	None	

Page 2

PART 2 2-69

# **Ontario Structure Inspection Manual – Inspection Form**

мто	Site	Number:	
11110	Sitt	rumber.	

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Q	
(D)	
Ñ	

Field Inspection Information:					
Date of Inspection:	June 20, 2023	Type of Inspection:	<b>☑</b> Re	eg. OSIM	□ Enh. OSIM
Inspected By:	Kevin Louch, P.Eng.				
Others in Party:	Kaitlyn Hunt				
Enh. Access Equipment:	Measuring Tape, Camera, Hammer				
Special Access Equipment:					
Weather:	Sunny	Temperature:		28 °C	

Additional Investigations Required:		Priority		
<b>.</b>	None	Normal	Urgent	
Material Condition Survey	V			
Detailed Deck Condition Survey:	V			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	V			
Concrete Substructure Condition Survey:	V			
Detailed Coating Condition Survey:	V			
Detailed Timber Investigation	V			
Post-Tensioned Strand Investigation	/			
Underwater Investigation:	V			
Fatigue Investigation:	V			
Seismic Investigation:	V			
Structure Evaluation:	<b>✓</b>			
Monitoring	/			
Deformations, Settlements and Movements:		~		
Crack Widths:	V			
RSS Horizontal movements of face:	V			
RSS Vertical movements of overall structure:	V			
RSS Local movements or deterioration of facing elements:	V			
RSS Horizontal movements within overall structure:	V			
RSS Vertical movements within overall structure:	V			
RSS Lateral earth pressure at the back of facing elements:	V			
Investigation Notes: No further investigation required.				

Overall Structure Notes:		Overall I	Bridge Condition:	BCI 42	
Recommended Work on Structure:	□ None □ N	Minor Rehab.	☐ Major Rehab.	☑ Replace	
Timing of Recommended Work:	■ 1 to 5 years	□ 6 to 10 yes	ars		
Overall Comments:	Curbs are heavily deteriorated, deck wearing surface and barrier rails in poor condition, missing timber bearing section, and pitted cross bracing members.				
Date of Next Inspection:	2025				

# **Suspected Performance Deficiencies**

		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other performance deficiencies
05	Seized bearings	11	Deck/Wall drainage		-
Mair	ntenance Needs				
01	N/A	07	Structural Steel Repair	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Concrete Repair	14	Concrete Sealing
03	Railing System Repair	09	Timber Repair	15	N/A
04	N/A	10	Works for Modular bridges	16	Works for Drainage System
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Stee

12

Scaling (Loose Concrete or ACR Steel) Other Maintenance

18

Municipal :	Structure	Inspection	Form
Wilson Lal	re Road R	ridge 2	

MTO Site Number:	

Repair and Rehabilitation Required:			Priority		
Element	Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Urgent	Construction Cost
Bearing Cribs	Reset/reinstall missing timber		х		\$1,000
Deck WS	Replace		Х		\$40,000
Floor Beams/Stringers	Sandblast and paint or replace		Х		\$100,000
Barrier Rails	Replace damaged sections		Х		\$40,000
Cross Bracing	Replace pitted braces		Х		\$75,000
Total Cost					\$256,000

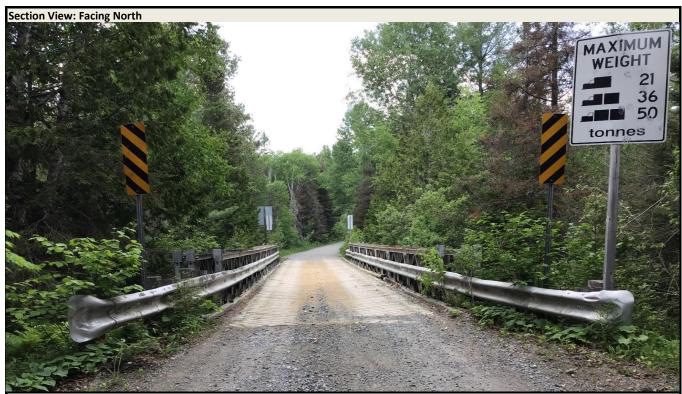
Associated Work:	Comments	Estimated Cost
Other:	Engineering (15%)	\$38,400
Contingencies:	Contingency (10%)	\$25,600
	Total Cost	\$64,000

Total Repair and Rehabilitation Cost \$320,000

Replacement Cost \$700,000

Maintenance Required			Priority			
Element	Repair and Rehabilitation Required	2 year	Within 1 year	Urgent	Construction Cost	
Abutments/Ramps	Monitor for movement	х			\$2,000	
Bailey Panel/Bearings	Remove vegetation		х		\$1,000	
Approaches	Regrade		х		\$2,000	
Barrier Post	Rotate blocks back straight		х		\$1,000	
Deck WS	Replace curbs		х		\$1,000	
Γ			Total Ma	nintenance Cost	\$7,000	

Justification:	



**Elevation View: Facing East** 



Municipal Structure Inspection Form
Wilson Lake Road Bridge 2

MTO Site Number:	

Element Grou	ıp:	Abutments			Ler	ngth:	n/a	(m)	
Element Nam	e:	Bearing Cribs			Width:		2.0	(m)	
Location:		North and South			He	ight:	0.85	(m)	
Material:		Wood			Count:		4	each	
Element Type	::	Bearing Timbers			Total C	Quantity:	6.8	(m <sup>2</sup> )	
Environment	:	Benign Mod	erate / Sev	vere	Limited	d Insp'n:			
Protection Sy	stem:	Treated					Performance		
Condition		Units	Exc.	Good	Fair	Fair Poor Deficiencies			
Data:	m <sup>2</sup> m	/ each / % / all			6.8		None		
Comments: Separate bearing crib constructed with 200x200 mm treated timber under each Bailey base plate. Northeast bearing crib i missing timber section. Minor rotation and settlement of northeast bearing crib.						heast bearing crib is			
Performance	Deficiencies:	<u></u>		_					
Recommende	ed Work:	Minor Rehab		Major Re	hab Maintenance Needs:			eds:	
		✓ Replace		None		Urgent	1 Ye	ear 🗸 2 Year	
Timeframe: Urgent  1 - 5 Years 6 - 10 Years			ears	Monitor for movement.					
Comments: Reset bearing crib and reinstall missing timber section at northeast crib.			st crib.						





