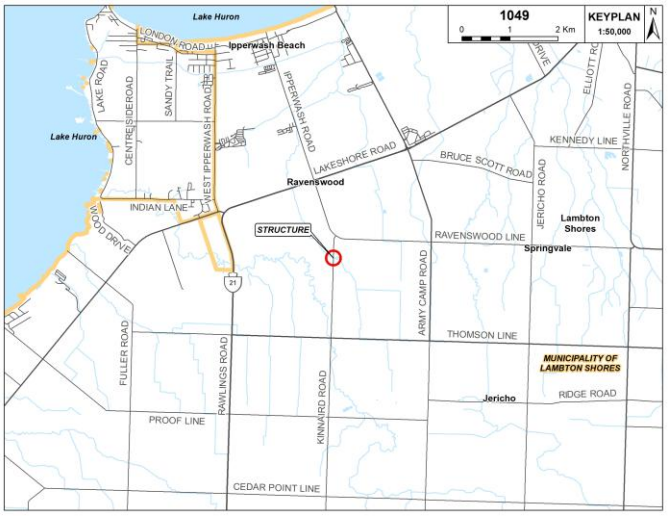
Ontario Structure Inspection Manual - Inspection Report:

Site Number: 1049

Summary Report:

2 - East Elevation



Datum: NAD83 17N **Northing:** 4779940 **Easting:** 422079

Structure Name:		**BMROSS File #:**		**MTO #:**	
Main Hwy / Road #:		**Bridge Condition Index (BCI:)**	10	**CRV:**	$549,000
Road Name:	Kinnaird Road			**Inspection Date:**	2025-10-28
Structure Location:	0.5 km South of Ipperwash Road/Ravenswood Line			**Next Inspection:**	2027-01-01
Condition Summary:	Replacement recommended	**Recommended Timing:**	Within 1 Year	**Current Load Limit:**	N/A
Overall Comments:	Structure is in poor condition. Replacement is recommended within 1 year.				

Repair / Rehabilitation:

Element:	Work Required	Period	Cost
Culverts	Replace structure	Within 1 yr.	$400,000
Various	Associated Work		$189,000
		Total	$589,000

Additional Investigations:

Maintenance Needs:

Ontario Structure Inspection Manual - Inspection Report:

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Inventory Data:

Structure Name:			
Main Hwy / Road #:		On ☑ Under ☐ Crossing Type:	
Road Name:	Kinnaird Road	Northing:	4779940
Structure Location:	0.5 km South of Ipperwash Road/Ravenswood Line	Easting:	422079
Owner(s):	Municipality of Lambton Shores	Heritage Designation:	Not Designated
MTO Region:	Southwestern	Road Class:	Local
MTO District:	Chatham	Posted Speed:	80
		No. of Lanes:	2
Current County:	Lambton	AADT:	50-199
		% Trucks:	
Geographic Twp.:	BOSANQUET	Special Routes:	
Structure Group:	Culverts	Surface Type:	Gravel
Structure Type:	CSP Arch Culvert	Detour Length Around Bridge:	(km)
Total Deck Length:	3.05 (m)	Fill on Structure:	0.4 (m)
Overall Str. Width:	18 (m)	Skew Angle:	5 (Degrees)
Total Struct. Area:	54.9 (sq.m)	Direction of Structure:	North/South
Roadway Width:	6.4 (m)	Min. Vert. Clearance:	(m)
Number of Spans:	1	Bridge Condition Index:	10
Span Length(s):	3.4 (m) (m) (m) (m) (m)		
MTO Number:		**BMROSS File Number:**	

Historical Data:

Year Built:	1970 est.	Last Biennial Inspection:	2023
Current Load Limit:	(tonnes)	Last Evaluation:	
Load Limit By-Law #:		Last Enhanced Inspection:	
By-Law Expiry Date:		Enhanced Access Equipment:	

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Field Inspection Information:

Date of Inspection: 2025-10-28 **Inspection Type:** OSIM Inspection **Next Detailed Inspection:** 2027
Inspector: Nic Gowing
Inspecting Firm: BMRoss & Associates Limited
Others in Party:
Equipment Used: Hammer, Camera, Measuring Tape, Chain
Weather: Sunny
Temperature: 8 ^{O}C

