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Sudbury, October 29, 2019

Mr. Barry Turcotte,  
Public Works Superintendent

**Municipality of Temagami,**  
7 Lakeshore Drive, P.O. Box 220,  
Temagami, Ontario,  
POH 2H0

Your Ref.: 2019 Municipal Bridge Inspections  
Our Ref.: SUD-00019064-IS

**Subject: 2019 Municipal Bridge Inspections**

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Dear Mr. Turcotte:

Further to your request, we visually reviewed the general condition of the following three (3) municipal bridges on October 4, 2019:

- Bridge No. 001 Wilson Lake Road Bridge No. 1,
- Bridge No. 002 Wilson Lake Road Bridge No. 2, and
- Bridge No. 003 Temagami Lake Access Road Bridge

The reviews were carried out, by Mr. Stephen Ho, M. Eng., P. Eng. of EXP Services Inc., in conformance to the requirements of a typical inspection of the Ontario Structure Inspection Manual (OSIM) published by the Ministry of Transportation, Ontario. The extent of the visual reviews was limited to areas readily accessible without the use of special inspection equipment. The bridge was observed from the road surface and riverbank only. No destructive or non-destructive or any other performance testing were conducted as part of this assignment. Therefore, identifying concealed physical deficiencies are specifically excluded from our scope of work. Findings and our recommendations are summarized in the following paragraphs:

#### **Bridge No. 001 Wilson Lake Road Bridge No. 1**

The subject bridge is a three-span steel girder timber deck bridge. The superstructure, completely replaced in 2014, consists of 5 – W410 x 54 steel girders, and 38mm x 190mm transverse laminated timber deck overlain by a 75mm thick timber wear deck. C250 x 23 diaphragms are provided at abutment and pier bearing locations. Traffic barrier consists of steel beam guide rails and timber posts. The substructure, both abutment and pier, consists of timber pile bents constructed with 5 – 300 mm diameter piles. New steel W250 x 73 pile caps were installed during the 2014 Rehabilitation.

Superstructure and all pile caps are generally in good to excellent condition. Timber pile bent abutments and piers appear to be stable. No evidence of movement is observed.

Completed OSIM Forms and site photographs are attached at the end of this report letter.

### Bridge No. 002 Wilson Lake Road Bridge No. 2

The subject structure is a single span 7-bay long (21.34m) Triple-Single (TS) standard width Bailey Bridge with two (2) transoms per bay. Bridge deck consists of 38mm x 140mm timber planks at 230mm c/c and 38mm thick full width wear deck. Substructure consists of standard Bailey base plates and bearing timbers founded directly on grade.

The Bailey panels and components are generally in fair condition. Medium corrosion is observed on some of the panels and transoms. Swaybraces appears to be correctly tensioned. Some minor damages were observed on the panels.

The bridge is currently posted with a triple load posting of 50t; 36t and 21t for vehicle trains; two-unit vehicles and single-unit vehicles respectively.

The bridge is generally in fair to good condition. Severe deteriorations were observed on timber curbs and approach guide rail timber posts. Minor settlements/movements were observed at three of the four bearing pads. We would recommend monitoring the settlements at all four (4) corners of the bridge where bearing pads are found.

Completed OSIM Forms and site photographs are attached at the end of this report letter.

### Bridge No. 003 Temagami Lake Access Road Bridge

Temagami Lake Access Road Bridge is a single span steel stringer type bridge with timber/fiber glass composite deck. Substructure consists of concrete abutments with steel panel facings.

The bridge is general in good condition. Light to medium corrosion were observed at some of the girder ends. Coating on the abutment and wingwall steel panels were heavily deteriorating. Area of severe corrosion on base metal were observed. We would recommend the Municipality considering re-coating the steel components of the bridge. In addition, one identified broken timber guide rail post should also be replaced.

Completed OSIM Forms and site photographs are attached at the end of this report letter.

We trust the above is satisfactory for your consideration. However, should you have any questions, please do not hesitate to contact our office.

Best regards,

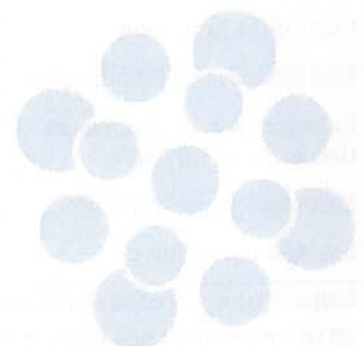


Digitally signed by  
Stephen Ho  
DN: C=CA,  
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O=EXP Services Inc,  
OU=Infrastructure,  
CN=Stephen Ho  
Date: 2019.10.29  
16:52:43-04'00'

Stephen H. Ho, M.Eng., P.Eng.  
Project Manager  
Professional License #: 90221938

Enclosed: 2019 OSIM Inspection Forms and Site Photos

2019 OSIM FORM  
Bridge #001 – Wilson Lake Road Bridge No. 1



## Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: N/A

Inventory Data: 2019

Structure Name	Wilson Lake Road Bridge I		
Main Hwy/Road #	N/A	On <input checked="" type="checkbox"/> Under <input type="checkbox"/>	Crossing Type: <input type="checkbox"/> Navig. Water <input checked="" type="checkbox"/> Non-Navig. Water <input type="checkbox"/> Rail <input type="checkbox"/> Road <input type="checkbox"/> Ped. <input type="checkbox"/> Other
Hwy/Road Name	Wilson Lake Road		
Structure Location	6.8 km South West of Hwy 11		
Latitude	46° 55' 28" N	Longitude	79° 48' 35" W
Owner(s)	Municipality of Temagami	Heritage Designation:	<input checked="" type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App. <input type="checkbox"/> List/not Desig. <input type="checkbox"/> Desig./not List <input type="checkbox"/> Desig. & List
MTO Region	Northern	Road Class:	Freeway <input type="checkbox"/> Arterial <input type="checkbox"/> Collector <input checked="" type="checkbox"/> Local <input type="checkbox"/>
MTO District	Sudbury	Posted Speed	<input type="text"/> No. of Lanes <input type="text" value="2"/>
Old County	<input type="text"/>	AADT	<input type="text"/> % Trucks <input type="text"/>
Geographic Twp.	<input type="text"/>	Inspection Route Sequence	<input type="text"/>
Structure Type	Steel Girder, Timber Deck	Interchange Number	<input type="text"/>
Total Deck Length	12.2 (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	5.9 (m)	Min. Vertical Clearance	<input type="text"/> (m)
Total Deck Area	<input type="text"/> (sq.m)	Special Routes:	<input type="checkbox"/> Transit <input type="checkbox"/> Truck <input type="checkbox"/> School <input type="checkbox"/> Bicycle
Roadway Width	5.2 (m)	Detour Length Around Bridge	<input type="text"/> (km)
Skew Angle	0 (Degrees)	Direction of Structure	S-N
No. of Spans	3	Fill on Structure	<input type="text"/> (m)
Span Lengths	North 3.9 m; 4.2 m; 3.9 m South (m)		

## Historical Data:

Year Built	<input type="text"/>	Year of Last Major Rehab.	2014
Last OSIM Inspection	October 2017	Last Evaluation	Aug 2014
Last Enhanced OSIM Inspection	<input type="text"/>	Current Load Limit	<input type="text"/> / / (tonnes)
Enhanced Access Equipment (ladder, boat, lift, etc.)	<input type="text"/>	Load Limit By-Law #	<input type="text"/>
Last Underwater Inspection	<input type="text"/>	By-Law Expiry Date	<input type="text"/>
Last Condition Survey	<input type="text"/>		

## Rehab History: (Date/description)

2014 - new steel pile caps, new timber ballast walls, entire new superstructure and railing.

