2025 OSIM Bridge Inspections Report

Township of Severn
1024 Hurlwood Lane
Severn ON L3V 6H4

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R.J. Burnside & Associates Limited
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September 2025
300060276.2025

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Record of Revisions

Revision	Date	Description
0	August 15, 2025	Draft Report
1	September 16, 2025	Final Report

R.J. Burnside & Associates Limited

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Executive Summary

R.J. Burnside & Associates Limited (Burnside) was engaged by the Township of Severn to undertake the inspection of 44 bridge and culvert structures. The visual inspections were carried out on an element-by-element basis in accordance with the Ministry of Transportation – Ontario Structure Inspection Manual (OSIM). The inspections were completed under the direction of a Professional Engineer to assess their condition and identify any material defects, performance deficiencies, maintenance needs, additional studies and / or repairs / rehabilitation work required on a structure-by-structure basis.

Following the field inspections, recommendations were made based on the data collected and the review of the previous inspection reports. Depending on the condition of each structure, the remedial needs have been provided in three classifications; routine maintenance, additional investigations and repairs and rehabilitations (Capital Works).

The routine maintenance work often requires a minimal scope of work, and in most cases can be carried out by Township staff. The items included in the maintenance needs include recurring items that should be completed each year, i.e., cleaning winter sand / salt off bridge decks, as well as one-time costs such as placing riprap in washouts on slopes adjacent to bridge wingwalls. The total estimated value of the work to be completed by the Township is **$87,500.00**. We recommend that a general allowance to complete the works described above be included in the Township's annual road budget.

Additional studies, investigations, and monitoring programs are recommended for structures exhibiting severe material defects or performance deficiencies, where inspectors may require more detailed information. These have been prioritized as either "urgent" or "normal." Based on current observations, ten (10) structures have been identified as requiring additional studies with normal priority. The total estimated cost for all investigations is **$37,000.00**.

The Capital Works needs include any repair, rehabilitation or replacement work which would typically be completed by a Township-hired Contractor, to assist in extending the service life of a structure and increasing the Bridge Condition Index (BCI). In accordance with the OSIM, the capital works required are based on a priority of six to ten years, one to five years, within one year, and urgent and have been estimated as follows:

Capital Works Costs and Timeframes

Time Frame	Capital Cost
< 1 year	$2,469,500.00
1 – 5 years	$6,340,500.00
6 – 10 years	$4,230,000.00
Total (0-10 years)	**$13,040,000.00**

It should be noted that these costs include recommended replacement costs for structures in need.

Taking into consideration the structures calculated BCI's, several structures have been identified for replacement or rehabilitation. Within the next year, two (2) structures have been identified as requiring rehabilitation and three (3) structures have been identified for replacement. Within the next one to five years, three (3) structures have been identified as requiring rehabilitation and three (3) structures have been identified for replacement.

The roadside safety needs include a general allowance for guide rail and / or end treatments at all bridge locations as required. The total estimated cost for roadside safety is **$1,637,000.00**.

It should be noted that all of the aforementioned estimated costs throughout this summary and the report do not include property acquisition costs, utility relocation costs or engineering fees associated with road work beyond the wingwalls, unless specifically identified within the individual OSIM forms. All costs are also exclusive of HST.

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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been engaged by the Township of Severn to undertake the inspection of 44 road bridge and culvert structures over the span of 3.0 m.

It is noted that all costs referenced within this report are based on the year of most recent inspection and do not account for changes in unit costs (due to inflation, material availability, labour rates, etc.) between the year of inspection and the recommended timeline for work.

The inspections have been completed in accordance with the Ministry of Transportation (MTO) – Ontario Structure Inspection Manual (OSIM). Inspection of the Township's bridges and culverts are required every two years as per Ontario Regulation 104/97 which states *"The structural integrity, safety and condition of every bridge shall be determined through the performance of at least one inspection in every second calendar year under the direction of a professional engineer and in accordance with the Ontario Structure Inspection Manual".* These inspections assess the condition of the structure and identify any additional studies or repairs required. A map showing the location of all structures has been provided in Appendix C.

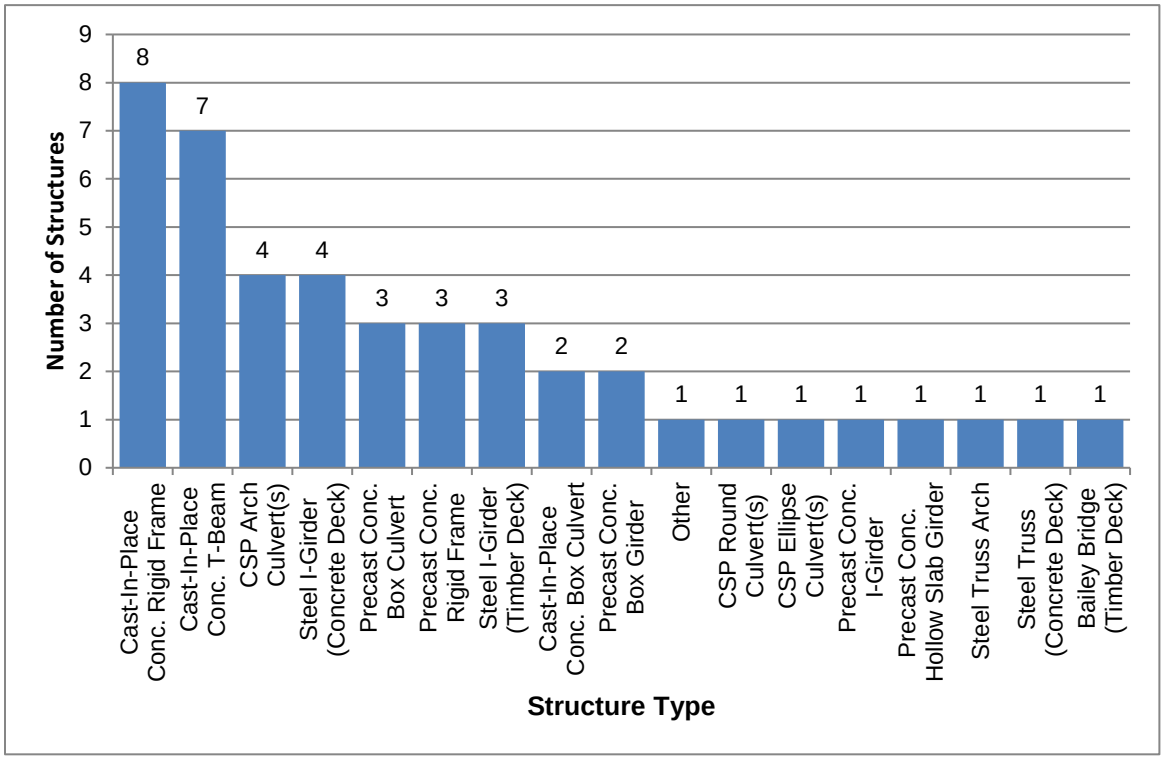
Burnside staff conducted a detailed element-by-element visual assessment of each bridge / culvert in order to identify any material defects, performance deficiencies and maintenance needs on a structure-by-structure basis. All data collected has been documented on the OSIM forms and provided in digital format in Appendix D. In addition, a brief written overview has been provided to clarify the OSIM data.

2.0 Inspection Observations and Recommendations

The following observations and recommendations were made during our recent inspection of the Township's structures. These inspections, along with a review of previous reports, have contributed to the recommendations provided.

The Township of Severn has an inventory of 44 structures, which is comprised of a variety of structure types. Figure 1 below summarizes the number and types of structures within the inventory.

Figure 1: Types of Structures



Depending on the condition of each structure, some level of remedial action is usually required. The recommendations for remedial work are provided in three classifications: routine maintenance, additional investigations, and Capital Works. Capital Works is further broken down into repair, rehabilitation or replacement.

2.1 Routine Maintenance

Routine maintenance needs often require minimal effort to extend the service life of the structure. In most cases, routine maintenance can be undertaken by Township staff or locally contracted out. It is desirable to ensure that all maintenance needs identified at each structure be completed within the calendar year of receiving this report.

Common structure defects were noted, to varying degrees, at most of the structures inspected. These common defects include:

- Minor erosion of slopes on culvert embankments and adjacent to bridge wingwalls.
- Excessive sand / granular material on deck surface due to winter maintenance or vehicle tracking.
- Clogged deck drains or lack of drainage.
- Erosion of stream banks at the water level.
- Debris collection and heavy vegetation at culvert and bridge openings.
- Lack of, damaged, or non code-conforming guide rail.
- Minor asphalt defects (potholes, cracking).

- Lack of or missing hazard warning signs.

These general defects can be addressed within the Township's routine maintenance program and these issues can be added to the Township's in-house road and structure inspection routine.

Routine bridge sweeping, washing of decks, drains, joints, bearing seat areas and girders will improve a structures service life. Removal or trimming of vegetation and addressing minor erosion concerns regularly will preempt more serious issues.

The total estimated value of the maintenance work is approximately **$87,500.00**. We recommend that a general allowance to complete the works described above be included in the Township's annual road maintenance budget.

A summary of maintenance needs is provided in Appendix B, along with estimated costs to complete the work.

2.2 Additional Studies / Investigations

As per the OSIM, additional investigations or surveys may be required to further assess the condition of certain elements that may not be fully determined by a visual inspection. In many cases, where a major rehabilitation of a structure is required or planned, the completion of additional studies or investigations will assist in developing appropriate rehabilitation programs. Studies or investigations may also be required where performance deficiencies are suspected. Typical investigations that may be required include:

- Deck condition surveys.
- Structure evaluations (Load Capacity).
- Monitoring of deformations, settlements and movement.
- Monitoring crack widths.

