

MISENER BRIDGE

Site Number 010032

SCOTCH LINE ROAD (CONCESSION 6), WOODHOUSE

0.48 km E of 1/4 Line Road

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name	<input type="text" value="Misener Bridge"/>		
Main Hwy/Road #	<input type="text" value="CON 6 WOODHOUSE"/>	<input checked="" type="checkbox"/> On <input type="checkbox"/> Under	Crossing Type: <input type="checkbox"/> Rail <input type="checkbox"/> Road <input type="checkbox"/> Navig. Water <input type="checkbox"/> Ped. <input type="checkbox"/> Other <input checked="" type="checkbox"/> Non-Navig. Water
Hwy/Road Name	<input type="text" value="SCOTCH LINE ROAD (CONCESSION 6), WOODHOUSE"/>		
Structure Location	<input type="text" value="0.48km E of 1/4 Line Road"/>		
Latitude	<input n"="" type="text" value="42d 51' 17"/>	Longitude	<input type="text" value="80d 09' 55" w"=""/>
Owner(s)	<input type="text" value="Norfolk County"/>	Heritage Designation:	<input type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App. <input type="checkbox"/> List/not Design. <input type="checkbox"/> Design. & List <input type="checkbox"/> Design./not List
MTO Region	<input type="text" value="30"/> Southwestern	Road Class:	<input type="checkbox"/> Freeway <input type="checkbox"/> Arterial <input type="checkbox"/> Collector <input type="checkbox"/> Local
MTO District	<input type="text" value="31"/> London / Stratford	Posted Speed	<input type="text" value="80"/> No. of Lanes <input type="text" value="2"/>
Old County	<input type="text" value="20"/> Norfolk	AADT	<input type="text" value="177"/> % Trucks <input type="text"/>
Geographic Twp.	<input type="text" value="215"/> Woodhouse	Inspection Route Sequence	<input type="text"/>
Structure Type	<input type="text" value="12"/> Rectangular Culvert	Interchange Number	<input type="text"/>
Total Deck Length	<input type="text" value="9"/> (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	<input type="text" value="23"/> (m)	Min. Vertical Clearance	<input type="text" value="3"/> (m)
Total Deck Area	<input type="text" value="207"/> (m ²)	Special Route	<input type="checkbox"/> Truck <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> School <input type="checkbox"/> Bicycle
Roadway Width	<input type="text" value="7"/> (m)	Detour Length Around Bridge	<input type="text" value="10"/> (km)
Skew Angle	<input type="text"/> (Degrees)	Direction of Structure	<input type="text" value="North / South"/>
No. of Spans	<input type="text" value="2"/>	Fill on Structure	<input type="text" value="1"/> (m)
Span Length	<input type="text" value="2 @ 4.5"/> (m)		

Historical Data:			
Year Built	<input type="text" value="1988"/>	Year of Last Major Rehab.	<input type="text"/>
Last OSIM Inspection	<input type="text" value="May 28, 2014"/>	Last Evaluation	<input type="text"/>
Last Enhanced OSIM Inspection	<input type="text"/>	Current Load Limit	<input type="text" value="/ /"/> (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)		

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Field Inspection Information:		
Date of Inspection:	July 20, 2016	Type of Inspection: <input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Ben Buchwald M.Eng., EIT, G. Douglas Vallee Ltd.	
Others in Party:	N/A	
Access Equipment Used:	Hammer, Binoculars, Measuring Tape, Camera, etc.	
Weather:	Sunny	
Temperature:	16 °C	

Additional Investigation Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
<input checked="" type="checkbox"/> Detailed Deck Condition Survey:	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Non-destructive Delamination Survey of Asphalt-Covered Deck:	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Concrete Substructure Condition Survey:	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Detailed Coating Condition Survey:	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Detailed Timber Investigation	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Post-Tensioned Strand Investigation	<input checked="" type="checkbox"/>		
Underwater Investigation:	<input checked="" type="checkbox"/>		
Fatigue Investigation:	<input checked="" type="checkbox"/>		
Seismic Investigation:	<input checked="" type="checkbox"/>		
Structure Evaluation:	<input checked="" type="checkbox"/>		
Monitoring			
<input checked="" type="checkbox"/> Monitoring of Deformations, Settlements and Movements:	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Monitoring Crack Widths:	<input checked="" type="checkbox"/>		
Investigation Notes:			
No hazard signs or barriers. Overhead line attached on South side.			