**Scheduled Improvements:**Regional Priority  
NumberProgrammed Work  
Year

Nature of Program Work:

**Appraisal Indices:****Comments**

Fatigue

Seismic

Scour

Flood

Geometrics

Barrier

Curb

Load Capacity

## Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: N/A

Field Inspection Information:			
Date of Inspection:	October 4, 2019	Type of Inspection:	<input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Stephen Ho, M.Eng., P.Eng., EXP Services Inc.		
Others in Party:			
Access Equipment Used:	N/A		
Weather:	Sunny		
Temperature:	10° C		

Additional Investigations Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:			
Non-destructive Delamination Survey of Asphalt-Covered Deck:			
Concrete Substructure Condition Survey:			
Detailed Coating Condition Survey:			
Detailed Timber Investigation			
Post-Tensioned Strand Investigation			
Underwater Investigation:			
Fatigue Investigation:			
Seismic Investigation:			
Structure Evaluation:			
Monitoring			
Monitoring of Deformations, Settlements and Movements:			
Monitoring Crack Widths:			
Investigation Notes: Bridge generally in good condition. Beaver activities noted			

Overall Structure Notes:			
Recommended Work on Structure:	<input checked="" type="checkbox"/> None <input type="checkbox"/> Minor Rehab. <input type="checkbox"/> Major Rehab. <input type="checkbox"/> Replace		
Timing of Recommended Work:	<input type="checkbox"/> 1 to 5 years <input type="checkbox"/> 6 to 10 years		
Overall Comments:	Bridge superstructure in excellent condition. Timber piles in good to fair condition		
Date of Next Inspection:	October 2021		

## Suspected Performance Deficiencies

- |   |  |                              |
|---|--|------------------------------|
| 01 Load carrying capacity                           | 06 Bearing not uniformly loaded/unstable | 12 Slippery surfaces         |
| 02 Excessive deformations (deflections & rotations) | 07 Jammed expansion joint                | 13 Flooding/channel blockage |
| 03 Continuing settlement                            | 08 Pedestrian/vehicular hazard           | 14 Undermining of foundation |
| 04 Continuing movements                             | 09 Rough riding surface                  | 15 Unstable embankments      |
| 05 Seized bearings                                  | 10 Surface ponding                       | 16 Other                     |
|   | 11 Deck drainage                         |                              |

## Maintenance Needs

- |                                      |                                 |  |
|--------------------------------------|---------------------------------|--|
| 01 Lift and Swing Bridge Maintenance | 07 Repair to Structural Steel   | 13 Erosion Control at Bridges            |
| 02 Bridge Cleaning                   | 08 Repair of Bridge Concrete    | 14 Concrete Sealing                      |
| 03 Bridge Handrail Maintenance       | 09 Repair of Bridge Timber      | 15 Rout and Seal                         |
| 04 Painting Steel Bridge Structures  | 10 Bailey bridges - Maintenance | 16 Bridge Deck Drainage                  |
| 05 Bridge Deck Joint Repair          | 11 Animal/Pest Control          | 17 Scaling (Loose Concrete or ACR Steel) |
| 06 Bridge Bearing Maintenance        | 12 Bridge Surface Repair        | 18 Other                                 |

## Element Data

<b>Element Group:</b>	Abutments	<b>Length:</b>	0.25 m
<b>Element Name:</b>	Pile Cap	<b>Width:</b>	5.94 m
<b>Location:</b>	North and South Abutments	<b>Height:</b>	0.25 m
<b>Material:</b>	Steel	<b>Count:</b>	2
<b>Element Type:</b>	W250x73	<b>Total Quantity:</b>	11.9 m <sup>2</sup>
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Structural steel coating		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 11.9	<b>Good</b>  <b>Fair</b>  <b>Poor*</b>  <b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Abutments	<b>Length:</b>	0.3 m
<b>Element Name:</b>	Pile Bents	<b>Width:</b>	0.3 m
<b>Location:</b>	North and South Abutments	<b>Height:</b>	0.4 m
<b>Material:</b>	Wood	<b>Count:</b>	10
<b>Element Type:</b>	Timber Piles	<b>Total Quantity:</b>	3.8 m <sup>2</sup>
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>
<b>Protection System:</b>	Treated		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b>  <b>Good</b> 3.5 <b>Fair</b> 0.3 <b>Poor*</b>  <b>Perform. Deficiencies</b> 00	
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Abutments	<b>Length:</b>	N/A
<b>Element Name:</b>	Ballast Walls	<b>Width:</b>	7.14 m
<b>Location:</b>	North and South Abutments	<b>Height:</b>	0.84 m
<b>Material:</b>	Wood	<b>Count:</b>	2
<b>Element Type:</b>	Dimension Lumber	<b>Total Quantity:</b>	12.0 m <sup>2</sup>
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>
<b>Protection System:</b>	Treated		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 12	<b>Good</b>  <b>Fair</b>  <b>Poor*</b>  <b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.



## Element Data

<b>Element Group:</b>	Piers	<b>Length:</b>	0.25 m			
<b>Element Name:</b>	Pile Caps	<b>Width:</b>	5.94 m			
<b>Location:</b>	North and South Piers	<b>Height:</b>	0.25 m			
<b>Material:</b>	Steel	<b>Count:</b>	2			
<b>Element Type:</b>	W250x73	<b>Total Quantity:</b>	11.9 m <sup>2</sup>			
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Structural Steel Coating					<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	
	m <sup>2</sup>	11.5	0.4			00
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Piers	<b>Length:</b>	0.3 m			
<b>Element Name:</b>	Pile Bents	<b>Width:</b>	0.3 m			
<b>Location:</b>	North and South Piers	<b>Height:</b>	1.3 m			
<b>Material:</b>	Wood	<b>Count:</b>	10			
<b>Element Type:</b>	Timber Pile	<b>Total Quantity:</b>	12.3 m <sup>2</sup>			
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Treated					<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	
	m <sup>2</sup>		11.3	1.0		00
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Main Longitudnal Elements	<b>Length:</b>	4 m			
<b>Element Name:</b>	Girders	<b>Width:</b>	0.177 m			
<b>Location:</b>	Ends - 2m each end	<b>Height:</b>	0.403 m			
<b>Material:</b>	Steel	<b>Count:</b>	5			
<b>Element Type:</b>	W 410x54	<b>Total Quantity:</b>	26.7 m <sup>2</sup>			
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Structural steel coating					<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	
	m <sup>2</sup>	26.0	0.7			00
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.