A summary of the additional investigations recommended for the Township are summarized in Table 1 below:

Table 1: Additional Investigations

Structure No. / Name	Additional Investigation	Reasoning	Estimated Cost
B11	Monitor Structure Condition and Usage	Routine monitoring recommended.	$0.00
B24	Detailed Deck Condition Survey	Deck assessment recommended to determine scope of required rehabilitation.	$17,000.00
B28	Load Limit Evaluation	Evaluation recommended to determine if structure requires further load reduction or closure.	$2,500.00
B35	Monitoring of Deformations, Settlements and Movements	Monitor abutment crack below bearing seat for movement in future biennial inspections.	$0.00
B40	Feasibility Study	Feasibility study to review options.	$15,000.00
B41	Monitoring Crack Widths	Monitor possible shear cracks in future biennial inspections.	$0.00
C30	Monitoring Crack Widths	Monitoring recommended for any acceleration of bolt hole cracking in the barrel.	$0.00
C33	Monitoring Crack Widths	Bolt hole cracking and structural shape should be monitored twice yearly until replacement.	$2,500.00
C39	Monitoring of Deformations, Settlements and Movements	Monitor footing undermining and wall movement in future biennial inspections.	$0.00
TR-BR-002	Monitoring of Deformations, Settlements and Movements Monitoring Crack Widths	Monitoring during future biennial inspections recommended to track concrete deterioration. Evaluation to assess any acceleration.	$0.00
		Total	**$37,000.00**

A summary of recommended studies and costs is also included in Appendix B.

2.3 Roadside Safety

During our inspections, Burnside makes note of the condition and effectiveness of roadside safety measures on the approaches to the structures. Where no roadside

safety systems are present, Burnside has a responsibility to identify that there should be consideration given to installing roadside safety systems, i.e., guide rail and end treatments.

Roadside safety system requirements are outlined in the MTO – Roadside Safety Manual which is a guideline provided to be used as a risk assessment tool in establishing the need, type and extent of roadside safety measures.

As is discussed in more detail in the Manual, risk management is critical in assessing the need for roadside safety systems. At some structures, and on some roadways, the installation of guide rail systems may be seen as more of a hazard than not having a system. This may be a result of a reduction in road platform width, the ability to remove snow effectively, and the space available to place and anchor end treatments. Section 4.2.2.1 from the MTO – Roadside Design Manual states *that guide rail systems must be offset a minimum of 4.25 m from the roadway centerline, to provide clearance to snowplowing operations*. In addition, local use of a roadway by farm equipment and the location of driveway and field entrances around structures should also be considered in determining the need and effectiveness of guide rail systems.

In consideration of the above, costs to install guide rail on narrow Township roads with a platform width of 8.0 m or narrower have not been included in this report under the rehabilitation plan, unless bridge / road widening to 8.5 m or wider has been recommended as part of the rehabilitation plan. Installation of steel beam guide rail for replacement options is included within the replacement cost estimate.

For the purpose of this report, where a high level review indicated that guide rail or guide rail components would be required (apparent substandard length of need, substandard end treatments, rigid barriers on the structure, small clear zone between the edge of road and edge of structure, etc.) a general allowance for a typical guide rail system installation has been provided; however, site specific and detailed assessments of need at each structure is not included in this report. Where the need for a guide rail system was not evident based on high level review, an allowance for an investigation into the need for guiderail was provided. The total estimated cost relating to guide rail installation or investigation is **$1,637,000.00**.

Where recommendations have been made for installation or corrective measures, Burnside has identified that the work is to be completed within 1-5 years. However, as each site has unique characteristics relating to the requirements of guide rail, Burnside also recommends that a further investigation and risk analysis of each of the identified sites be completed by the Township within one year to classify the structures as high, medium, or low priority for guide rail installation or improvements. The study may also outline a timeline for guide rail upgrades based on annual guide rail budget.

2.3.1 Pedestrian and Inspector Safety

During inspections, Burnside makes note of the condition and effectiveness of the pedestrian barricades installed at bridges and culverts. MTO Bulletin, BO2020-03 Guards on Structures, was issued on April 7, 2020 and provides recommendations for the installation of guards on culvert ends and retaining walls for the safety of the public and inspectors.

The bulletin recommends that where an area is accessible to the public and an exposed height of greater than 0.6 m is present, a guard meeting the Ontario Building Code requirements shall be installed to protect the public from fall hazards. Additionally, in areas not accessible to the public and where exposed heights greater than 2.4 m are present, a guard should be installed on culvert ends, or on top of retaining walls to protect inspectors from fall hazards.

It is further noted in the bulletin that a fall hazard risk assessment is to be completed and the need for guards determined by the MTO, or the Owner as appropriate. Installation of guards is recommended to be included as part of any major capital program, and in unique situations may be completed as a standalone installation if warranted.

Burnside has identified locations that could be considered high risk for pedestrians where the lack of guards, or poor condition of existing guards exist. Costs for replacement / installation of guards have been included in the recommended work programs, where applicable.

2.4 Repair, Rehabilitation or Replacement

Recommended repair, rehabilitation or replacement work is provided on the OSIM form for each bridge and culvert. The recommended work is indicated for each element and outlines the priority and estimated construction cost. The priorities for the specified rehabilitation or replacement plans are typically identified on the OSIM forms as six to ten years, one to five years, within one year, and urgent.

The costs associated with the recommended work are based on the measured quantities of fair and poor element conditions and unit costs for similar and recent works. In many instances, where only minor works are required, the costs for mobilization, site access and or waterway control items (as required) are difficult to assess and may skew the costs of small-scale works. This work is often best completed by grouping similar efforts together.

For repair programs that require a number of prolonged on-site activities, we have assigned a variable general cost that may range from $40,000.00 to $125,000.00, to address some of the mobilization, insurance, bonding and related costs of being on-site.

Where the recommended work is the replacement of the structure, these general costs are assumed to be included in the overall replacement cost.

Construction cost estimates do not include property acquisition, utilities relocation or support, or engineering fees associated for the works beyond the structure limits, unless specifically identified within the individual OSIM forms.

The total estimated cost for the capital works for all 44 structures within the Township, (including rehabilitation / repair and replacement costs) has been estimated as follows:

Table 2: Capital Works Costs and Timeframes

Time Frame	Capital Cost
< 1 year	$2,469,500.00
1 – 5 years	$6,340,500.00
6 – 10 years	$4,230,000.00
Total	**$13,040,000.00**

The total 10-year estimated capital costs, which includes the above as well as all other associated costs including maintenance, additional investigations, and roadside protection costs, is **$14,856,500.00**. It should be noted that all costs are based on 2025 prices and do not account for inflation. A summary of the capital works needs can be found in Appendix B.

2.5 Load Postings and Recommendations

Load postings may be recommended for structures based on age, condition, noted performance deficiencies or based on the findings of a structural evaluation. A summary of the current and proposed load postings for the Township's inventory, as well as the reasoning for the posting, is provided in Table 3 below.

Table 3: Load Postings and Recommendations

Bridge Name	Load Posting (tonnes) Current	Recommendation
B11	5	No Change
B13	14	No Change
B19	13	No Change
B27	14	No Change
B28	14	Accelerated deterioration and structural distress observed, **5-tonne** load limit recommended.

Bridge B28, located on Hampshire Mills Line, was noted during the 2025 inspections to be in poor condition, with severe concrete deterioration and wide shear cracks in the girders. The presence of shear cracks indicates the girders are overstressed and have experienced structural failure. As a result, a 5-tonne load limit is recommended until a structural evaluation is conducted to assess the suitable load restriction or whether full closure is warranted until replacement is completed.

In accordance with Section 123(2) of the Highway Traffic Act and Regulation 103/97 made under the Act, we recommend that the Municipality enact an appropriate By-law for the maximum allowable gross weight crossing over the structures identified in the table above.

Further, we recommend that any such By-law established shall be considered valid for a period of two years, or until the completion of the next bridge inspection report.

3.0 Bridge Condition Index

The Bridge Condition Index (BCI) for each structure has been determined based on the MTO methodology followed in the MTO Document, MTO Bridge Condition Index and Overall Measure of Bridge Condition, July 2009.

A new structure would have a BCI value of 100 and the value will decline over time. Monitoring the rate of decline in the BCI and comparing this with an anticipated rate of decline will provide the Township with valuable, long-term planning and asset management information. The reduction in BCI, in theory, is a function of many factors, including traffic volume, truck use, use of de-icing chemicals, exposure to the elements and the type of structure. Each bridge will decline at its own rate, but it is reasonable to expect that the decline begins slowly and accelerates as the structure gets older.

In addition, determining an individual BCI value at any point in time will allow the Township to make estimates of expected remaining service life and or establish target BCI criteria for major rehabilitations or replacements.

The Canadian Highway Bridge Design Code has a target service life of approximately 75 years, but it is recognized that maintenance, repair, and rehabilitations will be required along the way to reach or exceed this target.

As indicated, the BCI for a structure can range from 0 to 100 and municipal bridge and culvert infrastructure can be organized into several ranges.

Good – BCI Range 70 to 100

A bridge with a BCI greater than 70 is generally considered to be in good to excellent condition, and repair or rehabilitation work is not usually required within the next five years. Routine maintenance, such as sweeping, cleaning and washing are still recommended.

Fair – BCI Range 50 to 70

A bridge with a BCI between 50 and 70 is generally considered to be in good to fair condition. Repair or rehabilitation work recommended is ideally scheduled to be completed within the next five years. This is the ideal time to schedule major bridge repairs for larger and / or critical structures from an economic perspective. The most

effective improvement in a structure's service life can be achieved by completing repairs while in this range.

Poor – BCI Less than 50

A bridge with a BCI rating of less than 50 is generally considered poor with lower numbers representing structures nearing the end of their service life. The repair or rehabilitation of these structures is ideally best scheduled to be completed within approximately one year. However, if it is determined that the replacement of the structure would be a more viable, practical or economical solution than repairing the structure, the structure can be identified for continued monitoring and scheduled for replacement within a one-to-ten-year range. The lower the BCI the more of a priority, within the one-to-ten-year range, the replacement becomes.

4.0 Structure Inventory Trends

Based on the biennial inspection of each structure, the Bridge Condition Index (BCI) is calculated for each structure. The Bridge Condition Index distribution graph, shown in Figure 2 below, provides a summary of the current state of the Township's structures, and Figure 3 shows the historical trend of the state of the structures over past inspections using BCI information that was available.

