MUNICIPALITY OF KINCARDINE BRIDGE OSIM REPORTS 2021

PEDESTRIAN STRUCTURES





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BRIDGE OSIM REPORTS

2021

PEDESTRIAN STRUCTURES

October, 2021

B. M. ROSS AND ASSOCIATES LIMITED

Engineers and Planners 62 North Street Goderich, ON N7A 2T4 Phone: 519-524-2641

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File No. 96038

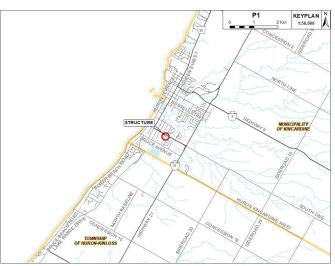
Site Number:

P1

Summary	Re	port
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1-Facing South



Datum: NAD83 17N **Northing:** 4890116 Easting: 448999

Structure Name: Stonehaven Pedestrian Bridge

BMROSS File #: BR1083

MTO #:

Main Hwy / Road #:

Bridge Condition Index (BCI:)

97

CRV: \$400,400 Inspection Date: 7/21/2021

Road Name: Yellow Trail

Structure Location: South of Kincardine Ave

Next Inspection: 8/20/2023

Condition Summary: Repairs recommended

Recommended Timing: 1-5 Years

Current Load Limit: N/A

Overall Comments: Half-through truss in good condition. Vegetation should be cut back.

Element:	Work Required	Period	Cost
Trusses/Arches	Cut back vegetation within 2.4m of bridge	1 to 5 yrs.	\$3,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work		\$0
		Total	\$3,000

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P1 **Inventory Data:** Structure Name: Stonehaven Pedestrian Bridge Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890116 Road Name: Yellow Trail Structure Location: South of Kincardine Ave Easting: 448999 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Truss Surface Type: Wood Structure Type: Half-Through Truss Detour Length Around Bridge: (km) Total Deck Length: 45.0 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.71 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 76.95 Direction of Structure: North/South (sq.m) Roadway Width: 1.5 Min. Vert. Clearance: (m) (m) 3 Number of Spans: Bridge Condition Index: 97 Span Length(s): 10 (m) 25 (m) 10 (m) (m) (m) BMROSS File Number: BR1083 MTO Number: **Historical Data:** Year Built: 2014 Last Biennial Inspection: 2020 Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number: P1

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection Next Detailed Inspection:

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

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Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Half-through truss in good condition. Vegetation should be cut back.

Replacement Value:				
Structure Type:	Bridge	Structure Area:	77	(sq.m)
Replacement Cost:	\$ 400,400	Complexity Factor:	1	
		Price per sq. m.:	\$ 5,200.00	

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation

03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other

05 Seized bearings 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



Ontario Structure Inspection	ntario Structure Inspection Manual - Inspection Report:		P1	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
Trusses/Arches	Cut back vegetation within 2.4m of bri	dge 1 to 5 yrs.	\$3,000	
			\$0	
			\$0	
			\$(
			\$(\$(
			\$(\$(
			φι	
		Repair/Rehabilitation Sub-Total:	\$3,000	
		-		
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
		Associated Work Sub-Total:	\$0	



Justification:

Total Cost:

\$3,000

Ontario Structure Inspection Manual - Inspection Report: Site Number: P1 Element Data: Element Group: **Abutments** Length: 0.61 Width: **Element Name: Abutment Walls** 2.4 Location: N-S Height: 1.28 Material: Cast-in-place Concrete Count: 2 Element Type: Conventional Closed Total Quantity: 6.1 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (6.1) \$5,490 \$5,490 Comments: Height: 1.28m (south), 1.80m (north) Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 1.6 Element Name: Floor Beams Width: 0.051 0.102 Height: Location: Material: Steel Count: 42 Element Type: Box/Trapezoidal Total Quantity: 17.1 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Poor **TEV CEV** Good Fair \$7,182 \$7,182 100% (17.1) Dimensions vary. Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 1.71 Deck Top - Thin Slab Width: 45.0 **Element Name:** Location: Height: Count: Material: Wood Wood Planks Element Type: Total Quantity: 77 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (77) \$9,240 \$6,930 Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None



Maintenance needs: Maintenance work:

Maintenance Priority:

Ontario Structure	Inspection N	Ilanual - Insp	ection Rep	ort:	Site Numb	er: P1		
Element Data:								
Element Group:	Piers		Length:	0.61				
Element Name:	Shafts/Columns/Pile Bents		Width:	3.7				
Location:			Height:	1.8				
Material:	Cast-in-place Concrete		Count:	2				
Element Type:	·		Total Quantity:	31 m2				
Environment:		Beni			Limited / Not Inspected:	П		
Protection System:		Nor			BCI - Element Condi	_		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV		
	100% (31)				\$27,900	\$27,900		
Comments:	, ,							
Performance Deficiencies:								
Recommended Work:				_				
				F	Recommended Timing:	None		
Maintenance needs:				1-				
Maintenance work:					Maintenance Priority:			
Element Data:		- ,	<u> </u>		h a	15.0		
Element Group:		Trusses/			Length:	45.0		
Element Name:		Bottom (Chords		Width:	0.051		
Location:				Height:	0.051			
Material:		Steel		Count:	2			
Element Type:	Box/Trapezoidal		Total Quantity:	13.8 m2				
Environment:		Beni			Limited / Not Inspected:			
Protection System:		Nor			BCI - Element Condition Values:			
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV		
	100% (13.8)				\$4,140	\$4,140		
Comments:	Dimensions vary.							
Performance Deficiencies:								
Recommended Work:	Cut back vegetati	on within 2.4m of	bridge.					
	J		o .	F	Recommended Timing:	1-5 years		
Maintenance needs:								
Maintenance work:				ľ	Maintenance Priority:			
Element Data:								
Element Group:		Trusses/	Arches		Length:	45.0		
Element Name:		Top Ch	nords		Width:	0.051		
Location:					Height:	0.051		
Material:		Ste	el		Count:	2		
Element Type:		Box/Trap	ezoidal		Total Quantity:	13.8 m		
Environment:		Beni	gn		Limited / Not Inspected:			
Protection System:		Nor	ne		BCI - Element Condition Values:			
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV		
	100% (13.8)				\$4,140	\$4,140		
Comments:	HSS 51x51x4.8			1		ı		
D. C								
Performance Deficiencies:								
Recommended Work:				Г				
				F	Recommended Timing:	None		
Maintenance needs:								
Maintenance work:				ļ!	Maintenance Priority:			



Ontario Structure	Inspection M	anual - Ins _l	pection Rep	ort:	Site Number:	P1
Element Data:						
Element Group:		Trusses	/Arches		Length:	1.3
Element Name:		Verticals/I	Diagonals		Width:	0.051
Location:					Height:	0.051
Material:		Ste	eel		Count:	154
Element Type:		Box/Trap	pezoidal		Total Quantity:	30.6 m2
Environment:		Ber	nign		Limited / Not Inspected:	
Protection System:	None		BCI - Element Condition Values:			
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
	100% (30.6)				\$9,180	\$9,180
Comments:	Dimensions vary.			•		
Performance Deficiencies:						
Recommended Work:						
					Recommended Timing: No	ne
Maintenance needs:						
Maintenance work:					Maintenance Priority:	





1-Facing South



2-West Elevation





3-Soffit



4-Steel Plates



Ontario Structure	e Inspection Manual - Inspection Report:	Site Number:	



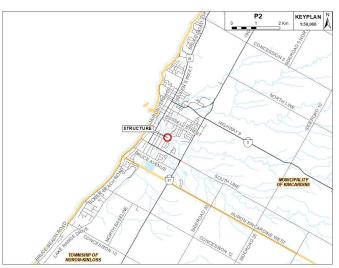
Site Number:

P2

Summary Report:



1-Facing South



Datum: NAD83 17N **Northing:** 4890676 **Easting:** 449317

Structure Name: South Penetangore Bridge BMROSS File #: BR906 MTO #:

Main Hwy / Road #: Bridge Condition Index (BCI:) 88 CRV: \$650,000

Road Name: Green Trail Inspection Date: 7/21/2021

Structure Location: Between St. Albert St and Scott St Next Inspection: 8/20/2023

Condition Summary: Repairs recommended Recommended Timing: 1-5 Years Current Load Limit: N/A

Overall Comments: Half-through truss in good condition. Plate over expansion locations recommended.

Element:	Work Required	Period	Cost
Decks	Cover plates for expansion locations	1 to 5 yrs.	\$2,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work		\$1,000
		Total	\$3,000

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P2 **Inventory Data:** Structure Name: South Penetangore Bridge Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890676 Road Name: Green Trail Structure Location: Between St. Albert St and Scott St Easting: 449317 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Truss Surface Type: Wood Structure Type: Half-Through Truss Detour Length Around Bridge: (km) Total Deck Length: 75.05 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.66 Skew Angle: (Degrees) (m) Direction of Structure: North/South Total Struct. Area: 124.583 (sq.m) Roadway Width: 1.5 Min. Vert. Clearance: (m) (m) Number of Spans: 4 Bridge Condition Index: 88 Span Length(s): 14.05 (m) 36.1 (m) 15.5 (m) 9.4 (m) (m) BMROSS File Number: BR906 MTO Number: **Historical Data:** Year Built: 2012 Last Biennial Inspection: 2020 Current Load Limit: Last Evaluation: (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number: P2

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection **Next Detailed Inspection:**

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations						
Investigation Description	Note	Priority	Estimated Cost			
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0			
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0			
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			
		Total Cost:	\$0			

Overal	I Structure	Notes:
Overai	ıı ənucune	NOLES.

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Half-through truss in good condition. Plate over expansion locations recommended.

⊰е р	lacement	Va	lue:

125 (sq.m) Structure Area: Structure Type: Bridge Complexity Factor: Replacement Cost: \$ 650,000 Price per sq. m.: \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces 01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

08 Pedestrian/vehicular hazard

02 Excessive deformations (deflections and rotations) 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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



Ontario Structure Inspection	Site Number:	P2	
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
Decks	Cover plates for expansion locations	1 to 5 yrs.	\$2,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
	R	Repair/Rehabilitation Sub-Total:	\$2,000
		•	
Associated Work Required:			
Mobilize / Demobilize			\$1,000
Approaches			\$0
Traffic Control / Detours			\$0
Utilities	·		\$0
Right of Way			\$0

		Total Cost:	\$3,000
Justification:			



Environmental Study

Engineering Other

Contingencies

\$0 \$0

\$0

\$0

\$1,000

Associated Work Sub-Total:

Ontario Structure Inspection Manual - Inspection Report: Site Number: P2 Element Data: Element Group: **Abutments** Length: 0.56 Width: **Element Name: Abutment Walls** 2.35 Location: Height: 0.5 Material: Cast-in-place Concrete Count: 2 Element Type: Conventional Closed Total Quantity: 2.35 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (2.35) \$2,115 \$2,115 Comments: Height varies. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 1.65 Element Name: Floor Beams Width: 0.051 0.102 Height: Location: Material: Steel Count: 58 Element Type: Box/Trapezoidal Total Quantity: 24.4 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: Fair Poor TEV **CEV Excellent** Good \$10,248 \$7,686 100% (24.4) Dimensions vary. Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 75.05 Element Name: Deck Top - Thin Slab Width: 1.66 Location: Height: Wood Count: Material: Wood Planks 124.6 m2 Element Type: Total Quantity: **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (124.6) \$14,952 \$11,214 Comments: Performance Deficiencies:



Cover plates to cover gaps between each span.

Recommended Work:

Maintenance needs: Maintenance work: 1-5 years

Recommended Timing:

Maintenance Priority:

Ontario Structure	Inspection M	/lanual - Insp	ection Rep	ort:	Site Number	er: P2	
Element Data:							
Element Group:		Pie	rs	Length:	0.62		
Element Name:		Shafts/Column	ns/Pile Bents		Width:	2.85	
Location:					Height:	3.0	
Material:		Cast-in-place	e Concrete		Count:	3	
Element Type:		Concrete Rectar	gular Columns		Total Quantity:	62.5 m2	
Environment:		Ben			Limited / Not Inspected:		
Protection System:		Nor			BCI - Element Condi	_	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
	100% (62.5)				\$56,250	\$56,250	
Comments:	Height varies.						
Performance Deficiencies:							
Recommended Work:							
Maintenance needs:					Recommended Timing:	None	
Maintenance work:					Maintenance Priority:		
Element Data:					Maintenance i nonty.		
Element Group:		Trusses/	Arches		Length:	75.05	
Element Name:		Bottom			Width:	0.76	
Location:		Bottom	5110143		Height:	0.76	
Material:		Ste	ام		Count:	2	
Element Type:		Box/Trap			Total Quantity:	34.2 m2	
Environment:		Ben			Limited / Not Inspected:		
Protection System:		Nor			-		
Condition Data:	Excellent	Good	Fair	Poor	BCI - Element Condition Values: TEV CEV		
Condition Data.	Excellent	100% (34.2)	Ган	Pool	\$10,260	\$7,695	
Comments: Performance Deficiencies:	Dimensions vary.						
Recommended Work:					Recommended Timing:	None	
Maintenance needs:				l	Recommended rinning.	Notic	
Maintenance work:					Maintenance Priority:		
Element Data:				I	maintenance i nemy		
Element Group:		Trusses/	Arches		Length:	75.05	
Element Name:		Top CI			Width:	0.076	
Location:					Height:	0.076	
Material:		Ste	el		Count:	2	
Element Type:		Box/Trap			Total Quantity:	34.2 m2	
Environment:		Ben			Limited / Not Inspected:		
Protection System:		Nor			BCI - Element Condi		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
Condition Data.	LACGIGIT	100% (34.2)	ı alı	1 001	\$10,260	\$7,695	
Comments:	Dimensions vary.				ψ10,200	Ψ1,095	
Performance Deficiencies:							
Recommended Work:					Recommended Timing:	None	
Maintenance needs:							
Maintenance work:					Maintenance Priority:		



Ontario Structure	Inspection	Site Number: P:					
Element Data:							
Element Group:		Trusses/	Arches		Length:	1.3	
Element Name:		Verticals/D	iagonals		Width:	0.051	
Location:					Height:	0.051	
Material:		Ste	el		Count:	200	
Element Type:		Box/Trap	ezoidal	Total Quantity:	39.8 m2		
Environment:		Beni	gn	Limited / Not Inspected:			
Protection System:		Nor	ne		BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (39.8)			\$11,940	\$8,955	
Comments:	Dimensions vary	<i>'</i> .					
Performance Deficiencies:							
Recommended Work:							
					Recommended Timing: N	one	
Maintenance needs:							
Maintenance work:					Maintenance Priority:		





1-Facing South



2-West Elevation







Ontario	Structure	Inspection	Manual -	Inspection I	Renort:	
Ulitario	Structure	mspection	iviaiiuai -	mispection i	Neport.	- 2

Site Number:

P2



Site Number:

P3

Summary Report:						
	1-Facing East		Datum: NAD83 17N North	STRUCTU	CONCESS ON SE SENSE SENS	MINICIPALITY OF WINCARDINE MINICIPALITY OF WINCARDINE MINICIPALITY OF WINCARDINE MINICIPALITY OF WINCARDINE
Structure Name:]	BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bı	ridge Condition Index (BCI:)	75		\$88,400
Road Name:				Inspe	_ ction Date:	7/21/2021
	Between Scott Street and Palmateer Drive (Helliw	rell Park)		nspection:	
Condition Summary:	, L		ded Timing:		.oad Limit:	
Overall Comments:	Steel beam bridge with wood deck in good o	onditi	on.			
Repair / Rehabilitat	ion:					
Element	:	Work	Required		Period	Cost
						\$0 \$0 \$0 \$0 \$0 \$0
Various		Assoc	ciated Work			\$0 \$0
Vallede		10000	natou Work		Total	\$0
Additional Investiga	ations:					
Maintenance Needs	S:					



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P3 Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890840 Road Name: Red Trail Structure Location: Between Scott Street and Palmateer Drive (Helliwell Pa Easting: 449936 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 12.25 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.42 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 17.395 Direction of Structure: East/West (sq.m) Roadway Width: 1.1 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 11.8 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number: **P3**

2023

Next Detailed Inspection:

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations						
Investigation Description	Note	Priority	Estimated Cost			
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0			
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0			
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			
		Total Cost:	\$0			

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Bridge Condition Summary: No work identified **Recommended Timing:**

Overall Comments: Steel beam bridge with wood deck in good condition.

кер	lace	emen	t Value	:		
~ .		_				

Structure Type: Bridge Replacement Cost: \$ 88,400

Structure Area: Complexity Factor:

Price per sq. m.: \$ 17 (sq.m)

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

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

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

5,200.00

07 Repair to Structural Steel

08 Repair of Bridge Concrete 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance

11 Animal/Pest Control

13 Erosion Control at Bridges

14 Concrete Sealing 15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



Ontario Structure inspection w		Olio 1	Number:	P3
Repair / Rehabilitation:				
Element:	Work Required		Period	Cost
				\$0
				\$0
				\$(\$(
				\$(
				\$0
				\$0
		Repair/Rehabilita	tion Sub-Total:	\$0
Associated Work Required:				
Mobilize / Demobilize				\$0
Approaches				\$0
Traffic Control / Detours				\$0
Utilities				\$0
Right of Way				\$0
Environmental Study				\$0
Engineering				\$0
Other				\$0
Contingencies				\$0
		Associated W	/ork Sub-Total:	\$0
		7.0000.000	Total Cost:	\$0
Justification:				



Ontario Structure	Inspection N	⁄Ianual - Insp	ection Rep	ort:	Site Number:	P3
Element Data:						
Element Group:		Abutm	ents		Length:	
Element Name:		Abutmen			Width:	1.84
Location:		,			Height:	0.56
Material:		Mass Co	ncrete		Count:	2
Element Type:		Convention			Total Quantity:	2.1 m2
Environment:	Benign			Limited / Not Inspected:		
Protection System:		Nor	<u> </u>		BCI - Element Condition	n Values.
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
Jonation Batar	<u> </u>	100% (2.1)			\$1,890	\$1,418
Comments:	Concrete blocks	on both ends, east	end almost com	nletely huried	, ,	ψ1,110
Johnnonto.	Control of Diocks	on both chao, cast	Cha annost con	ipictory buriou.		
Performance Deficiencies:						
Recommended Work:						
					Recommended Timing:	
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:						
Element Group:		Approa	ches		Length:	
Element Name:		Wearing	surface		Width:	
ocation:					Height:	
Material:					Count:	
Element Type:					Total Quantity:	
Environment:		Beni	gn		Limited / Not Inspected:	
Protection System:	None				BCI - Element Condition	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% ()				\$0
Comments:	Trail recently pay	ed at both ends of	bridge, two con-	crete retaining	blocks installed at east end.	
			-	_		
Performance Deficiencies:						
Recommended Work:				r		
					Recommended Timing:	
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:						
Element Group:		Barri			Length:	12.25
Element Name:		Railing S	ystems		Width:	0.09
Location:					Height:	1.17
Material:		Woo	od	 	Count:	2

Wood Rail >83mm thick on Wood Post

Benign

None

Fair

Good

100% (24.5)

Excellent

Total Quantity:

Poor

Limited / Not Inspected:

TEV

\$2,450

Recommended Timing:

Maintenance Priority:

BCI - Element Condition Values:

None



Element Type:

Environment:

Protection System:

Performance Deficiencies: Recommended Work:

Maintenance needs: Maintenance work:

Condition Data:

Comments:

24.5 m

CEV

\$1,838

Ontario Structure II	nspection l	Manual - Insp	pection Rep	ort:	Site Number	er: P3
Element Data:						
Element Group:		Beams	/MLE's		Length:	12.25
Element Name:		Gird	lers		Width:	0.14
Location:					Height:	0.4
Material:		Steel			Count:	2
Element Type:		I-ty	ре		Total Quantity:	29.9 m2
Environment:		Ben	ign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (29.9)			\$12,558	\$9,419
Comments:						
Performance Deficiencies:						
Recommended Work:				Г		
					Recommended Timing:	None
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:					- L	
Element Group:		Dec			Length:	12.25
Element Name:		Deck Top -	Thin Slab		Width:	1.42
ocation:					Height:	
/laterial:		Wood			Count: 1	
						-
7.7		Wood I			Total Quantity:	17.4 m2
Environment:			Planks			17.4 m2
Environment:		Wood I	Planks nign		Total Quantity:	17.4 m2
Environment: Protection System:	Excellent	Wood I Ben	Planks nign	Poor	Total Quantity: Limited / Not Inspected:	17.4 m2
Environment: Protection System:	Excellent	Wood I Ben No	Planks nign ne	Poor	Total Quantity: Limited / Not Inspected: BCI - Element Condi	17.4 m2
Element Type: Environment: Protection System: Condition Data: Comments:	Excellent	Wood I Ben No Good	Planks nign ne	Poor	Total Quantity: Limited / Not Inspected: BCI - Element Condi TEV	17.4 m2
Environment: Protection System: Condition Data: Comments:	Excellent	Wood I Ben No Good	Planks nign ne	Poor	Total Quantity: Limited / Not Inspected: BCI - Element Condi TEV	17.4 m2
Environment: Protection System: Condition Data: Comments: Performance Deficiencies:	Excellent	Wood I Ben No Good	Planks nign ne	Poor	Total Quantity: Limited / Not Inspected: BCI - Element Condi TEV	17.4 m2
Environment: Protection System: Condition Data:	Excellent	Wood I Ben No Good	Planks nign ne		Total Quantity: Limited / Not Inspected: BCI - Element Condi TEV \$2,088	17.4 m2 ition Values: CEV \$1,566
Environment: Protection System: Condition Data: Comments: Performance Deficiencies:	Excellent	Wood I Ben No Good	Planks nign ne		Total Quantity: Limited / Not Inspected: BCI - Element Condi TEV \$2,088	17.4 m2





1-Facing East



2-South Elevation





3-Soffit



4-Beams and West Abutment





5-North Elevation



0-4	4 4!		4! D 4.
Ontario Stru	ucture Inspectio	n Manuai - ins	pection Report:

Site Number:

P3



Site Number:

P4

Summary Report:							
	1-Facing	South		Datum: NAD83 17N No	TOMASIE OF FURON-RILOSS	CONCERN ADRESS AND ADRESS AND ADRESS AND ADRESS AND ADRESS AND ADDRESS AND ADD	KEYPLAN N 150,000 N 2 S S S S S S S S S S S S S S S S S S
	1-racing	South		Datum: NAD83 1/N NO	rtning: 489230	DO Easti	ng: 450 189
Structure Name:				BMROSS File #		MTO #:	
Main Hwy / Road #:	<u> </u>		Br	idge Condition Index (BCI:		=	\$62,400
Road Name:				lage Collation mack (DOI.		ction Date:	
Structure Location:						Inspection:	
Condition Summary:		ified	Recommen	ded Timing:		Load Limit:	
Overall Comments:			recommen	dea rinning.	Junione	Loud Lillint.	14/73
		ondition.					
Repair / Rehabilitat							11
Element	:		Work	Required		Period	Cost
							\$0 \$0
							\$0 \$0
							\$0 \$0
							\$0
							\$0
							\$0
Various			Assoc	iated Work			\$0
						Total	\$0
Additional Investiga	tiona						
Additional investiga	ilions.						
Maintenance Needs	s:						



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P4 Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4892308 Road Name: Blue Trail Structure Location: Alps Park Easting: 450189 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Culverts Surface Type: Gravel Structure Type: Round Culvert Detour Length Around Bridge: (km) Total Deck Length: 2.6 (m) Fill on Structure: 0.4 (m) Overall Str. Width: 6.0 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 15.6 Direction of Structure: North/South (sq.m) Roadway Width: 2.0 Min. Vert. Clearance: (m) (m) 2 Number of Spans: Bridge Condition Index: 100 Span Length(s): 1.2 (m) 1.2 (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Year Built: 2020 Last Biennial Inspection: 2020 Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number: **P4**

2023

Next Detailed Inspection:

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
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
Concrete Substructure Condition Survey		N/R	\$0
		Total Cost:	\$0

0	11 04		Notes:
Overa	ய கம	ıcıure	NOIES:

Bridge Condition Summary: No work identified **Recommended Timing:**

Overall Comments: Twin CSP in excellent condition.

Replacement Value:			
Structure Type:	Culvert	Structure Area:	16 (sq.m)
Replacement Cost:	\$ 62,400	Complexity Factor:	1
		Price per sq. m.:	\$ 3,900.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces 01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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



Ontario Structure inspection w	lanuar - mspection Report.	Site Number:	P4
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
			\$0
			\$0
			\$0
			\$0 \$0
			\$0
			\$0
		Repair/Rehabilitation Sub-Total:	\$0
Associated Work Required:			
Mobilize / Demobilize			\$0
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$0
Other			\$0
Contingencies			\$0
		Associated Work Sub-Total:	\$0
		Total Cost:	\$0
Justification:			



Ontario Structure	cture Inspection Manual - Inspection Report: Site Number:			er: P4			
Element Deter							
Element Data:							
Element Group:		Culv	rerts		Length:	1.2	
Element Name:		Barı	rels		Width:	6.0	
Location:					Height:	1.2	
Material:		Plas	stic		Count:	2	
Element Type:		Pipe Round			Total Quantity:	45.2 m2	
Environment:		Ben	ign		Limited / Not Inspected:		
Protection System:		Epoxy zinc/a	crylic/acrylic		BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
	100% (45.2)				\$15,820	\$15,820	
Comments:	Polymer coated.						
Performance Deficiencies	0.						
renormance Denciencies	ð.						
Recommended Work:							
					Recommended Timing:	None	
Maintenance needs:							
Maintenance work:					Maintenance Priority:		





1-Facing South



2-South Barrel Facing East







Ontario	Structure	Inspection	Manual -	Inspection	Renort:	
Ontano	Oti actai e	mapechon	manuai -	mapection	i vepoi t.	

Site Number:

P4



Site Number:

P5

Summary Report:					
	1-Facing East			MISHIP OF MINIOLOSS	5 KEYPLAN N 150,000 N 150,
Structure Name:	North Penetangore Bridge		BMROSS File #: B	R804 MTO # :	
Main Hwy / Road #:		В	ridge Condition Index (BCI:)	78 CRV :	\$348,400
Road Name:	Red Trail			Inspection Date:	7/21/2021
Structure Location:	Geddes Park			Next Inspection:	8/20/2023
Condition Summary:	No work identified	Recomme	nded Timing:	Current Load Limit:	N/A
	Half-through truss in good condition.				
Repair / Rehabilitati		\A/	le De austre d	Davied	0
Element:		wor	k Required	Period	Cost
					\$0 \$0
					\$0
					\$0
					\$0
					\$0
., .					\$0
Various		Asso	ciated Work		\$0
				Total	\$0
Additional Investiga	tions:				
Maintenance Needs);				



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P5 Inventory Data:** Structure Name: North Penetangore Bridge Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4891052 Road Name: Red Trail Structure Location: Geddes Park Easting: 449244 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Surface Type: Wood Structure Group: Truss Structure Type: Half-Through Truss Detour Length Around Bridge: (km) Total Deck Length: 40.4 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.66 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 67.064 Direction of Structure: East/West (sq.m) Roadway Width: 1.5 Min. Vert. Clearance: (m) (m) Number of Spans: 3 Bridge Condition Index: 78 Span Length(s): 18.2 (m) 15.5 (m) 6.7 (m) (m) (m) BMROSS File Number: BR804 MTO Number: **Historical Data:** Year Built: 2007 Last Biennial Inspection: 2020 Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number: P5

2023

Next Detailed Inspection:

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

\cap	vera	11 Q1	ruct	IIFA	Not	00.
u	vera	шоі	HUGU	ure-	NO	es.

Bridge Condition Summary: No work identified Recommended Timing:

Overall Comments: Half-through truss in good condition.

Replacement Value:			
Structure Type:	Bridge	Structure Area:	67 (sq.m)
Replacement Cost:	\$ 348,400	Complexity Factor:	1
		Price per sq. m.:	\$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces
01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations)

08 Pedestrian/vehicular hazard

14 Undermining of foundation

03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 11 Deck drainage

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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 Maintenance09 Repair of Bridge Timber15 Rout and Seal04 Painting Steel Bridge Structures10 Bailey bridges - Maintenance16 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



Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
			\$
			\$
			\$
			\$
			\$
			\$
			Ψ
		Repair/Rehabilitation Sub-Total:	\$
Associated Work Required:			
Mobilize / Demobilize			\$
Approaches			\$
Traffic Control / Detours			\$
Utilities			\$
Right of Way			\$
Environmental Study			\$
Engineering			\$
Other			\$
Contingencies			\$
		Associated Work Sub-Total:	\$
		Total Cost:	\$



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P5** Element Data: Element Group: **Abutments** Length: 0.55 Width: **Element Name: Abutment Walls** 2.15 Location: Height: 1.13 Material: Cast-in-place Concrete Count: 2 Element Type: Conventional Closed Total Quantity: 4.9 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (4.9) \$4,410 \$4,410 Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 40.4 Element Name: Deck Top - Thin Slab Width: 1.66 Height: Location: Material: Wood Count: Element Type: Wood Planks Total Quantity: 67.1 m2 **Environment:** Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: Poor **TEV CEV Excellent** Good Fair \$8,052 \$6,039 100% (67.1) Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Piers Length: 0.55 Shafts/Columns/Pile Bents Width: 2.8 **Element Name:** Location: Height: 0.95 Count: Material: Cast-in-place Concrete 2 12.7 m2 Element Type: Concrete Rectangular Columns Total Quantity: **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (12.7) \$11,430 \$8,573 Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None



Maintenance needs: Maintenance work:

Maintenance Priority:

Ontario Structure	Inspection	Manuai - Insp	pection Rep	ort:	Site Numb	er: P5	
Element Data:							
Element Group:		Trusses	/Arches		Length:	40.4	
Element Name:		Bottom	Chords		Width:	0.076	
Location:					Height:	0.076	
Material:		Ste	el		Count:	2	
Element Type:		Box/Trap	ezoidal		Total Quantity:	18.4 m2	
Environment:		Ben	ign		Limited / Not Inspected:		
Protection System:		Noi	ne		BCI - Element Condi	tion Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (18.4)			\$5,520	\$4,140	
Comments:				П			
Dodomon Dodolovska							
Performance Deficiencies:							
Recommended Work:				Г		.,	
Maintananaa naada.					Recommended Timing:	None	
Maintenance needs:					Maintenance Driesity		
Maintenance work:					Maintenance Priority:		
Element Data: Element Group:		Trusses	Arches		Length:	40.4	
Element Name:		Top C			Width:	0.076	
Location:		ТОРС	norus			0.076	
Location. Material:		Ste	nol .		Height: Count:	0.076	
						18.4 m	
Element Type:		Box/Trap			Total Quantity:		
Environment:		Ben			Limited / Not Inspected:		
Protection System:	F	Noi		D	BCI - Element Condition Values: TEV CEV		
Condition Data:	Excellent	Good	Fair	Poor			
O	A 4	100% (18.4)	-al		\$5,520	\$4,140	
Comments:	Aumospheric cor	rosion resistant ste	eei.				
Performance Deficiencies:							
Recommended Work:							
				I	Recommended Timing:	None	
Maintenance needs:							
Maintenance work:				ı	Maintenance Priority:		
Element Data:				,			
Element Group:		Trusses	/Arches		Length:	1.5	
Element Name:		Verticals/[Diagonals		Width:	0.05	
_ocation:					Height:	0.05	
Material:		Ste	el		Count:	68	
Element Type:		Box/Trap	ezoidal		Total Quantity:	15.3 m2	
Environment:		Ben	ign		Limited / Not Inspected:		
Protection System:		No	ne		BCI - Element Condi	tion Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (15.3)			\$4,590	\$3,443	
Comments:	Diagonals.					I .	
D. C							
Performance Deficiencies:							
Recommended Work:				Г			
Matata a					Recommended Timing:	None	
Maintenance needs:							
Maintenance work:				ļ!	Maintenance Priority:		



Ontario Structure	itario Structure Inspection Manual - Inspection Report:			Site Number	P5	
Element Data:						
Element Group:		Trusses/	'Arches		Length:	1.04
Element Name:		Verticals/D	Diagonals		Width:	0.05
Location:					Height:	0.05
Material:		Ste	el		Count:	70
Element Type:	Box/Trapezoidal			Total Quantity:	10.9 m2	
Environment:	Benign		Limited / Not Inspected:			
Protection System:	None		BCI - Element Condition	on Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (10.9)			\$3,270	\$2,453
Comments:	Verticals.	1				
Performance Deficiencies:						
Recommended Work:						
					Recommended Timing: No	one
Maintenance needs:						
Maintenance work:					Maintenance Priority:	





1-Facing East



2-South Elevation









Ontario	Structure	Inspection	Manual.	- Inspection	Report:	
Ulitalio	Structure	mspection	iviai iuai	- 111306611011	Nepull.	

Site Number:

P5



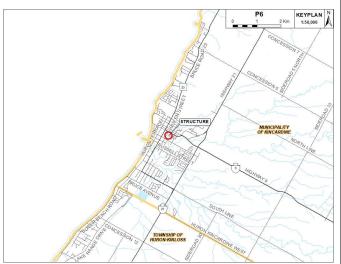
Site Number:

P6

Summary	Re	port



1-Facing West



Datum: NAD83 17N Northing: 4891966 **Easting:** 449632

Structure Name:		BMROSS File #:	BR1258	MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	40	CRV:	\$436,800
Road Name:	Blue Trail		Inspec	tion Date:	7/22/2021
Structure Location:	Between Princess St. and William St.		Next In	spection:	8/20/2023
Condition Summary	Repairs recommended	Recommended Timing: Within 1 vr	Current L	oad I imit	N/A

Overall Comments: Multi-span steel beam bridge in fair condition. New decking in 2017 and protection of pier footings. Continue to monitor pier footings on each side of low flow channel and remove debris in channel.

Element:	Work Required	Period	Cost
Piers	Remove debris in channel	Within 1 yr.	\$3,00
			\$
			\$
			\$
			\$
			\$
			\$
Various	Associated Work		\$
		 Total	\$3,00

Additional	Investigations	
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Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P6 Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Road Name: Blue Trail Northing: 4891966 Structure Location: Between Princess St. and William St. Easting: 449632 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 52.2 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.6 (m) Skew Angle: 0 (Degrees) Direction of Structure: East/West Total Struct. Area: 83.52 (sq.m) Roadway Width: 1.3 Min. Vert. Clearance: (m) (m) Number of Spans: 8 Bridge Condition Index: 40 Span Length(s): 52.2 (m) (m) (m) (m) (m) MTO Number: BMROSS File Number: BR1258 Historical Data: Year Built: Last Biennial Inspection: 2020 **Current Load Limit:** (tonnes) Last Evaluation: Load Limit By-Law #: Last Enhanced Inspection:

Enhanced Access Equipment:

Description

New deck boards, protection of pier 3 footing (numbered from east end)



By-Law Expiry Date:

Work Type

Year

2017

Rehabilitation / Investigation History:

Cost

52000

Site Number:

Next Detailed Inspection:

P6

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

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Bridge Condition Summary: Repairs recommended

Recommended Timing: Within 1 yr.

Overall Comments: Multi-span steel beam bridge in fair condition. New decking in 2017 and protection of pier footings. Continue to monitor pier footings on each side of low flow channel and remove debris in channel.

Replacement Value:

Structure Type: Bridge Replacement Cost: \$ 436,800

Structure Area:

Complexity Factor:

84 (sq.m)

5,200.00

Price per sq. m.:

\$

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

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

06 Bearing not uniformly loaded/unstable

07 Jammed expansion joint 08 Pedestrian/vehicular hazard

09 Rough riding surface

10 Surface ponding

12 Slippery surfaces

13 Flooding/channel blockage 14 Undermining of foundation

15 Unstable embankments

16 Other

11 Deck drainage

07 Repair to Structural Steel

08 Repair of Bridge Concrete 09 Repair of Bridge Timber

10 Bailey bridges - Maintenance 11 Animal/Pest Control

13 Erosion Control at Bridges

14 Concrete Sealing 15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



Ontario Structure Inspection Manual - Inspection Report:		Site Number:	P6	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
Piers	Remove debris in channel	Within 1 yr.	\$3,000	
			\$0	
			\$0	
			\$(
			\$0	
			\$(
			\$0	
		Repair/Rehabilitation Sub-Total:	\$3,000	
A				
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
		Associated Work Sub-Total:	\$0	

Justification:		



Total Cost:

\$3,000

Ontario Structure	Inspection N	/lanual - Ins	pection Repo	rt:	Site Number:	P6
Element Data:						
Element Group:		Abutr	ments		Length:	
Element Name:		Abutme	nt Walls		Width:	2.0
_ocation:		E/	/W		Height:	0.3
Material:		Cast-in-place Concrete			Count:	2
Element Type:		Conventional Closed			Total Quantity:	1.2 m2
Environment:		Benign			Limited / Not Inspected:	
Protection System:		No	one		BCI - Element Condition	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (1.2)		\$1,080	\$432
Comments:						
Performance Deficiencies: Recommended Work:						
Recommended Work.					Recommended Timing: Nor	ne
/laintenance needs:					'	
/laintenance work:					Maintenance Priority:	
Element Data:						
lement Group:		Appro	aches		Length:	
lement Name:	Sidewalk		Width:			
ocation:			Height:			
laterial:			Count:	2		
lement Type:			Total Quantity:			
nvironment:		Ber	nign		Limited / Not Inspected:	
rotection System:		No	one		BCI - Element Condition Values:	
Condition Data:	Excellent	Good	Fair	Poor	r TEV	
			100% ()			\$0
omments:	Concrete sidewal	ks at each end of	f the bridge.			
erformance Deficiencies:						
Recommended Work:				[Recommended Timing:	
Maintenance needs:					rtocommonaca riiimigi	
faintenance work:					Maintenance Priority:	
Element Data:					ae.a.rea	
lement Group:		Bar	riers		Length:	52.2
lement Name:			Systems		Width:	0.05
ocation:		aming	-,-:		Height:	1.08
laterial:		St	eel		Count:	2
lement Type:			nd Steel Panel		Total Quantity:	104.4 m
nvironment:			nign		Limited / Not Inspected:	
Protection System:			one		BCI - Element Condition	n Values:
•	Evaclient			Door	TEV	
Condition Data:	Excellent	Good	Fair	Poor		CEV
comments:			100% (104.4)		\$20,880	\$8,352
Performance Deficiencies:						
Recommended Work:						



Maintenance needs:
Maintenance work:

Recommended Timing:

Maintenance Priority:

