

Municipal Structure Inspection Form

Structure Number: B 100021

Inventory Data:

Structure Name	East Cross Creek Bridge, Lot 9, Conc VI		
Main Hwy/Road #	<input type="text"/>	On <input checked="" type="checkbox"/> Under <input type="checkbox"/>	Crossing Type <input type="text" value="Non-navig water"/>
Road Name	<input type="text" value="River Road"/>	Municipal Road ID	<input type="text" value="RIVER RD OPS"/>
Structure Location	<input type="text" value="1.91 km S of Lot 10/11"/>		
Latitude	<input type="text" value="49 063.40 N"/>	Longitude	<input type="text" value="17 680.482 E"/>
Owner(s)	<input type="text" value="City Of Kawartha Lakes"/>		
Heritage Designation	<input type="text" value="Not 'Cons'"/>		
Road Class:	<input type="text" value="Arterial"/>		
MTO Region	<input type="text" value="Eastern"/>		
MTO District	<input type="text" value="Bancroft"/>		
Old County	<input type="text" value="Victoria"/>		
Geographic Twp	<input type="text" value="Ops"/>		
Structure Type	<input type="text" value="T-Beam"/>		
Total Deck Length	<input type="text" value="14"/>	(m)	
Overall Str Width	<input type="text" value="6.7"/>	(m)	
Total Deck Area	<input type="text" value="93.8"/>	(sq. m)	
Roadway Width	<input type="text" value="5.5"/>	(m)	
Span Lengths	<input type="text" value="12 m"/>		(m)
Posted Speed	<input type="text" value="80"/>	No of Lanes	<input type="text" value="2"/>
AADT	<input type="text" value="395"/>	% Trucks	<input type="text"/>
Special Routes:	Transit <input type="checkbox"/> Truck <input type="checkbox"/> School <input type="checkbox"/> Bicycle <input checked="" type="checkbox"/>		
Detour Length Around Bridge	<input type="text"/>	(km)	
Fill on Structure	<input type="text"/>	(m)	
Skew Angle	<input type="text" value="0"/>	(Degrees)	
Direction of Structure	<input type="text" value="East/West"/>		
No of Spans	<input type="text" value="1"/>		

Historical Data

Year Built:	<input type="text" value="1922"/>	Last Biennial Inspection:	<input type="text" value="01/11/09"/>
Current Load Limit:	<input type="text"/>	(tonnes)	Last BridgeMaster Inspection:
Load Limit By-Law #:	<input type="text"/>	Last Evaluation:	<input type="text"/>
By-Law Expiry Date:	<input type="text"/>	Last Underwater Inspection:	<input type="text"/>
Min Vertical Clearance:	<input type="text"/>	(m)	Last Condition Survey:
Rehab History: (Date/description)			

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Date of Inspection: 13/09/2011

Temperature: 20° C

Inspected By: D.M. Wills Associates Ltd.

Inspector: Ghassan Zanzoul, P.Eng

Others in Party: Wes Kingdon

Equipment Used: Camera, Hand Tools

Weather: Cloudy

Additional Investigations Required:

	Priority	Estimated Cost
Detailed Deck Condition Survey:	<input type="text"/>	<input type="text" value="\$0.00"/>
DART Survey	<input type="text"/>	<input type="text" value="\$0.00"/>
Detailed Coating Condition Survey:	<input type="text"/>	<input type="text" value="\$0.00"/>
Underwater Investigation:	<input type="text"/>	<input type="text" value="\$0.00"/>
Fatigue Investigation:	<input type="text"/>	<input type="text" value="\$0.00"/>
Seismic Investigation:	<input type="text"/>	<input type="text" value="\$0.00"/>
Structure Evaluation:	<input type="text"/>	<input type="text" value="\$0.00"/>
Load Posting: Estimated Load	<input type="text"/>	<input type="text" value="\$0.00"/>
Total Cost		<input type="text" value="\$0.00"/>

Special Notes:

Next Date Inspection: **Suspected Performance Deficiencies**

- | | | |
|---|--|------------------------------|
| 00 None | 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 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 Other |
| 06 Bridge Bearing Maintenance | 12 Bridge Surface Repair | |

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Element Data

Element Group:	Barriers				Length:	0.3	
Element Name:	Posts				Width:	0.2	
Location:	Each side				Height:	1.1	
Material:	Cast-in-place concrete				Count:	18	
Element Type:	Cast-in-place concrete on supports				Total Quantity:	18	
Environment:	Severe				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		17				
Comments							
Spall noted on one post							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Element Group:	Approaches				Length:	7	
Element Name:	Wearing surface				Width:	5.5	
Location:	Each End				Height:		
Material:	Asphalt				Count:	2	
Element Type:	Bituminous				Total Quantity:	77	
Environment:	Severe				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		67	5			
Comments							
Potholes noted on wearing surface.							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Element Group:	Sidewalks/curbs				Length:	21.5	
Element Name:	Curbs				Width:	0.3	
Location:	Each Side				Height:	0.3	
Material:	Cast-in-place concrete				Count:	2	
Element Type:	Cast-in-place concrete on supports				Total Quantity:	25.8	
Environment:	Severe				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		25.3		0.5		
Comments							
Localized spall noted.							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:						\$0.00	
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