CO	m	m	en	its:

Municipal Structure Inspection Form
Wilson Lake Road Bridge 2

Element Grou	p:	Abutments			Len	gth:	n/a	(m)
Element Nam	e:	Bearings			Width:		n/a	(m)
Location:		North and South			Height:		n/a	(m)
Material:		Steel			Count:		8	each
Element Type	:	Bailey Bearing			Total Q	uantity:	8	each
Environment:		Benign / Mode	erate Sev	vere	Limited	l Insp'n:	1	
Protection Sys	stem:	Galvanized	Galvanized					Performance
Condition		Units	Exc.	Good				Deficiencies
Data:	m² / m	each/ % / all			8		None	
Comments: Bearing covered with vegetation and debris. Moderate corrosion noted on exposed steel.								
Performance	Deficiencies:	_						
Recommended Work:  Minor Rehab Replace  Major Rel		Maintenance Needs:		_				
Timeframe:	imeframe: Urgent 1 - 5 Years 6 - 10 Years		ars	Clear vegeta	ation from be	earing.		
Comments:								



Comments:		

<b>Municipal Structure Inspection Form</b>
Wilson Lake Road Bridge 2

MTO Site Number:	

Element Group:	Abutments	butments			gth:	n/a	(m)	
Element Name:	Base Plate	ase Plate			dth:	n/a	(m)	
Location:	North and South	lorth and South			ght:	n/a	(m)	
Material:	Steel			Cor	unt:	4	each	
Element Type:	Bailey Base Plate			Total Q	uantity:	4	each	
Environment:	Benign / Mode	erate Sev	/ere	Limited	l Insp'n:	✓		
Protection System:	Galvanized					Performance		
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies		
Data: m² / m	each/ % / all			4		None		
Comments: Bearing covered	with vegetation and deb	ris. Moderat	e corrosion r	noted on exp	osed steel.			
Performance Deficiencies:								
			Major Re  ✓ None	hab	Mai Urgent	Maintenance Needs: Urgent / 1 Year 2 Year		
Timeframe:         Urgent         1 - 5 Years         6 - 10 Years			ears	Clear vegeta	ation from be	earing.		
Comments:								



Municipal Structure Inspection Form	
Wilson Lake Road Bridge 2	

MTO Site Number:	

Element Group:	Main Longitudinal Eleme	Main Longitudinal Elements			gth:	n/a	(m)		
Element Name:	Floor Beams	Floor Beams				n/a	(m)		
Location:	-	-				n/a	(m)		
Material:	Steel			Cou	unt:	14	each		
Element Type:	Bailey Transom			Total Q	uantity:	14	each		
Environment:	Benign Mod	lerate / Sev	vere	Limited	l Insp'n:	<b>J</b>			
Protection System:	Galvanized	Galvanized					Performance		
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies			
Data: m² /	m (each)/ % / all	each) / % / all 14				None			
Comments: Load carry capacity deficiences (2 transoms per bay). Medium corrosion noted.									
<b>Performance Deficiencies</b>									
Recommended Work:	✓ Minor Rehab  Replace		Major Re None	hab	Maintenance Needs: Urgent 1 Year		_		
Timeframe:	Urgent ✓	1 - 5 Years	6 - 10 Ye	ears					
Comments: Sandblast structural steel and repaint, or replace bridge.									



Municipal Structure Inspection Form	r	
Wilson Lake Road Bridge 2	MTO Site Number:	

									_	
Element Group:		Main Longitu	ıdinal Elen	ments		Len	gth:	n/a		(m)
Element Name:		Stringers				Wid	Width:			(m)
Location:		-				Hei	ght:	n/a		(m)
Material:		Steel				Cou	ınt:	45		each
Element Type:		Bailey String	er				uantity:	45		each
Environment:		Ben	_	oderate / Se	vere		Insp'n:	<b>✓</b>		
Protection Syste	em:	Galvanized		·					Perforn	nance
Condition		Units		Exc.	Good	Fair	Poor		Deficie	
Data:	m² / m	each/ %	/ all	LXC.	Good	45	1 001		Nor	
	Comments: Visual deflection noted when vehicle crosses the bridge. Medium corrosion noted.									
Performance D		NA:	D-II-		Marian Da	L-L				
Recommended	Work:	✓ Minor			Major Re	nab		ntenance I		
		Repla			None		Urgent	1	Year	2 Year
Timeframe:		Urge	nt 🗸	1 - 5 Years	6 - 10 Ye	ears				
Comments: Sar	ndblast struct	ural steel an	d repaint,	or replace bri	dge.					
Comments:										

Municipal Structure Inspection Form
Wilson Lake Road Bridge 2

MTO Site Number:	

Element Grou	ıp:	Approaches			Len	gth:	3.3	(m)
Element Nam	ne:	Approach Ramps	pproach Ramps			dth:	3.6	(m)
Location:		North and South	lorth and South			ght:	0.13	(m)
Material:		Steel			Cor	unt:	2	each
Element Type	2:	Bailey Ramp			Total Q	uantity:	23.8	(m <sup>2</sup> )
Environment	:	Benign Moderate Severe		Limited	l Insp'n:	<b>✓</b>		
Protection Sy	rstem:	Galvanized						Performance
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies	
Data: m² m / each / % / all		/ each / % / all		10	8.8	5	None	
Comments: Po	Comments: Permenant deformation at ramps where vehicles enter onto bridge.							
Performance	Deficiencies:							
Recommended Work.		Major Re  ✓ None	hab	ab Maintenance Needs: Urgent 1 Year 2 Ye				
Timeframe:		Urgent 1	5 Years	6 - 10 Ye	ears	Monitor for	further defl	ection.
Comments:								



Municipal Structure Inspection Form
Wilson Lake Road Bridge 2

MTO Site Number:	
Will o Site Humber.	