None

Ontario Structure	Inspection I	Manual - Ins	pection Rep	ort:	Site Numb	er: P6	
Element Data:							
Element Group:		Beams	s/MLE's		Length:	52.2	
Element Name:		Gird	ders		Width:	0.1	
Location:					Height:	0.2	
Material:		St	eel		Count:	4	
Element Type:		I-ty	/pe		Total Quantity:	146.2 m2	
Environment:		Ber	nign		Limited / Not Inspected:		
Protection System:			one		BCI - Element Cond	_	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
			90% (131.58)	10% (14.62)	\$61,404	\$22,105	
Comments:	3 to 5 beams per	span. Outside be	` '	` '	re I-beams. Surface rust.		
Performance Deficiencies:							
Recommended Work:							
Maintenance needs:				R	ecommended Timing:	None	
Maintenance work:				М	aintenance Priority:		
Element Data:							
Element Group:		De	cks		Length:	52.2	
Element Name:		Deck Top	- Thin Slab		Width:	1.5	
Location:		Н		Height:	0.038		
Material:		Wood			Count:	1	
Element Type:		Wood Planks			Total Quantity:	78.3 m2	
Environment:			nign		Limited / Not Inspected		
Protection System:			one		BCI - Element Cond		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
oonalion balar	<u> </u>	100% (78.3)			\$9,396	\$7,047	
Comments: Performance Deficiencies:	Replaced in 2017	7. Spans (m): 4.8	(east), 7.0, 6.6, 8.	8, 6.2, 6.9, 6.8,	5.1 (west).		
Recommended Work:				Re	ecommended Timing:	None	
Maintenance needs:					atatan an an Batanten		
Maintenance work:				М	aintenance Priority:		
Element Data: Element Group:		Di	ers		Length:	0.1	
Element Name:			nns/Pile Bents		Width:	1.6	
Location:		Shalls/Colum	IIIS/FIIE DEIIIS		Height:	3.7	
Material:		C+	eel		Count:	7	
			Frame		Total Quantity:	88.1 m2	
Element Type:					Limited / Not Inspected		
Environment:			nign		•		
Protection System: Condition Data:	Eveellent		one Foi-	Deer	BCI - Element Cond TEV	CEV	
Condition Data:	Excellent	Good	Fair	Poor			
Comments:	Dimensions vary	. Constructed fror	100% (88.1) n steel w-sections	and angle iron.	\$79,290	\$31,716	
Performance Deficiencies:							
Recommended Work:				R	ecommended Timing:		
Maintenance needs:							
Maintenance work:				М	aintenance Priority:		



Ontario Structure	cture Inspection Manual - Inspection Report:				Site Numl	ber: P6
Element Data:						
Element Group:		Piers			Length:	1.5
Element Name:		Shafts/Colum	ns/Pile Bents		Width:	3.5
Location:					Height:	3
Material:	Cast-in-place Concrete				Count:	7
Element Type:	Concrete Rectangular Columns			Total Quantity:	210 m2	
Environment:	Benign			Limited / Not Inspected	d:	
Protection System:	None			BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (210)		\$189,000	\$75,600
Comments:	Dimensions vary. channel.	Patch repaired p	iers 2 and 3 (num	bered from ea	st end). Underpinned pier (3 in 2017. Debris in
Performance Deficiencies:						
Recommended Work:	Remove debris fr	om channel.				
					Recommended Timing:	< 1 year
Maintenance needs:				•		
Maintenance work:					Maintenance Priority:	





1-Facing West



2-South Elevation



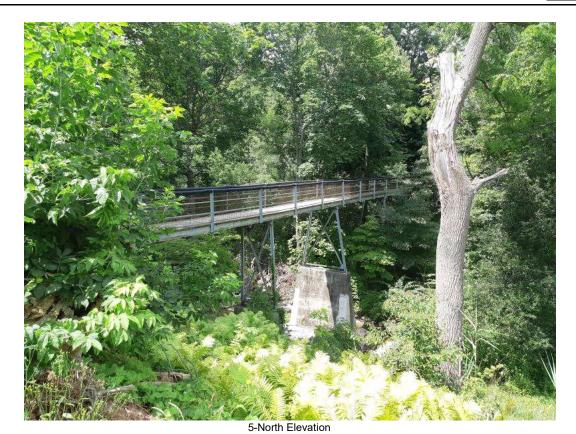


3-Soffit



4-Middle Pier







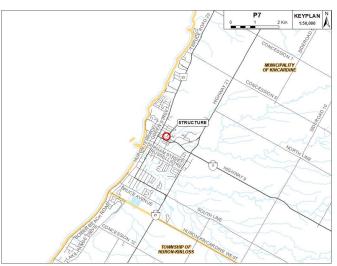
Site Number:

P7

Summary	Re	port
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1-Facing East



Datum: NAD83 17N **Northing:** 4892178 **Easting:** 449848

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	75	CRV:	\$98,800
Road Name:	Blue Trail		Inspec	tion Date:	7/22/2021
Structure Location:	Mechanics Avenue		Next Ir	spection:	8/20/2023
Condition Summary:	Repairs recommended	Recommended Timing: 1-5 Years	Current L	oad Limit:	N/A

Overall Comments: Steel beam bridge with steel grating in good condition.

Element:	Work Required	Period	Cost
Abutments	Erosion protection	1 to 5 yrs.	\$7,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work		\$0
		Total	\$7,000

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P7 Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4892178 Road Name: Blue Trail Structure Location: Mechanics Avenue Easting: 449848 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Metal Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 14.7 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.32 (m) Skew Angle: 0 (Degrees) Direction of Structure: East/West Total Struct. Area: 19.404 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 11.6 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number: **P7**

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Next Detailed Inspection: Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations						
Investigation Description	Note	Priority	Estimated Cost			
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0			
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0			
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			
		Total Cost:	\$0			

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Jvera	II STE	ucture	Note:	s:

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Steel beam bridge with steel grating in good condition.

Replacement Value:			
Structure Type:	Bridge	Structure Area:	19 (sq.m)
Replacement Cost:	\$ 98.800	Complexity Factor:	1

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.

5,200.00

Price per sq. m.:

Suspected Performance Deficiencies

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces 01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard

14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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



Ontario Structure Inspection Manual - Inspection Report:		Site Number:	P7	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
Abutments	Erosion protection	1 to 5 yrs.	\$7,000	
			\$0	
			\$0	
			\$0	
			\$0 \$0	
			\$(
			Ψ	
		Repair/Rehabilitation Sub-Total:	\$7,000	
Associated Warts Described.				
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
		Associated Work Sub-Total:	\$0	



Justification:

Total Cost:

\$7,000

Ontario Structure Inspection Manual - Inspection Report: Site Number: P7

Element Data:						
Element Group:		Abutr	nents		Length:	
Element Name:		Abutme	nt Walls		Width:	0.6
Location:					Height:	0.25
Material:		Cast-in-plac	ce Concrete		Count:	4
Element Type:					Total Quantity:	0.6 m2
Environment:		Ber	nign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condition	values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (0.6)			\$540	\$405
Comments:	Two concrete pie	ers at either end, 6	00mm dia.			
Performance Deficiencies:						
Recommended Work:	Erosion protection	on.		Ī	Recommended Timing: 1-5	years
Maintenance needs:						
Maintenance work:				I	Maintenance Priority:	
Element Data:						
Element Group:		Barr			Length:	14.7
Element Name:		Railing S	Systems		Width:	
Location:					Height:	1.32
Material:		Ste	eel		Count:	2
Element Type:		Steel Post an	d Steel Panel		Total Quantity:	29.4 m2
Environment:		Ber	nign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condition	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (29.4)			\$5,880	\$4,410
Comments: Performance Deficiencies: Recommended Work:						
Malatananaa maada.					Recommended Timing: Non	ie
Maintenance needs: Maintenance work:					Maintanana Daladtu	
					Maintenance Priority:	
Element Data:		Beams	/MI E'o		Length:	0.105
Element Group:			-		Width:	0.105
Element Name:		Diaphi	ragins			0.065
Location:		Ste	- ol		Height: Count:	7
Material:						7 Each
Element Type:		I-ty			Total Quantity:	
Environment:		Ber			Limited / Not Inspected:	. Walana
Protection System:	Freellant	No		Dana	BCI - Element Condition	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
Comments:	C-channels.	100% (7)			\$0	\$0
Performance Deficiencies:						
Recommended Work:				Ī	Recommended Timing: Non	ne
Maintenance needs:				<u>"</u>	1	
Maintenance work:				ı	Maintenance Priority:	



Ontario Structure II	nspection	Manual - Insp	ection Rep	ort:	Site Number	er: P7
Element Data:						
Element Group:		Beams/	MLE's		Length:	14.7
Element Name:		Gird	ers		Width:	0.14
_ocation:					Height:	0.4
Material:		Ste	el		Count:	2
Element Type:		I-typ	ре		Total Quantity:	35.9 m2
Environment:		Beni	gn		Limited / Not Inspected:	
Protection System:		Nor	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (35.9)			\$15,078	\$11,309
Comments:						
Performance Deficiencies:						
Recommended Work:				[Recommended Timing:	None
Maintenance needs:					-	
Maintenance work:					Maintenance Priority:	
Element Data:				<u>'</u>		
Element Group:		Dec	ks		Length:	14.7
Element Name:		Deck Top -	Thin Slab		Width:	1.32
ocation:					Height:	
/laterial:		Ste	el		Count:	1
Element Type:					Total Quantity:	19.4 m2
Environment:		Beni	gn		Limited / Not Inspected:	
Protection System:		Nor	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (19.4)			\$2,328	\$1,746
Comments:						
Performance Deficiencies:						
Recommended Work:					Recommended Timing:	None
Maintenance needs:					-	





1-Facing East



2-North Elevation





3-Soffit



4-South Elevation

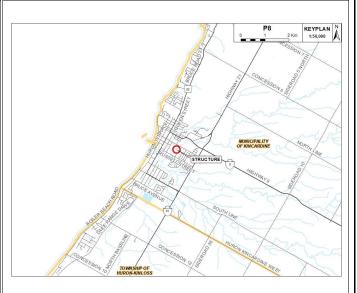


Site Number:

P8

Summary	Report	:			
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1-Facing West



Datum: NAD83 17N **Northing:** 4891464 **Easting:** 449765

Structure Name: BMROSS File #: MTO #:

Main Hwy / Road #: Bridge Condition Index (BCI:) 62 CRV: \$57,200

Road Name: Blue Trail Inspection Date: 7/21/2021

Structure Location: Between Russell St. and Durham St. Next Inspection: 8/20/2023

Condition Summary: Repairs recommended Recommended Timing: 1-5 Years Current Load Limit: N/A

Overall Comments: Wood bridge in fair condition. Bank protection recommended.

Element:	Work Required	Period	Cost
Abutments	Erosion protection	1 to 5 yrs.	\$10,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work		\$10,00
		 Total	\$20,000

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: **P8 Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4891464 Road Name: Blue Trail Structure Location: Between Russell St. and Durham St. Easting: 449765 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 7.3 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.45 (m) Skew Angle: 0 (Degrees) Direction of Structure: East/West Total Struct. Area: 10.585 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 62 Span Length(s): 7.3 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number:

Next Detailed Inspection:

P8

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations						
Investigation Description	Note	Priority	Estimated Cost			
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0			
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0			
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			
		Total Cost:	\$0			

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_	vela			LLU		w	61 f A	-

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Wood bridge in fair condition. Bank protection recommended.

Replacement Value:	₹ер	lacement i	Val	lue:
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Structure Type: Bridge Structure Area: 11 (sq.m)

Replacement Cost: \$ 57,200 Complexity Factor: 1

Price per sq. m.: \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement Us Nough Hulling Surface 13 Offstable embankments

04 Continuing movements 10 Surface ponding 16 Other

05 Seized bearings 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



Ontario Structure Inspection Manual - Inspection Repor		Site Number:	P8
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
Abutments	Erosion protection	1 to 5 yrs.	\$10,000
			\$0
			\$0
			\$0
			\$(
			\$(
			\$0
		Repair/Rehabilitation Sub-Total:	\$10,000
Associated Work Required:			
Mobilize / Demobilize			\$5,000
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$3,000
Other			\$0
Contingencies			\$2,000
		Associated Work Sub-Total:	\$10,000



Justification:

\$20,000

Total Cost:

Ontario Structure Inspection Manual - Inspection Report: Site Number: P8 Element Data: Element Group: Abutments Length: 0.14 Element Name: Abutment Walls Width: 1.4 Location: Height: 0.14 Material: Wood Count: 2 Element Type: Total Quantity: 0.4 m2 Environment: Benign Limited / Not Inspected: None **BCI - Element Condition Values:** Protection System: Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (0.4) \$360 \$144 Comments: 140x140 lumber. Banks are steep and eroded and should be protected with rip rap to maintain stability.

Performance Deficiencies:							
Recommended Work:	Erosion protection	n.					
					Recommended Timing:	1-5 years	
Maintenance needs:							
Maintenance work:					Maintenance Priority:		
Element Data:							
Element Group:		Barı	riers		Length:	7.3	
Element Name:		Railing Systems			Width:	0.038	
ocation:					Height:	0.95	
Material:		Wood			Count:	2	
Element Type:	W	Wood Rail <83mm thick on Wood Post			Total Quantity:	14.6 m2	
Environment:		Ber	nign		Limited / Not Inspecte	d:	
Protection System:		No	ne		BCI - Element Cond	dition Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
			100% (14.6)		\$1,460	\$584	
Recommended Work:					Recommended Timing:	None	
Maintenance needs:					Recommended Timing:	None	
Maintenance needs.					Maintenance Priority:		
					Maintenance Phonty.		
Element Data: Element Group:		Reame	s/MLE's		Length:	7.3	
Element Name:			ders		Width:	0.08	
ocation:		Gild	ue15		Height:	0.08	
Material:		Alum	inium		Count:	2	
Element Type: Environment:		<u>-</u>	/pe		Total Quantity:	8.2 m2	
			nign		Limited / Not Inspected:		
Protection System:	Freedlant	No		Dann	BCI - Element Cond	CEV	
Condition Data:	Excellent	Good	Fair	Poor	TEV		
		100% (8.2)			\$1,640	\$1,230	
Comments:							
Performance Deficiencies:							
Recommended Work:							
					Recommended Timing:	None	
Maintenance needs:					1		
Maintenance work:					Maintenance Priority:		



Ontario Structure II	Inspection Manual - Inspection Report: Site Number			er: P8		
Element Data:						
Element Group:		Decl	ks		Length:	7.3
Element Name:		Deck Top - Thin Slab		Width:	1.45	
Location:			Height:			
Material:		Wood		Count:	1	
Element Type:		Wood Planks		Total Quantity:	10.6 m2	
Environment:		Benign		Limited / Not Inspected:		
Protection System:		Non	ie		BCI - Element Condition Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (10.6)			\$1,272	\$954
Comments:					,	
Performance Deficiencies:						
Recommended Work:						
					Recommended Timing:	None
Maintenance needs:						
Maintenance work:					Maintenance Priority:	





1-Facing West



2-North Elevation







Site Number:

P9

Summary Report:							
	1-Facing	g North		Datum: NAD83 17N North	TURE 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	THE CHEER ON C. S.	REYPLAN N 150,000 N 150,00
Structure Name:				BMROSS File #:		MTO #:	
Main Hwy / Road #:	1		В	Bridge Condition Index (BCI:)	75		\$83,200
Road Name:			Ħ	3		_ ction Date:	
		ce Ave. and Kincardine Ave.				nspection:	
Condition Summary:			mme	nded Timing:		oad Limit:	
		ridge with steel grating deck in		\ <u></u>			
Repair / Rehabilitat							
Element			Wor	k Required		Period	Cost
							\$0 \$0
							\$0 \$0
							\$0
							\$0
							\$0
Mariana				ologo d Marodo			\$0 *0
Various			ASSO	ciated Work		Total	\$0 \$0
						IOtai	φυ
Additional Investiga	ntions:						
Maintenance Needs	s:						



Ontario Structure Inspection Manual - Inspection Report: Site Number: P9 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4889988 Road Name: Yellow Trail Structure Location: Between Bruce Ave. and Kincardine Ave. Easting: 448749 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Metal Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 12.7 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.23 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 15.621 (sq.m) Roadway Width: 1.1 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 10.3 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P9

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

Overa	II Structure	Notes:
uvera	II Structure	NOTES

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Steel beam bridge with steel grating deck in good condition.

Repl	acemei	nt Va	alue:
------	--------	-------	-------

Structure Type: Bridge Replacement Cost: \$ 83,200

Structure Area: Complexity Factor:

Price per sq. m.:

16 (sq.m) \$ 5,200.00

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

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

06 Bearing not uniformly loaded/unstable

07 Jammed expansion joint

09 Rough riding surface

08 Pedestrian/vehicular hazard

10 Surface ponding

11 Deck drainage

12 Slippery surfaces

13 Flooding/channel blockage 14 Undermining of foundation

13 Erosion Control at Bridges

15 Unstable embankments

16 Other

07 Repair to Structural Steel

08 Repair of Bridge Concrete

09 Repair of Bridge Timber 10 Bailey bridges - Maintenance

11 Animal/Pest Control

14 Concrete Sealing 15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



ontario Structure inspection Manual - Inspection Report:		Site Number:	P9	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
		-	\$0	
			\$0	
			\$0	
			\$0	
			\$0 \$0	
			\$0	
			Ψ	
		Repair/Rehabilitation Sub-Total:	\$0	
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
		Associated Work Sub-Total:	\$0	
		Total Cost:	\$0	
Justification:				



Excellent

Abutments

Abutment Walls

Cast-in-place Concrete

Conventional Closed

Benign

None

Barriers

Railing Systems

Steel

Steel Post and Steel Panel

Benign

None

Fair

Poor

Good

100% (3)

Element Data: Element Group:

Element Name:

Element Type:

Environment:

Protection System:

Performance Deficiencies: Recommended Work:

Maintenance needs: Maintenance work:

Element Data: Element Group:

Element Name:

Element Type:

Environment:

Protection System:

Maintenance needs:
Maintenance work:

Location:

Material:

Condition Data:

Comments:

Location:

Material:

Site Numbe	r: P9
Length:	
Width:	1.83
Height:	0.82
Count:	2
Total Quantity:	3 m2
Limited / Not Inspected:	
BCI - Element Condit	ion Values:
TEV	CEV
\$2,700	\$2,025 None
\$2,700	
\$2,700 ecommended Timing:	None
\$2,700	
\$2,700 commended Timing: intenance Priority: Length: Width:	None
\$2,700 ecommended Timing: aintenance Priority: Length:	None
\$2,700 ecommended Timing: aintenance Priority: Length: Width: Height:	None 12.7
\$2,700 ecommended Timing: aintenance Priority: Length: Width: Height: Count:	12.7 1.37 2
\$2,700 commended Timing: aintenance Priority: Length: Width: Height: Count: Total Quantity:	12.7 1.37 2 25.4 m
\$2,700 ecommended Timing: aintenance Priority: Length: Width: Height: Count: Total Quantity: Limited / Not Inspected:	12.7 1.37 2 25.4 m

Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (25.4)			\$5,080	\$3,810	
Comments:							
Performance Deficiencies:							
Recommended Work:							
				I	Recommended Timing:		
Maintenance needs:							
Maintenance work:					Maintenance Priority:		
Element Data:				<u>.</u>	<u> </u>		
Element Group:		Beams	/MLE's		Length:	1.0	
Element Name:		Diaph	ragms		Width:		
Location:					Height:	0.25	
Material:		Sto	eel		Count:	5	
Element Type:		I-ty	/pe		Total Quantity:	5 Each	
Environment:		Ber	nign		Limited / Not Inspected:		
Protection System:		No	ne		BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (5)			\$0	\$0	
Comments:		1	1	1			
Performance Deficiencies:							
Recommended Work:							



Recommended Timing:

Maintenance Priority:

None

Ontario Structure II	nspection l	Manual - Insp	ection Rep	ort:	Site Numbe	er: P9
Element Data:						
Element Group:		Beams	MLE's		Length:	12.7
Element Name:		Gird	ers		Width:	0.14
ocation:					Height:	0.4
/laterial:		Ste	el		Count:	2
Element Type:		I-ty	ре		Total Quantity:	31 m2
invironment:		Ben	ign		Limited / Not Inspected:	
Protection System:		Noi	ne		BCI - Element Condit	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (31)			\$13,020	\$9,765
Comments:						
Performance Deficiencies:						
Recommended Work:						
Recommended Work.					Recommended Timing:	None
Maintenance needs:					recommended rinning.	VOIC
/aintenance work:					Maintenance Priority:	
Element Data:						
Element Group:		Dec	ks		Length:	1.23
lement Name:		Deck Top -	Thin Slab		Width:	12.7
ocation:					Height:	
Material:		Ste	el		Count:	1
Element Type:					Total Quantity:	15.6 m2
Invironment:		Ben	ign		Limited / Not Inspected:	
Protection System:		Noi			BCI - Element Condit	ion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (15.6)			\$1,872	\$1,404
Comments:				1		
Performance Deficiencies:						
Recommended Work:					December ded Timber	Nama
Asintananaa naada:					Recommended Timing:	None
Maintenance needs:					Martata and Datasta	
Maintenance work:					Maintenance Priority:	





1-Facing North



2-West Elevation





3-Soffit



4-East Elevation



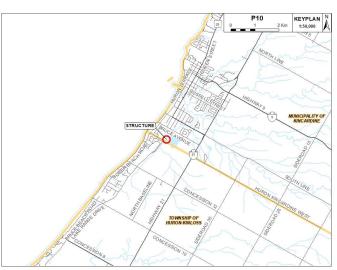
Site Number:

P10

Summary	Re	port
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1-Facing East



Datum: NAD83 17N **Northing:** 4889533 **Easting:** 448270

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	40	CRV:	\$223,600
Road Name:	Yellow Trail		Inspec	tion Date:	7/21/2021
Structure Location:	South of Bruce Ave.		Next In	spection:	8/20/2023
Condition Summary:	Repairs recommended	Recommended Timing: 1-5 Years	Current Lo	oad Limit:	N/A

Overall Comments: Steel beam bridge with wood deck. Replace deteriorating deck boards.