Figure 2: Bridge Condition Index Distribution (2025)

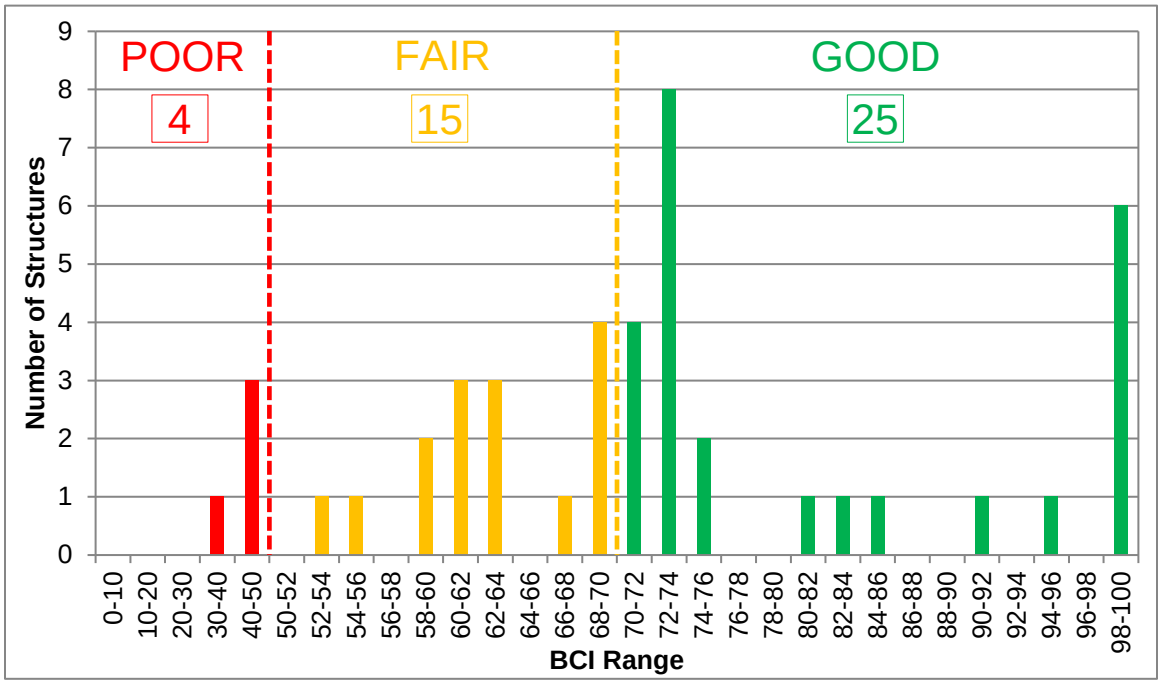
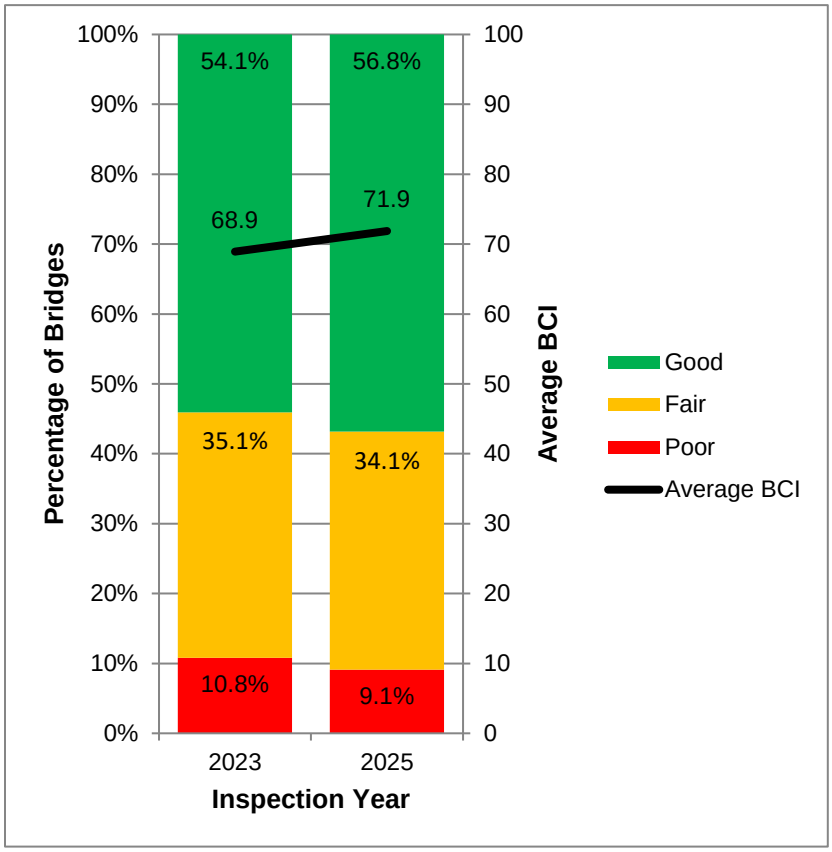


Figure 3: Bridge Condition Index Historical Trend



Currently, only approximately 57% of the Township's structures are within the "good" range, with 34% of the structures classified as "fair" and 9% classified as "poor", as illustrated in Figure 3 above. Of interest, the MTO has established a goal of maintaining 85% of their structures in "good" condition (BCI ≥ 70) by addressing rehabilitations and replacements as necessary. Burnside recognizes that the above goal was not established by the Township, but it is noted that, based on the current state of the inspected structures, the Township is underperforming on the management of their bridge assets when compared to the MTO's goal but have been actively improving the overall condition of the bridges and culvert assets over the last few years.

The trend in Figure 3 identifies that the overall average BCI of the Township's inventory has generally gradually improved over the last two years due to recently completed capital works projects completed since the 2023 inspections, which include the following:

- TR-BR-001 – Uhthoff Trail Bridge 1 Reconstruction (2024)
- Bridge B17 – Lovering Line Minor Rehabilitation (2024)
- Bridge B21 – Foxmead Road Rehabilitation (2024)
- Culvert C08 – Wainman Line Replacement (2025)

Projects currently in preliminary stages of design include:

- Bridge B10 – Woodrow Road Replacement

Continued maintenance and completion of rehabilitative or replacement works as recommended in this report will help to continue this trend of overall improvement of the Township's bridge assets.

The MTO has also developed theoretical deterioration curves which can be used as a backdrop to estimate the remaining service life of a structure before replacement, or to establish a time frame for future rehabilitations. Burnside has adjusted the MTO theoretical deterioration curve to more accurately reflect the deterioration curve of the structures that are being inspected. It has been observed after inspecting structures for over ten years, that the structures are deteriorating slower than anticipated compared to the MTO theoretical deterioration curves, and therefore, the timeline for the rehabilitation / replacement of the structures have been adjusted to reflect this slower deterioration rate.

For the purposes of this report, culverts and bridges less than 4.5 m in span are assumed not to have a rehabilitation cycle. These structures will be monitored and planned for replacement when their BCI drops below a lower limit of 40. However, even though our recommendation is to replace a structure, the costs to repair identified defects are included on the OSIM forms should the Township wish to repair these structures.

For structures with spans greater than 4.5 m, it has been assumed that a structure will be rehabilitated once during its lifetime. The rehabilitations are scheduled when the structures reach a target BCI of 60. However, for certain larger, more significant bridges, rehabilitation options may still be viable for BCI's lower than 60, but these will be considered on a site-by-site basis.

The estimated time until replacement or rehabilitation is required has been provided and the costs for all works required in the next ten years are identified.

5.0 Prioritization and Recommended Work

As an initial measure for prioritizing any required work, the structures have been ranked using their BCI values. A summary of the structures, in ascending order of BCI, along with their associated preliminary construction costs has been included in Appendix B. Two separate summary tables have been created to identify replacement and rehabilitation priority structures.

It should be noted that although the BCI is a good measure of the overall condition of the bridge, and therefore, relative construction need, other factors are often considered when programming and prioritizing bridge work. Other factors that may be considered include:

- Traffic volume and number of trucks that regularly use the road.
- Load capacity restrictions at the site.
- Geometric restrictions (alignment or width).
- Pedestrian or cycling requirements.
- History of accidents or traffic conflicts.
- History of flooding or ice problems.
- Area growth and development.
- In conjunction with already planned road improvements.

The prioritized capital works plan and associated construction costs can be used for estimating future capital budgets. The budgets and rehabilitation work plans have been provided for the Township's highest priority structures. The structures provided below have been identified as requiring rehabilitation work or replacement in the next five years. The structures have been identified for rehabilitation or replacement based on their condition during the latest completed inspection.

Table 4: Top Priority Structures Based on BCI (Work Required Within 5 Years)

Structure No.	Road Name	Recommended Work	Estimated Construction Cost	Years to Rehabilitation / Replacement
Replacements				
B11	Reinbird Street	Replace	$609,000.00	0.00
TR-BR-002	Uhthoff Trail System	Replace	$620,000.00	0.00
C33	Wainman Line	Replace	$609,000.00	1.00
B10	Woodrow Road	Replace	$2,210,000.00	2.00
B28	Hampshire Mills Line	Replace	$1,661,000.00	3.54
B19	Kitchen Sideroad	Replace	$1,000,000.00	3.65
Rehabilitations				
C39	Coldwater Road	Rehabilitate	$586,500.00	1.00
B40	Taylor Line	Rehabilitate	$567,500.00	2.00
B24	Carlyon Line	Rehabilitate	$560,500.00	5.00
TR-BR-004	Uhthoff Trail System	Rehabilitate	$341,500.00	5.00
B15	Lawson Line	Service Repair	$45,000.00	--
		Total	**$8,810,000.00**	

The structures in the 10-year Capital Plan shown below in Table 5, have been prioritized for rehabilitation or replacement based on their condition during the latest completed

inspection, while also considering additional factors identified through recent discussions with Township staff, such as traffic volumes, scheduled reconstruction projects, the close proximity of other priority structures, and anticipated annual capital funding levels for bridges and culverts.