## Element Data

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	8.22 m
<b>Element Name:</b>	Girders	<b>Width:</b>	0.177 m
<b>Location:</b>	Middle	<b>Height:</b>	0.403 m
<b>Material:</b>	Steel	<b>Count:</b>	5
<b>Element Type:</b>	W 410x54	<b>Total Quantity:</b>	55.0 m <sup>2</sup>
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Structural Steel Coating		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 54.5	<b>Good</b> 0.5
		<b>Fair</b>	<b>Poor*</b>
<b>Perform. Deficiencies</b> 00			
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	1.22 m
<b>Element Name:</b>	Diaphragm	<b>Width:</b>	0.065 m
<b>Location:</b>	End (at abutments)	<b>Height:</b>	0.254 m
<b>Material:</b>	Steel	<b>Count:</b>	8
<b>Element Type:</b>	C 250x23	<b>Total Quantity:</b>	8
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Structural Steel Coating		
<b>Condition Data:</b>	<b>Units</b> each	<b>Exc.</b> 8	<b>Good</b>
		<b>Fair</b>	<b>Poor*</b>
<b>Perform. Deficiencies</b> 00			
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	1.22 m
<b>Element Name:</b>	Diaphragm	<b>Width:</b>	0.065 m
<b>Location:</b>	Intermediate (at piers)	<b>Height:</b>	0.254 m
<b>Material:</b>	Steel	<b>Count:</b>	8
<b>Element Type:</b>	C 250x23	<b>Total Quantity:</b>	8
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Structural Steel Coating		
<b>Condition Data:</b>	<b>Units</b> each	<b>Exc.</b> 8	<b>Good</b>
		<b>Fair</b>	<b>Poor*</b>
<b>Perform. Deficiencies</b> 00			
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Coating	<b>Length:</b>	N/A
<b>Element Name:</b>	Structural Steel	<b>Width:</b>	N/A
<b>Location:</b>	End	<b>Height:</b>	N/A
<b>Material:</b>	epoxy paint	<b>Count:</b>	N/A
<b>Element Type:</b>	Epoxy-Zinc Epoxy-Polyurethane	<b>Total Quantity:</b>	32.9 m <sup>2</sup> (including diaphragms)
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	structural steel coating		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 31.9	<b>Good</b> 1.0
		<b>Fair</b>	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Coating	<b>Length:</b>	N/A
<b>Element Name:</b>	Structural Steel	<b>Width:</b>	N/A
<b>Location:</b>	Middle	<b>Height:</b>	N/A
<b>Material:</b>	epoxy paint	<b>Count:</b>	N/A
<b>Element Type:</b>	Epoxy-Zinc Epoxy-Polyurethane	<b>Total Quantity:</b>	61.2 m <sup>2</sup> (including diaphragms)
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Structural steel coating		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 60.7	<b>Good</b> 0.5
		<b>Fair</b>	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Deck	<b>Length:</b>	12.22 m
<b>Element Name:</b>	Deck Top	<b>Width:</b>	5.5 m
<b>Location:</b>		<b>Height:</b>	0.19 m
<b>Material:</b>	Wood	<b>Count:</b>	N/A
<b>Element Type:</b>	Dimension Lumber	<b>Total Quantity:</b>	67.21 m <sup>2</sup>
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	wood preservative treatment		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 65.0	<b>Good</b> 2.21
		<b>Fair</b>	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Deck	<b>Length:</b>	12.22 m
<b>Element Name:</b>	Soffit	<b>Width:</b>	5.0 m
<b>Location:</b>		<b>Height:</b>	N/A
<b>Material:</b>	Wood	<b>Count:</b>	N/A
<b>Element Type:</b>	Dimension Lumber	<b>Total Quantity:</b>	61.1 m <sup>2</sup>
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	wood preservative treatment		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 59.6	<b>Good</b> 1.5
		<b>Fair</b>	<b>Poor*</b>
<b>Perform. Deficiencies</b> 00			
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Deck	<b>Length:</b>	12.22 m
<b>Element Name:</b>	Wearing Surface	<b>Width:</b>	4.9 m
<b>Location:</b>		<b>Height:</b>	N/A
<b>Material:</b>	Wood	<b>Count:</b>	N/A
<b>Element Type:</b>	Dimension Lumber	<b>Total Quantity:</b>	59.9 m <sup>2</sup>
<b>Environment:</b>	Severe	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	N/A		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 58.0	<b>Good</b> 1.9
		<b>Fair</b>	<b>Poor*</b>
<b>Perform. Deficiencies</b> 00			
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

<b>Element Group:</b>	Sidewalks/Curbs	<b>Length:</b>	12.22 m
<b>Element Name:</b>	Curbs	<b>Width:</b>	0.14 m
<b>Location:</b>	East and West	<b>Height:</b>	0.14 m
<b>Material:</b>	Wood	<b>Count:</b>	2
<b>Element Type:</b>	Dimension Lumber	<b>Total Quantity:</b>	6.84 m <sup>2</sup>
<b>Environment:</b>	Severe	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	wood preservative treatment		
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b> 6.64	<b>Good</b> 0.2
		<b>Fair</b>	<b>Poor*</b>
<b>Perform. Deficiencies</b> 00			
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Barriers	<b>Length:</b>	0.19 m
<b>Element Name:</b>	Posts	<b>Width:</b>	0.19 m
<b>Location:</b>	East and West side	<b>Height:</b>	0.9 m
<b>Material:</b>	Wood	<b>Count:</b>	22
<b>Element Type:</b>	Dimension Lumber	<b>Total Quantity:</b>	22
<b>Environment:</b>	Severe	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Wood Preservative Treatment		
<b>Condition Data:</b>	<b>Units</b> each	<b>Exc.</b> 20	<b>Good</b> 2
		<b>Fair</b>	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years			

<b>Element Group:</b>	Barriers	<b>Length:</b>	3.81 m
<b>Element Name:</b>	Railing System	<b>Width:</b>	N/A
<b>Location:</b>	East and West side	<b>Height:</b>	0.9 m
<b>Material:</b>	Steel	<b>Count:</b>	10
<b>Element Type:</b>	Flex beam	<b>Total Quantity:</b>	38.1 m
<b>Environment:</b>	Severe	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	Galvanized		
<b>Condition Data:</b>	<b>Units</b> m	<b>Exc.</b> 37.1	<b>Good</b> 1
		<b>Fair</b>	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b>			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years			

<b>Element Group:</b>	Embankment and Stream	<b>Length:</b>	N/A
<b>Element Name:</b>	Streams and Waterways	<b>Width:</b>	N/A
<b>Location:</b>		<b>Height:</b>	N/A
<b>Material:</b>		<b>Count:</b>	N/A
<b>Element Type:</b>		<b>Total Quantity:</b>	
<b>Environment:</b>		<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>			
<b>Condition Data:</b>	<b>Units</b> all	<b>Exc.</b>	<b>Good</b> X
		<b>Fair</b>	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> light beaver activities noted			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years			

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.



## 2019 Site Photographs

Photo 1:  
Approach – Looking  
South



Photo 2:  
West Elevation





## 2019 Site Photographs

Photo 3:  
Bridge Deck,  
Looking South



Photo 4:  
Typical Abutment -  
South abutment  
shown.





2019 Site Photographs

Photo 5:  
Typical Pile Bent  
Pier – south pier  
shown

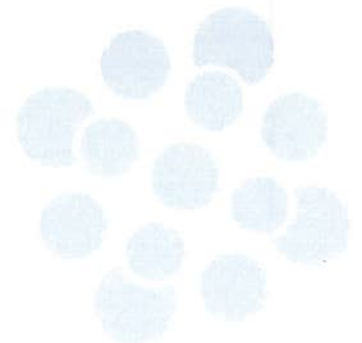


Photo 6:  
Typical Guide Rail  
End Treatment – SE  
corner shown





2019 OSIM FORM  
Bridge #002 – Wilson Lake Road Bridge No. 2



## Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: N/A

Inventory Data: 2019

Structure Name	Wilson Lake Road Bridge II		
Main Hwy/Road #	N/A	On <input checked="" type="checkbox"/> Under <input type="checkbox"/>	Crossing Type: <input type="checkbox"/> Navig. Water <input checked="" type="checkbox"/> Non-Navig. Water <input type="checkbox"/> Rail <input type="checkbox"/> Road <input type="checkbox"/> Ped. <input type="checkbox"/> Other
Hwy/Road Name	Wilson Lake Road		
Structure Location	12.4 km South West of Hwy 11		
Latitude	46° 52' 38" N	Longitude	79° 48' 36" W
Owner(s)	Municipality of Temagami	Heritage Designation:	<input checked="" type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App. <input type="checkbox"/> List/not Desig. <input type="checkbox"/> Desig./not List <input type="checkbox"/> Desig. & List
MTO Region	Northern	Road Class:	Freeway <input type="checkbox"/> Arterial <input type="checkbox"/> Collector <input checked="" type="checkbox"/> Local <input type="checkbox"/>
MTO District	Sudbury	Posted Speed	No. of Lanes 1
Old County		AADT	% Trucks
Geographic Twp.		Inspection Route Sequence	
Structure Type	Bailey Bridge (Triple-Single)	Interchange Number	
Total Deck Length	21.3 (m)	Interchange Structure Number	
Overall Str. Width	5.49 (m)	Min. Vertical Clearance	(m)
Total Deck Area	116.9 (sq.m)	Special Routes:	<input type="checkbox"/> Transit <input type="checkbox"/> Truck <input type="checkbox"/> School <input type="checkbox"/> Bicycle
Roadway Width	3.3 (m)	Detour Length Around Bridge	(km)
Skew Angle	0 (Degrees)	Direction of Structure	S-N
No. of Spans	1	Fill on Structure	(m)
Span Lengths	21.3 m (7 bays) (m)		