Element Data							
Element Group:	Barrier			Len	gth:	0.2	(m)
Element Name:	Posts			Wid		0.2	(m)
Location:	West and East sides			Hei	ght:	1.0	(m)
Material:	Wood			Cou		9	each
Element Type:	Post	Post			uantity:	9	each
Environment:	Benign Moderate Severe			Limited			
Protection System:						Pe	rformance
Condition	Units Exc. Good			Fair	Poor		eficiencies
	each/ % / all			6	3		None
Performance Deficiencies:							
Recommended Work:	Minor Rehab		Major Rel	nab		ntenance Need	
	Replace		✓ None		Urgent		
Timeframe: Comments:	Urgent 1	L - 5 Years	6 - 10 Ye	ars	Reset rotate	ed offset blocks	5 <b>.</b>

Municipal Structure Inspection Form
Wilson Lake Road Bridge 2

MTO Site Number:	

Element Grou	ıp:	Barrier	Length:		3.81	(m)			
Element Nam	ne:	Railing System			Wi	dth:	n/a	(m)	
Location:		West and East sides			Hei	ght:	0.7	(m)	
Material:		Steel			Cor	unt:	22	each	
Element Type	2:	Flex Beam			Total Q	uantity:	83.8	(m)	
Environment	:	Benign / Mod	erate 🕡 Sev	rere	Limited	l Insp'n:			
Protection Sy	rstem:	Galvanized						Performance	
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	m² 🕻 m	each / % / all		30	40	13.8	None		
Comments: SBGR end treatments are not as per OPSD Standards for approach terminal en Sever damage to section on northeast end. Snowplow damage throughout.					d treatment	s. Minor imp	act damage throughout.		
Performance	Deficiencies:			_					
Recommend	ed Work:	Minor Rehab Major Rel			hab	eds:			
		✓ Replace None				Urgent	1 Ye	ear 2 Year	
Timeframe:		☐ Urgent ✓ 1	- 5 Years	6 - 10 Ye	ears				
Comments: Replace damaged SBGR.									



Comments:			
Comments:			
	Comments:		

son Lake Road Bridge 2	tion Form !			M	O Site Numb	oer:	
ment Data							
ment Group:	Deck			Ler	gth:	27.4	(m) including ramps
ment Name:	Deck Top				dth:	3.6	(m)
ation:	-			Hei	ght:	0.038	(m)
terial:	Wood				unt:	n/a	each
ment Type:	Dimension Lumber			Total C	uantity:	98.6	(m <sup>2</sup> )
vironment:	Benign Mod	lerate Sev	/ere		l Insp'n:	<b>4</b>	
tection System:	Treated						Performance
ondition	Units	Exc.	Good	Fair	Poor		Deficiencies
	m / each / % / all		49.3	49.3			None
ection obscured by tim	8x140 mm timber boards u ber deck wearing surface.			•			
formance Deficiencies:	Minor Rehab		Major Re	hah			
commended Work:	Replace		✓ None	ilab	Urgent	ntenance Ne	
neframe:		1 - 5 Years	6 - 10 Ye	arc			eai2 Year
mments:							

<b>Municipal Structure Inspection Form</b>
Wilson Lake Road Bridge 2

MTO Site Number:	

Element Grou	up:	Deck				Lei	ngth:	27.4	(m) including ramps
Element Nam	ne:	Wearing Surface			W	dth:	3.3	(m)	
Location:		-				He	ight:	0.038	(m)
Material:		Wood					unt:	n/a	each
Element Type	e:	Dimension Lumb	er				Quantity:	90.4	(m <sup>2</sup> )
Environment		Benign		erate / Sev	vere		d Insp'n:		, ,
Protection Sy	/stem:	-							Performance
Condition	, , , , , , , , , , , , , , , , , , , ,	Units		Exc.	Good	Fair	Poor		Deficiencies
Data:	m <sup>2</sup> m	/ each / % / al	1	LXC.	0000	30	60.4		None
	imber curbs are	in poor condition	n. Bolts a	are bent an	d wood is sn			out. Curb is l	proken throughout
sections. Crac	cking throughou	it with moderate							
	Deficiencies:	Minor Reha			Medau D	h-h			
Recommend	led Work:		D		Major Re	enab		ntenance Ne	
		✓ Replace			None		Urgent		ear 2 Year
Timeframe:		Urgent	1	- 5 Years	✓ 6 - 10 Y	ears	Replace tim	ber Curbs.	
Comments: F	Replace timber	wearing surface.							

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 2	

MTO Site Number:	

Element Data									
Element Grou	ıp: Truss				Len	gth:	n/a	(m)	
Element Name	e:	Bailey Panel			Wi	dth:	n/a	(m)	
Location:		East and West			Hei	ght:	n/a	(m)	
Material:		Steel			Co	unt:	42	each	
Element Type		Bailey Panels			Total O	uantity:	42	each	
Environment:		Benign Mod	derate Sev	vere	Limited	l Insp'n:			
Protection Sys	stem:	Galvanized					F	Performance	
Condition		Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	m² / m	(each) % / all			42			None	
		appear to be older than	the interior t	wo runs with	severe galv	ranize flaking	g. Tree protru	ding up at west side.	
Performance Recommende		Minor Rehab		Major Re	hah				
kecommenae	a work:	Replace		✓ None	Urgent		t 1 Year 2 Year		
Timeframe: Comments:		Urgent	1 - 5 Years	6 - 10 Ye	ears		vegetation in		



Municipal Structure Inspection Form	
Wilson Lake Road Bridge 2	

MTO Site Number:	

Element Group:	Truss	Truss				n/a	(m)	
Element Name:	Cross Braces			Width:		n/a	(m)	
Location:	Under			Height:		n/a	(m)	
Material:	Steel			Cor	unt:	14	each	
Element Type:	Cross Bracing			Total Q	Total Quantity:		each	
Environment:	Benign Mod	erate Se	vere	Limited	l Insp'n:			
Protection System:	-						Performance	
Condition	Units Exc.			Fair	Poor		Deficiencies	
Data: m² / n	a: m² / m (each) % / all			13	1	None		
Comments: Moderate corrosion throughout. One cross bracing at south side has severe pitting.								
Performance Deficiencies:	_							
Recommended Work:   Minor Rehab  Major Re  ✓ Replace  None			hab	Maintenance Needs: Urgent 1 Year 2 Year				
Timeframe:	☐ Urgent ✓ 1	5 Years	6 - 10 Ye	ears				
Comments: Replace severely pitted cross bracing members.								