It is recognized; however, that the total value of recommended works may exceed the Township's expected capital funding capacity over the 10-year planning horizon. This plan represents a needs-based prioritization, and while funding expectations were informed through consultation with Township staff, further adjustment may be required to align with actual budget allocations. As a result, some recommended works may need to be deferred or re-prioritized to reflect available resources.

Costing breakdown for planning and engineering design has been provided for the 10-year capital plan provided below. It should be noted that the priorities may change and will need to be re-assessed during each OSIM inspection cycle.

Table 5: 10-Year Capital Plan

Structure No.	Road Name	Recommended Work	Estimated Cost
2026			
B28	Hampshire Mills Line	Study: Structure Evaluation (Load Posting)	$15,000.00
B11[(1)]	Reinbird Street	Install bollards or barriers	$1,500.00
B15[(2)]	Lawson Line	Engineering: Design (Service Repair)	$5,000.00
B15[(2)]	Lawson Line	Construction: Service Repair	$40,000.00
B10[(3)]	Woodrow Road	Construction: Replacement	$2,000,000.00
B35	Town Line	Design: Replacement	$73,000.00
C39	Coldwater Road	Engineering: Design (Rehabilitation)	$39,000.00
		2026 Total	**$2,173,500.00**
2027			
C33	Wainman Line	Engineering: Design (Replacement)	$42,000.00
C39	Coldwater Road	Construction: Rehabilitation	$547,500.00
B40	Taylor Line	Study: Deck Condition Survey Study: Feasibility	$45,000.00
B40	Taylor Line	Engineering: Design (Rehabilitation)	$40,000.00
		2027 Total	**$674,500.00**

Structure No.	Road Name	Recommended Work	Estimated Cost
2028			
B40	Taylor Line	Construction: Rehabilitation	$527,500.00
B35	Town Line	Construction: Replacement	$780,000.00
C33	Wainman Line	Construction: Replacement	$567,000.00
B28	Hampshire Mills Line	Engineering: Design (Replacement)	$117,000.00
B13	Hampshire Mills Line	Engineering: Design (Replacement)	$122,000.00
		2028 Total	**$2,113,500.00**
2029			
B28	Hampshire Mills Line	Construction: Replacement	$1,544,000.00
B13	Hampshire Mills Line	Construction: Replacement	$1,654,000.00
B19	Kitchen Side Road	Engineering: Design (Replacement)	$73,000.00
		2029 Total	**$3,271,000.00**
2030			
B19	Kitchen Side Road	Construction: Replacement	$927,000.00
TR-BR-002	Uhthoff Trail System	Engineering: Design (Replacement)	$42,000.00
B24	Carlyon Line	Study: Deck Condition Survey	$17,000.00
B24	Carlyon Line	Engineering: Design (Rehabilitation)	$39,000.00
B25	Carlyon Line	Engineering: Design (Rehabilitation)	$24,000.00
		2030 Total	**$1,049,000.00**
2031			
TR-BR-002	Uhthoff Trail System	Construction: Replacement	$578,000.00
B24	Carlyon Line	Construction: Rehabilitation	$521,500.00
B25	Carlyon Line	Construction: Rehabilitation	$283,500.00
TR-BR-004	Uhthoff Trail System	Engineering: Design (Rehabilitation)	$27,000.00
B06	Muskoka Street	Engineering: Design (Rehabilitation)	$35,000.00
		2031 Total	**$1,445,000.00**

Structure No.	Road Name	Recommended Work	Estimated Cost
2032			
TR-BR-004	Uhthoff Trail System	Construction: Rehabilitation	$314,500.00
B06	Muskoka Street	Construction: Rehabilitation	$465,500.00
B14	Uhthoff Line	Engineering: Design (Replacement)	$82,000.00
		2032 Total	**$862,000.00**
2033			
B14	Uhthoff Line	Construction: Replacement	$1,026,000.00
B41	Concession 4	Engineering: Design (Replacement)	$77,000.00
		2033 Total	**$1,103,000.00**
2034			
B41	Concession 4	Construction: Replacement	$968,000.00
B36	Marchmont Road	Design: Rehabilitation	$30,000.00
		2034 Total	**$998,000.00**
2035			
B36	Marchmont Road	Construction: Rehabilitation	$300,000.00
		2035 Total	**$300,000.00**
		10-Year Capital Plan Total	**$13,989,500.00**

(1) Structure B11 is in preliminary design to be converted from a vehicle bridge to a pedestrian-only crossing. While it remains on the top ten priority list, it is positioned toward the lower end. Interim measures are being considered by the Township to permanently exclude vehicle use.

(2) Structure B15 is not currently in a condition that warrants rehabilitation or replacement within the 10-Year Capital Plan planning horizon. However, failed / missing joint seals are allowing salt-laden moisture to infiltrate the substructure, increasing the risk of accelerated deterioration. To mitigate this, joint seal replacements should be completed within one year to protect critical components and preserve the structure's service life.

(3) Structure B10 is currently nearing 100% design completion. Costs associated with preparatory work, including engineering design, environmental assessments, and geotechnical investigations, are not included in the proposed 10-Year Capital Plan, as this work has been completed and / or is currently underway. The plan includes a Construction Cost Estimate of $1,921,000.00, along with anticipated Contract Administration costs of $79,000.00.

6.0 Summary

The 2025 OSIM inspections were carried out by Burnside on behalf of the Township of Severn to identify the current condition of all the structures within the Township's inventory. The Summary Reports provided in Appendix A summarize the maintenance needs, additional investigations and capital works requirements for each structure. The capital works for each structure has been given a priority of six to ten years, one to five years, within one year and urgent, based on the current BCI.

We trust the summary report provides all the information that you require at this time. If you have any questions or comments, please do not hesitate to contact us.

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

Summary Reports

1.1 Structure No. B03

Structure Name:	Bridge No. 3	**2025 BCI =93.99**	
Road Name:	Townline		
Location:	Lot 4 Conc XIV – 1.6 km S of Warminster		
Structure Type:	Precast Conc. Hollow Slab Girder		
Number of Spans:	1	Span Lengths:	12 m
Overall Structure Width:	10 m	Roadway Width:	9 m
Year of Construction:	2016	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	29.0	39.0

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge 3 was newly constructed in 2016 and is generally in excellent condition. The Township should complete routine maintenance of the structure to help maximize the service life of the new structure.

Structure No. B03 (Continued)	2025 BCI = 93.99

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface	$1,000.00
Rout and Seal	Rout and Seal Approach Wearing Surface, Deck Wearing Surface	$500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

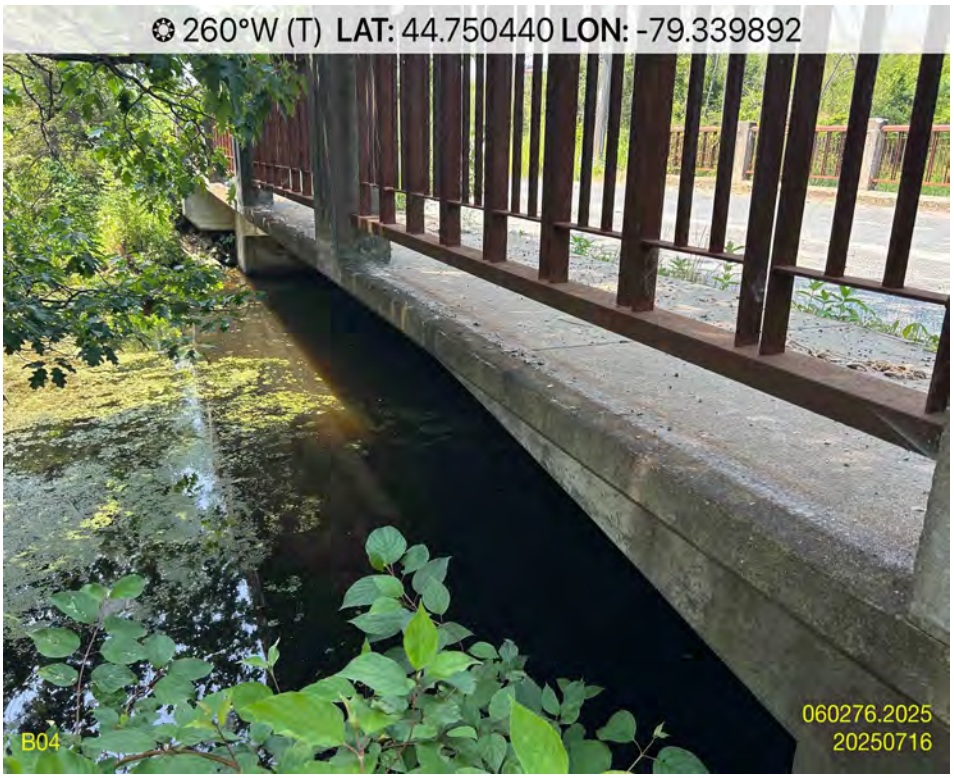
Estimate Value of Replacement Structure	$1,100,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$1,115,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$111,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$111,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$56,000.00
Total Capital Work Cost	**N/A**	**$1,528,000.00**

1.2 Structure No. B04

Structure Name:	Bridge No. 4	**2025 BCI =58.65**	
Road Name:	Bond Road		
Location:	Lot 9, Conc XIV, Washago, 0.10 km E of Highway 11		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	14.2 m
Overall Structure Width:	12.1 m	Roadway Width:	9.2 m
Year of Construction:	1960 (Estimated)	Current Load Limit:	N/A



	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.0	9.3

Recommendation:	**Forgo Rehabilitation and Replace structure within 9 Years.**

Justification:

Bridge B04 is generally in fair condition but exhibits concrete deterioration, erosion, and a barrier system that does not meet current standards. The structure only services one residence northeast of the bridge and also appears to provide access to the railway; however, alternative access to the railway appears to be available via Quetton Street. Accordingly, it is recommended to forgo a rehabilitation and replace the bridge with a single lane low-volume bridge, in approximately 9 years. In the interim, consideration may be given to providing a load restriction on the bridge to limit vehicle usage to pedestrian vehicles only. Staged construction costs have been included; however, if the resident can temporarily use the Quetton Street access, they may be excluded, which would reduce the cost by approximately $250,000.00.