## Historical Data:

Year Built		Year of Last Major Rehab.	
Last OSIM Inspection	October 2017	Last Evaluation	June 2008
Last Enhanced OSIM Inspection		Current Load Limit	50/ 36/ 21 (tonnes)
Enhanced Access Equipment (ladder, boat, lift, etc.)		Load Limit By-Law #	
Last Underwater Inspection		By-Law Expiry Date	
Last Condition Survey			

## Rehab History: (Date/description)

2011 - replaced all bearing timbers and approach guide rail posts, raised north end of bridge by installing additional bearing timbers to correct settlement

**Scheduled Improvements:**Regional Priority  
NumberProgrammed Work  
Year

Nature of Program Work:

Appraisal Indices:		Comments
Fatigue		
Seismic		
Scour		
Flood		
Geometrics		
Barrier		
Curb		
Load Capacity		

## Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: N/A

Field Inspection Information:	
Date of Inspection:	Oct 4, 2019
Type of Inspection:	<input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Stephen Ho, M.Eng., P.Eng., EXP Services Inc.
Others in Party:	
Access Equipment Used:	N/A
Weather:	Sunny
Temperature:	10° C

Additional Investigations Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:			
Non-destructive Delamination Survey of Asphalt-Covered Deck:			
Concrete Substructure Condition Survey:			
Detailed Coating Condition Survey:			
Detailed Timber Investigation			
Post-Tensioned Strand Investigation			
Underwater Investigation:			
Fatigue Investigation:			
Seismic Investigation:			
Structure Evaluation:			
Monitoring			
Monitoring of Deformations, Settlements and Movements:		X	
Monitoring Crack Widths:			
Investigation Notes:			

Overall Structure Notes:	
Recommended Work on Structure:	<input type="checkbox"/> None <input type="checkbox"/> Minor Rehab. <input type="checkbox"/> Major Rehab. <input type="checkbox"/> Replace
Timing of Recommended Work:	<input type="checkbox"/> 1 to 5 years <input type="checkbox"/> 6 to 10 years
Overall Comments:	North East, South West and South East Bearings exhibit signs of settlement. Approach guide rail posts and curbs heavily deteriorated
Date of Next Inspection:	October 2021

## Suspected Performance Deficiencies

- |   |  |                              |
|---|--|------------------------------|
| 01 Load carrying capacity                           | 06 Bearing not uniformly loaded/unstable | 12 Slippery surfaces         |
| 02 Excessive deformations (deflections & rotations) | 07 Jammed expansion joint                | 13 Flooding/channel blockage |
| 03 Continuing settlement                            | 08 Pedestrian/vehicular hazard           | 14 Undermining of foundation |
| 04 Continuing movements                             | 09 Rough riding surface                  | 15 Unstable embankments      |
| 05 Seized bearings                                  | 10 Surface ponding                       | 16 Other                     |
|   | 11 Deck drainage                         |                              |

## Maintenance Needs

- |                                      |                                 |  |
|--------------------------------------|---------------------------------|--|
| 01 Lift and Swing Bridge Maintenance | 07 Repair to Structural Steel   | 13 Erosion Control at Bridges            |
| 02 Bridge Cleaning                   | 08 Repair of Bridge Concrete    | 14 Concrete Sealing                      |
| 03 Bridge Handrail Maintenance       | 09 Repair of Bridge Timber      | 15 Rout and Seal                         |
| 04 Painting Steel Bridge Structures  | 10 Bailey bridges - Maintenance | 16 Bridge Deck Drainage                  |
| 05 Bridge Deck Joint Repair          | 11 Animal/Pest Control          | 17 Scaling (Loose Concrete or ACR Steel) |
| 06 Bridge Bearing Maintenance        | 12 Bridge Surface Repair        | 18 Other                                 |

## Element Data

<b>Element Group:</b>	Abutments	<b>Length:</b>				
<b>Element Name:</b>	Bearing Cribs	<b>Width:</b>	2.0m			
<b>Location:</b>	North and South	<b>Height:</b>	0.85m			
<b>Material:</b>	Wood	<b>Count:</b>	4			
<b>Element Type:</b>	Bearing Timbers	<b>Total Quantity:</b>	6.8m <sup>2</sup>			
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Treated					<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b>	<b>Good</b> 4.0	<b>Fair</b> 2.8	<b>Poor*</b>	00
<b>Comments:</b> separate bearing crib constructed with 200x200 treated timber under each Bailey base plate. Bearing Cribs exhibit signs of settlement.						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		06
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
		monitor movement				

<b>Element Group:</b>	Abutments	<b>Length:</b>	N/A			
<b>Element Name:</b>	Bearings	<b>Width:</b>	N/A			
<b>Location:</b>	North and South	<b>Height:</b>	N/A			
<b>Material:</b>	Steel	<b>Count:</b>	8			
<b>Element Type:</b>	Bailey Bearing	<b>Total Quantity:</b>	8			
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Galvanized					<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b> Each	<b>Exc.</b>	<b>Good</b> 6	<b>Fair</b> 2	<b>Poor*</b>	00
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Abutments	<b>Length:</b>	N/A			
<b>Element Name:</b>	Base Plates	<b>Width:</b>	N/A			
<b>Location:</b>		<b>Height:</b>	N/A			
<b>Material:</b>	Steel	<b>Count:</b>	4			
<b>Element Type:</b>	Bailey Base Plate	<b>Total Quantity:</b>	4			
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Galvanized					<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b> Each	<b>Exc.</b>	<b>Good</b>	<b>Fair</b> 4	<b>Poor*</b>	
<b>Comments:</b> debris accumulate on base plates						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		06
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
		clean debris from base plates				