Element:	Work Required	Period	Cost
Decks	Replace deteriorated deck boards	1 to 5 yrs.	\$3,00
Barriers	Improve railings	1 to 5 yrs.	\$2,00
			\$
			\$
			\$
			\$
			9
Various	Associated Work		9
		Total	\$5,00

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P10 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4889533 Road Name: Yellow Trail Structure Location: South of Bruce Ave. Easting: 448270 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 14.96 (m) Fill on Structure: 0 (m) Overall Str. Width: 2.88 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 43.0848 Direction of Structure: East/West (sq.m) Roadway Width: 2.6 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 40 Span Length(s): 11.36 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P10

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations							
Investigation Description	Note	Priority	Estimated Cost				
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0				
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0				
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				
		Total Cost:	\$0				

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_	vela			LLU		w	61 f A	-

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Steel beam bridge with wood deck. Replace deteriorating deck boards.

Repla	cement	Value:
-------	--------	--------

Structure Type: Bridge Structure Area: 43 (sq.m)

Replacement Cost: \$ 223,600 Complexity Factor: 1

Price per sq. m.: \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement Us Tough Hulling Surface 15 Offistable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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 Maintenance09 Repair of Bridge Timber15 Rout and Seal04 Painting Steel Bridge Structures10 Bailey bridges - Maintenance16 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



Ontario Structure Inspection Manual - Inspection Report: Repair / Rehabilitation: Flement: Work Required Period Cost

Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
Decks	Replace deteriorated deck boards	1 to 5 yrs.	\$3,000
Barriers	Improve railings	1 to 5 yrs.	\$2,000
			\$0
			\$0
			\$0
			\$0
			\$0
		Danaid Dahahilitatian Cub Tatalı	#F 000

Repair/Rehabilitation Sub-Total:	\$5,000

Right of Way	\$0
Environmental Study	\$0
Engineering	\$0
Other	\$0
Contingencies	\$0
Mobilize / Demobilize	\$0
Approaches	\$0
Traffic Control / Detours	\$0
Utilities	\$0

Associated Work Sub-Total:	\$0
Total Cost:	\$5,000

Justification:			



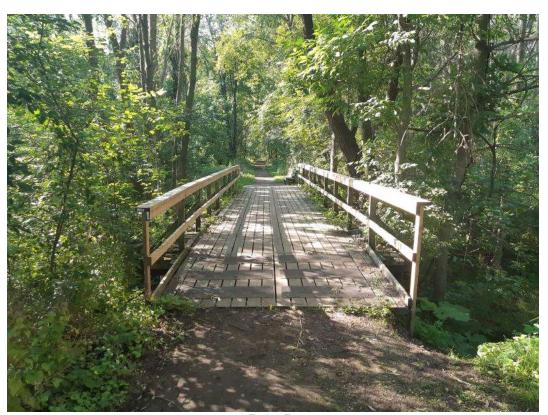
Ontario Structure Inspection Manual - Inspection Report: Site Number: P10 Element Data: Element Group: Abutments Length: Element Name: Abutment Walls Width: 3.25 Location: Height: 1.13 Material: Steel Count: 2 Element Type: Total Quantity: 7.3 m2 Environment: Benign Limited / Not Inspected: **BCI - Element Condition Values:** Protection System: None Condition Data: **Excellent** Good Fair Poor **TEV CEV** \$6,570 \$2,628 100% (7.3) Comments: Double steel I-beam sections bolted to steel piles. Height varies. Performance Deficiencies: Recommended Work: Recommended Timing: Maintenance needs:

Mailitellalice Work.				IV	ialliteriance Friority.	
Element Data:						
Element Group:		Bar	riers		Length:	1.96
Element Name:		Railing	Systems		Width:	
Location:					Height:	0.96
Material:		Wo	ood		Count:	2
Element Type:	Wo	Wood Rail >83mm thick on Wood Post			Total Quantity:	3.9 m
Environment:		Benign			Limited / Not Inspected	l:
Protection System:		No	ne		BCI - Element Cond	lition Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			70% (2.73)	30% (1.17)	\$390	\$109
Comments:	Cross member an	nd handrails repla	iced recently. Sor	ne posts loose a	and rotting.	
Performance Deficiencies:						
Recommended Work:	Repair and improv	ve railings.				
		Recommended Timing:				
Maintenance needs:				,		
Maintenance work:				M	faintenance Priority:	
Element Data:				·		
Element Group:		Beams	/MLE's		Length:	2.2
Element Name:		Diaph	ragms		Width:	
Location:		End	span		Height:	0.61
Material:		St	eel		Count:	2
Element Type:		Cross	Туре		Total Quantity:	2 Each
Environment:		Ber	nign		Limited / Not Inspected	
Protection System:		No	ne		BCI - Element Cond	lition Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (2)		\$0	\$0
Comments:						
Performance Deficiencies:						
Recommended Work:						
				R	Recommended Timing:	None
Maintenance needs:				,		
Maintenance work:				N	faintenance Priority:	



Ontario Structure	Inspection M	lanual - Ins	pection Rep	ort:	Site Numb	er: P10	
Element Data:							
Element Group:		Beams	/MLE's		Length:	0.74	
Element Name:		Diaph	ragms		Width:		
Location:		Mid :	span		Height:	0.46	
Material:		St	eel		Count:	12	
Element Type:		Cross	Туре		Total Quantity:	12 Each	
Environment:		Ber	nign		Limited / Not Inspected	:	
Protection System:		No			BCI - Element Cond		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
			100% (12)		\$0	\$0	
Comments:							
Performance Deficiencies:							
Recommended Work:							
Maintenance needs:				R	ecommended Timing:	None	
Maintenance work:				м	aintenance Priority:		
Element Data:				IVI	antonanos i nonty.		
Element Group:		Beams	/MI F's		Length:	11.66	
Element Name:		Giro			Width:	0.26	
Location:		Oliv	2010		Height:	0.85	
Material:		Steel			Count:	4	
Element Type:		I-type			Total Quantity:	115.7 m2	
Environment:		Benign			Limited / Not Inspected		
Protection System:		No			BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV CEV		
Condition Data.	Excellent	G000	100% (115.7)	POOI	\$48,594	\$19,438	
Comments:					1 7		
Performance Deficiencies:							
Recommended Work:				R	ecommended Timing:	None	
Maintenance needs:				T- I-		I	
Maintenance work:				М	aintenance Priority:		
Element Data:					h 4	0.00	
Element Group:			cks		Length:	2.88	
Element Name:		Deck Top	- Thin Slab		Width:	14.96	
Location:					Height:		
Material:			ood		Count:	1	
Element Type:		Wood			Total Quantity:	43.1 m2	
Environment:			nign		Limited / Not Inspected		
Protection System:		No			BCI - Element Cond		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
Comments:	2x6 deck top resti	ng on 10x10 timb	90% (38.79) pers, resting on st	10% (4.31) eel beams. Som	\$5,172 se rotting 2x6 boards on d	\$1,862 eck top.	
Performance Deficiencies:							
Recommended Work:	Replace deteriora	ting deck boards	i.	R	ecommended Timing:	1-5 years	
Maintenance needs:				<u>-</u>			
Maintenance work:				М	aintenance Priority:		





1-Facing East



2-North Elevation





3-Soffit



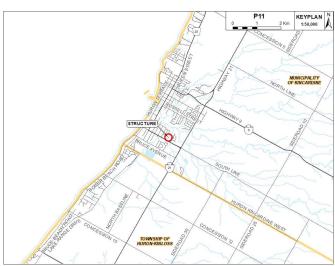
4-South Elevation



Summary Report:



1-Facing North



Datum: NAD83 17N **Northing:** 4890158 **Easting:** 449340

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	40	CRV:	\$62,400
Road Name:	Green Trail		Inspec	tion Date:	7/21/2021
Structure Location:	North of Kincardine Ave.		Next Ir	spection:	8/20/2023
Condition Summary:	Repairs recommended	Recommended Timing: 1-5 Years	Current L	oad Limit:	N/A

Overall Comments: Wood bridge in fair condition. Railing reinforcement recommended.

Repair / Rehabilitation:					
Element:	Work Required	Period	Cost		
Barriers	Reinforce railings and adjust pier supports	1 to 5 yrs.	\$5,000		
			\$0		
			\$0		
			\$0		
			\$0		
			\$0		
			\$0		
Various	Associated Work		\$0		
		Total	\$5,000		

Additional Investigations	
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Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P11 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890158 Road Name: Green Trail Structure Location: North of Kincardine Ave. Easting: 449340 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: Box Beams of Girders Detour Length Around Bridge: (km) (m) Total Deck Length: 11 Fill on Structure: 0 (m) Overall Str. Width: 1.12 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 12.32 (sq.m) Roadway Width: 1 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 40 Span Length(s): 10 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P11

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

Overal	I Structure	Notes:
Overai	ıı ənucune	NOLES.

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Wood bridge in fair condition. Railing reinforcement recommended.

≺ep	lacement	va	lue:

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces
01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation

03 Continuing settlement

09 Rough riding surface

14 Undermining of foundation

15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other

05 Seized bearings Maintenance Needs

01 Lift and Swing Bridge Maintenance 07 Repair to Structural Steel 13 Erosion Control at Bridges

11 Deck drainage

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



Ontario Structure Inspection Manual - Inspection Report:		Site Number:	P11
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
Barriers	Reinforce railings and adjust pier supports	1 to 5 yrs.	\$5,000
			\$0
			\$0
			\$0

	\$0
Repair/Rehabilitation Sub-Total:	\$5.000

\$0 \$0

Associated Work Required:	
Mobilize / Demobilize	\$0
Approaches	\$0
Traffic Control / Detours	\$0
Utilities	\$0
Right of Way	\$0
Environmental Study	\$0
Engineering	\$0
Other	\$0
Contingencies	\$0

Associated Work Sub-Total:	\$0
Total Cost:	\$5,000

Justification:			



Ontario Structure Inspection Manual - Inspection Report: Site Number:

Element Data:						
Element Group:		Bar	riers		Length:	11.03
Element Name:		Railing	Systems		Width:	
Location:				Height:	1.0	
Material:	Wood			Count:	2	
Element Type:	Wo	ood Rail >83mm	thick on Wood Pos	it	Total Quantity:	22.1 m
Environment:		Be	nign		Limited / Not Inspected:	
Protection System:	None			BCI - Element Conditi	on Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (22.1)		\$2,210	\$884
	Posts are piers that extend above deck. Railings don't meet code for h				or height, opening size.	
Performance Deficiencies:						
Recommended Work:	Reinforce railings	•		Г		
					Recommended Timing: 1	-5 years
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:						
Element Group:			s/MLE's		Length:	11.3
Element Name:		Gir	ders		Width:	0.038
Location:					Height:	0.184
Material:		W	ood		Count:	3
Element Type:					Total Quantity:	33.9 m2
Environment:		Ве	nign		Limited / Not Inspected:	
Protection System:		No	one		BCI - Element Conditi	on Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (33.9)		\$5,085	\$2,034
Comments: Performance Deficiencies: Recommended Work:	2x8 dimension lun	inder bearits.		Ī	Recommended Timing:	lone
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:		D-	-le-		l amouth.	4.40
Element Group:			ecks		Length:	1.12
Element Name:		реск гор	- Thin Slab		Width:	11.03
Location:					Height:	
Material:			ood		Count:	1
Element Type:			Planks		Total Quantity:	12.4 m2
Environment:		Be	nign		Limited / Not Inspected:	
Protection System:		No	one		BCI - Element Conditi	on Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (12.4)		\$1,488	\$595
Comments:						
Performance Deficiencies:						
Recommended Work:				Ī	Recommended Timing:	lone
Maintenance needs:						
Maintenance work:					Maintenance Priority:	



P11

Ontario Structure	Inspection N	/lanual - Ins	Site Num	ber: P11		
Element Data:						
Element Group:	Piers			Length:	2.2	
Element Name:	Shafts/Columns/Pile Bents			Width:	0.09	
Location:					Height:	0.09
Material:	Wood			Count:	18	
Element Type:				Total Quantity:	18 Each	
Environment:	Benign			Limited / Not Inspecte	d:	
Protection System:		No	one		BCI - Element Condition Value	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (18)		\$16,200	\$6,480
Comments:	4x4 wood posts re	esting on concre	te base posts. Exte	nd past deck	to support railing.	<u>, </u>
Performance Deficiencies:						
Recommended Work:	Monitor support conditions.					
					Recommended Timing:	1-5 years
Maintenance needs:					1	1
Maintenance work:	+	-			Maintenance Priority:	1





1-Facing North



2-West Elevation









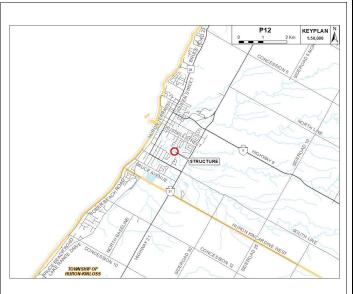


Site Number:

P12

Summary Repo	ort:		
		300	
			S.

1-Facing South



Datum: NAD83 17N **Northing:** 4890561 **Easting:** 449562

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	4	CRV:	\$52,000
Road Name:	Green Trail		Inspec	tion Date:	7/21/2021
Structure Location:			Next Ir	nspection:	8/20/2023
Condition Summary:	Repairs recommended	Recommended Timing: 1-5 Years	Current L	oad Limit:	N/A

Overall Comments: Log beam bridge supporting wood decking. Bridge is in poor condition.

Element:	Work Required	Period	Cost
	Reinforce structure, erosion protection	1 to 5 yrs.	\$20,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work		\$0
		Total	\$20,000

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P12 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890561 Road Name: Green Trail Structure Location: Easting: 449562 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: Box Beams of Girders Detour Length Around Bridge: (km) Total Deck Length: 8.15 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.22 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 9.943 (sq.m) Roadway Width: 0.9 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 4 Span Length(s): 7 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P12

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

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_				LLU		w	61 f A	-

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Log beam bridge supporting wood decking. Bridge is in poor condition.

Structure Type: Bridge Structure Area: 10 (sq.m)

Replacement Cost: \$ 52,000 Complexity Factor: 1

Price per sq. m.: \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces
01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation

03 Continuing settlement

09 Rough riding surface

14 Undermining of foundation

15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other

Maintenance Needs

05 Seized bearings

01 Lift and Swing Bridge Maintenance 07 Repair to Structural Steel 13 Erosion Control at Bridges

11 Deck drainage

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



Ontario Structure Inspection	n Manual - Inspection Report:	Site N	umber:	P12
Repair / Rehabilitation:				
Element:	Work Required		Period	Cost
	Reinforce structure, erosion protection		1 to 5 yrs.	\$20,000
				\$0
				\$0
				\$0
				\$0 \$0
				\$0
				Ψ
		Repair/Rehabilitat	ion Sub-Total:	\$20,000
Associated Work Required:				
Mobilize / Demobilize				\$0
Approaches				\$0
Traffic Control / Detours				\$0
Utilities				\$0
Right of Way				\$0
Environmental Study				\$0
Engineering				\$0
Other				\$0
Contingencies				\$0
		Associated W		<u> </u>



Justification:

Total Cost:

\$20,000

Ontario Structure Inspection Manual - Inspection Report: Site Number: P12 Element Data: Element Group: Abutments Length: 0.35 Width: **Element Name: Abutment Walls** 1.5 Location: Height: 0.35 Material: Count: Wood 2 Element Type: Total Quantity: 1.1 m2 Limited / Not Inspected: **Environment:** Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor TEV **CEV** \$990 100% (1.1) \$0 Comments: Wood log abutments in deteriorated condition. Erosion occuring behind abutments. Performance Deficiencies: Recommended Work: Reinforce structure, erosion protection. Recommended Timing: 1-5 years Maintenance needs: Maintenance work: Maintenance Priority: **Element Data: Element Group:** Approaches Length: 1.82 0.76 Element Name: Other Width: Height: 0.038 Location: Material: Wood Count: 2 Element Type: Total Quantity: 2.8 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: TEV **CEV Excellent** Good Fair Poor \$0 100% (2.8) Comments: Dimension lumber approaches on concrete supports. Performance Deficiencies: Recommended Work: Recommended Timing: Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group: Barriers** Length: 8.15 Width: 0.038 Element Name: Railing Systems Location: Height: 0.94 Material: Wood Count: 2 16.3 m Element Type: Wood Rail >83mm thick on Wood Post Total Quantity: **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values: CEV** Condition Data: Excellent Good Fair Poor **TEV** 100% (16.3) \$1,630 \$0 Comments: Railings don't meet code for opening size, height or resistance. Performance Deficiencies:



Reinforce structure.