Structure No. B04 (Continued)	2025 BCI = 58.65

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean deck, remove vegetation from Wearing Surface, Sidewalk	$1,500.00
Deck Drainage	Clear debris blockages in deck drains	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
Other	Remove tree in close proximity to structure	$1,000.00
	Maintenance Needs Total	**$4,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, sidewalk	N/A	$90,000.00
Type B concrete repairs to soffit	N/A	$42,000.00
Type C concrete repairs to abutment walls	N/A	$10,000.00
Replace Barriers	N/A	$60,000.00
Replace deck drains	N/A	$16,000.00
Waterproof and Pave	N/A	$50,000.00
Add slope stabilization	N/A	$17,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$410,000.00**

Estimate Value of Replacement Structure (Single Lane, Low Volume)	$650,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$425,000.00	$665,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	$125,000.00	$250,000.00
Construction Contingencies:	$65,000.00	$101,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$54,000.00	$84,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$52,000.00	$34,000.00
Total Capital Work Cost	**$823,500.00**	**$1,269,000.00**

1.3 Structure No. B05

Structure Name:	Bridge No. 5 (The Rick Hansen Bridge)	**2025 BCI =71.91**	
Road Name:	Sturgeon Bay Road		
Location:	0.03 km W of Coldwater Road, Coldwater		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	15.2 m
Overall Structure Width:	14.2 m	Roadway Width:	10.4 m
Year of Construction:	1982	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	11.9	21.9

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B05 is generally in good condition but is demonstrating signs of bottom-up defects in the asphalt wearing surface and localized concrete defects.

Structure No. B05 (Continued)	2025 BCI = 71.91

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Repair erosion behind SW retaining wall, install rock protection	$5,000.00
Rout and Seal	Rout and seal cracks on Approach Wearing Surface, Deck Wearing Surface	$2,000.00
Deck Drainage	Clear debris from deck drains	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$8,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate feasibility of installing steel beam guide rail	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, sidewalk	N/A	$13,000.00
Type B concrete repairs to soffit	N/A	$4,000.00
Type C concrete repairs to abutment walls	N/A	$12,000.00
Waterproof and Pave	N/A	$50,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$204,000.00**

Estimate Value of Replacement Structure	$1,700,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities – Gas main affixed to structure face.	$0.00	$10,000.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$25,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$219,000.00	$1,725,000.00
Roadside Protection:	$1,000.00	$100,000.00
Staging Costs:	$150,000.00	$250,000.00
Construction Contingencies:	$37,000.00	$154,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$30,000.00	$154,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$30,000.00	$87,000.00
Total Capital Work Cost	**$469,500.00**	**$2,505,000.00**

1.4 Structure No. B06

Structure Name:	Bridge No. 6	**2025 BCI =68.35**	
Road Name:	Muskoka Street		
Location:	Lot 11, Conc XV, Washago, 0.10 km S of Coopers Falls Road		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	1	Span Lengths:	18 m
Overall Structure Width:	9.4 m	Roadway Width:	8.4 m
Year of Construction:	2000	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	8.4	18.4

Recommendation:	**Major Rehabilitation is recommended within 8 years.**

Justification:

Bridge B06, which was noted to have had a previous superstructure replacement, is generally in good condition but is demonstrating signs of some minor localized concrete deficiencies. Consideration should also be given to replacing the steel beam guide rail system, end treatments and structure connections, as the current guide rail does not meet current standards based on the length and buried end treatments.

Structure No. B06 (Continued)	2025 BCI = 68.35

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface	$1,000.00
Rout and Seal	Repairs required to Approach Wearing Surface, Deck Wearing Surface	$1,500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$3,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Repair steel beam guide rail, install end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to barrier / parapet walls interior, deck top	6 to 10 years	$6,000.00
Type C concrete repairs to abutment walls, wingwalls	6 to 10 years	$70,000.00
Waterproof and Pave	6 to 10 years	$70,000.00
Add slope stabilization	6 to 10 years	$5,000.00
General Items – Insurance, Mobilization, Access etc.	6 to 10 years	$125,000.00
	Rehabilitation Cost Subtotal	**$276,000.00**

Estimate Value of Replacement Structure	$1,500,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$291,000.00	$1,515,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$40,000.00	$131,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$35,000.00	$131,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$32,000.00	$76,000.00
Total Capital Work Cost	**$500,500.00**	**$1,988,000.00**

1.5 Structure No. B07

Structure Name:	Bridge No. 7	**2025 BCI =71.9**	
Road Name:	Bayou Road		
Location:	Lot 3, Conc IX, 0.10 km N of Westchore Crescent		
Structure Type:	Precast Concrete Rigid Frame		
Number of Spans:	1	Span Lengths:	10 m
Overall Structure Width:	6.9 m	Roadway Width:	4.7 m
Year of Construction:	1990	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	11.9	21.9

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B07 is generally in good condition but is demonstrating signs of localized concrete defects. Given the narrow, sub-standard driving platform width, consideration may be given to forgoing the rehabilitation and scheduling the replacement of the structure.

Structure No. B07 (Continued)	2025 BCI = 71.9

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Bridge Deck, Sidewalk	$1,000.00
Handrail Maintenance	Install missing endcap on railing	$500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to barrier / parapet walls interior, curbs, sidewalk	N/A	$3,000.00
Type C concrete repairs to abutment walls	N/A	$12,000.00
Concrete Deck Repairs	N/A	$11,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$151,000.00**

Estimate Value of Replacement Structure	$1,100,000.00

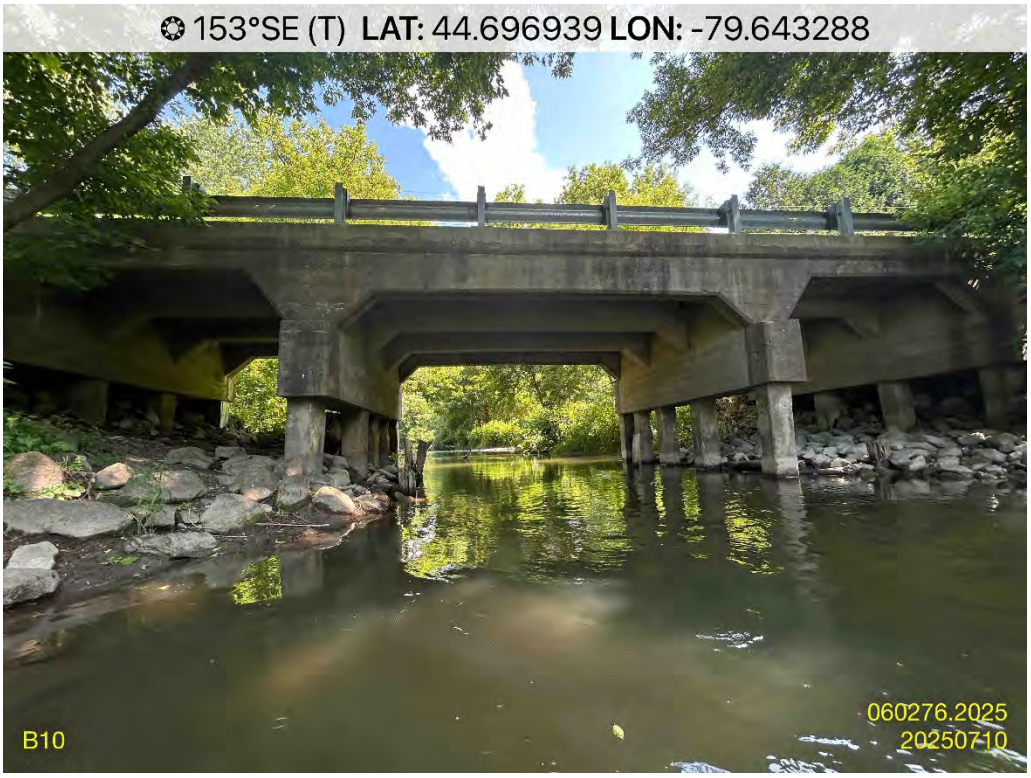
Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities – Gas main affixed to structure face	$0.00	$15,000.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other – Lighting, conduit for navigable waterway	$0.00	$5,000.00
Total Associated Work Cost	**$15,000.00**	**$35,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$166,000.00	$1,135,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	$200,000.00	N/A
Construction Contingencies:	$37,000.00	$112,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$27,000.00	$112,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$30,000.00	$57,000.00
Total Capital Work Cost	**$462,500.00**	**$1,551,000.00**

1.6 Structure No. B10

2025 BCI =62.14

Structure Name:	Bridge No. 10		
Road Name:	Woodrow Road		
Location:	Lots 20/21, Conc XI, 0.20 km W of Highway 12		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	3	Span Lengths:	3.75, 6.4, 3.75 m
Overall Structure Width:	5.6 m	Roadway Width:	4.6 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	N/A



	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.0	2.0

Recommendation:	**Forgo rehabilitation and replace structure within 2 years.**

Justification:
Bridge B10 is currently in design for replacement. Construction anticipated for 2026 pending budget approval.

Structure No. B10 (Continued)	2025 BCI = 62.14

Maintenance Need	Element and Comments	Estimated Cost
Other	Clear debris from Streams and Waterways	$500.00
	Maintenance Needs Total	**$500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$1,555,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$1,571,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$251,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$175,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$79,000.00
Total Capital Work Cost	**N/A**	**$2,210,000.00**

1.7 Structure No. B11

Structure Name:	Bridge 11	**2025 BCI =44.83**	
Road Name:	Reinbird Street		
Location:	0.01 km W of River Street		
Structure Type:	Bailey Bridge (Timber Deck)		
Number of Spans:	1	Span Lengths:	14.6 m
Overall Structure Width:	3.8 m	Roadway Width:	3.55 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	5 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	0.0

Recommendation:	**Structure replacement is recommended as soon as possible.**

Justification:

Bridge B11, now serving as a pedestrian bridge, is generally in poor condition, with severe section loss observed on the floor beams and stringers, and notable concrete deterioration on the substructure. Although recently converted for pedestrian use and posted with a 5-tonne load limit, replacement with a prefabricated pedestrian bridge is recommended as soon as possible. In the interim, the municipality is strongly advised to implement physical measures to prevent vehicular access, such as installing bollards or similar barriers. Ongoing monitoring by municipal forces should be maintained to assess the structure's condition and ensure it remains restricted to pedestrian use.