Municipal Structure Inspection Form	
Wilson Lake Road Bridge 2	

MTO Site Number:	

Element Group:	Approaches			Len	igth:	6	(m)	
Element Name:	Wearing Surface				dth:	4	(m)	
Location:	North and South				Height:		(m)	
Material:	Granular				unt:	n/a 2	each	
Element Type:	-				uantity:	48.0	(m²)	
Environment:	Benign / Mod				d Insp'n:		( /	
Protection System:	-	_					Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
	/ each / % / all		40	4	4		None	
Comments: Potholes at nort		mping.		•				
Performance Deficiencies:								
Recommended Work:	Minor Rehab		Major Re	hab		ntenance Ne		
	Replace		✓ None		Urgent	Urgent ✓ 1 Year 2 Year		
Timeframe:	Urgent 1	1 - 5 Years	6 - 10 Ye	ars	Regrade pot	holes and ra	mping.	
Comments:								
Comments:								

Municipal Structure Inspection Form	
Wilson Lake Road Bridge 2	MTO Site Number:

Element Group:		Embankments and	Streams			Ler	igth:	n/a		(m)
Element Name:		Streams and Wate				Width:		n/a		(m)
Location:		-					ight:	n/a	$\top$	(m)
Material:		_					unt:	1		each
Element Type:		_					unt. Luantity:		+	all
		- Benign /	′ Moderate	1 500	ioro		d Insp'n:	1		dII
Environment:		benign /	iviouerate	/ sev	reie	Limited	ı 1115b 11:			
Protection System	n:	<u> -</u>							Perforr	
Condition		Units				Poor		Deficie	encies	
Data:		/ each / % 🕻 all			1				No	ne
Performance Defi		bankments are in g	good condit	tion.						
Recommended W		Minor Rehab	)		Major Re	hab	Mai	ntenance	Noods:	
necommenaea vi	JOIK.	Replace			✓ None		Urgent		Year	2 Year
<b>-</b> :		Urgent	1 - 5 Y	/oarc	6 - 10 Ye	arc	Погасия			z rear
Timeframe:		orgent		Cais		.013	-			
Comments:										
Comments										
Comments:										

Municipal Structure Inspection Form		
Wilson Lake Road Bridge 2	MTO Site Number:	

Element Group:	App	oroaches				Len	gth:	n/a	(m)
Element Name:	Sigr	nage				Wi	dth:	n/a	(m)
Location:	Nor	th and South				Hei	ght:	n/a	(m)
Material:	-						unt:	6	each
Element Type:	-						uantity:	6.0	each
Environment:		Benign	/ Mode	erate 🕻 Sev	vere		l Insp'n:		
Protection System:	-								Performance
Condition	U	nits		Exc.	Good	Fair	Poor		Deficiencies
	/ m (e	each / % / al	I		5	1			None
Comments: Vegetation	has encr			partially obs	curing signag	ge.			
Performance Deficienci	ies:	Minor Reha	h		Major Do	hah			
Recommended Work:			ID		Major Re  ✓ None	nab		ntenance Ne	
		Replace					Urgent		ear 2 Year
Timeframe:		Urgent	∐ 1	- 5 Years	6 - 10 Ye	ears	Clear vegeta	ation	
Comments:									
Comments:									

Ontario Structure Inspection Manual – Inspection Form MTO Site Number:	
Ontario Structure Inspection Manual – Inspection Form MTO Site Number:	

<b>Inventory Data:</b>		
Structure Name	Temagami Lake Access Road Bridge	
Main Highway #	On <b>Z</b> or Under <b>D</b> Structure	Service on Navig. Water Non-Navig. Water structure: Rail Road Ped. Other
Location description	5.0 km West of Hwy 11	Service
Owner/Custodian	Municipality of Temagami	LHRS: LHRS offset:
MTO Region	Northern	Latitude: 47° 00' 21" N Longitude: 79° 52' 47" W
Regional Engineer		Heritage Designation: Desig. Desig./not List Desig. List/not Desig. Desig./not List Desig. & List
MTO Area	Sudbury	Hwy Class: Freeway 🗆 Arterial 🗈 Collector 🗈 Local 🗷
Old County		Posted Speed 50 km/h No. of Lanes 2
Township	Temagami	AADT % Truck
Structure Type 1	Girder	Travel Stream N
Structure Material 1	Steel	Traffic Directional Bound W-E
Structure Type 2	Deck	Inspection Route Sequence
Structure Material 2	Wood/Fiber Glass	Inspection Frequency 2 (years)
Total Deck Length	7.3 (m)	Inspection Year 2023
Overall Str. Width	8.1 (m)	Inspection Duration (hrs)
Culvert length	(m)	Interchange Number
Total Deck Area	59.1 (sq.m)	Interchange Structure Number
Roadway Width	7.9 (m)	Min. Vertical Clearance (m)
Skew Angle	(Degree)	Detour Distance (km)
No. of Spans	1	Fill on Structure (m)
Span Lengths	6.15	(m)
For retaining wall:		
Total Wall Length	(m)	Max. Wall Height (m)
Total Wall Area	(sq.m)	Ave. Wall Height (m)
		Angle of Backfill (Degree)

Page 1

PART 2 2-68

Historical Data:					
Year Built Last Reg OSIM Inspection Last Enh. OSIM Inspection	2010	Year of superstruct. constructed Year of Last Minor Rehab. Year of Last Major Rehab. Current Load Limit	2022 (tonnes)		
Work History: (Date/descripti	on) 2022: West a	abutment undermining grouted solid, signs	and guide rails replaced.		
Investigation History: (Date/description)					
Scheduled Improvements:					
Regional Priority Number		Programmed Work Year			
Nature of Program Work:	None				

Appraisal Indices:		Comments
Fatigue	None	
Seismic	None	
Scour	None	
Flood	None	
Barrier	None	
Curb	None	
Load Capacity	None	

Page 2

# **Ontario Structure Inspection Manual – Inspection Form**

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Field Inspection Informa						
Date of Inspection:	June 20, 2023	Type of Inspection:	☑ Reg. OSIM	□ Enh. OSIM		
Inspected By:	Kevin Louch, P.Eng.					
Others in Party:	Kaitlyn Hunt					
Enh. Access Equipment:	Measuring Tape, Camera, Hammer					
Special Access Equipment:						
Weather:	Sunny	Temperature:	27 °C			