Overall Structure Notes:	
Recommended Work on Structure:	<input type="checkbox"/> None <input type="checkbox"/> Minor Rehab. <input type="checkbox"/> Replace <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Major Rehab.
Timing of Recommended Work:	<input type="checkbox"/> 1 to 5 years <input type="checkbox"/> 6 to 10 years
Overall Comments:	
Date of next Inspection:	July 20, 2018

Suspected Performance Deficiencies

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

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 |

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Site Number: 010032

Rehabilitation Required:		Element	Priority				Estimated Construction Cost
Rehab	Replace		Urgent	Within 1 yr	1-5 yrs	6-10 yrs	
		Wearing Surface (Approaches)					
		Barrels					
		Inlet Components					
		Outlet Components					
		Streams and Waterways					
		Foundation (below ground level)					
Total Cost							\$0

Associated Work:	Comments	Estimated Construction Cost
Additional Investigations		
Traffic Management		
Utilities		
Road Allowance		
Environmental Assessment		
Engineering		
Other		
Contingencies		
Total Cost		\$0

Justification:	
Notes:	Construction Cost: \$0 Associated Work Cost: \$0 TOTAL Estimated Cost: \$0

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Element Data

Element Group:		1600 Approaches				Length:	30
Element Name:		1601 Wearing Surface (Approaches)				Width:	9
Location:						Height:	
Material:		2 Asphalt				Count:	1
Element Type:						Total Quantity:	270 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	sq.m	0	270	0	0		
Comments:							
No barriers, post and cable or hazard signs. Some rutting in wearing surface (tar & chip).							
Recommended Work:						Maintenance Needs:	
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>							

Element Group:		1200 Culverts				Length:	23
Element Name:		1203 Barrels				Width:	4.5
Location:						Height:	3
Material:		12 Precast Concrete				Count:	2
Element Type:						Total Quantity:	483 sq.m
Environment:		Moderate				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	sq.m	0	483	0	0		
Comments:							
Twin precast box, rigid. Minor staining at joints.							
Recommended Work:						Maintenance Needs:	
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>							

Element Group:		1200 Culverts				Length:	4.5
Element Name:		1201 Inlet Components				Width:	0.3
Location:		North End				Height:	3
Material:		12 Precast Concrete				Count:	1
Element Type:						Total Quantity:	5.3 sq.m
Environment:		Moderate				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	sq.m	0	5.3	0	0		
Comments:							
Deterioration of parging.							
Recommended Work:						Maintenance Needs:	
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						Repair of Bridge Concrete	
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>						<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year	

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Element Data

Element Group:		1200 Culverts				Length:		4.5	
Element Name:		1202 Outlet Components				Width:		0.3	
Location:		South End				Height:		3	
Material:		12 Precast Concrete				Count:		1	
Element Type:						Total Quantity:		5.3 sq.m	
Environment:		Moderate				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition	Units	Exc.	Good	Fair	Poor				
Data:	sq.m	0	5.3	0	0				
Comments:									
Vertical crack between outlet boxes. Deterioration of parging. Utility cable hanging from outlet due to broken utility bracket.									
Recommended Work:					Maintenance Needs:				
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>					Repair of Bridge Concrete				
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>					<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year				

Element Group:		1400 Embankments & Streams				Length:			
Element Name:		1401 Streams and Waterways				Width:			
Location:						Height:			
Material:						Count:		1	
Element Type:						Total Quantity:		1 All	
Environment:		Moderate				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition	Units	Exc.	Good	Fair	Poor				
Data:	All	0	1	0	0				
Comments:									
Fallen tree at west inlet barrel.									
Recommended Work:					Maintenance Needs:				
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>					Bridge Cleaning				
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>					<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year				

Element Group:		1300 Foundations				Length:			
Element Name:		1301 Foundation (below ground level)				Width:			
Location:						Height:			
Material:		12 Precast Concrete				Count:		2	
Element Type:						Total Quantity:		2	
Environment:						Limited Inspection:		X	
Protection System:		Unknown				Perform. Deficiencies			
Condition	Units	Exc.	Good	Fair	Poor				
Data:									
Comments:									
Limited inspection due to water level.									
Recommended Work:					Maintenance Needs:				
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>									
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>					<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year				



Figure 1 East Approach



Figure 2 West Approach



Figure 3 North Profile, Inlet



Figure 4 South Profile, Outlet



Figure 5 Upstream



Figure 6 Downstream



Figure 7 East Barrel



Figure 8 West Barrel



Figure 9 Exposed Rebar and Staining at Southeast Quadrant



Figure 10 Deterioration of Parking of Joints at Inlet



Figure 11 Minor Cracking of Parging Between Outlet Barrels



Figure 12 Fallen Tree at West Inlet Barrel