Structure No. B11 (Continued)	2025 BCI = 44.83

Maintenance Need	Element and Comments	Estimated Cost
Timber Repair	Repairs required to Deck Top, Curbs	$1,000.00
Traffic Control	Install bollards or gate to prevent vehicular traffic	$1,500.00
	Maintenance Needs Total	**$2,500.00**

Additional Investigations	Estimated Cost
Other: Monitor structure condition and usage	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate feasibility of steel beam guide rail installation	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$350,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$365,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$47,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$42,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$609,000.00**

1.8 Structure No. B12

2025 BCI =72.57

Structure Name:	Bridge 12		
Road Name:	Mill Street, Coldwater		
Location:	0.02 km W of Coldwater Road		
Structure Type:	Steel Truss (Concrete Deck)		
Number of Spans:	1	Span Lengths:	19.5 m
Overall Structure Width:	6.7 m	Roadway Width:	4.9 m
Year of Construction:	1980 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	12.6	22.6

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B12 is generally in good condition with only concrete deterioration noted on the old abutments, which now act as a retaining wall and do not support the superstructure. Consideration should be given to investigating the need for installing a steel beam guide rail system, end treatments and structure connections to help protect oncoming traffic.

Structure No. B12 (Continued)	2025 BCI = 72.57

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface	$1,000.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
Other	Remove felled tree under structure	$1,000.00
	Maintenance Needs Total	**$3,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate the feasibility of installing steel beam guiderail	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type C concrete repairs to wall	N/A	$43,000.00
Waterproof and pave	N/A	$40,000.00
Add slope stabilization	N/A	$9,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$217,000.00**

Estimate Value of Replacement Structure	$1,500,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nesting mitigation.	$0.00	$15,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$232,000.00	$1,530,000.00
Roadside Protection:	$1,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$24,000.00	$132,000.00
Environmental Assessment:	$2,500.00	$60,000.00
Engineering Design:	$24,000.00	$132,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$77,000.00
Total Capital Work Cost	**$303,500.00**	**$2,051,000.00**

1.9 Structure No. B13

Structure Name:	Bridge 13	**2025 BCI =61.37**	
Road Name:	Hampshire Mills Line		
Location:	2.3 km N of Cambrian Road		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	3	Span Lengths:	2.9, 7.6, 2.9 m
Overall Structure Width:	4.9 m	Roadway Width:	4.2 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	14 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	1.4	11.4

Recommendation:	**Forgo rehabilitation and replace structure in future (>10 years).**

Justification:

Given the structure type (T-beam) and significant signs of corrosion of the embedded reinforcing steel, the extent of repairs required would be extensive and it is anticipated a load limitation would still apply to the bridge following rehabilitation. Accordingly, it is recommended the Municipality forgo the rehabilitation and schedule the replacement of the structure. Installation of a steel beam guide rail system, end treatments, and appropriate structure connections should also be considered to improve safety for oncoming traffic.

Structure No. B13 (Continued)	2025 BCI = 61.37

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface	$1,000.00
Erosion Control	Repair eroded embankments, place rock protections	$5,000.00
	Maintenance Needs Total	**$6,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, curbs	N/A	$21,000.00
Type B concrete repairs to Girders, soffit	N/A	$96,000.00
Type C concrete repairs to abutment walls, shaft / bents	N/A	$22,000.00
Replace barrier system	N/A	$60,000.00
Waterproof and Pave	N/A	$40,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$364,000.00**

Estimate Value of Replacement Structure	$1,300,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Brid nesting mitigation (activity noted).	$15,000.00	$15,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$30,000.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$394,000.00	$1,330,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$50,000.00	$122,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$45,000.00	$122,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$40,000.00	$67,000.00
Total Capital Work Cost	**$631,500.00**	**$1,776,000.00**

1.10 Structure No. B14

Structure Name:	Bridge 14	**2025 BCI =60.16**	
Road Name:	Uhthoff Line		
Location:	0.4 km S of Foxmead Road		
Structure Type:	Cast-In-Place Conc. T-Beam		
Number of Spans:	1	Span Lengths:	7.6 m
Overall Structure Width:	5.5 m	Roadway Width:	4.7 m
Year of Construction:	1940 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.2	10.0

Recommendation:	**Forgo rehabilitation and replace structure within 10 years.**

Justification:

Bridge B14 is generally in fair condition and is demonstrating signs of concrete deterioration on the girders and soffits and has a barrier that does not meet current codes. Given that the structure type (T-beam) and significant signs of corrosion of the embedded reinforcing steel, the extent of repairs required would be extensive. Accordingly, it is recommended the Township forgo the rehabilitation and schedule the replacement of the structure. Preliminary review indicates replacement with a precast, open bottom rigid frame structure may be feasible for this site. Consideration should also be given to installing a steel beam guide rail system, end treatments and structure connections to help protect oncoming traffic.

Structure No. B14 (Continued)	2025 BCI = 60.16

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to Deck Top	N/A	$21,000.00
Type B concrete repairs to the Girders, Soffit	N/A	$52,000.00
Type C concrete repairs to Abutment Walls	N/A	$3,000.00
Install Extended Deck Drains	N/A	$10,000.00
Replace Barrier System	N/A	$60,000.00
Waterproof and pave	N/A	$40,000.00
Add slope stabilization	N/A	$5,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$316,000.00**

Estimate Value of Replacement Structure	$750,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$331,000.00	$765,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$44,000.00	$87,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$39,000.00	$82,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$35,000.00	$39,000.00
Total Capital Work Cost	**$551,500.00**	**$1,108,000.00**

1.11 Structure No. B15

Structure Name:	Bridge 15	**2025 BCI =74.43**	
Road Name:	Lawson Line		
Location:	1.5 km S of Kinnear Sideroad		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	1	Span Lengths:	34.5 m
Overall Structure Width:	6.2 m	Roadway Width:	5.1 m
Year of Construction:	1980 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	14.4	24.4

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Structure B15 is generally in good condition, with localized concrete damage on the fascia and minor section loss due to corrosion at the girder ends near the leaking expansion joint. It is recommended that the joint seals be replaced within 1 year to prevent accelerated deterioration.

Structure No. B15 (Continued)	2025 BCI = 74.43

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear expansion joints of debris	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type B concrete repairs to soffit	N/A	$6,000.00
Type C concrete repairs to abutment walls	N/A	$2,000.00
Steel repairs to girders – ends and diaphragms – end	N/A	$15,000.00
Waterproof and pave	N/A	$60,000.00
Conversion of expansion joint to semi-integral	N/A	$200,000.00
Jacking structure, replace bearings	N/A	$100,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Replace joint seals	Within 1 year	$40,000.00
	Rehabilitation Cost Subtotal	**$548,000.00**

Estimate Value of Replacement Structure	$2,600,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities – Communication conduit, inside end girder.	$0.00	$15,000.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$563,000.00	$2,630,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$5,000.00	$187,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$57,000.00	$187,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$46,000.00	$132,000.00
Total Capital Work Cost	**$673,500.00**	**$3,271,000.00**

1.12 Structure No. B16

Structure Name:	Bridge 16 – Black River Bridge	**2025 BCI =85.43**	
Road Name:	Irish Line		
Location:	0.1 km S of Ellis Road		
Structure Type:	Precast Concrete I-Girder		
Number of Spans:	3	Span Lengths:	12.8,13.1, 12.8 m
Overall Structure Width:	10.3 m	Roadway Width:	8.5 m
Year of Construction:	1961 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	25.8	35.8

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B16 is generally in excellent condition following a major rehabilitation in 2021.

Structure No. B16 (Continued)	2025 BCI = 85.43

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal Approach Wearing Surface	$1,000.00
Deck Drainage	Clear debris from deck drains	$500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$2,900,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities – Utility conduit affixed to girder and abutment.	$0.00	$5,000.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$20,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$2,920,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$201,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$201,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$146,000.00
Total Capital Work Cost	**N/A**	**$3,603,000.00**

1.13 Structure No. B17

Structure Name:	Bridge 17	**2025 BCI =72.43**	
Road Name:	Lovering Line		
Location:	0.1 km S of Upper Big Chute Road		
Structure Type:	Steel Truss Arch		
Number of Spans:	3	Span Lengths:	4.4, 18.3, 4.4 m
Overall Structure Width:	4.8 m	Roadway Width:	4.3 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	10.8	21.8

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Structure B17 is generally in good condition with only minor deficiencies noted at this time. The middle span was replaced in 2011. In 2024, the wearing surface was replaced after damage from vehicles doing burnouts on the surface treatment. The end spans show signs of concrete deterioration and cracking. It is anticipated a rehabilitation should be completed within approximately 11 years on the end spans.

Structure No. B17 (Continued)	2025 BCI = 72.43

Maintenance Need	Element and Comments	Estimated Cost
Other	Install missing bolts for SBGR end treatments	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top	N/A	$4,000.00
Type B concrete repairs to Girders, soffit	N/A	$5,000.00
Type C concrete repairs to p. caps	N/A	$22,000.00
Waterproof and pave (end sections)	N/A	$30,000.00
Strip, re-apply overlay wearing surface (centre section)	N/A	$40,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$226,000.00**

Estimate Value of Replacement Structure	$2,200,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$241,000.00	$2,215,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$25,000.00	$166,000.00
Environmental Assessment:	$2,500.00	$60,000.00
Engineering Design:	$25,000.00	$166,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$111,000.00
Total Capital Work Cost	**$313,500.00**	**$2,838,000.00**

1.14 Structure No. B18

Structure Name:	Bridge 18	**2025 BCI =91.79**	
Road Name:	Laughlin Falls Road		
Location:	1.3 km E of Taylor Line		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	1	Span Lengths:	18 m
Overall Structure Width:	5.75 m	Roadway Width:	5 m
Year of Construction:	2017	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	26.8	36.8

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B18 was replaced in 2017 is in excellent condition.