Additional Investigations

Investigation Description	Note	Priority	Estimated Cost
Concrete Substructure Condition Survey		N/R	$0
Detailed Coating Condition Survey		N/R	$0
Detailed Timber Investigation		N/R	$0
Post-Tensioned Strand Investigation		N/R	$0
Underwater Investigation		N/R	$0
Fatigue Investigation		N/R	$0
Seismic Investigation		N/R	$0
Structure Evaluation		N/R	$0
Monitoring Deformations, Settlements, or Movements of Crack Widths		N/R	$0
Detailed Deck Condition or Corrosion Potential Survey		N/R	$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	$0
		Total Cost:	$0

Overall Structure Notes:

Bridge Condition Summary: Replacement recommended **Recommended Timing:** Within 1 Year
Overall Comments: Structure is in poor condition. Replacement is recommended within 1 year.

Replacement Value:

Structure Type: CSP Culvert
Replacement Cost: $ 549,000
Structure Area: 61 (sq.m)
Complexity Factor: 2
Price per sq. m.: $ 4,500.00

Note: Replacement cost calculation is based on the above price per square metre, the total deck or structure area for the existing structure and the chosen complexity factor. This cost may not be a suitable value when budgeting to replace a structure.

Suspected Performance Deficiencies

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

Maintenance Needs

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

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Repair / Rehabilitation:

Element:	Work Required	Period	Cost
Culverts	Replace structure	Within 1 yr.	$400,000

Repair/Rehabilitation Sub-Total:	**$400,000**

Associated Work Required:

Mobilize / Demobilize		$25,000
Approaches	Allowance for Road Widening	$10,000
Traffic Control / Detours		$15,000
Utilities		$0
Right of Way	Legal Survey	$4,000
Environmental Study	Approvals, Hydrology, Geotech	$25,000
Engineering		$55,000
Other		$0
Contingencies		$55,000

Associated Work Sub-Total:	**$189,000**
Total Cost:	**$589,000**

Justification:

Replacement costs assume a similar span concrete box structure.

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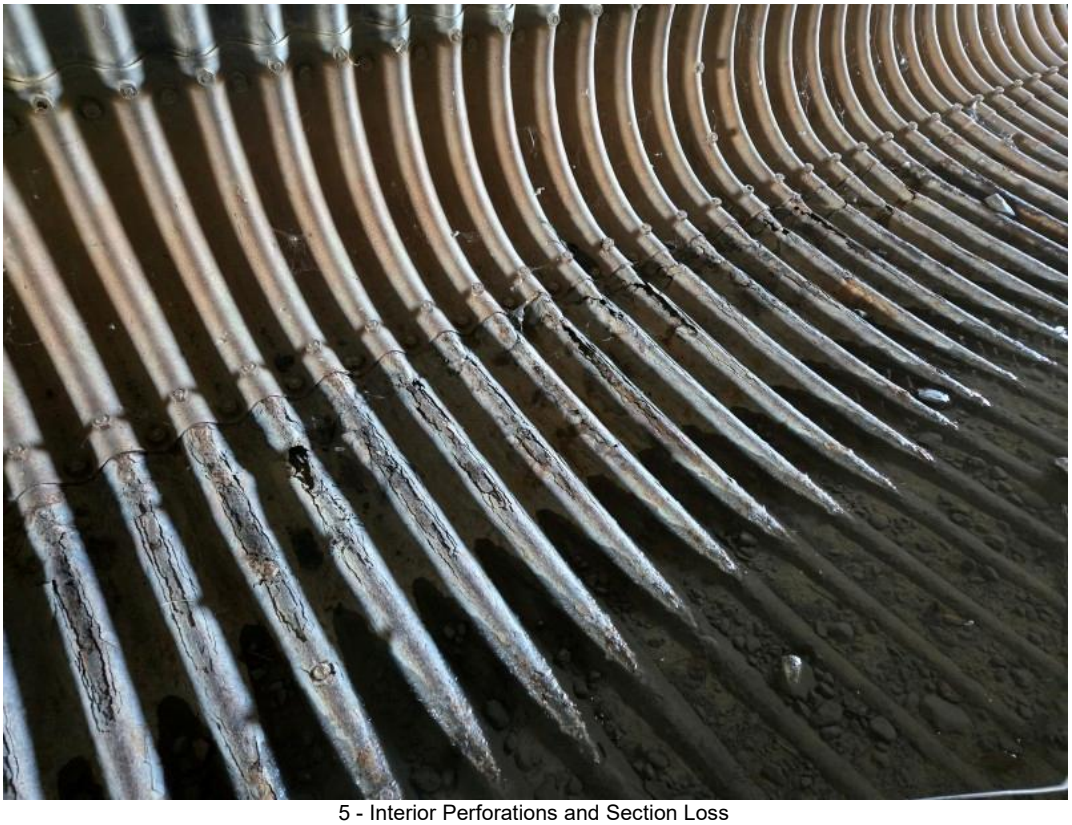
Element Data:						
Element Group:	Culverts				**Length:**	3.05
Element Name:	Barrels				**Width:**	18.0
Location:					**Height:**	2.35
Material:	Corrugated Steel				**Count:**	
Element Type:					**Total Quantity:**	152.7 m2
Environment:	Benign				**Limited / Not Inspected:**	☐
Protection System:	None				**BCI - Element Condition Values:**	
Condition Data:	**Excellent**	**Good**	**Fair**	**Poor**	**TEV**	**CEV**
			25% (38.17)	75% (114.52)	$53,445	$5,345
Comments:	Several locations along bottom with perforations. Most of the bottom has very severe section loss. Minimal embedment into channel. Some erosion at corners.					
Performance Deficiencies:						
Recommended Work:	Replace structure.				**Recommended Timing:**	< 1 year
Maintenance needs:						
Maintenance work:					**Maintenance Priority:**	