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	N/A			
<b>Element Name:</b>	Floor Beams	<b>Width:</b>	N/A			
<b>Location:</b>		<b>Height:</b>	N/A			
<b>Material:</b>	Steel	<b>Count:</b>	14			
<b>Element Type:</b>	Bailey Transom	<b>Total Quantity:</b>	14			
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>			
<b>Protection System:</b>	Galvanized					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
	Each			14		01
<b>Comments:</b> Load carry capacity deficiencies (2 transoms per bay). Light to medium corrosion noted.						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	N/A			
<b>Element Name:</b>	Stringers	<b>Width:</b>	N/A			
<b>Location:</b>		<b>Height:</b>	N/A			
<b>Material:</b>	Steel	<b>Count:</b>	35 Sets			
<b>Element Type:</b>	Bailey Stringer	<b>Total Quantity:</b>	35 Sets			
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>			
<b>Protection System:</b>	Galvanized					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
	Set			35		00
<b>Comments:</b> Light to medium corrosion noted.						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Approaches	<b>Length:</b>	3.3 m			
<b>Element Name:</b>	Approach Ramps	<b>Width:</b>	3.6 m			
<b>Location:</b>	North and South	<b>Height:</b>	0.13 m			
<b>Material:</b>	Steel	<b>Count:</b>	2			
<b>Element Type:</b>	Bailey Ramp	<b>Total Quantity:</b>	23.8 m <sup>2</sup>			
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>			
<b>Protection System:</b>	N/A					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
	m <sup>2</sup>		20.0	3.8		0
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		00
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Barriers	<b>Length:</b>	0.2 m			
<b>Element Name:</b>	Posts	<b>Width:</b>	0.2 m			
<b>Location:</b>	West and East Sides	<b>Height:</b>	1.0 m			
<b>Material:</b>	Wood	<b>Count:</b>	16			
<b>Element Type:</b>	Post	<b>Total Quantity:</b>	16			
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	N/A					
<b>Condition Data:</b>	<b>Units</b> Each	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
				14	2	00
<b>Comments:</b> installed fall 2011						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Barriers	<b>Length:</b>	3.81 m			
<b>Element Name:</b>	Railing System	<b>Width:</b>	N/A			
<b>Location:</b>	West and East Sides	<b>Height:</b>	0.7 m			
<b>Material:</b>	Steel	<b>Count:</b>	22 Beams			
<b>Element Type:</b>	Flex Beam	<b>Total Quantity:</b>	83.8 m			
<b>Environment:</b>		<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	Galvanized					
<b>Condition Data:</b>	<b>Units</b> m	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
			38	42	3.8	00
<b>Comments:</b> SBGR end treatments as per OPSD Standards.						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Deck	<b>Length:</b>	27.4m (including ramps)			
<b>Element Name:</b>	Deck Top	<b>Width:</b>	3.6m			
<b>Location:</b>		<b>Height:</b>	0.038m			
<b>Material:</b>	wood	<b>Count:</b>	n/a			
<b>Element Type:</b>	dimension lumber	<b>Total Quantity:</b>	98.6 m2			
<b>Environment:</b>	moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	treated					
<b>Condition Data:</b>	<b>Units</b> sq m	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
				88.6	10	
<b>Comments:</b> timber curb at NW corner broken, generally fair to poor condition overall						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
		replace timber curbs				

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.



## Element Data

<b>Element Group:</b>	Deck	<b>Length:</b>	27.4m			
<b>Element Name:</b>	Wearing Surfaces	<b>Width:</b>	3.3m (curb to curb)			
<b>Location:</b>		<b>Height:</b>	0.038m			
<b>Material:</b>	wood	<b>Count:</b>				
<b>Element Type:</b>	dimension lumber	<b>Total Quantity:</b>	90.4m			
<b>Environment:</b>	severe	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b> m2	<b>Exc.</b>	<b>Good</b>	<b>Fair</b> 70.4	<b>Poor*</b> 20	<b>Perform. Deficiencies</b>
<b>Comments:</b>						
<b>Recommended Work:</b>				<b>Maintenance Needs:</b>		
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years						

<b>Element Group:</b>	Truss	<b>Length:</b>				
<b>Element Name:</b>	Bailey Panel	<b>Width:</b>				
<b>Location:</b>		<b>Height:</b>				
<b>Material:</b>	Steel	<b>Count:</b>	42			
<b>Element Type:</b>	Bailey Panel	<b>Total Quantity:</b>	42			
<b>Environment:</b>	moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	galvanized					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b> 42	<b>Poor*</b>	<b>Perform. Deficiencies</b> 01
<b>Comments:</b> load carry capacity deficiency, one raker at SE corner deformed						
<b>Recommended Work:</b>				<b>Maintenance Needs:</b>		
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years						

<b>Element Group:</b>		<b>Length:</b>				
<b>Element Name:</b>		<b>Width:</b>				
<b>Location:</b>		<b>Height:</b>				
<b>Material:</b>		<b>Count:</b>				
<b>Element Type:</b>		<b>Total Quantity:</b>				
<b>Environment:</b>		<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
<b>Comments:</b>						
<b>Recommended Work:</b>				<b>Maintenance Needs:</b>		
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years						