Additional Investigations Required:		Priority			
· ·	None	Normal	Urgent		
Material Condition Survey	1				
Detailed Deck Condition Survey:	V				
Non-destructive Delamination Survey of Asphalt-Covered Deck:	V				
Concrete Substructure Condition Survey:	V				
Detailed Coating Condition Survey:	V				
Detailed Timber Investigation	V				
Post-Tensioned Strand Investigation	1				
Underwater Investigation:	/				
Fatigue Investigation:	V				
Seismic Investigation:	/				
Structure Evaluation:	V				
Monitoring	V				
Deformations, Settlements and Movements:	<b>✓</b>				
Crack Widths:	/				
RSS Horizontal movements of face:					
RSS Vertical movements of overall structure:					
RSS Local movements or deterioration of facing elements:					
RSS Horizontal movements within overall structure:					
RSS Vertical movements within overall structure:	/				
RSS Lateral earth pressure at the back of facing elements:	/				
Investigation Notes: No further investigation required.					

<b>Overall Structure Notes:</b>		Overall B	ridge Condition:	BCI 73	
Recommended Work on Structure:	□ None □ N	Minor Rehab.	☑ Major Rehab.	☐ Replace	
Timing of Recommended Work:	☑ 1 to 5 years	□ 6 to 10 year	ars		
Overall Comments: East bin wall now		undermined simi	lar to west wall - to be	repaired.	
Date of Next Inspection:	2025				

# **Suspected Performance Deficiencies**

		06	Bearing not uniformly loaded/unstable		12	Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13	Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14	Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15	Unstable embankments
04	Continuing movements	10	Surface ponding		16	Other performance deficiencies
05	Seized bearings	11	Deck/Wall drainage			•
Mai	ntenance Needs					
01	N/A	07	Structural Steel Repair	13	Ere	osion Control at Bridges

01	N/A	U/	Structural Steel Repair	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Concrete Repair	14	Concrete Sealing
03	Railing System Repair	09	Timber Repair	15	N/A
04	N/A	10	Works for Modular bridges	16	Works for Drainage System

- 16 17
- Scaling (Loose Concrete or ACR Steel) Other Maintenance Bridge Deck Joint Repair 11 Animal/Pest Control N/A 12 Bridge Surface Repair 18

PART 2 2-70 Page 3

Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

MTO Site Number:	

Repair and Rehabilitation Required:			Priority			
Element	Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Urgent	Construction Cost	
Abutment Wall	Rehabilitation of East Undermining		х		\$60,000	
Slope protection	Rehabilitation of East Gabions		Х		\$30,000	
				T	\$90,000	
	Total Cost Total Cost					

Associated Work:	Comments	Estimated
Associated Work.	Comments	Cost
Other:	Engineering (15%)	\$13,500
Contingencies:	Contingency (10%)	\$9,000
	Total Cost	\$22,500

Total Repair and Rehabilitation Cost \$112,500

Replacement Cost \$600,000

Maintenance Requ	uired		Priority			
Element	Repair and Rehabilitation Required	2 year	Within 1 year	Urgent	Construction Cost	
Streams	Remove daming		х		\$1,000	
Approach WS	Remove gravel on top		х		\$1,000	
Deck WS	Removal gravel on top		х		\$1,000	
			Total Maintenance Cost		\$3,000	

Justification:	







Comments:

Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

MTO Site Number:	

Element Data							
Element Group:	Abutments			Length:		n/a	(m)
Element Name:	Abutment Wall				dth:	11.36	(m)
Location:	West and East			Hei	ight:	1.22	(m)
Material:	Steel	Steel			unt:	2	each
Element Type:	Steel Panels	Steel Panels			Quantity:	27.7	(m <sup>2</sup> )
Environment:	Benign Mod	derate / Se	vere	Limited	d Insp'n:		
Protection System:	Steel Coating						Performance
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies
Data: m <sup>2</sup> r	n / each / % / all		22.2		5.5	None	
Comments: Moderate unde concrete ballast wall. Steel  Performance Deficiencies:				outment wa	II. 		
Recommended Work:	Replace		None	ilab		tenance Ne	
		1 F.V.	6 - 10 Ye		Urgent	1 Ye	ar 2 Year
Timeframe:		1 - 5 Years	6 - 10 Ye	ears			
Comments: Repair the und	ermining of the east abu	tment wall.					
Comments:							

<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

MTO Site Number:	

Element Grou	ıp:	Abutments		Length:		2.15	(m)	
Element Nam	e:	Wingwall			Width:		n/a	(m)
Location: NE, NW, SE, SW			Hei	ght:	0.9	(m) avg		
Material:		Steel		Cor	unt:	4	each	
Element Type	:	Steel Panel			Total Q	uantity:	7.8	(m <sup>2</sup> )
Environment:		Benign Mod	erate / Sev	/ere	Limited	l Insp'n:		
Protection Sy	stem:	Steel Coating						Performance
Condition		Units	Exc.	Good	Fair	Poor		Deficiencies
<b>Data:</b> m <sup>2</sup> m / each / % / all 7 0.8		0.8		None				
Comments: St	Comments: Steel coating flaking and light corrosion at wingwall bases.							
Performance	Deficiencies:							
Recommende	Recommended Work:  ☐ Minor Rehab ☐ Replace ☐ None		hab	Mai Urgent	ntenance Ne			
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ears			
Comments:								

# **Element Photos**



Comments:		

<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

Element Grou	ıp:	Main Longitudinal Elements				gth:	2	(m) both ends total	
Element Nam	ie:	Girders			Wi	dth:	0.31	(m)	
Location:		Ends			Hei	ght:	0.3	(m)	
Material:		Steel			Co	unt:	5	each	
Element Type	<b>:</b> :	W Section				uantity:	15.3	(m <sup>2</sup> )	
Environment:		Benign Mod	erate Sev	rere	Limited	l Insp'n:			
Protection Sy	stem:	Steel Coating					Performance		
Condition		Units	Exc.	Good	Fair	Poor De		Deficiencies	
Data:		ı / each / % / all		15	0.3		None		
	Deficiencies:	osion showing through ste	- Couring of	T central bea		butment war			
Recommende		Minor Rehab		Major Re	ehab	Maiı	ntenance Ne	eds:	
		Replace		✓ None		Urgent			
Timeframe:		Urgent	1 - 5 Years	6 - 10 Ye	ears				
Comments:									
Comments:				1					

Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

MTO	Site	Number:	

Element Grou	ıp:	Main Longitudinal Elements			Length:		5.3	(m)	
Element Nam	e:	Girders			Width:		0.31	(m)	
Location:	ocation: Middl		Middle			Hei	ight:	0.3	(m)
Material:		Steel			Count:		5	each	
Element Type	:	W Section			Total Quantity:		40.5	(m²)	
Environment		Benign / Moderate / Severe		Limited Insp'n:					
Protection System: Steel Coating							Performance		
Condition		Units		Exc.	Good	Fair	Poor	Deficiencies	
Data:	m²) m	/ each	/ % / all		39	1.5			

Comments: Numerous redundant bolt holes were observed in the girders bottom flange. Girders were pre-assembled into groups with 3 and 2 girders respectively and jointed together in the field with one single transverse link member at the mid-span.