Structure No. B18 (Continued)	2025 BCI = 91.79

Maintenance Need	Element and Comments	Estimated Cost
N/A	N/A	N/A
	Maintenance Needs Total	**$0.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$1,400,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$0.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$0.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$1,400,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$125,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$125,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$70,000.00
Total Capital Work Cost	**N/A**	**$1,855,000.00**

1.15 Structure No. B19

Structure Name:	Bridge 19	**2025 BCI =47.3**	
Road Name:	Kitchen Sideroad		
Location:	1.4 km E of Church Line North		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	7.9 m
Overall Structure Width:	4.85 m	Roadway Width:	4.05 m
Year of Construction:	1924 (Estimated)	Current Load Limit:	13 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.0	3.7

Recommendation:	**Forgo rehabilitation and replace structure within 4 years.**

Justification:

Bridge B19 is generally in poor condition, with concrete deterioration on the girders, soffit, and abutments, as well as failing block retaining walls and a barrier railing that does not meet current standards. Consideration should also be given to installing a steel beam guide rail system, end treatments, and structure connections to improve safety for oncoming traffic.

Structure No. B19 (Continued)	2025 BCI = 47.3

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, curbs	N/A	$13,000.00
Type B concrete repairs to Girders, soffit	N/A	$34,000.00
Type C concrete repairs to abutment walls	N/A	$15,600.00
Replace barrier system	N/A	$60,000.00
Install deck drains	N/A	$10,000.00
Waterproof and pave	N/A	$30,000.00
Add slope stabilization	N/A	$8,500.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$296,100.00**

Estimate Value of Replacement Structure	$650,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nest mitigation (activity observed)	$15,000.00	$15,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$30,000.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$326,100.00	$680,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$43,000.00	$78,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$38,000.00	$73,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$35,000.00	$34,000.00
Total Capital Work Cost	**$544,600.00**	**$1,000,000.00**

1.16 Structure No. B21

Structure Name:	Bridge 21	**2025 BCI =80.47**	
Road Name:	Foxmead Road		
Location:	0.2 km E of Uhthoff Line		
Structure Type:	Precast Concrete Box Culvert		
Number of Spans:	1	Span Lengths:	6.2 m
Overall Structure Width:	12.1 m	Roadway Width:	7 m
Year of Construction:	2000	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	35.9

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge 21 is generally in good to excellent condition following a rehabilitation in 2024.

Structure No. B21 (Continued)	2025 BCI = 80.47

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$550,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$565,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$67,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$62,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$29,000.00
Total Capital Work Cost	**N/A**	**$858,000.00**

1.17 Structure No. B22

Structure Name:	Bridge 22	**2025 BCI =72.48**	
Road Name:	Burnside Line		
Location:	1.95 km S of Jeremy Road		
Structure Type:	Cast-In-Place Conc. Box Culvert		
Number of Spans:	1	Span Lengths:	4.9 m
Overall Structure Width:	12.1 m	Roadway Width:	6.7 m
Year of Construction:	1958 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	17.5

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Bridge B22 is generally in good condition but is demonstrating signs of localized concrete deficiencies in the culvert barrel. Consideration should be given to installing a steel beam guide rail and end treatments to help protect oncoming traffic.

Structure No. B22 (Continued)	2025 BCI = 72.48

Maintenance Need	Element and Comments	Estimated Cost
N/A	N/A	N/A
	Maintenance Needs Total	**$0.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail and end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type C concrete repairs to barrels, inlet	N/A	$11,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$136,000.00**

Estimate Value of Replacement Structure	$450,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$151,000.00	$465,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$26,000.00	$57,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$21,000.00	$52,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$21,000.00	$24,000.00
Total Capital Work Cost	**$321,500.00**	**$733,000.00**

1.18 Structure No. B23

2025 BCI =99.47

Structure Name:	Bridge 23		
Road Name:	Jermey Road		
Location:	0.2 km W of Carlyon Line		
Structure Type:	Other – Steel Girder Over Steel Plate		
Number of Spans:	1	Span Lengths:	18.5 m
Overall Structure Width:	5.23 m	Roadway Width:	4.674 m
Year of Construction:	2021	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	34.5	44.5

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B23 is generally in excellent condition following replacement in 2021. Maintenance recommended to be completed within 1 year.

Structure No. B23 (Continued)	2025 BCI = 99.47

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear vegetation and debris from structural elements	$1,000.00
Deck Joint Repair	Install strip seal at joints between approach and deck	$2,000.00
Rout and Seal	Rout and seal deck wearing surface cracks	$1,000.00
	Maintenance Needs Total	**$4,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$1,400,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$1,415,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$126,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$126,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$71,000.00
Total Capital Work Cost	**N/A**	**$1,873,000.00**

1.19 Structure No. B24

Structure Name:	Bridge No. 24	**2025 BCI =72.6**	
Road Name:	Carlyon Line		
Location:	Lot 19, Conc V/VI, 2.10 km N of Maple Valley Road		
Structure Type:	Precast Concrete Box Girder		
Number of Spans:	1	Span Lengths:	16.4 m
Overall Structure Width:	8.9 m	Roadway Width:	7.9 m
Year of Construction:	1980 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	5.0	22.6

Recommendation:	**Minor Rehabilitation is recommended within 5 years.**

Justification:

Bridge B24 is generally in good condition but is showing signs of leaking expansion joints, bottom-up defects in the wearing surface, and active leakage with efflorescence / stalactites between the girders, indicating that salt-laden water is penetrating the concrete deck and reaching critical structural elements. To preserve these elements and maintain the serviceable life of the structure, minor rehabilitation is recommended within 1-5 years. Consideration should be given to installing a steel beam guide rail system, end treatments, and structure connections to improve safety for oncoming traffic. A deck condition survey is recommended to verify the scope for rehabilitation.

Structure No. B24 (Continued)	2025 BCI = 72.6

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean debris from deck and deck drains. Remove vegetation on deck.	$1,500.00
Rout and Seal	Repairs required to Approach Wearing Surface	$1,000.00
	Maintenance Needs Total	**$2,500.00**

Additional Investigations	Estimated Cost
Detailed Deck Condition Survey	$17,000.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to barrier / parapet walls interior, deck top, concrete end dams	1 to 5 years	$12,000.00
Type B concrete repairs to Girders	1 to 5 years	$19,000.00
Type C concrete repairs to abutment walls	1 to 5 years	$2,000.00
Waterproof and Pave	1 to 5 years	$61,000.00
Replace joints	1 to 5 years	$105,000.00
General Items – Insurance, Mobilization, Access etc.	1 to 5 years	$125,000.00
	Rehabilitation Cost Subtotal	**$324,000.00**

Estimate Value of Replacement Structure	$1,300,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$339,000.00	$1,315,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$44,000.00	$121,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$39,000.00	$121,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$36,000.00	$66,000.00
Total Capital Work Cost	**$560,500.00**	**$1,758,000.00**

1.20 Structure No. B25

Structure Name:	Bridge No. 25	**2025 BCI =70.77**	
Road Name:	Carlyon Line		
Location:	Lot 12, Conc V/VI, 0.50 km N of Cambrian Road		
Structure Type:	Precast Concrete Rigid Frame		
Number of Spans:	1	Span Lengths:	10.5 m
Overall Structure Width:	9.2 m	Roadway Width:	8.4 m
Year of Construction:	1990	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	6.0	20.8

Recommendation:	**Major Rehabilitation is recommended within 6 years.**

Justification:

Structure B25 is generally in good condition but shows signs of concrete deterioration and moisture penetration into the deck, as evidenced by staining between the precast units. Minor rehabilitation should be considered to prevent further deterioration. Recommended work includes concrete repairs, deck waterproofing and paving, and erosion protection.

Structure No. B25 (Continued)	2025 BCI = 70.77

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Repairs required to Deck Wearing Surface	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Repair Guide Rail	$10,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top	6 to 10 years	$4,000.00
Type B concrete repairs to soffit	6 to 10 years	$26,000.00
Type C concrete repairs to abutment walls	6 to 10 years	$12,000.00
Waterproof and pave	6 to 10 years	$40,000.00
Add slope stabilization	6 to 10 years	$5,000.00
General Items – Insurance, Mobilization, Access etc.	6 to 10 years	$125,000.00
	Rehabilitation Cost Subtotal	**$212,000.00**

Estimate Value of Replacement Structure	$800,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$227,000.00	$815,000.00
Roadside Protection:	$10,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$24,000.00	$92,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$24,000.00	$87,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$41,000.00
Total Capital Work Cost	**$307,500.00**	**$1,170,000.00**

1.21 Structure No. B26

Structure Name:	Bridge No. 26	**2025 BCI =67.38**	
Road Name:	Carlyon line		
Location:	Lot 12, Conc V/VI, 0.90 km N of Cambrian Road		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	4.3 m
Overall Structure Width:	9.3 m	Roadway Width:	6.2 m
Year of Construction:	1958 (Known)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	17.4

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Bridge B26 is generally in good condition but exhibits concrete defects on the soffit and abutment walls. Consideration should be given to installing a steel beam guide rail system and appropriate end treatments to enhance safety for oncoming traffic.

Structure No. B26 (Continued)	2025 BCI = 67.38

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal Approach Wearing Surface, Deck Wearing Surface	$1,500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type B concrete repairs to soffit	N/A	$24,000.00
Type C concrete repairs to abutment walls	N/A	$5,000.00
Patch asphalt	N/A	$16,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$170,000.00**

Estimate Value of Replacement Structure	$400,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$185,000.00	$415,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$29,000.00	$52,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$24,000.00	$47,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$23,000.00	$21,000.00
Total Capital Work Cost	**$363,500.00**	**$670,000.00**

1.22 Structure No. B27

2025 BCI =61.73

Structure Name:	Bridge No. 27		
Road Name:	Maple Valley Road		
Location:	Lot 15/16, Conc VI, 0.30 km W of Hampshire Mills Line		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	3	Span Lengths:	3.85, 6.9, 3.65 m
Overall Structure Width:	4.9 m	Roadway Width:	4.1 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	14 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	1.7	11.7

Recommendation:	**Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 years).**

Justification:

Bridge B27 is generally in fair condition, with concrete deterioration observed on the girders and soffit, and a deteriorated barrier system that does not meet current standards. Given the narrow, substandard driving platform, it is recommended to plan for the replacement of the bridge in the future. Consideration should also be given to installing a steel beam guide rail system, end treatments, and structure connections to improve safety for oncoming traffic. A 14-tonne load limit posting is currently in effect for this structure.