Recommended Work:

Maintenance needs: Maintenance work: 1-5 years

Recommended Timing:

Maintenance Priority:

Ontario Structure	Inspection M	lanual - Ins	pection Rep	ort:	Site Numb	er: P12
Element Data:						
Element Group:		Beams	/MLE's		Length:	8.15
Element Name:		Giro	ders		Width:	
ocation:					Height:	
/laterial:	Wood			Count:	2	
lement Type:			Total Quantity:	16.3 m		
invironment:	Benign		Limited / Not Inspected			
Protection System:		No	ne		BCI - Element Condition Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
				100% (16.3)	\$2,445	\$0
Comments:	200mm diameter l	og beams with a	ı noticeable sag. l	Noticeable defle	ction in structure when wa	lking.
Performance Deficiencies:						
Recommended Work:	Reinforce structur	e.		R	ecommended Timing:	1-5 years
Maintenance needs:						-
/laintenance work:				M	laintenance Priority:	
Element Data:				<u> </u>		
lement Group:		De	cks		Length:	8.15
lement Name:	Deck Top -		- Thin Slab		Width:	1.22
ocation:					Height:	
laterial:		Wo	ood		Count:	1
lement Type:		Wood	Planks		Total Quantity:	9.9 m2
invironment:	Benign			Limited / Not Inspected		
rotection System:		No	ne		BCI - Element Condition Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			50% (4.95)	50% (4.95)	\$1,188	\$238
Comments:	Deck is uneven.					
	Reinforce structur	e.		R	ecommended Timing:	1-5 years
Performance Deficiencies: Recommended Work: Maintenance needs:		e.		R	ecommended Timing:	1-5 years





1-Facing South



2-West Elevation







Summary Report:	•			
		TOWNS HIROSHO	STRUCTURE STRUCTURE STRUCTURE STRUCTURE STRUCTURE STRUCTURE STRUCTURE STRUCTURE STRUCTURE	P13 1 2 km 139,000 A 1 19,000 A 1
	1-Facing South	Datum: NAD83	3 17N Northing: 4890591 Ea s	sting: 449608
Structure Name:		BMR	ROSS File #: MTO	#:
Main Hwy / Road #:		Bridge Condition I		V : \$176,800
Road Name:			Inspection Dat	
	Transition from Green to Red Trail		Next Inspectio	
Condition Summary:		Recommended Timing:	Current Load Lim	
Overall Comments:	Aluminum seasonal bridge - installe should be monitored.	ed in the spring and removed in t	the fall. Bridge is in good condition.	Support condition
Repair / Rehabilitati	ion:			
Element:		Work Required	Period	Cost
	JL			\$0
				\$0
				\$0
				\$0 \$0
				\$0 \$0
				\$0
Various		Associated Work		\$0
			Tota	
Additional Investiga	tione:			
Additional investiga	uuiis.			
Maintenance Needs				
IVIAIIILEIIAIICE INEEUS).			



Ontario Structure Inspection Manual - Inspection Report: Site Number: P13 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890591 Road Name: Green Trail Structure Location: Transition from Green to Red Trail Easting: 449608 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Surface Type: Composite Structure Group: Beam/Girder Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 24.4 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.38 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 33.672 (sq.m) Direction of Structure: North/South Roadway Width: 1.3 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 24.4 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P13

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations				
Investigation Description	Note	Priority	Estimated Cost	
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0	
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0	
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	
		Total Cost:	\$0	

Overall Structure Notes:

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Aluminum seasonal bridge - installed in the spring and removed in the fall. Bridge is in good condition. Support

condition should be monitored.

Replacement Value	Rep	lacement	Value:
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34 (sq.m) Structure Area: Structure Type: Bridge Complexity Factor: Replacement Cost: \$ 176,800 Price per sq. m.: \$ 5,200.00

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

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

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

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



Ontario Structure inspection M	anuai - inspection Report:	Site	Number:	P13
Repair / Rehabilitation:				
Element:	Work Required		Period	Cost
				\$0
				\$0
				\$0
				\$0 \$0
				\$0
				\$0
		Repair/Rehabilita	ation Sub Total:	\$0
		Repail/Renabilita	ation Sub-Total.	Ψυ
Associated Work Required:				
Mobilize / Demobilize				\$0
Approaches				\$0
Traffic Control / Detours				\$0
Utilities				\$0
Right of Way				\$0
Environmental Study				\$0
Engineering				\$0
Other				\$0
Contingencies				\$0
		Associated V	Vork Sub-Total:	\$0
		. 10000.0100	Total Cost:	\$0
Justification:			<u>'</u>	



Ontario Structure Inspection Manual - Inspection Report: Site Number: P13 Element Data: Element Group: **Barriers** Length: 24.4 Width: 0.035 **Element Name:** Railing Systems Location: Height: 0.96 Material: Aluminium Count: 2 Element Type: Aluminum Post and Aluminum Panels Total Quantity: 48.8 m2 Limited / Not Inspected: **Environment:** Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** \$9,760 \$7,320 100% (48.8) Comments: Railings don't meet code for opening size or weight. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 24.4 Element Name: Girders Width: Height: 0.14 Location: Material: Aluminium Count: 2 Element Type: I-type Total Quantity: 13.7 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: Poor **TEV CEV Excellent** Good Fair \$2,740 \$2,055 100% (13.7) Comments: Beams rest on 12 posts. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 24.4 Deck Top - Thin Slab Width: 1.38 **Element Name:** Location: Height: Count: Material: Aluminium 33.7 m2 Element Type: Total Quantity: **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values: CEV** Condition Data: Excellent Good Fair Poor TEV



Comments:

Performance Deficiencies: Recommended Work:

Maintenance needs: Maintenance work: 100% (33.7)

\$3,033

None

\$4,044

Recommended Timing:



1-Facing South



2-East Elevation





3-Soffit



4-West Elevation



Ontario Structure Inspection Manual - Inspection Report:	Inspection Manual - Inspection Report:
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Site Number:



Summary Report:				
	1-Facing West	Datum: NAD83 17N Northing: 4890	MUNICIPALITY OF RINCARDINE NO. 1 1 MICHIGAN IN CONTROL OF THE CO	2 Km 1:50,000
Structure Name:		BMROSS File #:	MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:) 62		\$78,000
Road Name:		` '	pection Date:	
Structure Location:			ct Inspection:	
Condition Summary:			nt Load Limit:	
	Aluminum girders supporting wood decking. Bri	· · · · · · · · · · · · · · · · · · ·		
		age is in rail to good condition.		
Repair / Rehabilitat				
Element	: Wo	ork Required	Period	Cost
				\$0
				\$0 \$0
				\$0 \$0
				\$0
				\$0
				\$0
Various	Ass	sociated Work	-	\$0
			Total	\$0
A d d'4' 1 4'	Alaman			
Additional Investiga	luons:			
Maintenance Needs	s:			
i				



Ontario Structure Inspection Manual - Inspection Report: Site Number: P14 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890553 Road Name: Red Trail Structure Location: Easting: 449749 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 10.4 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.43 (m) Skew Angle: (Degrees) Direction of Structure: East/West Total Struct. Area: 14.872 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 62 Span Length(s): 7.4 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: **Current Load Limit:** Last Evaluation: (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P14

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations				
Investigation Description	Note	Priority	Estimated Cost	
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0	
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0	
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	
		Total Cost:	\$0	

Overall Structure Notes:

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Aluminum girders supporting wood decking. Bridge is in fair to good condition.

(ep	acer	nent	vai	ue:

Structure Type: Bridge Replacement Cost: \$ 78,000

Structure Area:

Complexity Factor: Price per sq. m.:

\$

15 (sq.m)

5,200.00

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

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

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

07 Repair to Structural Steel 13 Erosion Control at Bridges

08 Repair of Bridge Concrete 14 Concrete Sealing 09 Repair of Bridge Timber 15 Rout and Seal 10 Bailey bridges - Maintenance 16 Bridge Deck Drainage

11 Animal/Pest Control 17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



Ontario Structure inspection M	anuai - inspection Report:	Site Number:	P14
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
			\$0
			\$0
			\$0
			\$0
			\$0 \$0
			\$0
			Ψ
		Repair/Rehabilitation Sub-Total:	\$0
Associated Work Required:			
Mobilize / Demobilize			\$0
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$0
Other			\$0
Contingencies			\$0
		Associated Work Sub-Total:	\$0
		Total Cost:	\$0
Justification:			·



Ontario Structure Inspection Manual - Inspection Report: Site Number: P14 Element Data: Element Group: **Barriers** Length: 10.4 Width: 0.038 **Element Name:** Railing Systems Location: Height: 0.95 Material: Wood Count: 2 Element Type: Wood Rail >83mm thick on Wood Post Total Quantity: 20.8 m2 Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (20.8) \$2,080 \$832 Comments: Railings don't meet code for height, opening size, or resistance. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 7.6 Element Name: Girders Width: 0.08 0.16 Height: Location: Material: Aluminium Count: 2 Element Type: I-type Total Quantity: 8.5 m2 **Environment:** Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: Good Poor **TEV CEV Excellent** Fair \$1,700 \$1,275 100% (8.5) Comments: Girders appear to be supported on the stream banks. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 10.4 Deck Top - Thin Slab Width: 1.43 **Element Name:** Location: Height: Count: Material: Wood Wood Planks Element Type: Total Quantity: 14.9 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (14.9) \$1,788 \$1,341 Comments:



Performance Deficiencies: Recommended Work:

Maintenance needs: Maintenance work: Recommended Timing:

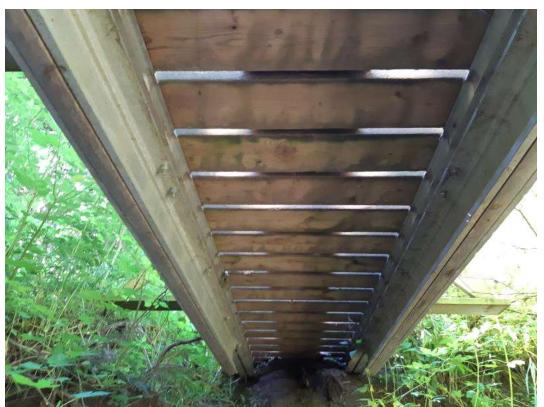


1-Facing West



2-North Elevation





3-Soffit



4-South Elevation



Ontario	Structure	Inspection	Manual -	Inspection	Report:
Ulitario	Structure	IIISPECTION	iviaiiuai -	IIISPECTION	Nepult.

Site Number:



Site Number:

Summary Report:				
	1-Facing North		SIRPOF STRUCTURE hing: 4890398 Eastin	5 2 Km 1:50,000 N 1:50
Structure Name:		BMROSS File #:	MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)		\$67,600
Road Name:		Driage Condition mask (2011)	Inspection Date:	
Structure Location:			Next Inspection:	
Condition Summary:		nmended Timing:	Current Load Limit:	
	Aluminum seasonal bridge - installed in the should be monitored.	<u>-</u>	·-	
Repair / Rehabilitat	ion:			
Element:		Work Required	Period	Cost
				\$0
				\$0
				\$0
				\$0
				\$0 \$0
				\$0 \$0
Various		Associated Work		\$0
			Total	\$0
Additional Investiga	tions:			
Maintenance Needs	s:			



Ontario Structure Inspection Manual - Inspection Report: Site Number: P15 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890398 Road Name: Red Trail Structure Location: Easting: 449860 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Surface Type: Composite Structure Group: Beam/Girder Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 9.18 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.39 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 12.7602 Direction of Structure: North/South (sq.m) Roadway Width: 1.3 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 9 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number: P15

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection Next Detailed Inspection:

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations				
Investigation Description	Note	Priority	Estimated Cost	
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0	
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0	
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	
		Total Cost:	\$0	

Overall Structure Notes:

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Aluminum seasonal bridge - installed in the spring and removed in the fall. Bridge is in good condition. Support

condition should be monitored.

Replacement value:						
Structure Type:	Bridge	Structure Area:	13 (sq.m)			
Replacement Cost:	\$ 67,600	Complexity Factor:	1			
		Price per sa m :	\$ 5.200.00			

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement 05 Prough Figure 13 Offstable embankmen

04 Continuing movements 10 Surface ponding 16 Other

05 Seized bearings 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



Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
			\$
			\$
			\$
			\$ \$
			\$
			\$
		Repair/Rehabilitation Sub-Total:	\$
		Repail/Renabilitation Sub-10tal.	Ψ
Associated Work Required:			
Mobilize / Demobilize			\$
Approaches			\$
Traffic Control / Detours			\$
Utilities			\$
Right of Way			\$
Environmental Study			\$
Engineering			\$
Other			\$
Contingencies			\$
		Associated Work Sub-Total:	\$
		Total Cost:	\$



Ontario Structure Inspection Manual - Inspection Report: Site Number: P15 Element Data: Approaches Element Group: Length: 4.75 Width: **Element Name:** Other 1.21 Location: North End Height: Material: Wood Count: 1 Element Type: Total Quantity: 5.7 m2 Environment: Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (5.7) \$0 Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group: Barriers** Length: 9.18 Element Name: Railing Systems Width: 0.035 0.97 Height: Location: Aluminium Material: Count: 2 Element Type: Aluminum Post and Aluminum Panels Total Quantity: 18.4 m **Environment:** Limited / Not Inspected: Benian Protection System: None **BCI - Element Condition Values:** Condition Data: Good Poor **TEV CEV Excellent** Fair \$2,760 \$3,680 100% (18.4) Comments: Railings don't meet code for height or opening size. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 9.18 Element Name: Girders Width: 0.05 0.14 Location: Height: Count: Material: Aluminium 2 Element Type: I-type Total Quantity: 5.6 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (5.6) \$1,120 \$840 Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None



Maintenance needs: Maintenance work:

Ontario Structure Inspection Manual - Inspection Report:					Site Number:	P15
Element Data:						
Element Group:		Decks		Length:	9.18	
Element Name:		Deck Top -	Thin Slab		Width:	1.39
Location:					Height:	
Material:		Alumir	nium		Count:	1
Element Type:					Total Quantity:	12.8 m2
Environment:	Benign			Limited / Not Inspected:		
Protection System:		Nor	ne		BCI - Element Condition Values:	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (12.8)			\$1,536	\$1,152
Comments:					1	
Performance Deficiencies:						
Recommended Work:						
					Recommended Timing: No	one
Maintenance needs:						
Maintenance work:					Maintenance Priority:	





1-Facing North



2-West Elevation







Site Number:

Summary Report:							
	1-Facing	g North		Datum: NAD83 17N North	STRUCT STRUCT	MORTH INE MORTH INE	INCARONE S WINCARONE S OUT THE TOTAL S THE TOTAL THE
Structure Name:				BMROSS File #:		MTO #:	
Main Hwy / Road #:			Brid	dge Condition Index (BCI:)	75		\$109,200
Road Name:				ago contanton maox (2011) [ction Date:	
Structure Location:		Dod Trail					
						nspection:	
Condition Summary:		·		led Timing:		oad Limit:	
Overall Comments:	: Aluminum sea should be mo	asonal bridge - installed in the s onitored.	pring a	and removed in the fall. Bridge	e is in good c	ondition. Su	pport condition
Repair / Rehabilitat	tion:						
Element	:	١	Work I	Required		Period	Cost
	JI				JL		\$0
							\$0 \$0
							\$0 \$0
							\$0 \$0
							\$0
							\$0
Various		А	Associa	ated Work			\$0
						Total	\$0
Additional Investiga	ations:						
Maintenance Need	s:						



Ontario Structure Inspection Manual - Inspection Report: Site Number: P16 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4889985 Road Name: Red Trail Structure Location: South End of Red Trail Easting: 449939 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Surface Type: Composite Structure Group: Beam/Girder Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 15.25 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.4 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 21.35 (sq.m) Roadway Width: 1.3 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 15.25 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Year Built: 2016 Last Biennial Inspection: 2020 Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P16

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations					
Investigation Description	Note	Priority	Estimated Cost		
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0		
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0		
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		
		Total Cost:	\$0		

Overall Structure Notes:

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Aluminum seasonal bridge - installed in the spring and removed in the fall. Bridge is in good condition. Support

condition should be monitored.

Replacement Value:	Repl	lacemen	ıt Va	alue:
--------------------	------	---------	-------	-------

 Structure Type:
 Bridge
 Structure Area:
 21 (sq.m)

 Replacement Cost:
 \$ 109,200
 Complexity Factor:
 1

 Price per sq. m.:
 \$ 5,200.00

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 07 Jammed 6

02 Excessive deformations (deflections and rotations)

03 Continuing settlement

04 Continuing movements

05 Seized bearings

Maintenance Needs

01 Lift and Swing Bridge Maintenance

02 Bridge Cleaning

03 Bridge Handrail Maintenance04 Painting Steel Bridge Structures

05 Bridge Deck Joint Repair

06 Bridge Bearing Maintenance

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

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07 Repair to Structural Steel

08 Repair of Bridge Concrete09 Repair of Bridge Timber

10 Bailey bridges - Maintenance

11 Animal/Pest Control

13 Erosion Control at Bridges

14 Concrete Sealing15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



Ontario Structure inspection M	Site Number:	P16	
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
		-	\$0
			\$0
			\$0
			\$0 \$0
			\$0
			\$0
		Repair/Rehabilitation Sub-Total:	\$0
		repair/remasiliation out retail	Ψ.
Associated Work Required:			
Mobilize / Demobilize			\$0
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$0
Other			\$0
Contingencies			\$0
		Associated Work Sub-Total:	\$0
		Total Cost:	\$0
Justification:			



Ontario Structure Inspection Manual - Inspection Report: Site Number: P16 Element Data: Approaches Element Group: Length: 4.95 Width: **Element Name:** Other 1.3 Location: South End Height: 0.93 Material: Wood Count: 1 Element Type: Total Quantity: 6.4 m2 Environment: Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor **TEV CEV** 100% (6.4) \$0 Comments: Wood deck approach with wood railing, slopes down toward bridge. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group: Barriers** Length: 15.25 Element Name: Railing Systems Width: Height: 1.11 Location: Aluminium Material: Count: 2 Element Type: Aluminum Post and Aluminum Panels Total Quantity: 30.5 m **Environment:** Limited / Not Inspected: Benian Protection System: None **BCI - Element Condition Values:** Condition Data: Good Fair Poor **TEV CEV Excellent** \$6,100 \$4,575 100% (30.5) Comments: Railings don't meet code for opening size. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 15.25 Girders Width: **Element Name:** 0.14 Location: Height: Count: Material: Aluminium 2 Element Type: Rectangular-solid Total Quantity: 8.5 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (8.5) \$1,700 \$1,275 Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None



Maintenance needs: Maintenance work:

Ontario Structure	Inspection I	Manual - Insp	Site Number:	P16		
Element Data:						
Element Group:		Dec	ks		Length:	15.25
Element Name:		Deck Top -	Thin Slab		Width:	1.4
ocation:					Height:	
Material:		Oth	ier		Count:	1
Element Type:					Total Quantity:	21.4 m2
nvironment:		Ben	ign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Conditio	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (21.4)			\$2,568	\$1,926
Comments:	Composite mate	rial deck top.				
Performance Deficiencies:						
Recommended Work:				ı	1	
					Recommended Timing: No	ne
Maintenance needs:				1		
Maintenance work:					Maintenance Priority:	
Element Data:	1					
Element Group:		Pie			Length:	
Element Name:		Shafts/Colum	ns/Pile Bents		Width:	
ocation:					Height:	1.42
/laterial:		Alumi	nium		Count:	8
Element Type:					Total Quantity:	8 Each
Environment:		Ben	ign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Conditio	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (8)			\$7,200	\$5,400
Comments:		<u>.</u>				
Performance Deficiencies:						
Recommended Work:				ſ	Recommended Timing:	
Maintenance needs:					Recommended Timing:	
				ı	Maintananaa Delasitas	
Maintenance work:					Maintenance Priority:	





1-Facing North



2-East Elevation



Site Number:



3-Soffit



4-West Elevation



Site Number:

Summary Report:			
1-Facing East	Datum: NAD83 17N Northin		2 Km 1:50,000
Structure Name:	BMROSS File #:	MTO #:	
Main Hwy / Road #:	Bridge Condition Index (BCI:)		\$26,000
Road Name: Red Trail	,	Inspection Date:	
Structure Location: East End of Red Trail		Next Inspection:	
	nmended Timing:	Current Load Limit:	
Overall Comments: Wood structure in fair condition.	3		
Repair / Rehabilitation:			
	Work Required	Period	Cost
		<u> </u>	\$0
			\$0
			\$0
			\$0
			\$0 \$0
			\$0 \$0
Various	Associated Work		\$0
		Total	\$0
Additional Investigations:			
Maintenance Needs:			



Ontario Structure Inspection Manual - Inspection Report: Site Number: P17 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890382 Road Name: Red Trail Structure Location: East End of Red Trail Easting: 450135 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 4.94 (m) Fill on Structure: 0 (m) Overall Str. Width: 0.96 Skew Angle: 0 (Degrees) (m) Direction of Structure: East/West Total Struct. Area: 4.7424 (sq.m) Roadway Width: 0.9 Min. Vert. Clearance: (m) (m) 2 Number of Spans: Bridge Condition Index: 40 Span Length(s): 2.5 (m) 2.48 (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number: P17

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection **Next Detailed Inspection:**

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations					
Investigation Description	Note	Priority	Estimated Cost		
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0		
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0		
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		
		Total Cost:	\$0		

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u	vera	шоі	HUGU	ure-	NO	es.