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Element Group:	Abutments					Length:	
Element Name:	Abutment walls					Width:	6.7
Location:	Each End					Height:	1.1
Material:	Cast-in-place concrete					Count:	2
Element Type:	Cast-in-place concrete on supports					Total Quantity:	14.73
Environment:	Benign					Limited Inspection	<input type="checkbox"/>
Protection System:	None					Maint. Needs	
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		10.73	2	2		
Comments							
Severe erosion of the abutments							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:						\$480,000.00	
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Element Group:	Abutments					Length:	4.7
Element Name:	Wingwalls					Width:	
Location:	Each Quadrant					Height:	1.35
Material:	Cast-in-place concrete					Count:	4
Element Type:	Cast-in-place concrete on supports					Total Quantity:	25.37
Environment:	Benign					Limited Inspection	<input type="checkbox"/>
Protection System:	None					Maint. Needs	
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m				25.37		
Comments							
Wide cracks and spalls noted on all wingwalls.							
Recommended Work							
Replace structure							
Perform. Deficiencies						Load carrying capacity	
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Element Group:	Decks					Length:	6.7
Element Name:	Soffit - Thin Slab					Width:	4.7
Location:	Interior					Height:	
Material:	Cast-in-place concrete					Count:	1
Element Type:	Cast-in-place concrete on supports					Total Quantity:	31.48
Environment:	Benign					Limited Inspection	<input type="checkbox"/>
Protection System:	None					Maint. Needs	
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		31.48				
Comments							
Recommended Work							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Municipal Structure Inspection Form

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Element Group:	Decks				Length:	12	
Element Name:	Soffit - Thin Slab		Exterior		Width:	0.4	
Location:	Fascia				Height:		
Material:	Cast-in-place concrete				Count:	2	
Element Type:	Cast-in-place concrete on supports				Total Quantity:	4.8	
Environment:	Benign				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		3.8	0.5	0.5		
Comments							
Spall and crack noted.							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Element Group:	Beams/MLE's				Length:	12	
Element Name:	Girders				Width:	0.5	
Location:					Height:	0.7	
Material:	Cast-in-place concrete				Count:	4	
Element Type:	T-type				Total Quantity:	91.2	
Environment:	Benign				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		85.2	3	3		
Comments							
Spall and delamination at exterior west beam.							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

Element Group:	Decks				Length:	14	
Element Name:	Wearing surface				Width:	5.5	
Location:					Height:		
Material:	Asphalt				Count:	1	
Element Type:	Bituminous				Total Quantity:	77	
Environment:	Severe				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		57		20		
Comments							
Extensive potholes noted.							
Recommended Work							
Replace structure							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority						None 6-10 yrs 1-5 yrs Within 1 yr Urgent	

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Element Group:	Decks				Length:	14	
Element Name:	Deck top				Width:	6.7	
Location:					Height:		
Material:	Cast-in-place concrete				Count:	1	
Element Type:	Cast-in-place concrete on supports				Total Quantity:	93.79	
Environment:	Moderate				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m			73.79	20		
Comments	Judged from wearing surface condition.						
Recommended Work	Replace structure						
Perform. Deficiencies							
Estimated Construction Cost:							
Priority	<div>None</div> <div>6-10 yrs</div> <div>1-5 yrs</div> <div>Within 1 yr</div> <div>Urgent</div>						

Element Group:	Decks				Length:		
Element Name:	Drainage				Width:	0.075	
Location:					Height:		
Material:	Steel				Count:	6	
Element Type:	Pipe round				Total Quantity:	6	
Environment:	Severe				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Each		6				
Comments							
Recommended Work							
Perform. Deficiencies							
Estimated Construction Cost:							
Priority	<div>None</div> <div>6-10 yrs</div> <div>1-5 yrs</div> <div>Within 1 yr</div> <div>Urgent</div>						

Element Group:	Barriers				Length:	21.5	
Element Name:	Railing Systems				Width:		
Location:	Each Side				Height:	1.1	
Material:	Cast-in-place concrete				Count:	2	
Element Type:	Concrete Post and bars				Total Quantity:	43	
Environment:	Severe				Limited Inspection	<input type="checkbox"/>	
Protection System:	None				Maint. Needs		
Condition Data:	Units	Exc	Good	Fair	Poor		
	Sq. m		23	10	10		
Comments	Spalls and section loss noted on railings.						
Recommended Work	Replace structure						
Perform. Deficiencies							
Estimated Construction Cost:							
Priority	<div>None</div> <div>6-10 yrs</div> <div>1-5 yrs</div> <div>Within 1 yr</div> <div>Urgent</div>						

Municipal Structure Inspection Form**Structure Number: B 100021****Associated Work**