Performance Deficiencies:									
Recommended Work:	Minor Rehab		Major Rehab	Major Rehab		Maintenance Needs:			
	Replace		✓ None		Urgent	1 Year	2 Year		
Timeframe:	Urgent	1 - 5 Years	6 - 10 Years						
Comments:									

# Element Photos



	tion Form			D 47	'C C't- Normal	L	
Temagami Lake Access Roa	d Briage			IVi i	O Site Numl	oer:	
Element Data							
Element Group:	Main Longitudinal Eleme	ents		Len	gth:	2.06	(m)
Element Name:	Diaphragms				dth:	0.1	(m)
Location:	End			Hei	ght:	0.15	(m)
Material:	Steel				ınt:	6	each
Element Type:	L-section			Total Q	uantity:	6	each
Environment:	Benign Mod	lerate Se	vere	Limited	Insp'n:	<b>✓</b>	
Protection System:	Steel Coating					Pei	rformance
Condition	Units	Exc.	Good	Fair	Poor		eficiencies
	m (each)/ % / all		6				None
Performance Deficiencies: Recommended Work:	Minor Rehab		Major Reh	ah	Mai	intenance Need	
tecommended work.	Replace		✓ None	ab	Urgent		2 Year
Timeframe:		1 - 5 Years	6 - 10 Yea	arc	Urgent	1 1601	Z 1edi
Timetrame: Comments:	□ orgent □ 1	- 3 Tears		115			

Municipal Structure Inspection Form	
Temagami Lake Access Road Bridge	

Element Data							
Element Group:	Main Longitudinal Eleme	ents		Len	gth:	2.06, 1	(m)
Element Name:	Diaphragms			Width:		0.31	(m)
Location:	Intermediate			Height:		0.3	(m)
Material:	Steel			Count:		6-2.06, 3-1	(m) each
Element Type:	W Section				uantity:	9	each
Environment:	Benign / Mod	erate / Sev	vere		l Insp'n:	<b>7</b>	
Protection System:	Steel Coating						Performance
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies
	n (each)/ % / all		7	2			None
Performance Deficiencies: Recommended Work:	Minor Rehab		Major Rel	nab	Mai	intenance Ne	eds:
	Replace		✓ None		Urgent	1 Ye	ar 2 Year
Timeframe:	Urgent 1	- 5 Years	6 - 10 Ye	ars			
Comments:							
Element Photos							

<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

мто	Site	Number:	

Element Grou	ıp:	Coating	· ·			Length:		(m)	
Element Nam	ie:	Structural Steel			Width:		n/a	(m)	
Location:		Ends			Height:		n/a	(m)	
Material:		-			Count:		n/a	each	
Element Type	2:	-			Total Q	uantity:	17.4	(m²)	
Environment	:	Benign Moderate Severe			Limited	l Insp'n:			
Protection Sy	stem:	-					Performance		
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	$m^2$ m	/ each / % / all		15.4	2			None	
		has been repainted. Light		nd effloresce	nce at botto	m middle of	west abutme	ent wall. Moderate	
corrosion at the bottom of central girder at west abutment wall.									
Performance	Deficiencies:							_	
Recommend	ommended Work: Minor Rehab		Major Re	Major Rehab		Maintenance Needs:			
		Replace		✓ None		Urgent	1 Ye	ear 2 Year	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ears				
Comments:									

# **Element Photos**



Municipal Structure Ins	pection Form						
Temagami Lake Access				MTO Site Number:			
Element Data							
Element Group:	Coating			Length:		n/a	(m)
Element Name:	Structural Steel			Width:		n/a	(m)
Location:	Middle				ght:	n/a	(m)
Material:	-				Count:		each
Element Type:	-			Total Quantity:		n/a 62.5	(m²)
Environment:	Benign ) Mo	oderate / Sev	/ere	Limited Insp'n:			,
Protection System:					·		Performance
Condition	Units	Units Exc. Good			Poor		Deficiencies
	m / each / % / all		60	Fair 2.5	, , ,		None
Comments: Steel struc	ture repainted. Light corrosi	on on middle g					
Performance Deficience Recommended Work:	Minor Rehab		Major Rel	nah	Mai	ntononce No	a da.
Recommended Work.	Replace		✓ None	iab		ntenance Ne	
Timeframe:	Urgent	1 - 5 Years	6 - 10 Ye	arc	Urgent	1 Ye	ar 2 Year
Comments:	organic	1 - J Teals	0 1010	ais			
comments.							
Element Photos							

Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

OTN	Site	Number:	

Element Grou	ıp:	Decks	Len	gth:	7.3	(m)			
Element Nam	ie:	Deck Top	Width:		8.1	(m)			
Location:		-			Hei	ght:	0.2	(m)	
Material:		Wood-Fibre Glass			Cou	unt:	n/a	each	
Element Type	::	Transverse Laminate Dec	ck		Total Q	uantity:	59.1	(m²)	
Environment:	:	Benign Mod	erate Sev	/ere	Limited	l Insp'n:	<b>√</b>		
Protection Sy	stem:	Treated						Performance	
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	$m^2$ m	m / each / % / all					None		
Comments: D	eck top covere	ed by 125 mm of gravel a	nd surface tr	eatment, coi	ndition unko	wn. Based o	n wearing su	rface and soffit.	
Performance	Deficiencies:								
Recommende	ed Work:	Minor Rehab		Major Rel	nab	Maintenance Needs:			
		Replace		✓ None		Urgent	1 Ye	ar 2 Year	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars				
Comments:									