Bridge Condition Summary: No work identified **Recommended Timing:**

Overall Comments: Wood structure in fair condition.

Replacement Value:						
Structure Type:	Bridge	Structure Area:	5 (sq.m)			
Replacement Cost:	\$ 26,000	Complexity Factor:	1			
		Price per sq. m.:	\$ 5,200.00			

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces 01 Load carrying capacity 07 Jammed expansion joint

13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

16 Other

04 Continuing movements 10 Surface ponding 05 Seized bearings 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

Ontario Structure Inspection Ma	anuai - inspection Report:	Site Number:	P17
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
			\$0
			\$0
			\$0
			\$0
			\$0 \$0
			\$0 \$0
			Ψ
		Repair/Rehabilitation Sub-Total:	\$0
Associated Work Required:			
Mobilize / Demobilize			\$0
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$0
Other			\$0
Contingencies			\$0
		Associated Work Sub-Total:	\$0
		Total Cost:	\$0
Justification:			



Ontario Structure Inspection Manual - Inspection Report: Site Number: P17 Element Data: Element Group: **Barriers** Length: 4.74 Width: 0.038 **Element Name:** Railing Systems Location: Height: 1.05 Material: Wood Count: 2 Element Type: Wood Rail >83mm thick on Wood Post Total Quantity: 9.5 m Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor TEV **CEV** \$950 \$380 100% (9.5) Comments: Railings don't meet code for opening size or resistance. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 4.74 Element Name: Stringers Width: 0.038 Height: 0.14 Location: Material: Wood Count: 3 Element Type: Rectangular-solid Total Quantity: 3 Each Environment: Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: Poor TEV **CEV Excellent** Good Fair \$0 \$0 100% (3) Comments: Appear to rest on banks. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 4.74 Deck Top - Thin Slab Width: 0.96 **Element Name:** Location: Height: Wood Count: Material: Wood Planks Element Type: Total Quantity: 4.7 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (4.7) \$564 \$226 Comments: Performance Deficiencies:



Recommended Work:

Maintenance needs: Maintenance work: Recommended Timing:

Maintenance Priority:

None



1-Facing East



2-North Elevation





3-Soffit



4-South Elevation



			4	
Ontario Structure Ins	spection Manual -	Inspection Re	port: s	j

ite Number: P17



Site Number:

P18

Summary Report:							
	1-Facing	g North		Datum: NAD83 17N North	(STRUCT)	MORNING MARCHINE	18 KEYPLAN N 150,000 N 150
Structure Name:				BMROSS File #:		MTO #:	
Main Hwy / Road #:				Bridge Condition Index (BCI:)	50	<u></u>	\$93,600
Road Name:						ction Date:	
Structure Location:		Red Trail				nspection:	
Condition Summary:			Recomme	ended Timing:		oad Limit:	
		ams supporting wood ded		<u></u>			
Repair / Rehabilitat	ion:						
Element			١٨/ ٥	uls Demoised		Period	Cont
Element			VVO	rk Required		Period	Cost \$0
							\$0 \$0
							\$0
							\$0
							\$0
							\$0
,, .							\$0
Various			Ass	ociated Work		Tatal	\$0
						Total	\$0
Additional Investiga	ations:						
Additional invodige	audilo.						
Maintonance Novel							
Maintenance Needs	5.						



Ontario Structure Inspection Manual - Inspection Report: Site Number: P18 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890712 Road Name: Red Trail Structure Location: North End of Red Trail Easting: 449925 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 12.3 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.43 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 17.589 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 50 Span Length(s): 7 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number:

Next Detailed Inspection:

P18

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations						
Investigation Description	Note	Priority	Estimated Cost			
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0			
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0			
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			
		Total Cost:	\$0			

O^{v}	/eral	I Stri	ictiii	re N	lotes:

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Aluminum beams supporting wood decking in fair condition.

Replacement value:	
--------------------	--

Structure Type: Bridge Replacement Cost: \$ 93,600

Structure Area: Complexity Factor: \$

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.

Price per sq. m.:

Suspected Performance Deficiencies

01 Load carrying capacity

02 Excessive deformations (deflections and rotations)

03 Continuing settlement

04 Continuing movements

05 Seized bearings

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

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

18 (sq.m)

13 Flooding/channel blockage 14 Undermining of foundation

15 Unstable embankments

16 Other

5,200.00

07 Repair to Structural Steel

08 Repair of Bridge Concrete 09 Repair of Bridge Timber

10 Bailey bridges - Maintenance

11 Animal/Pest Control

13 Erosion Control at Bridges

14 Concrete Sealing 15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



Ontario Structure inspection in	ario Structure Inspection Manual - Inspection Report: Site Number:		P18	
Repair / Rehabilitation:				
Element:	Work Required		Period	Cost
				\$0
				\$0
				\$0
				\$0 \$0
				\$0 \$0
				\$0
				• •
		Repair/Rehabilitation	n Sub-Total:	\$0
Associated Work Required:				
Mobilize / Demobilize				\$0
Approaches				\$0
Traffic Control / Detours				\$0
Utilities				\$0
Right of Way				\$0
Environmental Study				\$0
Engineering				\$0
Other				\$0
Contingencies				\$0
		Associated Wor	k Sub-Total:	\$0
		71000014104 7701	Total Cost:	\$0
Justification:				·



Ontario Structure	Inspection N	lanual - Ins	pection Repo	ort:	Site Number:	P18
Element Data:						
Element Group:		Abut	ments		Length:	0.14
Element Name:		Abutme	ent Walls		Width:	1.2
Location:					Height:	0.28
Material:		W	ood		Count:	2
Element Type:		Convention	nal Closed		Total Quantity:	0.67 m2
Environment:		Ве	nign		Limited / Not Inspected:	
Protection System:		No	one		BCI - Element Condition	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (0.67)		\$603	\$241
Comments:	2-140 x 140 wood	i boards at both (enas.			
Performance Deficiencies:						
Recommended Work:						
Maintenance needs:				I	Recommended Timing: No	ne
Maintenance work:					Maintenance Priority:	
Element Data:					•	
Element Group:		Bar	riers		Length:	12.3
Element Name:		Railing	Systems		Width:	0.038
ocation:				Height:	0.95	
/laterial:		W	ood	Count:	2	
Element Type:	Wo	ood Rail >83mm	thick on Wood Pos	Total Quantity:	24.6 m2	
Environment:			nign		Limited / Not Inspected:	
Protection System:			one		BCI - Element Condition	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (24.6)		\$2,460	\$984
Comments:	Railings don't me	et code for open	ing size, height, or	resistance.		****
	3	'	3 , 3 ,			
Performance Deficiencies:						
Recommended Work:				_		
					Recommended Timing:	
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:						
Element Group:		Beams	s/MLE's		Length:	7.1
Element Name:		Gir	ders		Width:	0.085
ocation:					Height:	0.33
Material:		Alum	ninium		Count:	2
Element Type:		I-t	уре	<u> </u>	Total Quantity:	13 m2
Environment:		Ве	nign		Limited / Not Inspected:	
Protection System:		No	one		BCI - Element Condition	n Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (13)		\$2,600	\$1,040
Comments:	Additional height	at midspan. Noti	ceable deflection w	hen walking.		
Performance Deficiencies:						
Recommended Work:						
TOOOHIHIOHOOU WORK.				li	Recommended Timing:	
Maintenance needs:					Toominended Hilling.	

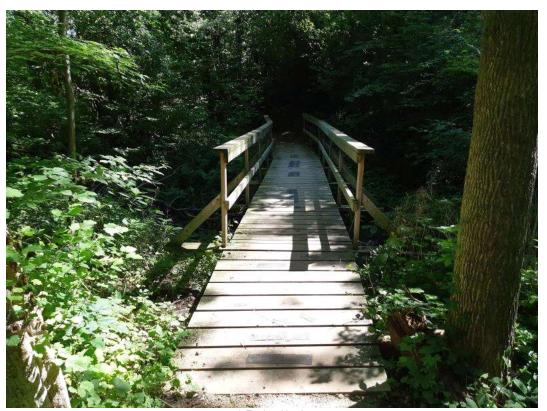


Maintenance work:

Maintenance Priority:

Ontario Structure	Inspection	Manual - Insp	ection Rep	ort:	Site Number:	P18
Element Data:						
Element Group:		Dec	ks		Length:	12.3
Element Name:		Deck Top -	Thin Slab		Width:	1.43
Location:					Height:	
Material:		Woo	od		Count:	1
Element Type:		Wood P	lanks		Total Quantity:	17.6 m2
Environment:		Beni	gn		Limited / Not Inspected:	
Protection System:	None			BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (17.6)			\$2,112	\$1,584
Comments:	Tree at southeas	st corner.		•		
Performance Deficiencies:						
Recommended Work:						
1					Recommended Timing:	
Maintenance needs:					1	
Maintenance work:					Maintenance Priority:	





1-Facing North



2-West Elevation





3-Soffit



4-East Elevation

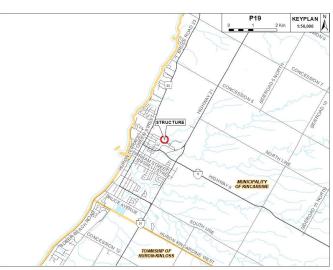


Site Number:

P19



1-Facing East



Datum: NAD83 17N **Northing:** 4892402 **Easting:** 450389

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	58	CRV:	\$36,400
Road Name:	Blue Trail		Inspec	tion Date:	7/22/2021
Structure Location:	89-North Line Extension		Next In	spection:	8/20/2023
Condition Summary	Repairs recommended	Recommended Timing: 1-5 Years	Current L	oad I imit	N/A

Overall Comments: Aluminum beams supporting wood deck. Bridge is in fair condition but supports should continue to be monitored.

Element:	Work Required	Period	Cost
Approaches	Re-align approaches	1 to 5 yrs.	\$6,00
Barriers	Reinforce railings	1 to 5 yrs.	\$4,00
			;
Various	Associated Work		
		Total	\$10,0

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P19 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4892402 Road Name: Blue Trail Structure Location: 89-North Line Extension Easting: 450389 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 4.87 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.41 (m) Skew Angle: 0 (Degrees) Direction of Structure: East/West Total Struct. Area: 6.8667 (sq.m) Roadway Width: 1.1 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 58 Span Length(s): 4.87 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number:

Next Detailed Inspection:

P19

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations						
Investigation Description	Note	Priority	Estimated Cost			
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0			
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0			
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			
		Total Cost:	\$0			

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_	vela			LLU		w	61 f A	-

Bridge Condition Summary: Repairs recommended

Recommended Timing: 1-5 Years

Overall Comments: Aluminum beams supporting wood deck. Bridge is in fair condition but supports should continue to be monitored.

Replacement Value:	₹ер	lacement i	Val	lue:
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Structure Type: Bridge Replacement Cost: \$ 36,400

Structure Area: Complexity Factor:

Price per sq. m.: \$ 5,200.00

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

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

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

7 (sq.m)

16 Other

07 Repair to Structural Steel

08 Repair of Bridge Concrete

09 Repair of Bridge Timber

10 Bailey bridges - Maintenance

11 Animal/Pest Control

13 Erosion Control at Bridges

14 Concrete Sealing

15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



10 Structure inspection i	wanuar - inspection Report:	Site Number:	P19					
ir / Rehabilitation:								
Element:	Work Required	Period	Cost					
Approaches	Re-align approaches	1 to 5 yrs.	\$6,000					
Barriers	Reinforce railings	1 to 5 yrs.	\$4,000					
			\$0					
			\$0					
			\$0					
			\$0					

Repair/Rehabilitation Sub-Total:	\$10,000
· topum · tomas · tas · otas · otas	4.0,000

\$0

Mobilize / Demobilize	\$0
Approaches	\$0
Traffic Control / Detours	\$0
Utilities	\$0
Right of Way	\$0
Environmental Study	\$0
Engineering	\$0
Other	\$0
Contingencies	\$0

\$0	Associated Work Sub-Total:
\$10,000	Total Cost:

Justification:



Element Data:						
Element Group:		Abutr	ments		Length:	
Element Name:		Abutme	nt Walls		Width:	1.2
Location:					Height:	0.5
Material:		Wo	ood		Count:	2
Element Type:					Total Quantity:	1.2 m2
Environment:		Ber	nign		Limited / Not Inspecte	
Protection System:			one		BCI - Element Cond	
Condition Data:	Excellent	Good	Fair Poor		TEV	CEV
			100% (1.2)		\$1,080	\$432
Comments:	Built up from dim	ension lumber an	d 140 x 140 wood.		ψ 1,000	V.32
Performance Deficiencies						
Recommended Work:	Monitor and stab	ilize.				
Mainton on a grando.			Recommended Timing:	1-5 years		
Maintenance needs:	M. M. C.					
Maintenance work:	Maintenance Priority:					
Element Data:		Anne	aabaa		l anath.	1.61
Element Group: Element Name:		Approaches Sidewalk		Length:	1.61	
				1.22		
Location:	Marcal .			Height:	0	
Material:		Wood			Count:	2
Element Type:		D			Total Quantity:	2 m2
Environment:			nign		Limited / Not Inspected: BCI - Element Condition Values	
Protection System: Condition Data:	F114	T	one F-!-	D		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
	Out of allowers and	المام المام	100% (2)		\$120	\$48
Comments:	Out of alignment	with deck.				
Performance Deficiencies						
Recommended Work:						
Recommended work.	Re-align approac	cnes.			Pagammandad Timing:	1 E vooro
Maintenance needs:					Recommended Timing:	1-5 years
Maintenance work:					Maintenance Priority:	
Element Data:					mantonanoc i nonty.	
Element Group:		Bar	riers		Length:	4.9
Element Name:			Systems		Width:	0.038
ocation:		, talling	_,		Height:	0.96
Material:		\Ma	ood		Count:	2
riatoliuli	1/1/		thick on Wood Pos	it .	Total Quantity:	9.8 m ²
Element Type:	VV		nign		Limited / Not Inspecte	
Element Type:		Dei	"9"		·	
Environment:			nne		BCL - Floment Con-	dition Values
Element Type: Environment: Protection System: Condition Data:	Excellent		one Fair	Poor	BCI - Element Cond	dition Values:



Reinforce railings.

Performance Deficiencies: Recommended Work:

Maintenance needs:
Maintenance work:

1-5 years

Recommended Timing:

Maintenance Priority:

Ontario Structure II	nspection	Manual - Insp	pection Rep	ort:	Site Num	ber: P19
Element Data:						
Element Group:	Beams/MLE's		Length:	4.87		
Element Name:		Gird	ers		Width:	0.08
_ocation:					Height:	0.165
Material:		Alumi	nium		Count:	2
Element Type:		I-ty	ре		Total Quantity:	7.2 m2
Environment:		Ben	ign		Limited / Not Inspected	d:
Protection System:		No	ne		BCI - Element Cond	dition Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (7.2)			\$1,440	\$1,080
Comments:						
Performance Deficiencies:						
Recommended Work:						
				[Recommended Timing:	None
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:					•	
Element Group:		Dec	cks		Length:	4.87
Element Name:		Deck Top -	Thin Slab		Width:	1.41
ocation:					Height:	
Naterial:		Wo	od		Count:	1
Element Type:		Wood I	Planks		Total Quantity:	6.9 m2
Environment:		Ben	ign		Limited / Not Inspected	d:
Protection System:		No			BCI - Element Cond	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (6.9)			\$828	\$621
Comments:		. , ,		1	I	1
Performance Deficiencies:						
					Recommended Timing:	None
Recommended Work: Maintenance needs:					Recommended Timing:	None





1-Facing East



2-South Elevation







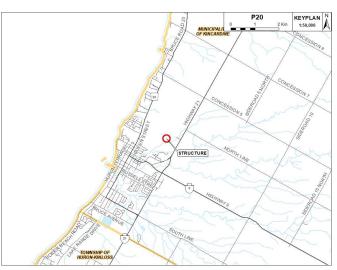
Site Number:

P20

Summary	/ Ren	ort
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1-Facing South



Datum: NAD83 17N **Northing:** 4892920 **Easting:** 451040

Structure Name:	BMROSS File #:		MTO #:	
Main Hwy / Road #:	Bridge Condition Index (BCI:)	33	CRV:	\$78,000
Road Name: Blue Trail		Inspec	tion Date:	7/22/2021
Structure Location: 84-North Line Extension		Next Ir	nspection:	8/20/2023
Condition Summary: Repairs recommended	Recommended Timing: 1-5 Years	Current L	oad Limit:	N/A

Overall Comments: Log beam bridge supporting wood deck. Reinforcement recommended.

air / Rehabilitation:							
Element:	Work Required	Period	Cost				
Beams/MLE's	Reinforcement recommended	1 to 5 yrs.	\$15,000				
			\$				
			\$				
			\$				
			\$				
			\$				
			\$				
Various	Associated Work		\$				
		Total	\$15,00				

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P20 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4892920 Road Name: Blue Trail Structure Location: 84-North Line Extension Easting: 451040 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: Box Beams of Girders Detour Length Around Bridge: (km) Total Deck Length: 11.25 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.36 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 15.3 (sq.m) Roadway Width: 1.1 Min. Vert. Clearance: (m) (m) 2 Number of Spans: Bridge Condition Index: 33 Span Length(s): 3.65 (m) 7.55 (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number:

Next Detailed Inspection:

P20

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

Overall Structure Notes:

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Log beam bridge supporting wood deck. Reinforcement recommended.