	Comments	Estimated Cost
Total Estimated Construction Cost	Recommended Bridge Work	\$480,000.00
Approaches		\$0.00
Detours		\$0.00
Traffic Control		\$0.00
Utilities		\$0.00
Right of Way		\$0.00
Environmental Study		\$0.00
Other	Engineering (15%)	\$72,000.00
Contingencies	15%	\$72,000.00
Total Estimated Const. Cost		\$624,000.00

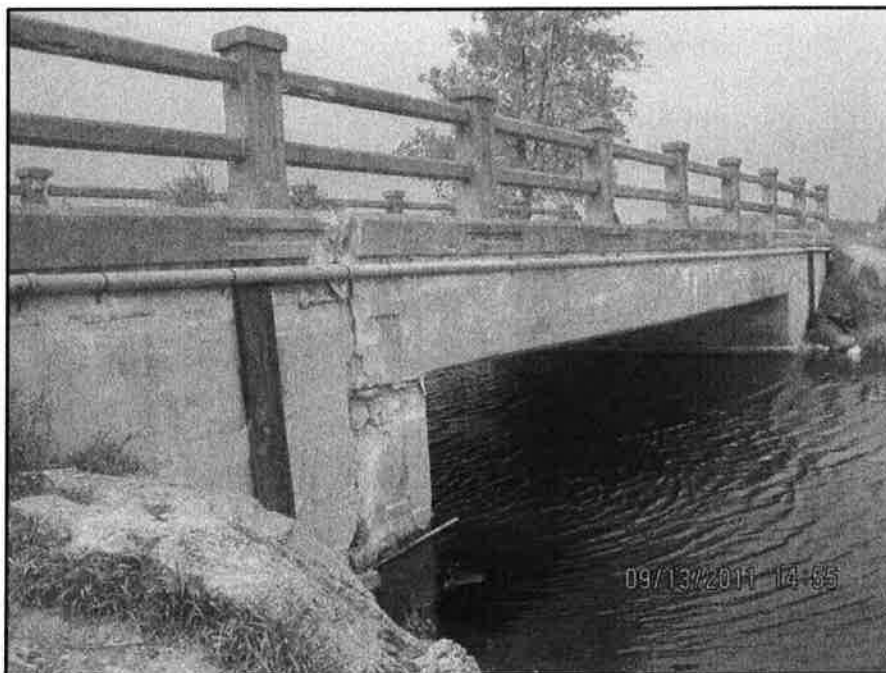
SITE PHOTOGRAPHS

SITE: B100021

Photo 1: Roadway looking south



Photo 2: West elevation



SITE PHOTOGRAPHS

SITE: B100021

Photo 3: Wide cracks and spalls on northeast wingwall

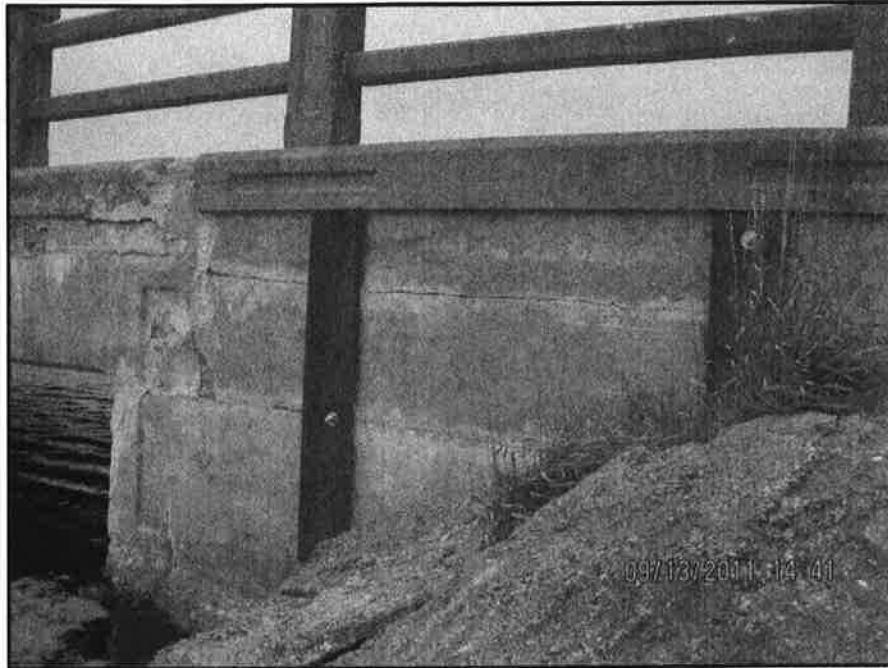


Photo 4: Severe erosion of north abutment footing



SITE PHOTOGRAPHS

SITE: B100021

Photo 5: Spalls and section loss on west railing



Photo 6: Spall and delamination on exterior west beam



SITE PHOTOGRAPHS

SITE: B100021

Photo 7: Typical wearing surface



Photo 8: Localized spalls on curb and railing posts

