

13TH STREET WEST ARCH

Site Number 000018

CONCESSION 13 ROAD, SIMCOE

1.5km W of Hwy #24

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name <input type="text" value="13th St West Arch"/>			
Main Hwy/Road # <input type="text" value="WINDHAM RD 13"/>	<input checked="" type="checkbox"/> On <input type="checkbox"/> Under	Crossing Type: <input type="checkbox"/> Rail <input type="checkbox"/> Ped. <input type="checkbox"/> Road <input type="checkbox"/> Other <input type="checkbox"/> Navig. Water <input checked="" type="checkbox"/> Non-Navig. Water	
Hwy/Road Name <input type="text" value="CONCESSION 13 ROAD, SIMCOE"/>			
Structure Location <input type="text" value="1.5km W of Hwy #24"/>			
Latitude <input n"="" type="text" value="42d 51' 57"/>	Longitude <input type="text" value="80d 20' 00" w"=""/>		
Owner(s) <input type="text" value="Norfolk County"/>	Heritage Designation: <input checked="" type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App.	<input type="checkbox"/> List/not Design. <input type="checkbox"/> Design./not List	<input type="checkbox"/> Desig. & 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="1371"/>	% Trucks <input type="text"/>	
Geographic Twp. <input type="text" value="124"/> Windham	Inspection Route Sequence <input type="text"/>		
Structure Type <input type="text" value="10"/> Arch Culvert	Interchange Number <input type="text"/>		
Total Deck Length <input type="text" value="6.1"/> (m)	Interchange Structure Number <input type="text"/>		
Overall Str. Width <input type="text" value="17.1"/> (m)	Min. Vertical Clearance <input type="text"/> (m)		
Total Deck Area <input type="text" value="104.3"/> (m ²)	Special Route <input type="checkbox"/> Truck <input type="checkbox"/> Emergency <input type="checkbox"/> School <input type="checkbox"/> Bicycle		
Roadway Width <input type="text" value="6.4"/> (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="1"/>	Fill on Structure <input type="text" value="0.5"/> (m)		
Span Length <input type="text" value="6.1"/> (m)			

Historical Data:			
Year Built <input type="text" value="1955"/>	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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Site Number:

Field Inspection Information:	
Date of Inspection:	July 11, 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:	20 °C

Additional Investigation Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
<input checked="" type="checkbox"/> Detailed Deck Condition Survey:		X	
<input checked="" type="checkbox"/> Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
<input checked="" type="checkbox"/> Concrete Substructure Condition Survey:	X		
<input checked="" type="checkbox"/> Detailed Coating Condition Survey:	X		
<input checked="" type="checkbox"/> Detailed Timber Investigation	X		
<input checked="" type="checkbox"/> Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	X		
Seismic Investigation:	X		
Structure Evaluation:	X		
Monitoring			
<input checked="" type="checkbox"/> Monitoring of Deformations, Settlements and Movements:	X		
<input checked="" type="checkbox"/> Monitoring Crack Widths:	X		
Investigation Notes:	Wingwall deterioration severe. Cracking, delamination and spalling.		

Overall Structure Notes:	
Recommended Work on Structure:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Minor Rehab. <input type="checkbox"/> Replace <input type="checkbox"/> Maintenance <input type="checkbox"/> Major Rehab.
Timing of Recommended Work:	<input checked="" type="checkbox"/> 1 to 5 years <input type="checkbox"/> 6 to 10 years
Overall Comments:	
Date of next Inspection:	July 11, 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 |

Rehabilitation Required:		Element	Priority				Estimated Construction Cost
Rehab	Replace		Urgent	Within 1 yr	1-5 yrs	6-10 yrs	
		Approach Slabs					
		Wearing Surface (app)					
		Barrels					
X		Inlet Components			X		
		Outlet Components					
		Embankments					
		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 <hr style="width: 150px; margin-left: auto; margin-right: 0;"/> TOTAL Estimated Cost: \$0