Repla	cement	Value:
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Structure Type: Bridge Structure Area: 15 (sq.m)

Replacement Cost: \$ 78,000 Complexity Factor: 1

Price per sq. m.: \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces
01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation

03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement Us Nough Hulling Surface 13 Offstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 11 Deck drainage

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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



Ontario Structure Inspection	tario Structure Inspection Manual - Inspection Report:		P20	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
Beams/MLE's	Reinforcement recommended	1 to 5 yrs.	\$15,000	
			\$0	
			\$0	
			\$0	
			\$0 \$0	
			\$0	
			Ψ	
		Repair/Rehabilitation Sub-Total:	\$15,000	
Associated World Demiliand.				
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
	,			
		Associated Work Sub-Total:	\$0	



Justification:

Total Cost:

\$15,000

-1 (5 (
Element Data:	T T	A 1 4			141 -	
Element Group:			nents		Length:	1.0
Element Name:		Abutme	nt Walls		Width:	1.8
ocation:					Height:	0.36
faterial:		Wo			Count:	2
lement Type:		Convention	nal Closed		Total Quantity:	1.3 m2
nvironment:		Ber	nign		Limited / Not Inspected:	
rotection System:		No	ne		BCI - Element Condi	tion Values:
condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (1.3)		\$1,170	\$468
omments:	Built-up from 180	x 180 wood.				
erformance Deficiencies:						
ecommended Work:	Reinforce bridge.					
				ļ.	Recommended Timing:	1-5 years
aintenance needs:						
aintenance work:				ı	Maintenance Priority:	
lement Data:						
ement Group:		Barı	riers		Length:	11.25
ement Name:		Railing	Systems		Width:	0.038
cation:			Height:	0.97		
aterial:		Wo	ood		Count:	2
ement Type:	Wo	ood Rail >83mm	thick on Wood Po	st	Total Quantity:	22.5 m
nvironment:		Ber	nign		Limited / Not Inspected:	:
otection System:		No	ne		BCI - Element Condi	tion Values:
ondition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (22.5)		\$2,250	\$900
omments: erformance Deficiencies:	Railings don't med	et code for openi	ng size, height, or	resistance.		
ecommended Work:	Reinforce bridge.					
econinended Work.	Reinforce bridge.			Ī	Recommended Timing:	1-5 years
laintenance needs:					veconiniended rinning.	1-5 years
laintenance work:					Maintenance Priority:	<u>. </u>
lement Data:				<u> </u>	namediano i nonty.	
ement Group:		Reams	/MLE's		Length:	11.2
ement Name:			ders		Width:	0.2
ement Name.		Gill	2010		Height:	0.2
aterial:		Wo	and		Count:	0.2
			ular-solid			13.4 m2
ement Type:					Total Quantity:	
nvironment:			nign		Limited / Not Inspected:	
rotection System:		No	1		BCI - Element Condi	
ondition Data:	Excellent	Good	Fair	Poor	TEV	CEV
				100% (13.4)		\$0
Comments:	200mm dia log be	ams with noticea	able sag. Significa	nt deflection fe	It when walking across dec	k.
	1					
erformance Deficiencies:						



Reinforce bridge.

Recommended Work:

Maintenance needs:
Maintenance work:

1-5 years

Recommended Timing:

Maintenance Priority:

Ontario Structure	Inspection I	Manual - Ins	pection Repo	rt:	Site Numb	er: P20
Element Data:						
Element Group:		De	cks		Length:	11.25
Element Name:		Deck Top	- Thin Slab		Width:	1.36
ocation:					Height:	
/laterial:		Wo	ood		Count:	1
lement Type:		Wood	Planks		Total Quantity:	15.3 m2
Environment:		Ber	nign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (15.3)		\$1,836	\$734
Comments:						
Performance Deficiencies:						
Recommended Work:	Reinforce bridge				Recommended Timing:	1-5 years
Maintenance needs:					-	
Maintenance work:					Maintenance Priority:	
Element Data:						
Element Group:		Pie	ers		Length:	1.25
lement Name:		Shafts/Colum	ns/Pile Bents		Width:	1.25
ocation:					Height:	0.85
faterial:		Wo	ood		Count:	1
lement Type:					Total Quantity:	4.25 m2
Invironment:		Ber	nign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
					Φ0 005	\$1,530
			100% (4.25)		\$3,825	\$1,530
Comments:	Pier is a timber c	rib filled with ston			\$3,825	\$1,550
Performance Deficiencies:					\$3,825	\$1,550
Performance Deficiencies:						1-5 years
Comments: Performance Deficiencies: Recommended Work: Maintenance needs:						





1-Facing South



2-East Elevation



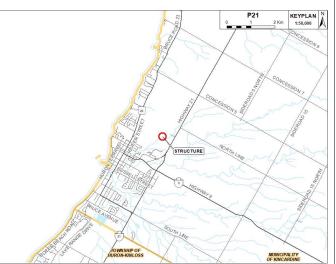




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Summary	/ Panort
Sullillial y	LIZEDOLL



1-Facing South



Datum: NAD83 17N **Northing:** 4892898 **Easting:** 451106

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	28	CRV:	\$57,200
Road Name:	Blue Trail		Inspec	tion Date:	7/22/2021
Structure Location:	95-North Line Extension		Next In	spection:	8/20/2023
Condition Summary:	Repairs recommended	Recommended Timing: 1-5 Years	Current Lo	oad Limit:	N/A

Overall Comments: Log beams supporting wood deck. Reinforcement recommended.

Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
Beams/MLE's	Reinforce bridge and erosion protection	1 to 5 yrs.	\$20,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work		\$0
		Total	\$20,000

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P21 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4892898 Road Name: Blue Trail Structure Location: 95-North Line Extension Easting: 451106 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: Box Beams of Girders Detour Length Around Bridge: (km) (m) Total Deck Length: 8.0 Fill on Structure: 0 (m) Overall Str. Width: 1.4 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 11.2 (sq.m) Roadway Width: 1.1 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 28 Span Length(s): 8 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

By-Law Expiry Date:

Site Number:

Next Detailed Inspection:

P21

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations					
Investigation Description	Note	Priority	Estimated Cost		
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0		
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0		
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		
		Total Cost:	\$0		

Overal	I Structure	Notes:
Overai	ıı ənucune	NOLES.

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Log beams supporting wood deck. Reinforcement recommended.

Repl	acemei	nt Va	alue:
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11 (sq.m) Structure Area: Structure Type: Bridge Complexity Factor: Replacement Cost: \$ 57,200 Price per sq. m.: \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 11 Deck drainage

Maintenance Needs

01 Lift and Swing Bridge Maintenance 07 Repair to Structural Steel

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



13 Erosion Control at Bridges

Ontario Structure Inspection	ario Structure Inspection Manual - Inspection Report:		P21	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
Beams/MLE's	Reinforce bridge and erosion protect	ion 1 to 5 yrs.	\$20,000	
			\$0	
			\$0	
			\$(
			\$(\$(
			\$(
			φι	
		Repair/Rehabilitation Sub-Total:	\$20,000	
		-		
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
		Associated Work Sub-Total:	\$	



Justification:

Total Cost:

\$20,000

Ontario Structure	Inspection N	<i>l</i> ianuai - ins	pection Rep	ort:	Site Numb	er: P21	
Element Data:							
Element Group:		Appro	paches		Length:	1.25	
Element Name:			ewalk		Width:	1.18	
Location:				Height:			
Material:		W	ood	Count:	2		
Element Type:					Total Quantity:	1.5 m2	
Environment:		Re	nign		Limited / Not Inspected		
Protection System:			one	BCI - Element Condition Values:			
Condition Data:	Excellent				TEV	CEV	
Condition Data.	LXCCIICITE		100% (1.5)	Poor	\$90	\$36	
Comments:			100 /0 (1.0)		φσο	ΨΟΟ	
Commonto.							
Performance Deficiencies:							
Recommended Work:							
				R	Recommended Timing:		
Maintenance needs:							
Maintenance work:				N	faintenance Priority:		
Element Data:							
Element Group:		Bar	riers		Length:	8.0	
Element Name:		Railing	Systems		Width:		
Location:				Height:	0.96		
Material:		W	ood	Count:	2		
Element Type:	W	ood Rail >83mm	thick on Wood Po	Total Quantity:	16 m		
Environment:		Be	nign	Limited / Not Inspected	: 🗆		
Protection System:		No	one	BCI - Element Condition Values:			
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
			100% (16)		\$1,600	\$640	
Comments:	Openings and res	sistance don't me	et code.				
Dorformono Dofinionaion							
Performance Deficiencies:							
Recommended Work:	Reinforce railings	5.		F	· · · · · · · · · · · · · · · · · · ·	1.5	
Malatanana maada.				R	Recommended Timing:	1-5 years	
Maintenance needs:				I.	1.2.1	T	
Maintenance work:				N	faintenance Priority:		
Element Data:		Doome	/N/I E'o		I amouth.	0.0	
Element Group:			s/MLE's ders	Length:	8.0 0.17		
Element Name:		GIF	ucıs	Width:	0.17		
Location:		14/	ood	Height: Count:	0.17		
Material:		VV	DOG				
Element Type:			nian	Total Quantity:	8.2 m2		
Environment:			nign	Limited / Not Inspected:			
Protection System:			one		BCI - Element Cond		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
				100% (8.2)	\$1,230	\$0	
Comments:	Log beams 170-2	50mm dia. Notic	eable sag and def	lection when wa	alking on deck. Don't appe	ar to rest on abutment	
Performance Deficiencies:							
Recommended Work:	Reinforce bridge.						
	. tollilorde bridge.				Recommended Timing:	1-5 years	

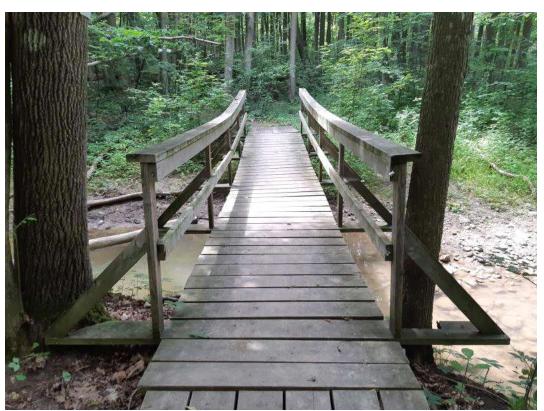


Maintenance needs:
Maintenance work:

Maintenance Priority:

Ontario Structure	Inspection M	anual - Ins	Site Num	ber:	P21		
Element Data:							
Element Group:		D	ecks	Length:	8.	8.0	
Element Name:		Deck Top	- Thin Slab	Width:	1.	1.4	
Location:					Height:	0.0	38
Material:		V	/ood	Count:	1	1	
Element Type:		Wood	d Planks	Total Quantity:	11.2	m2	
Environment:		Ве	enign	Limited / Not Inspected	d:]	
Protection System:		N	lone	BCI - Element Condition Values:			
Condition Data:	Excellent	Good	Fair	Poor	TEV	CE	V
			100% (11.2)		\$1,344	\$5	38
Comments:							
Performance Deficiencies:							
Recommended Work:	Reinforce bridge.						
	. tee. eo bridge.				Recommended Timing:	1-5 years	
Maintenance needs:						1	
Maintenance work:					Maintenance Priority:		





1-Facing South



2-West Elevation







Site Number:

Summary Report:							
	1-Facing	g West		Datum: NAD83 17N No	Thing: 489374	MANUCEALITY MENTIFALITY MORNING ALTERNATION MORN	22 2 Km KEYPLAN N N N N N N N N N N N N N N N N N N
Structure Name:				BMROSS File #		MTO #:	
Main Hwy / Road #:	1			Bridge Condition Index (BCI:		_	\$36,400
Road Name:				Bridge Condition mack (Boi.	· .	tion Date:	
Structure Location:		1 22				nspection:	
			7 D				
Condition Summary:				ended Timing:	Current L	oad Limit:	IN/A
		supporting wood deck	Bridge is ir	n fair condition.			
Repair / Rehabilitat							
Element	:		Wo	rk Required		Period	Cost
							\$0
							\$0
							\$0
							\$0 \$0
							\$0 \$0
							\$0 \$0
Various			Ass	ociated Work			\$0
						Total	\$0
Additional Investiga	ations:						
Maintanana Naad							
Maintenance Needs	S.						



Ontario Structure Inspection Manual - Inspection Report: Site Number: P22 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4893741 Road Name: Blue Trail Structure Location: West of Road 23 Easting: 450080 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: Box Beams of Girders Detour Length Around Bridge: (km) Total Deck Length: 4.91 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.5 (m) Skew Angle: (Degrees) Direction of Structure: East/West Total Struct. Area: 7.365 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 62 Span Length(s): 4.9 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number: P22

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection Next Detailed Inspection:

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

additional Investigations					
Investigation Description	Note	Priority	Estimated Cost		
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0		
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0		
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		
		Total Cost:	\$0		

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_	vela			LLU		w	61 f A	-

Bridge Condition Summary: No work identified Recommended Timing:

Overall Comments: Wood beams supporting wood deck. Bridge is in fair condition.

Replacement Value:			
Structure Type:	Bridge	Structure Area:	7 (sq.m)
Replacement Cost:	\$ 36,400	Complexity Factor:	1
		Price per sq. m ·	\$ 5 200 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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces
01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

25 Control of the con

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement Us Rough Huming Surface 15 Offstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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



Ontario Structure inspection M	anuai - inspection Report:	Site No	ımber:	P22
Repair / Rehabilitation:				
Element:	Work Required		Period	Cost
				\$0
				\$0
				\$0
				\$0 \$0
				\$0 \$0
				\$0
				, -
		Repair/Rehabilitati	on Sub-Total:	\$0
Associated Work Required:				
Mobilize / Demobilize				\$0
Approaches				\$0
Traffic Control / Detours				\$0
Utilities				\$0
Right of Way				\$0
Environmental Study				\$0
Engineering				\$0
Other				\$0
Contingencies				\$0
		Associated Wo	ork Sub-Total:	\$0
		, iooolatou TT	Total Cost:	\$0
Justification:			, , , , , , , , , , , , , , , , , , ,	



Ontario Structure Inspection Manual - Inspection Report: Site Number: P22 Element Data: Element Group: **Barriers** Length: 4.8 Width: 0.038 **Element Name:** Railing Systems Location: Height: 0.96 Material: Wood Count: 2 Element Type: Wood Rail <83mm thick on Wood Post Total Quantity: 9.6 m Limited / Not Inspected: **Environment:** Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor TEV **CEV** \$384 100% (9.6) \$960 Comments: Railings don't meet code requirements for opening size, height, or resistance. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 4.9 Element Name: Girders Width: 0.14 Height: 0.14 Location: Wood Material: Count: 2 Element Type: Rectangular-solid Total Quantity: 4.1 m2 **Environment:** Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: Poor **CEV Excellent** Good Fair TEV 100% (4.1) \$615 \$246 Comments: 140 x 140 wood beams. Don't appear to rest on abutments. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 4.91 Deck Top - Thick Slab Width: Element Name: 1.5 Location: Height: 0.038 Material: Wood Count: Wood Planks Element Type: Total Quantity: 7.4 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values: CEV** Condition Data: Excellent Good Fair Poor TEV 100% (7.4) \$2,590 \$1,943 Comments: Performance Deficiencies: Recommended Work:



Maintenance needs: Maintenance work: Recommended Timing:

Maintenance Priority:

None



1-Facing West



2-North Elevation







Ontario Structure Ins	pection Manual	- Inspection Repor	t: Site Numb
Ontaino Otractare mis	poduon manaan	- mapoculom repor	t. Old Mullic





Summary Report:



2 - West Elevation



Datum: NAD83 17N **Northing:** 4893923 **Easting:** 449753

Structure Name:		BMROSS File #:		MTO #:	
Main Hwy / Road #:		Bridge Condition Index (BCI:)	28	CRV:	\$57,200
Road Name:	Blue Trail		Inspec	tion Date:	7/22/2021
Structure Location:	West End of Blue Trail		Next In	spection:	8/20/2023
Condition Summary:	Repairs recommended	Recommended Timing: 1-5 Years	Current Lo	oad Limit:	N/A

Overall Comments: Log beams supporting wood deck. Reinforcement recommended.

Element:	Work Required	Period	Cost
Beams/MLE's	Reinforcement recommended	, <u>, , , , , , , , , , , , , , , , , , ,</u>	\$15,000
			\$0
			\$
			\$
			\$
			\$
			\$
Various	Associated Work		\$
		Total	\$15,00

Additional Investigations:

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P23 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4893923 Road Name: Blue Trail Structure Location: West End of Blue Trail Easting: 449753 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: Box Beams of Girders Detour Length Around Bridge: (km) Total Deck Length: 7.83 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.4 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 10.962 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 28 Span Length(s): 7.8 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P23

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations				
Investigation Description	Note	Priority	Estimated Cost	
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0	
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0	
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	
		Total Cost:	\$0	

O^{V}	/eral	I Stri	ictiii	re N	lotes:

Bridge Condition Summary: Repairs recommended Recommended Timing: 1-5 Years

Overall Comments: Log beams supporting wood deck. Reinforcement recommended.

Repl	lacement	Va	lue:
------	----------	----	------

 Structure Type:
 Bridge
 Structure Area:
 11 (sq.m)

 Replacement Cost:
 \$ 57,200
 Complexity Factor:
 1

 Price per sq. m.:
 \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces
01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

Toda carrying capacity 07 damined expansion joint 10 Hooding chain blocks

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement Us Nough Hulling Surface 13 Offstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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



Ontario Structure Inspection Manual - Inspection Report:		Site Number:	P23
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
Beams/MLE's	Reinforcement recommended	Л	\$15,000
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
		Repair/Rehabilitation Sub-Tota	l: \$15,000
Associated Work Required:			
Mobilize / Demobilize			\$0
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$0
Other			\$0
Contingencies			\$0
		Associated Work Sub-Tota	ıl: \$0



Justification:

Total Cost:

\$15,000

Site Number:	P23

Element Data:						
Element Group:		Barr	iers		Length:	7.8
Element Name:		Railing S	Systems		Width:	0.038
Location:					Height:	0.95
Material:		Wo	od		Count:	2
Element Type:	W	ood Rail <83mm t	hick on Wood Po	st	Total Quantity:	15.6 m
Environment:		Ben	ign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condi	_
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
			100% (15.6)		\$1,560	\$624
Comments:	Railings don't meet code requirements for height, opening size, or res			esistance.		
Performance Deficiencies:						
Recommended Work:	Reinforcement re	commended.		R	ecommended Timing:	1-5 years
Maintenance needs:					<u> </u>	,
Maintenance work:				N	laintenance Priority:	
Element Data:					•	
Element Group:		Beams	/MLE's		Length:	7.8
Element Name:		Gird	lers		Width:	0.17
Location:					Height:	0.17
Material:		Wo	od		Count:	2
Element Type:					Total Quantity:	8 m2
Environment:		Ben	ian		Limited / Not Inspected:	
Protection System:		No			BCI - Element Condi	
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
				100% (8)	\$1,200	\$0
Comments:	Log beams 170-2	40mm dia. Notice	eable deflection w	hen walking. Do	n't rest on abutments. Bai	iks are steep.
Performance Deficiencies:						
Recommended Work:	Reinforcement re	commended.		R	ecommended Timing:	1-5 years
Maintenance needs:						
Maintenance work:				N	laintenance Priority:	
Element Data:						
Element Group:		Dec			Length:	7.8
Element Name:		Deck Top -	Thin Slab		Width:	1.4
Location:					Height:	0.038
Material:		Wo	od		Count:	1
Element Type:		Wood I	Planks		Total Quantity:	11 m2
Environment:		Ben	ign		Limited / Not Inspected:	J
Protection System:		No	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
Comments:			100% (11)		\$1,320	\$528
Performance Deficiencies:						
Recommended Work:	Reinforcement re	commended.		R	ecommended Timing:	1-5 years
Maintenance needs:					g.	•
Maintenance work:				N	laintenance Priority:	







2 - West Elevation







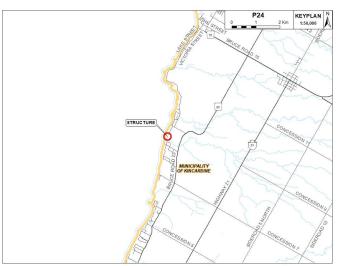
Site Number:



Summary Report:



1-Facing North



Datum: NAD83 17N **Northing:** 4899371 **Easting:** 451539

Structure Name:	BMROSS File #:		MTO #:		
Main Hwy / Road #:	Bridge Condition Index (BCI:)	75	CRV:	\$405,600	
Road Name: Birchwood Ave. Trail		Inspect	ion Date:	7/22/2021	
Structure Location:		Next Ins	spection:	8/20/2023	
Condition Summary: No work identified	Recommended Timing:	Current Lo	ad Limit:	N/A	
Overall Comments: Half-through truss in good condition	1				-

Overall Comments: |Half-through truss in good condition

Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
			\$0
Various	Associated Work	<u>_</u>	\$0
		Total	\$0

Additional	Investigations
Auullionai	IIIvesuuauons

Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P24 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4899371 Road Name: Birchwood Ave. Trail Structure Location: Easting: 451539 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Surface Type: Wood Structure Group: Truss Structure Type: Half-Through Truss Detour Length Around Bridge: (km) Total Deck Length: 36.5 (m) Fill on Structure: 0 (m) Overall Str. Width: 2.13 (m) Skew Angle: 0 (Degrees) Total Struct. Area: 77.745 Direction of Structure: North/South (sq.m) Roadway Width: 1.8 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 75 Span Length(s): 36.5 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P24

2023

Field Inspection Information:

Date of Inspection: 7/22/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

O^{V}	/eral	I Stri	ictiii	re N	lotes:

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Half-through truss in good condition.