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

2019 Site Photographs

Photo 1:  
North Approach –  
Looking South

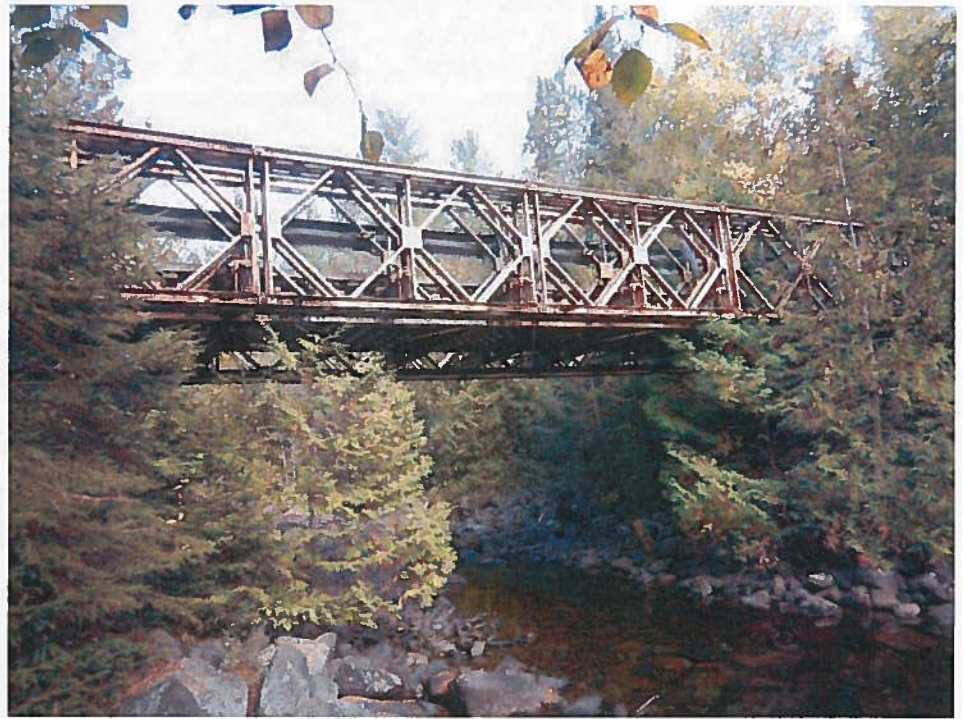


Photo 2:  
Deck Looking South





## 2019 Site Photographs

Photo 3:  
West ElevationPhoto 4:  
Deck Soffit Looking  
North

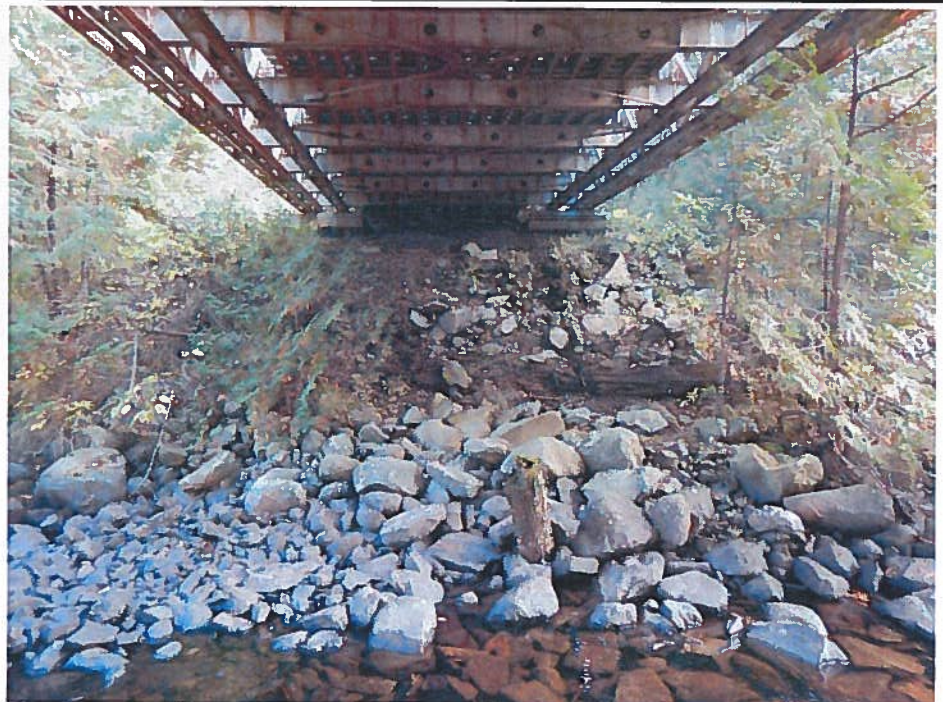


## 2019 Site Photographs

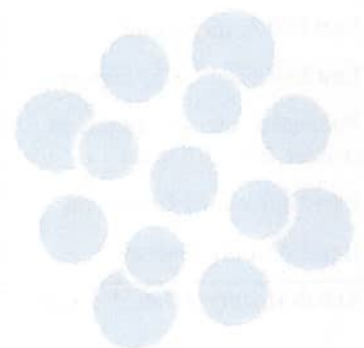
Photo 5:  
Settlement at SW  
Bearing (Similar SE  
and NE Bearing)



Photo 6:  
North Riverbank



2019 OSIM FORM  
Bridge #003 – Temagami Lake Access Road Bridge



## Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: N/A

Inventory Data: October 2019

Structure Name	Temagami Lake Access Rd Bridge		
Main Hwy/Road #	N/A	On <input checked="" type="checkbox"/> Under <input type="checkbox"/>	Crossing Type: <input type="checkbox"/> Navig. Water <input checked="" type="checkbox"/> Non-Navig. Water <input type="checkbox"/> Rail <input type="checkbox"/> Road <input type="checkbox"/> Ped. <input type="checkbox"/> Other
Hwy/Road Name	Lake Temagami Access Rd		
Structure Location	5.0 km west of Hwy 11		
Latitude	47° 00' 21" N	Longitude	79° 52' 47" W
Owner(s)	Municipality of Temagami	Heritage Designation:	<input checked="" type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App. <input type="checkbox"/> List/not Desig. <input type="checkbox"/> Desig./not List <input type="checkbox"/> Desig. & List
MTO Region	Northern	Road Class:	Freeway <input type="checkbox"/> Arterial <input type="checkbox"/> Collector <input checked="" type="checkbox"/> Local <input type="checkbox"/>
MTO District	Sudbury	Posted Speed	<input type="text"/> No. of Lanes <input type="text" value="2"/>
Old County	<input type="text"/>	AADT	<input type="text"/> % Trucks <input type="text"/>
Geographic Twp.	<input type="text"/>	Inspection Route Sequence	<input type="text"/>
Structure Type	steel girder	Interchange Number	<input type="text"/>
Total Deck Length	7.3 (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	8.1 (m)	Min. Vertical Clearance	<input type="text"/> (m)
Total Deck Area	59.1 (sq.m)	Special Routes:	<input type="checkbox"/> Transit <input type="checkbox"/> Truck <input type="checkbox"/> School <input type="checkbox"/> Bicycle
Roadway Width	7.9 (m)	Detour Length Around Bridge	<input type="text"/> (km)
Skew Angle	30 (Degrees)	Direction of Structure	W-E
No. of Spans	1	Fill on Structure	<input type="text"/> (m)
Span Lengths	6.15 clear (m)		

## Historical Data:

Year Built	2010	Year of Last Major Rehab.	<input type="text"/>
Last OSIM Inspection	October 2017	Last Evaluation	<input type="text"/>
Last Enhanced OSIM Inspection	<input type="text"/>	Current Load Limit	<input type="text"/> / / (tonnes)
Enhanced Access Equipment (ladder, boat, lift, etc.)	<input type="text"/>	Load Limit By-Law #	<input type="text"/>
Last Underwater Inspection	<input type="text"/>	By-Law Expiry Date	<input type="text"/>
Last Condition Survey	<input type="text"/>		

Rehab History: (Date/description)

**Scheduled Improvements:**Regional Priority  
NumberProgrammed Work  
Year

Nature of Program Work:

**Appraisal Indices:****Comments**

Fatigue

Seismic

Scour

Flood

Geometrics

Barrier

Curb

Load Capacity



## Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: N/A

Field Inspection Information:			
Date of Inspection:	October 4, 2019	Type of Inspection:	<input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Stephen Ho, M.Eng., P.Eng., EXP Services Inc.		
Others in Party:			
Access Equipment Used:	N/A		
Weather:	Sunny		
Temperature:	10° C		

Additional Investigations Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:			
Non-destructive Delamination Survey of Asphalt-Covered Deck:			
Concrete Substructure Condition Survey:			
Detailed Coating Condition Survey:			
Detailed Timber Investigation			
Post-Tensioned Strand Investigation			
Underwater Investigation:			
Fatigue Investigation:			
Seismic Investigation:			
Structure Evaluation:			
Monitoring			
Monitoring of Deformations, Settlements and Movements:			
Monitoring Crack Widths:			
Investigation Notes:			

Overall Structure Notes:			
Recommended Work on Structure:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Minor Rehab. <input type="checkbox"/> Major Rehab. <input type="checkbox"/> Replace		
Timing of Recommended Work:	<input checked="" type="checkbox"/> 1 to 5 years <input type="checkbox"/> 6 to 10 years		
Overall Comments:	Coat girder bearings, abutments and wingwalls steel panels with approved structural steel coating system		
Date of Next Inspection:	October 2021		

## Suspected Performance Deficiencies

- |   |  |                              |
|---|--|------------------------------|
| 01 Load carrying capacity                           | 06 Bearing not uniformly loaded/unstable | 12 Slippery surfaces         |
| 02 Excessive deformations (deflections & rotations) | 07 Jammed expansion joint                | 13 Flooding/channel blockage |
| 03 Continuing settlement                            | 08 Pedestrian/vehicular hazard           | 14 Undermining of foundation |
| 04 Continuing movements                             | 09 Rough riding surface                  | 15 Unstable embankments      |
| 05 Seized bearings                                  | 10 Surface ponding                       | 16 Other                     |
|   | 11 Deck drainage                         |                              |

## Maintenance Needs

- |                                      |                                 |  |
|--------------------------------------|---------------------------------|--|
| 01 Lift and Swing Bridge Maintenance | 07 Repair to Structural Steel   | 13 Erosion Control at Bridges            |
| 02 Bridge Cleaning                   | 08 Repair of Bridge Concrete    | 14 Concrete Sealing                      |
| 03 Bridge Handrail Maintenance       | 09 Repair of Bridge Timber      | 15 Rout and Seal                         |
| 04 Painting Steel Bridge Structures  | 10 Bailey bridges - Maintenance | 16 Bridge Deck Drainage                  |
| 05 Bridge Deck Joint Repair          | 11 Animal/Pest Control          | 17 Scaling (Loose Concrete or ACR Steel) |
| 06 Bridge Bearing Maintenance        | 12 Bridge Surface Repair        | 18 Other                                 |