1 - Looking South

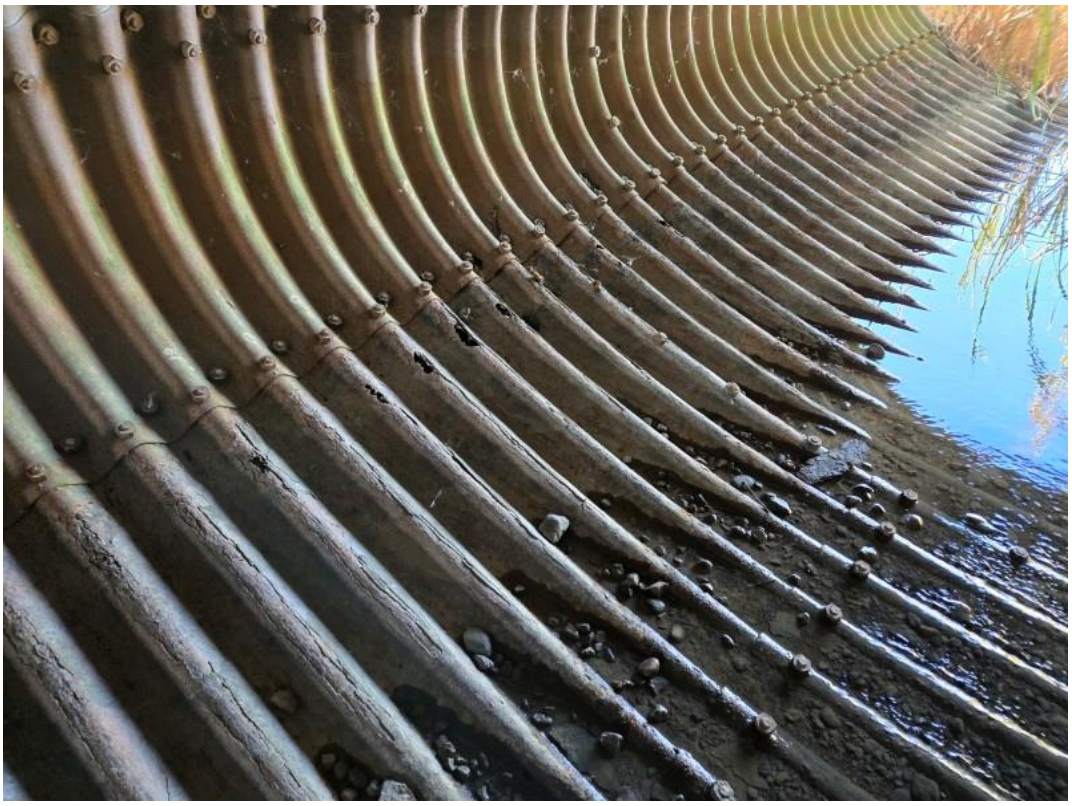
2 - East Elevation

3 - Barrel View

4 - Perforations at East End



5 - Interior Perforations and Section Loss



6 - Perforations at West End