Replacement value:			
Structure Type:	Bridge	Structure Area:	78 (sq.m)
Replacement Cost:	\$ 405,600	Complexity Factor:	1
		Price per sq. m.:	\$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation

03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

04 Continuing movements 10 Surface ponding 16 Other

05 Seized bearings 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



Ontario Structure inspection Manual - inspection Report:		Site Number:	P24	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
				\$0
				\$0
				\$0
				\$0 \$0
				\$0
				\$0
		Repair/Rehabilitation Sub-To	ntal·	\$0
		Nopali/Nonabilitation out 10	otal.	Ψυ
Associated Work Required:				
Mobilize / Demobilize				\$0
Approaches				\$0
Traffic Control / Detours				\$0
Utilities				\$0
Right of Way				\$0
Environmental Study				\$0
Engineering				\$0
Other				\$0
Contingencies				\$0
		Associated Work Sub-To	otal:	\$0
		Total C		\$0
Justification:				



Ontario Structure Inspection Manual - Inspection Report: Site Number:

2.7 1.0 2
1.0
2
5.4 m2
Values:
CEV
\$3,645
)
36.5
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2
73 m
Values:
CEV
\$10,950
3
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)
2.1
2.1 0.05
2.1 0.05 0.15
2.1 0.05 0.15 28
2.1 0.05 0.15
2.1 0.05 0.15 28 28 Each



Ontario Structure	Inspection	Manual - Insp	pection Rep	ort:	Site Numb	er: P24	
Element Data:							
Element Group:		Dec	ks		Length:	36.5	
Element Name:		Deck Top -	Thin Slab		Width:	2.13	
Location:					Height:		
Material:		Wo	od		Count:	1	
Element Type:		Wood I	Planks		Total Quantity:	77.7 m2	
Environment:		Ben	ign		Limited / Not Inspected		
Protection System:		No	ne		BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (77.7)			\$9,324	\$6,993	
Comments:		, ,				1	
Performance Deficiencies:							
Recommended Work:				Б			
					Recommended Timing:	None	
Maintenance needs:				1.			
Maintenance work:					Maintenance Priority:		
Element Data:			/A 1		<u> </u>	00.5	
Element Group:		Trusses			Length:	36.5	
Element Name:		Bottom	Chords		Width:	0.15	
Location:					Height:	0.15	
Material:		Ste			Count:	2	
Element Type:		Box/Trap			Total Quantity:	32.9 m2	
Environment:		Ben			Limited / Not Inspected		
Protection System:		No			BCI - Element Condition Values:		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
		100% (32.9)			\$9,870	\$7,403	
Comments:							
Performance Deficiencies:							
Recommended Work:							
TOO ON THE OWNER OF THE OWNER OF THE OWNER				Ī	Recommended Timing:	None	
Maintenance needs:				<u> </u>	. toooniiiioiiaoa iiiiiiiigi		
Maintenance work:					Maintenance Priority:		
Element Data:							
Element Group:		Trusses	/Arches		Length:	36.5	
Element Name:		Top C	hords		Width:	0.15	
ocation:					Height:	0.15	
Material:		Ste	eel		Count:	2	
Element Type:		Box/Trap			Total Quantity:	32.9 m2	
Environment:		Ben			Limited / Not Inspected		
Protection System:		No	<u> </u>		BCI - Element Cond		
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV	
Condition Data.	LAUGIIGIIL	100% (32.9)	ı aıı	1 501	\$9,870	\$7,403	
Comments:		100 /0 (02.9)			ψο,στΟ	Ψ1, τυυ	
Commond.							
Performance Deficiencies:							
Recommended Work:							
				Ī	Recommended Timing:	None	
Maintenance needs:					•		
Maintenance work:					Maintenance Priority:		



Ontario Structure I	nspection	Manual - Insp	pection Rep	ort:	Site Number	er: P24
Element Data:						
Element Group:		Trusses	Length:	1.28		
Element Name:		Verticals/[Diagonals	Width:	0.1	
Location:		Outside D	iagonals		Height:	0.15
Material:		Ste	el		Count:	4
Element Type:		Box/Trap	ezoidal	Total Quantity:	2 m2	
Environment:		Ben	ign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (2)			\$600	\$450
Comments:		1		1		
Performance Deficiencies:						
Recommended Work:						
Recommended work:					December de d'Timin au	Mana
Maintenance needs:					Recommended Timing:	None
Maintenance work:					Maintenance Priority:	
Element Data:				<u>'</u>	viaintenance Friority.	
Element Group:		Truccae	Arches		Length:	1.5
Element Name:	Trusses/Arches Verticals/Diagonals			Width:	0.07	
_ocation:		Inside Di			Height:	0.07
Material:		Ste			Count:	56
Element Type:		Box/Trap			Total Quantity:	14.3 m2
Environment:		Box/ Hap			Limited / Not Inspected:	
		No			•	
Protection System: Condition Data:	Excellent	Good	Fair	Poor	BCI - Element Condi	CEV
Condition Data.	Excellent		ган	Poor		
Comments:		100% (14.3)			\$4,290	\$3,218
Johnnents.						
Performance Deficiencies:						
Recommended Work:						
				Ī	Recommended Timing:	None
Maintenance needs:						
Maintenance work:					Maintenance Priority:	
Element Data:						
Element Group:		Trusses	/Arches		Length:	1.18
Element Name:		Verticals/[Diagonals		Width:	0.1
ocation:		Verti	cals		Height:	0.1
Material:		Ste			Count:	62
Element Type:		Box/Trap	oezoidal		Total Quantity:	21.9 m2
Environment:		Ben	ign		Limited / Not Inspected:	
Protection System:		No	ne		BCI - Element Condi	tion Values:
Condition Data:	Excellent	Good	Fair	Poor	TEV	CEV
		100% (21.9)			\$6,570	\$4,928
Comments:						
Oorformonoo Dofinional						
Performance Deficiencies:						
Recommended Work:						
Malatananas assata					Recommended Timing:	
Maintenance needs:				T_	Maladan and 5 1 11	
Maintenance work:				ļ!	Maintenance Priority:	





1-Facing North



2-West Elevation







Ontario	Structure	Inspection	Manual -	Inspection	Renort:	
Ontano	Oti actai e	mapechon	manuai -	mapection	i vepoi t.	

Site Number:



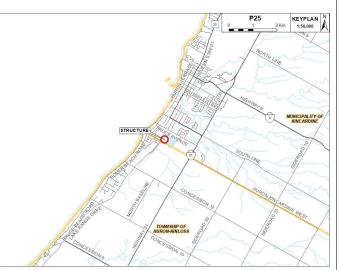
Site Number:

P25

Summary	Report
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2-West Elevation



Datum: NAD83 17N **Northing:** 4889555 **Easting:** 448290

Structure Name:	BMROSS File #:		MTO #:		
Main Hwy / Road #:	Bridge Condition Index (BCI:)	66	CRV:	\$57,200	
Road Name: Yellow Trail		Inspec	ction Date:	7/21/2021	
Structure Location: South of Bruce Ave		Next I	nspection: [3/20/2023	
Condition Summary: No work identified	Recommended Timing:	Current L	oad Limit:	V/A	
					-

Overall Comments: Aluminum beams supporting wood deck in fair to good condition.

Element:	Work Required	Period	Cost
		J	\$
			\$
			\$
			\$
			;
			;
Various	Associated Work		;
		Total	

•		-02		1									
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Maintenance Needs:



Ontario Structure Inspection Manual - Inspection Report: Site Number: P25 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4889555 Road Name: Yellow Trail Structure Location: South of Bruce Ave. Easting: 448290 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 7.55 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.43 Skew Angle: 0 (Degrees) (m) Total Struct. Area: 10.7965 Direction of Structure: North/South (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 66 Span Length(s): 4.4 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Year Built: Last Biennial Inspection: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number: P25

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection Next Detailed Inspection:

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: Andrew McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

Overal	11 0	·	-4		N۱۵	4
overa	11 3	MILLE	CILLI	re	NO	ies:

Bridge Condition Summary: No work identified Recommended Timing:

Overall Comments: Aluminum beams supporting wood deck in fair to good condition.

۲	ер	ace	me	nt V	alu	e:

 Structure Type:
 Bridge
 Structure Area:
 11 (sq.m)

 Replacement Cost:
 \$ 57,200
 Complexity Factor:
 1

 Price per sq. m.:
 \$ 5,200.00

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

06 Bearing not uniformly loaded/unstable 12 Slippery surfaces

01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage

02 Excessive deformations (deflections and rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation 03 Continuing settlement 09 Rough riding surface 15 Unstable embankments

Continuing Settlement Us Nough Hulling Surface 13 Offstable embankments

04 Continuing movements 10 Surface ponding 16 Other 05 Seized bearings 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



Ontario Structure Inspection Manual - Inspection Report:		Site Number:	P25
Repair / Rehabilitation:			
Element:	Work Required	Period	Cost
		-	\$0
			\$0
			\$0
			\$0 \$0
			\$0 \$0
			\$0
		Repair/Rehabilitation Sub-Total:	\$0
Associated Work Required:			
Mobilize / Demobilize			\$0
Approaches			\$0
Traffic Control / Detours			\$0
Utilities			\$0
Right of Way			\$0
Environmental Study			\$0
Engineering			\$0
Other			\$0
Contingencies			\$0
		Associated Work Sub-Total:	\$0
		Total Cost:	\$0
Justification:			



Ontario Structure Inspection Manual - Inspection Report: Site Number: P25 Element Data: Element Group: **Barriers** Length: 7.55 Width: **Element Name:** Railing Systems 0.038 Location: Height: 0.96 Material: Wood Count: 2 Element Type: Wood Rail >83mm thick on Wood Post Total Quantity: 15.1 m Limited / Not Inspected: **Environment:** Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor TEV **CEV** \$604 100% (15.1) \$1,510 Comments: Railings don't meet code requirements for height, opening size, resistance and they deflect under force. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 7.55 Element Name: Girders Width: 0.08 Height: 0.34 Location: Material: Aluminium Count: 2 Element Type: I-type Total Quantity: 13.9 m2 **Environment:** Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV Excellent** Good Fair Poor TEV \$2,780 \$2,085 100% (13.9) Comments: Beams taller at midspan. Beams rest on a bank at one end and lumber at the other end. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 7.55 Deck Top - Thin Slab Width: 1.43 **Element Name:** Location: Height: Material: Wood Count: Wood Planks Element Type: Total Quantity: 10.8 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values: CEV** Condition Data: Excellent Good Fair Poor TEV 100% (10.8) \$1,296 \$972 Comments: Performance Deficiencies:



Recommended Work:

Maintenance needs: Maintenance work: Recommended Timing:

Maintenance Priority:

None



1-Facing South



2-West Elevation







Ontario Struct	ure Inspection	Manual - Insi	pection Report:	Site
Unitario Struct	ure mapechon	iviaiiuai - iii5	pection Report.	Sile

Number: P25



Summary Report:			
	1-Facing West	Datum: NAD83 1	
Structure Name:		ВМКО	PSS File #: MTO #:
Main Hwy / Road #:		Bridge Condition Inc	dex (BCI:) 50 CRV: \$88,400
Road Name:	Red Trail		Inspection Date: 7/21/2021
Structure Location:	North End of Red Trail		Next Inspection: 8/20/2023
Condition Summary:	No work identified	Recommended Timing:	Current Load Limit: N/A
Overall Comments:	Aluminum beam bridge	supporting wood deck in fair condition.	
Repair / Rehabilitat	ion:		
Element	:	Work Required	Period Cost
	,		\$0
			\$0
			\$0
			\$0 \$0
			\$0
			\$0
Various		Associated Work	\$0
			Total \$0
Additional Investiga	tions:		
Additional investiga	iuoris.		
Maintenance Needs	S:		



Ontario Structure Inspection Manual - Inspection Report: Site Number: P26 **Inventory Data:** Structure Name: Crossing Type: Main Hwy / Road #: On Under Pedestrian Northing: 4890679 Road Name: Red Trail Structure Location: North End of Red Trail Easting: 449930 Owner(s): Municipality of Kincardine Heritage Designation: MTO Region: Southwestern Road Class: Posted Speed: No. of Lanes: MTO District: Owen Sound Current County: Bruce AADT: 0-49 % Trucks: Geographic Twp.: KINCARDINE Special Routes: Structure Group: Beam/Girder Surface Type: Wood Structure Type: I-beam or Girders Detour Length Around Bridge: (km) Total Deck Length: 11.9 (m) Fill on Structure: 0 (m) Overall Str. Width: 1.43 (m) Skew Angle: 0 (Degrees) Direction of Structure: North/South Total Struct. Area: 17.017 (sq.m) Roadway Width: 1.2 Min. Vert. Clearance: (m) (m) Number of Spans: 1 Bridge Condition Index: 50 Span Length(s): 7 (m) (m) (m) (m) (m) MTO Number: **BMROSS File Number: Historical Data:** Last Biennial Inspection: 2020 Year Built: Last Evaluation: **Current Load Limit:** (tonnes)

Last Enhanced Inspection:

Enhanced Access Equipment:



Load Limit By-Law #:

Site Number:

Next Detailed Inspection:

P26

2023

Field Inspection Information:

Date of Inspection: 7/21/2021 Inspection Type: OSIM Inspection

Inspector: Ryan Munn

Inspecting Firm: BM Ross & Associates Limited

Others in Party: McGarvey

Equipment Used: Hammer, Camera, Measuring Tape, Chain

Weather: Sunny, Slight Breeze

Temperature: 22 °C

Additional Investigations			
Investigation Description	Note	Priority	Estimated Cost
Detailed Deck Condition or Corrosion Potential Survey		N/R	\$0
Non-destructive Delamination Survey of Asphalt-Covered Deck		N/R	\$0
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
		Total Cost:	\$0

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_				LLU		w	61 f A	-

Bridge Condition Summary: No work identified

Recommended Timing:

Overall Comments: Aluminum beam bridge supporting wood deck in fair condition.

3	ер	ace	ment	Va	lue:

Structure Type: Bridge Replacement Cost: \$ 88,400

Structure Area: Complexity Factor: \$

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.

Price per sq. m.:

Suspected Performance Deficiencies

01 Load carrying capacity

02 Excessive deformations (deflections and rotations)

03 Continuing settlement

04 Continuing movements

05 Seized bearings

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

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

17 (sq.m)

13 Flooding/channel blockage 14 Undermining of foundation

15 Unstable embankments

16 Other

5,200.00

07 Repair to Structural Steel

08 Repair of Bridge Concrete 09 Repair of Bridge Timber

10 Bailey bridges - Maintenance

11 Animal/Pest Control

13 Erosion Control at Bridges

14 Concrete Sealing

15 Rout and Seal

16 Bridge Deck Drainage

17 Scaling (Loose Concrete or ACR Steel)

12 Bridge Surface Repair 18 Other



Ontario Structure Inspection Manual - Inspection Report:		Site Number:	P26	
Repair / Rehabilitation:				
Element:	Work Required	Period	Cost	
,			\$0	
			\$0	
			\$0	
			\$0	
			\$0 \$0	
			\$0 \$0	
			ΨΟ	
		Repair/Rehabilitation Sub-Total:	\$0	
Associated Work Required:				
Mobilize / Demobilize			\$0	
Approaches			\$0	
Traffic Control / Detours			\$0	
Utilities			\$0	
Right of Way			\$0	
Environmental Study			\$0	
Engineering			\$0	
Other			\$0	
Contingencies			\$0	
		Associated Work Sub-Total:	\$0	
		Total Cost:	\$0	
Justification:				



Ontario Structure Inspection Manual - Inspection Report: Site Number: P26 Element Data: Element Group: **Barriers** Length: 11.9 Width: 0.038 **Element Name:** Railing Systems Location: Height: 0.95 Material: Wood Count: 2 Element Type: Wood Rail >83mm thick on Wood Post Total Quantity: 23.8 m Limited / Not Inspected: **Environment:** Benign Protection System: None **BCI - Element Condition Values:** Condition Data: **Excellent** Good Fair Poor TEV **CEV** \$2,380 \$952 100% (23.8) Comments: Railings don't meet code requirements for height, opening size, or resistance. Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Beams/MLE's Length: 7.1 Element Name: Girders Width: 0.085 Height: 0.33 Location: Material: Aluminium Count: 2 Element Type: I-type Total Quantity: 13 m2 **Environment:** Limited / Not Inspected: Benign Protection System: None **BCI - Element Condition Values:** Condition Data: TEV **CEV Excellent** Good Fair Poor 100% (13) \$2,600 \$1,040 Beams taller at midspan. Rest on 140 x 140 lumber and banks. Noticeable deflection when walking on deck. Comments: Performance Deficiencies: Recommended Work: Recommended Timing: None Maintenance needs: Maintenance work: Maintenance Priority: Element Data: **Element Group:** Decks Length: 11.9 Deck Top - Thin Slab Width: 1.43 **Element Name:** Location: Height: Material: Wood Count: Wood Planks Element Type: Total Quantity: 17 m2 **Environment:** Benign Limited / Not Inspected: Protection System: None **BCI - Element Condition Values:** Condition Data: **CEV** Excellent Good Fair Poor TEV 100% (17) \$2,040 \$1,530 Comments: Performance Deficiencies:



Recommended Work:

Maintenance needs: Maintenance work: Recommended Timing:

Maintenance Priority:

None





2-West Elevation





3-Soffit



4-East Elevation



Ontario Structure I	Inspection Manual	l - Inspection Report:	Site Number:	