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Site Number: 000018

Element Data

Element Group:		1600 Approaches				Length:	15
Element Name:		1602 Approach Slabs				Width:	
Location:		West Bridge				Height:	
Material:						Count:	1
Element Type:						Total Quantity:	15 m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	m	0	15	0	0		
Comments: Need hazard markers and barriers at north end. Culvert end not visible in grass. Consider install of cable guide rail.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/>					Maintenance Needs:		
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		

Element Group:		1600 Approaches				Length:	
Element Name:		1601 Wearing Surface (app)				Width:	
Location:		Top of Fill				Height:	
Material:		2 Asphalt				Count:	1
Element Type:						Total Quantity:	1 Each
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	Each	0	0.75	0.25	0		
Comments: Settlement at quadrants. Transverse cracking in wearing surface above culvert.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/>					Maintenance Needs: Rout and Seal / Bridge Surfa		
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:		1200 Culverts				Length:	
Element Name:		1203 Barrels				Width:	
Location:						Height:	
Material:		5 Corrugated Steel				Count:	1
Element Type:						Total Quantity:	1 Each
Environment:		Moderate				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	Each	0	1	0	0		
Comments: Corrosion on corrugate steel pipe walls.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/>					Maintenance Needs:		
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		

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Element Data

Element Group:		1200 Culverts				Length:		6	
Element Name:		1201 Inlet Components				Width:			
Location:		North End				Height:			
Material:						Count:		1	
Element Type:						Total Quantity:		6 m	
Environment:		Moderate				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition Data:	Units	Exc.	Good	Fair	Poor				
	m	0	0	4	2				
Comments:									
Repair head wall and wingwalls - urgent. Two large cracks. West wingwall has separated portion, deteriorated since last inspection.									
Recommended Work:					Maintenance Needs:				
Rehab <input checked="" type="checkbox"/> Replace <input type="checkbox"/>					Repair of Bridge Concrete				
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input checked="" 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:		1200 Culverts				Length:			
Element Name:		1202 Outlet Components				Width:			
Location:		South				Height:			
Material:		4 Cast-in-place Concrete				Count:		1	
Element Type:						Total Quantity:		1 Each	
Environment:		Moderate				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition Data:	Units	Exc.	Good	Fair	Poor				
	Each	0	0	1	0				
Comments:									
Corrugated steel pipe exposed. Corrosion along waterline.									
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				

Element Group:		1400 Embankments & Streams				Length:			
Element Name:		1402 Embankments				Width:			
Location:						Height:			
Material:						Count:		1	
Element Type:						Total Quantity:		1 Each	
Environment:		Moderate				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition Data:	Units	Exc.	Good	Fair	Poor				
	Each	0	1	0	0				
Comments:									
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				

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Site Number:

Element Data

Element Group:	1300 Foundations					Length:	
Element Name:	1301 Foundation (below ground level)					Width:	
Location:	Under East and West Walls					Height:	
Material:						Count:	1
Element Type:						Total Quantity:	1 Each
Environment:	Moderate					Limited Inspection:	
Protection System:	Unknown					Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	Each	0	1	0	0		
Comments: Footing visible.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						Maintenance Needs:	
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