## Element Data

<b>Element Group:</b>	Abutments	<b>Length:</b>	n/a
<b>Element Name:</b>	Abutment Wall	<b>Width:</b>	11.36m
<b>Location:</b>	West and East	<b>Height:</b>	1.22m
<b>Material:</b>	Steel	<b>Count:</b>	2
<b>Element Type:</b>	Steel Panels	<b>Total Quantity:</b>	27.7 m2
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	steel coating		
<b>Condition Data:</b>	<b>Units</b> m2	<b>Exc.</b>	<b>Good</b> 15.7
		<b>Fair</b> 12	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> Steel Coating peeling. Large crack noted at concrete ballast wall (SE corner of bridge)			
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace	<b>Maintenance Needs:</b> 04
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years	<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year
		re-coat abutment panels	

<b>Element Group:</b>	Abutment	<b>Length:</b>	2.15m
<b>Element Name:</b>	Wingwall	<b>Width:</b>	n/a
<b>Location:</b>	NE, NW, SE, SW	<b>Height:</b>	0.9m avg
<b>Material:</b>	Steel	<b>Count:</b>	4
<b>Element Type:</b>	Steel Panel	<b>Total Quantity:</b>	7.8 m2
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	steel coating		
<b>Condition Data:</b>	<b>Units</b> m2	<b>Exc.</b>	<b>Good</b> 4.8
		<b>Fair</b> 3	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> Steel Coating peeling.			
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace	<b>Maintenance Needs:</b> 04
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years	<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year
		re-coat wingwall panels	

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	2m (both ends total)
<b>Element Name:</b>	Girders	<b>Width:</b>	0.31m
<b>Location:</b>	Ends	<b>Height:</b>	0.3m
<b>Material:</b>	Steel	<b>Count:</b>	5
<b>Element Type:</b>	W Section	<b>Total Quantity:</b>	15.3 m2
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	steel coating		
<b>Condition Data:</b>	<b>Units</b> m2	<b>Exc.</b>	<b>Good</b> 7.3
		<b>Fair</b> 8	<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> Medium corrosion at girder ends. Girders not fully supported on West Abutment bearing.			
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace	<b>Maintenance Needs:</b>
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years	<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	5.3m
<b>Element Name:</b>	Girders	<b>Width:</b>	0.31m
<b>Location:</b>	Middle	<b>Height:</b>	0.3m
<b>Material:</b>	Steel	<b>Count:</b>	5
<b>Element Type:</b>	W Section	<b>Total Quantity:</b>	40.5 m2
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>
<b>Protection System:</b>	steel coating		
<b>Condition Data:</b>	<b>Units</b> m2	<b>Exc.</b>	<b>Good</b> 30.5
			<b>Fair</b> 10
			<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> numerous redundant bolt holes were observed in the girders bottom flange. Girders were pre-assembled into two groups with 3 and 2 girders respectively and jointed together in the field with one single transverse link member at mid-span.			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years			

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	2.06m
<b>Element Name:</b>	Diaphragms	<b>Width:</b>	0.1m
<b>Location:</b>	End	<b>Height:</b>	0.15m
<b>Material:</b>	Steel	<b>Count:</b>	4
<b>Element Type:</b>	L-section	<b>Total Quantity:</b>	4
<b>Environment:</b>	moderate	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>
<b>Protection System:</b>	steel coating		
<b>Condition Data:</b>	<b>Units</b> each	<b>Exc.</b>	<b>Good</b> 4
			<b>Fair</b>
			<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> no end diaphragm between two pre-assembled girder sections			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years			

<b>Element Group:</b>	Main Longitudinal Elements	<b>Length:</b>	2.06m and 1.0m
<b>Element Name:</b>	Diaphragms	<b>Width:</b>	0.31m
<b>Location:</b>	Intermediate	<b>Height:</b>	0.3m
<b>Material:</b>	Steel	<b>Count:</b>	6-2.06m and 2-1.0m
<b>Element Type:</b>	W Section	<b>Total Quantity:</b>	8
<b>Environment:</b>	benign	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>
<b>Protection System:</b>	steel coating		
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b> 6
			<b>Fair</b> 2
			<b>Poor*</b>
			<b>Perform. Deficiencies</b> 00
<b>Comments:</b> no intermediate diaphragms between two pre-assembled sections, only one link member			
<b>Recommended Work:</b>		<b>Maintenance Needs:</b>	
<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years			

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Coating	<b>Length:</b>	n/a			
<b>Element Name:</b>	Structural Steel	<b>Width:</b>	n/a			
<b>Location:</b>	Ends	<b>Height:</b>	n/a			
<b>Material:</b>		<b>Count:</b>	n/a			
<b>Element Type:</b>		<b>Total Quantity:</b>	17.4m <sup>2</sup>			
<b>Environment:</b>	moderate	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b> m <sup>2</sup>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b> 15.4	<b>Poor*</b> 2	<b>Perform. Deficiencies</b> 00
<b>Comments:</b> total quantity includes 15.3 sq m girder ends and 2.1 sq m end diaphragms (top and front face only). Coating Peeling, steel corroded.						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		04
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year		
		re-coat girder ends				

<b>Element Group:</b>	Coating	<b>Length:</b>	n/a			
<b>Element Name:</b>	Structural Steel	<b>Width:</b>	n/a			
<b>Location:</b>	Middle	<b>Height:</b>	n/a			
<b>Material:</b>		<b>Count:</b>	n/a			
<b>Element Type:</b>		<b>Total Quantity:</b>	62.5 sq m			
<b>Environment:</b>	Benign	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b> sq m	<b>Exc.</b>	<b>Good</b> 32.5	<b>Fair</b> 25	<b>Poor*</b> 5	<b>Perform. Deficiencies</b> 00
<b>Comments:</b> total quantity includes 40.5 sq m of girder middle and 22 sq m of intermediate diaphragms. Some peeling in middle.						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Decks	<b>Length:</b>	7.3m			
<b>Element Name:</b>	Deck Top	<b>Width:</b>	8.1m			
<b>Location:</b>		<b>Height:</b>	0.2m			
<b>Material:</b>	Wood/fiber glass	<b>Count:</b>	n/a			
<b>Element Type:</b>	transverse laminated deck	<b>Total Quantity:</b>	59.1 sq m			
<b>Environment:</b>	Moderate	<b>Limited Inspection</b>	<input checked="" type="checkbox"/>			
<b>Protection System:</b>	Treated					
<b>Condition Data:</b>	<b>Units</b> sq m	<b>Exc.</b> *	<b>Good</b> *	<b>Fair</b> *	<b>Poor*</b> *	<b>Perform. Deficiencies</b>
<b>Comments:</b> * deck top covered by 125mm of gravel, condition unknown						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Decks	<b>Length:</b>	6.15m (face to face abut. walls)			
<b>Element Name:</b>	Sofft	<b>Width:</b>	6.6m			
<b>Location:</b>		<b>Height:</b>	n/a			
<b>Material:</b>	Wood/fiber glass	<b>Count:</b>	n/a			
<b>Element Type:</b>		<b>Total Quantity:</b>	40.6 sq m			
<b>Environment:</b>	benign	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						<b>Perform. Deficiencies</b>
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	
	sq m		40.6			
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Barriers	<b>Length:</b>	7.33m			
<b>Element Name:</b>	Railing System	<b>Width:</b>	n/a			
<b>Location:</b>	north and south side of deck	<b>Height:</b>	0.77m			
<b>Material:</b>	steel	<b>Count:</b>	4 (2 rails each side)			
<b>Element Type:</b>	HSS 100x100	<b>Total Quantity:</b>	29.3m			
<b>Environment:</b>	severe	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	steel coating					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
	m		10	19.3		00
<b>Comments:</b> Light to medium corrosion on HSS						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Barriers	<b>Length:</b>	0.2m			
<b>Element Name:</b>	Posts	<b>Width:</b>	0.2m			
<b>Location:</b>	north and south sides	<b>Height:</b>	0.77m			
<b>Material:</b>	steel	<b>Count:</b>	8 (4 posts each side)			
<b>Element Type:</b>	W-section	<b>Total Quantity:</b>	8			
<b>Environment:</b>	severe	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	steel coating					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
	each		4	4		
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Element Data