# Element Photos



Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

MTO	Site	Number:	

Element Grou	p:	Deck			Ler	ngth:	6.2	(m)	
Element Nam	e:	Wearing Surface			Width:		7.8	(m)	
Location:		Deck			He	ight:	0.05	(m)	
Material:		Surface Treatment			Co	unt:	2	each	
Element Type	:	-			Total C	Quantity:	96.72	(m²)	
Environment:		Benign / Mode	erate / Sev	vere )	Limited	d Insp'n:			
Protection Sy	stem:	-						Performance	
Condition		Units	Exc.	Good	Fair	Poor	Deficiencies		
Data:	$m^2$ m	/ each / % / all		30	62.72	4	None		
Comments: R	Comments: Raveling at the north and south edges of wearing surface. Moderate snowplow scrapes on surface and covered in gravel								
patches.									
Performance	Deficiencies:								
Recommende	ed Work:	Minor Rehab		Major Rel	nab	Mai	ntenance Ne	eds:	
		Replace		✓ None		Urgent	√ 1 Ye	ar 2 Year	
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars	Remove gra	vel from we	aring surface.	
Comments:									

# Element Photos



Municipal Structure Inspection	ı Form
Temagami Lake Access Road B	ridge

MTO	Site	Number:	

Element Group:	Decks	Len	gth:	6.15	(m)		
Element Name:	Soffit			Width:		6.6	(m)
Location:	-			Hei	ght:	n/a	(m)
Material:	Wood-Fibre Glass			Cor	unt:	n/a	each
Element Type:	-			Total Q	uantity:	40.6	(m²)
Environment:	Benign Mod	erate / Sev	/ere	Limited	l Insp'n:		
Protection System:	-						Performance
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies
Data: m <sup>2</sup> m	/ each / % / all		40.6				None
Comments: Structural steel repainted.							
Performance Deficiencies:							
Recommended Work:	Minor Rehab		Major Rel	nab	Mai	ntenance Ne	eds:
	Replace		✓ None		Urgent	1 Ye	ar 2 Year
Timeframe:	Urgent 1	- 5 Years	6 - 10 Ye	ars			
Comments:							



<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

MTO Site Number:	
IVITO Site Number:	

Element Group:	Barriers	Len	gth:	7.33	(m)		
Element Name:	Railing Systems	Railing Systems			Width:		(m)
Location:	North and South sides of Deck			Hei	ght:	0.74	(m)
Material:	Steel			Co	unt:	2	each side
Element Type:	HSS 100x100			Total Q	uantity:	29.3	(m²)
Environment:	Benign / Mod	erate Sev	vere	Limited	l Insp'n:		
Protection System:	Steel Coating						Performance
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies
Data: m <sup>2</sup> / m	n / each / % / all		28	1.3			None
Comments: Light corrosion	on HSS and minor scratch	es from sno	wplow.				
Performance Deficiencies:							
Recommended Work:	Minor Rehab		Major Rel	nab	Maintenance Needs:		
	Replace		✓ None		Urgent	1 Ye	ar 2 Year
Timeframe:	Urgent 1	- 5 Years	6 - 10 Ye	ars			
Comments:							



<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

MTO 9	Site Nur	nber:	

Barriers			Length:		0.2		(m)
Posts			Width:		0.2		(m)
North and South sides of	Deck		Height:		0.77		(m)
Steel			Cor	unt:	4		each side
W Sections			Total Q	uantity:	8.0		each
Benign / Mode	erate / Sev	rere	Limited	l Insp'n:			
Steel Coating						Perform	ance
Units Exc. God			Fair	Poor	Deficiencies		
each / % / all 8					None		
Comments: Steel barriers repainted. Light corrosion and light flaking on barrier base on road side.							
Minor Rehab Major Rehab			nab	Mai	ntenance N	eeds:	
Replace		✓ None		Urgent	1 Y	ear	2 Year
Urgent 1	- 5 Years	6 - 10 Ye	ars				
	Posts North and South sides of Steel W Sections Benign / Mode Steel Coating Units Units Painted. Light corrosion and Minor Rehab Replace	Posts North and South sides of Deck Steel W Sections Benign / Moderate Sev Steel Coating Units Exc. each / % / all painted. Light corrosion and light flak	Posts North and South sides of Deck Steel W Sections Benign / Moderate Severe Steel Coating Units Exc. Good each / % / all 8 painted. Light corrosion and light flaking on barrie	Posts Wi North and South sides of Deck Hei Steel Co W Sections Total O Benign / Moderate Severe Limited Steel Coating Units Exc. Good Fair each / % / all 8 painted. Light corrosion and light flaking on barrier base on ro  Minor Rehab Major Rehab Replace None	Posts Width:  North and South sides of Deck Height:  Steel Count:  W Sections Total Quantity:  Benign / Moderate Severe Limited Insp'n:  Steel Coating  Units Exc. Good Fair Poor  each / % / all 8  painted. Light corrosion and light flaking on barrier base on road side.  Minor Rehab Mai  Replace None Urgent	Posts Width: 0.2  North and South sides of Deck Height: 0.77  Steel Count: 4  W Sections Total Quantity: 8.0  Benign / Moderate Severe Limited Insp'n: Steel Coating  Units Exc. Good Fair Poor  each / % / all 8  painted. Light corrosion and light flaking on barrier base on road side.  Minor Rehab Major Rehab Maintenance N  Replace None Urgent 1 Y	Posts Width: 0.2  North and South sides of Deck Height: 0.77  Steel Count: 4  W Sections Total Quantity: 8.0  Benign / Moderate Severe Limited Insp'n: Steel Coating  Units Exc. Good Fair Poor Deficier  each / % / all 8 Non  painted. Light corrosion and light flaking on barrier base on road side.  Minor Rehab Major Rehab Virgent 1 Year