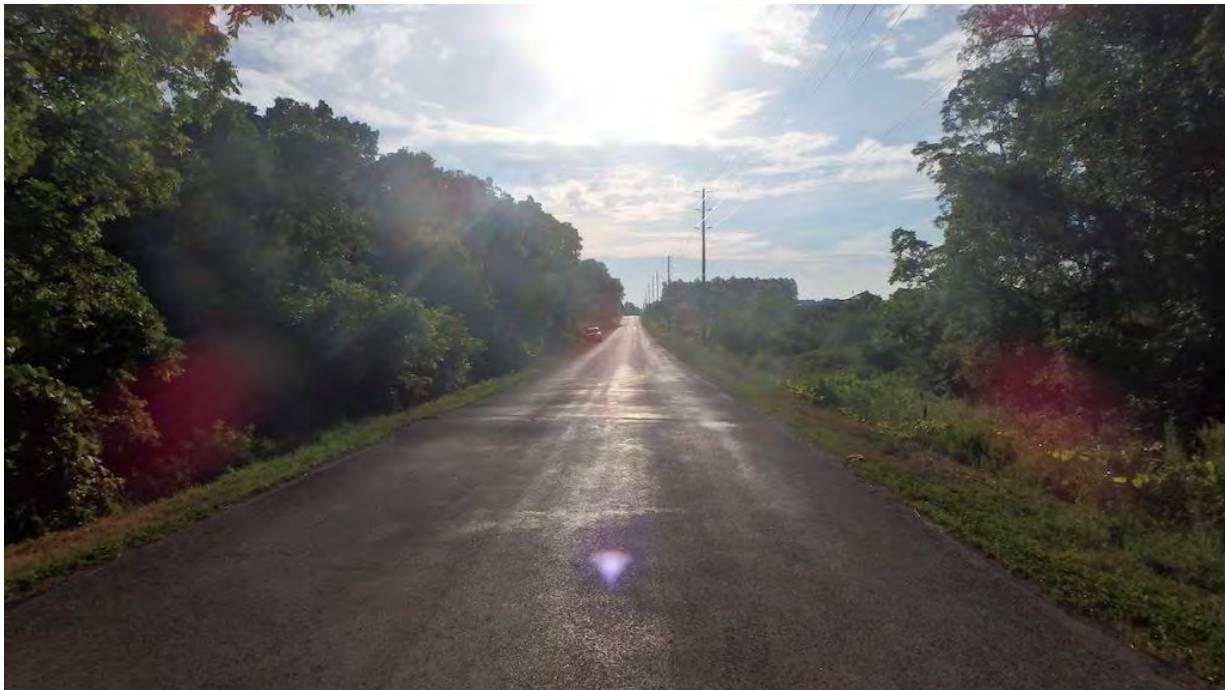


Figure 2 West Approach



Figure 3 North Profile, Inlet



Figure 4 South Profile, Outlet



Figure 5 Upstream

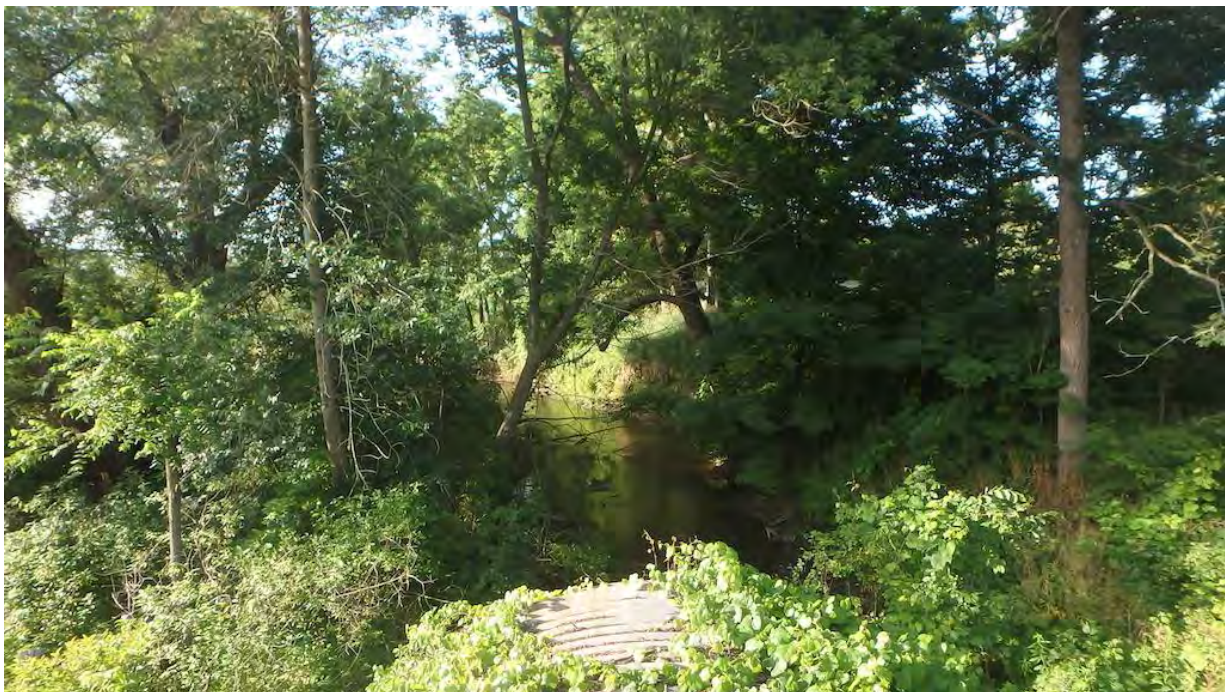


Figure 6 Downstream



Figure 7 Barrel, Looking North