<b>Element Group:</b>	Embankments and Streams	<b>Length:</b>	n/a			
<b>Element Name:</b>	Slope protection	<b>Width:</b>	n/a			
<b>Location:</b>	abutment front and side slopes	<b>Height:</b>	n/a			
<b>Material:</b>	stone	<b>Count:</b>	n/a			
<b>Element Type:</b>	rip rap	<b>Total Quantity:</b>	2			
<b>Environment:</b>	benign	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b> each	<b>Exc.</b>	<b>Good</b>	<b>Fair</b> 2	<b>Poor*</b>	<b>Perform. Deficiencies</b>
<b>Comments:</b> Embankment slopes too steep. Gabion baskets added in front of abutment walls.						
<b>Recommended Work:</b> <input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years				<b>Maintenance Needs:</b> <input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>	Embankments and Streams	<b>Length:</b>	n/a			
<b>Element Name:</b>	Streams and Waterways	<b>Width:</b>	n/a			
<b>Location:</b>		<b>Height:</b>	n/a			
<b>Material:</b>		<b>Count:</b>	n/a			
<b>Element Type:</b>		<b>Total Quantity:</b>	all			
<b>Environment:</b>		<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b> all	<b>Exc.</b>	<b>Good</b>	<b>Fair</b> X	<b>Poor*</b>	<b>Perform. Deficiencies</b>
<b>Comments:</b> Beaver dam (approximately 0.6m high) noted immediately upstream of bridge.						
<b>Recommended Work:</b> <input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years				<b>Maintenance Needs:</b> 13 <input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
				clear beaver dam upstream		

<b>Element Group:</b>	Approaches	<b>Length:</b>	3.81m			
<b>Element Name:</b>	Barrier	<b>Width:</b>	n/a			
<b>Location:</b>	east and west approaches	<b>Height:</b>	0.9m			
<b>Material:</b>	steel	<b>Count:</b>	4			
<b>Element Type:</b>	steel beam guide rail	<b>Total Quantity:</b>	15.2m			
<b>Environment:</b>	severe	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	galvanized				<b>Perform. Deficiencies</b>	
<b>Condition Data:</b>	<b>Units</b> m	<b>Exc.</b>	<b>Good</b> 10.0	<b>Fair</b> 5.2	<b>Poor*</b>	16
<b>Comments:</b> No transitions/connection from approach guide rail to bridge railing. No guide rail end treatments.						
<b>Recommended Work:</b> <input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years				<b>Maintenance Needs:</b> 18 <input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
				install transition to bridge railing and end treatments		

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.



## Element Data

<b>Element Group:</b>	Approaches	<b>Length:</b>	0.2 m			
<b>Element Name:</b>	Barrier, posts	<b>Width:</b>	0.2 m			
<b>Location:</b>	east and west approaches	<b>Height:</b>	0.9 m			
<b>Material:</b>	wood	<b>Count:</b>	12			
<b>Element Type:</b>	dimension lumber	<b>Total Quantity:</b>	12			
<b>Environment:</b>	severe	<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>	treated					
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
	each		5	5	2	16
<b>Comments:</b> one post at SE corner broken						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		03
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
		replace broken guide rail post				

<b>Element Group:</b>		<b>Length:</b>				
<b>Element Name:</b>		<b>Width:</b>				
<b>Location:</b>		<b>Height:</b>				
<b>Material:</b>		<b>Count:</b>				
<b>Element Type:</b>		<b>Total Quantity:</b>				
<b>Environment:</b>		<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

<b>Element Group:</b>		<b>Length:</b>				
<b>Element Name:</b>		<b>Width:</b>				
<b>Location:</b>		<b>Height:</b>				
<b>Material:</b>		<b>Count:</b>				
<b>Element Type:</b>		<b>Total Quantity:</b>				
<b>Environment:</b>		<b>Limited Inspection</b>	<input type="checkbox"/>			
<b>Protection System:</b>						
<b>Condition Data:</b>	<b>Units</b>	<b>Exc.</b>	<b>Good</b>	<b>Fair</b>	<b>Poor*</b>	<b>Perform. Deficiencies</b>
<b>Comments:</b>						
<b>Recommended Work:</b>		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace		<b>Maintenance Needs:</b>		
		<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

\* A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

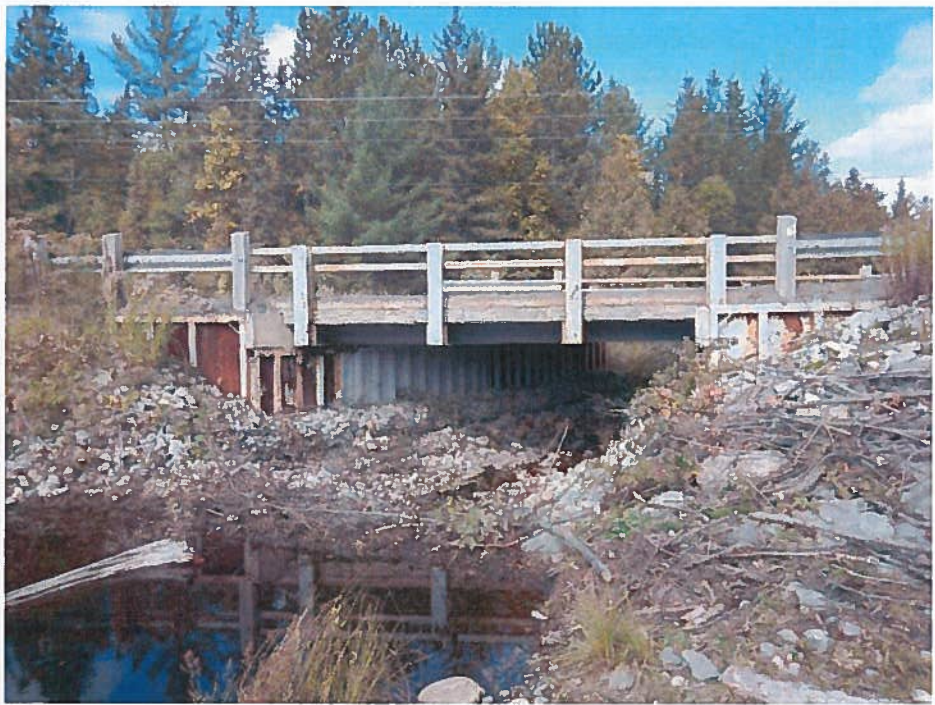


## 2019 Site Photographs

Photo 1:  
East Approach –  
Looking West



Photo 2:  
South Elevation  
(Upstream, note  
beaver dam)





## 2019 Site Photographs

Photo 3:  
Abutment Wall –  
East abutment  
shown, West  
abutment similar



Photo 4:  
SE Corner of Bridge  
– note wide crack in  
concrete ballast wall  
and broken  
approach guide rail  
post.



## 2019 Site Photographs

Photo 5:  
Bridge Soffit –  
showing deck panel  
link member



Photo 6:  
Channel Looking  
Upstream – note  
beaver dam