<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

Element Grou	ıp:	Approaches			Len	ngth: 15		(m)
Element Nam	e:	Barrier			Width:		n/a	(m)
Location:		East and West Approach	es		Height:		0.90	(m)
Material:		Steel			Co	unt:	2	each side
Element Type	::	Steel Beam Guid Rail			Total O	uantity:	60.0	(m)
Environment:		Benign / Mod	erate / Sev	vere	Limited	l Insp'n:		
Protection Sy	stem:	Galvanized						Performance
Condition		Units	Good	Fair	Poor	Deficiencies		
Data:	m² (m	each / % / all 60						None
Comments: B	arrier replaced	l in 2022. Minor post dam	nage at sout	heast corner	(local).			
Performance	Deficiencies:							
Recommende	ed Work:	Minor Rehab Major Rel			Rehab Maintenance Needs			eeds:
		Replace V None				Urgent	1 Y	ear 2 Year
Timeframe:		Urgent 1	- 5 Years	6 - 10 Ye	ars			
Comments:								



Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

MTO	Site	Number:	

Element Grou	ıp:	Approaches			Length:		0.2	(m)
Element Nam	ie:	Barrier Posts			Width:		0.2	(m)
Location:		East and West Approache	es		Height:		0.90	(m)
Material:		Wood			Сог	Count:		each side
Element Type	j:	Dimension Lumber			Total Q	Quantity:	4	each
Environment:		Benign / Mode	erate Sev	vere	Limited	d Insp'n:		
Protection Sy	stem:	Treated						Performance
Condition		Units	Exc.	Good	Fair	Poor		Deficiencies
Data:	m² / m	each/ % / all		4				None
Comments: Light-moderate rotting and splitting in all posts								
	Deficiencies:							
Recommende	ed Work:	Minor Rehab		Major Reh	ıab	Mai	intenance Ne	eds:
		☐ Replace ✓ None				Urgent	1 Ye	ear 2 Year
Timeframe: Urgent 1 - 5 Years 6 - 10 Years					ars			
Comments:								
Element Phot	os							
İ								





Commo	ents:
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Municipal Structure Inspection Form
Temagami Lake Access Road Bridge

MTO	Site	Number:	

Element Data								
Element Group:	Approach				Length:		(m)	
Element Name:	Wearing Surface			W	idth:	7.8	(m)	
Location:	East and West Approach	es		He	ight:	0.05	(m)	
Material:	Surface Treatment			Сс	unt:	2	each	
Element Type:	-			Total (	Quantity:	93.6	(m²)	
Environment:	Benign / Mod	erate / Se	vere	Limite	d Insp'n:			
Protection System:	-					Pe	erformance	
Condition	Units	Exc.	Good	Fair	Poor	D	eficiencies	
Data: m <sup>2</sup>	m / each / % / all		30	59.6	4	None		
Comments: Gravel is cove (in poor condition).  Performance Deficiencies:		ng wearing s	surface. Mode	erate scraps	from snowp	low. Low area	at southwest corner	
Recommended Work:	Minor Rehab		Major Reh	ab	Mai	intenance Needs:		
	Replace				Urgent			
Timeframe:	Urgent 1	- 5 Years	6 - 10 Yea					
Element Photos								

	ucture Inspecti ke Access Road				M	TO Site Numb	er:	
ement Data								
lement Grou	ıp:	Approaches			Ler	ngth:	n/a	(m)
lement Nam		Signage				idth:	n/a	(m)
ocation:		East and West Approa	aches			ight:	n/a	(m)
/laterial:						unt:	2	each side
lement Type	:					Quantity:	4	each
nvironment:		Benign / M	Moderate / Se	evere		d Insp'n:		
rotection Sy	stem:						Pe	erformance
Condition		Units	Exc.	Good	Fair	Poor		eficiencies
Data:		m / each / % (all)	4					None
Comments: 4	hazard signs r	replaced in 2022.						
	Deficiencies:			The state of the s			-11	
tecommende	ed work:	Minor Rehab		☐ Major Reh  ✓ None	iab		Maintenance Needs:	
		Replace	7,			Urgent	1 Year	2 Year
imeframe: Comments:		Urgent	1 - 5 Years	6 - 10 Yea	ars	4		
ement Phot	os							

Municipal Structure Inspection Form	
Temagami Lake Access Road Bridge	

мто	Site	Number:	
	JILL	Mullibel.	

Element Data									
Element Group:	Embankments and Streams				Length:		(m)		
Element Name:	Streams and Waterways			Width:		n/a	(m)		
Location:	-			Height:		n/a	(m)		
Material:	-			Cou	unt:	1	each		
Element Type:	-			Total Q	Total Quantity:		all		
Environment:	Benign / Mod	erate / Sev	vere	Limited Insp'n:					
Protection System:	-						Performance		
Condition	Units	Exc.	Good	Fair Poor		Deficiencies			
	/ each / % (all)			1		None			
Comments: Remnants of be	aver dam noted immedia	itely upstrea	m (south) of	bridge.					
Performance Deficiencies:									
Recommended Work:	Minor Rehab	Major Rel				intenance Needs:			
	Replace		✓ None	☐ Urgent ☐ 1 Year ☐ 2 Year					
Timeframe:	Urgent 1	- 5 Years	6 - 10 Yea	ars	Clear beave	r dam upstre	am (south).		
Comments:  Element Photos									
							- \		

<b>Municipal Structure Inspection Form</b>
Temagami Lake Access Road Bridge

Element Group: Embankments and Streams			Length:		n/a	(m)			
Element Name: Slope Protection			Width:		n/a	(m)			
Location:		Abutment Front and Side	Slopes		Height:		n/a	(m)	
Material:	Material: Stone				Count:		2	each	
Element Type	e:	Rip Rap			Total Quantity:		2	each	
Environment	:	Benign / Mod	erate / Sev	vere	Limited Insp'n:				
Protection Sy	/stem:	-					Performance		
Condition	Units Exc. Good			Good	Fair	Poor	Deficiencies		
Data: m² / m (each)/ % / all 1				1		None			
Comments: West gabions replaced in 2022. East gabions pulling from east abutment wall and undermining. Erosion at northeast quardant.									
Performance	Deficiencies:								
Recommended Work: Minor Rehab Major Rehab			nab	Maintenance Needs:					
Replace None					Urgent	1 Ye	ear 2 Year		
Timeframe: Urgent  1 - 5 Years 6 - 10 Years					ars				
Comments: Reinstall gabion baskets after undermining rehabilitation on east side.									
<b>Element Phot</b>	tos								