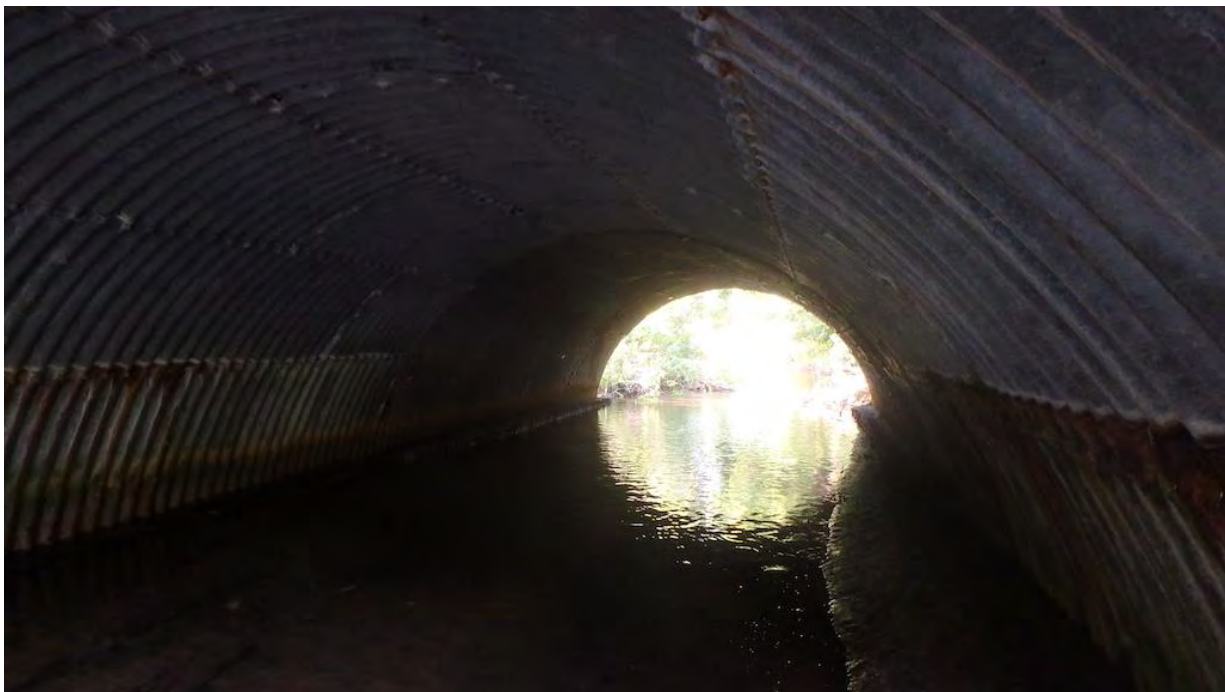


Figure 8 Barrel, Looking South



Figure 9 Large Crack in North Fascia



Figure 10 Large Crack in Northeast Wingwall



Figure 11 Typical Corrosion at Waterline in Barrel



Figure 12 Transverse Cracking in Wearing Surface