Structure No. B27 (Continued)	2025 BCI = 61.73

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean gravel tracked onto deck top, remove tree debris under structure's West span	$1,000.00
Hazard Signs	Install missing hazard warning sign at structure	$500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to posts, deck top, curbs	N/A	$19,000.00
Type B concrete repairs to Girders, soffit	N/A	$91,000.00
Type C concrete repairs to abutment walls, p. caps, shaft / bents	N/A	$27,000.00
Install deck drains	N/A	$10,000.00
Replace Barriers	N/A	$60,000.00
Waterproof and pave	N/A	$30,000.00
Add slope stabilization	N/A	$17,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$379,000.00**

Estimate Value of Replacement Structure	$1,200,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nesting mitigation	$20,000.00	$20,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$35,000.00**	**$35,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$414,000.00	$1,235,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$52,000.00	$117,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$47,000.00	$117,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$42,000.00	$62,000.00
Total Capital Work Cost	**$657,500.00**	**$1,666,000.00**

1.23 Structure No. B28

Structure Name:	Bridge No. 28	**2025 BCI =47.09**	
Road Name:	Hampshire Mills Line		
Location:	Lot 14, Conc VI/VII, 1.80 km N of Cambrian Road		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	3	Span Lengths:	3.45, 7.45, 3.45 m
Overall Structure Width:	4.9 m	Roadway Width:	4.1 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	14 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.0	3.5

Recommendation:	**Forgo rehabilitation and replace structure within 4 years.**

Justification:

Bridge B28 is in poor condition, exhibiting severe concrete deterioration on the girders, soffit, and substructure, wide shear cracks in the girders, and a deteriorated barrier system that does not meet current standards. Early signs of abutment undermining have also been observed. Replacement is recommended, as the structure is no longer a candidate for rehabilitation. The presence of shear cracks indicates the girders are overstressed and have experienced structural failure. A load limit evaluation should be conducted to assess the need for further load restrictions or potential closure until replacement is completed.

Structure No. B28 (Continued)	2025 BCI = 47.09

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
Structure Evaluation;	$15,000.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$1,200,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nesting mitigation.	$0.00	$15,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$1,230,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$117,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$117,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$62,000.00
Total Capital Work Cost	**N/A**	**$1,661,000.00**

1.24 Structure No. B29

Structure Name:	Structure No. 29	**2025 BCI =71.97**	
Road Name:	Cambrian Road		
Location:	Lots 10/11, Conc V, 0.45 km W of Carlyon Line		
Structure Type:	Precast Concrete Rigid Frame		
Number of Spans:	1	Span Lengths:	10.4 m
Overall Structure Width:	9.2 m	Roadway Width:	8.7 m
Year of Construction:	1980 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	12.0	22.0

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B29 is generally in good condition but shows signs of moisture penetration at the joints between precast culvert units. The municipality should undertake the recommended maintenance and address anchorage deficiencies in the existing steel beam guiderail within 1 year.

Structure No. B29 (Continued)	2025 BCI = 71.97

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal Approach Wearing Surface, Deck Wearing Surface	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Repair guide rail to provide proper anchorage	$15,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top	N/A	$3,000.00
Type B concrete repairs to soffit	N/A	$22,000.00
Type C concrete repairs to abutment walls	N/A	$6,000.00
Waterproof and pave	N/A	$40,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$196,000.00**

Estimate Value of Replacement Structure	$800,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$211,000.00	$815,000.00
Roadside Protection:	$15,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$23,000.00	$92,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$22,000.00	$87,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$41,000.00
Total Capital Work Cost	**$293,500.00**	**$1,170,000.00**

1.25 Structure No. B34

Structure Name:	Bridge No. 34	**2025 BCI =73.94**	
Road Name:	Wainman Line		
Location:	Lots 20,21, Conc I/II, 3.10 km N of Foxmead Road		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	4.2 m
Overall Structure Width:	10 m	Roadway Width:	6.25 m
Year of Construction:	1959	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	23.9

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Bridge B34 is generally in good condition with only minor deficiencies noted. No capital works are recommended at this time; however, consideration should be given to installing a steel beam guide rail system with end treatments to help protect oncoming traffic.

Structure No. B34 (Continued)	2025 BCI = 73.94

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal, asphalt patch repairs required to Approach and Deck Wearing Surfaces	$2,500.00
	Maintenance Needs Total	**$2,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to curbs	N/A	$1,000.00
Type B concrete repairs to soffit	N/A	$3,000.00
Type C concrete repairs to abutment walls	N/A	$1,000.00
Place rock protection to mitigate scouring, undermining of footings	N/A	$10,000.00
Waterproof and Pave	N/A	$30,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$170,000.00**

Estimate Value of Replacement Structure	$400,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$185,000.00	$415,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$29,000.00	$52,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$24,000.00	$47,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$23,000.00	$21,000.00
Total Capital Work Cost	**$363,500.00**	**$670,000.00**

1.26 Structure No. B35

Structure Name:	Bridge No. 35	**2025 BCI =62.82**	
Road Name:	Town line		
Location:	Lot 23, Conc XIV/I, 2.30 km N of Southorn Road		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	1	Span Lengths:	7.85 m
Overall Structure Width:	6.5 m	Roadway Width:	5.5 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	2.8	12.8

Recommendation:	**Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 years).**

Justification:

Bridge B35 is generally in fair condition, with localized concrete deterioration observed on key structural elements, including the exterior fascia, girders, and abutments, exhibiting severe cracking, disintegration, and separation. Due to the narrow structure width, this structure should be planned for replacement. Installation of guide rail and a barrier system should also be considered if replacement is not scheduled in the near future. Monitoring of the abutment crack directly below the bearing seat is recommended during future biennial inspections to assess potential movement.

Structure No. B35 (Continued)	2025 BCI = 62.82

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear channel of obstructions	$1,000.00
Erosion Control	Repair washouts, install rock protections	$4,000.00
	Maintenance Needs Total	**$5,000.00**

Additional Investigations	Estimated Cost
Monitoring of Deformations, Settlements and Movements	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top	N/A	$5,000.00
Type B concrete repairs to Girders, soffit	N/A	$60,000.00
Type C concrete repairs to abutment walls, ballast walls, wingwalls	N/A	$43,000.00
Add slope stabilization	N/A	$13,000.00
Waterproof and pave	N/A	$40,000.00
Add barrier over structure	N/A	$125,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$411,000.00**

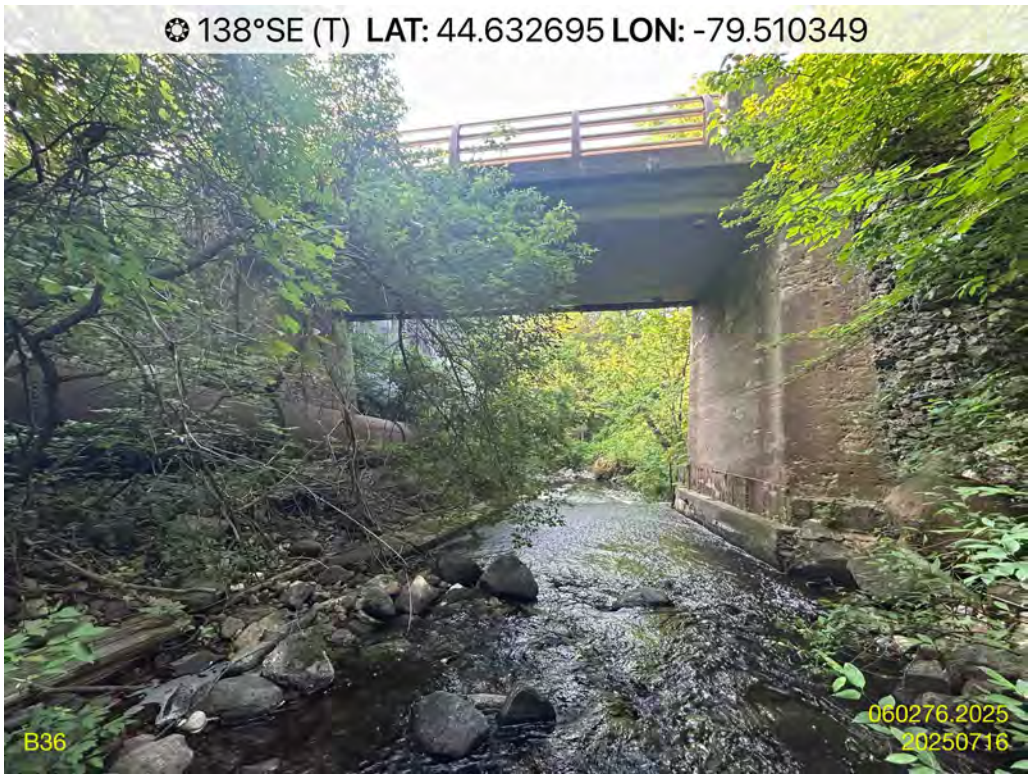
Estimate Value of Replacement Structure	$650,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way – Bird nesting mitigation (activity observed)	$0.00	$15,000.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$426,000.00	$680,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$53,000.00	$78,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$48,000.00	$73,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$43,000.00	$34,000.00
Total Capital Work Cost	**$672,500.00**	**$1,000,000.00**

1.27 Structure No. B36

Structure Name:	Bridge No. 36 (Marchmont Mill Bridge)	**2025 BCI =73.01**	
Road Name:	Marchmont Road		
Location:	Lot 2, Conc I, Marchmont, 0.55 km W of Wainman Line		
Structure Type:	Precast Concrete Box Girder		
Number of Spans:	1	Span Lengths:	11.4 m
Overall Structure Width:	6.4 m	Roadway Width:	4.7 m
Year of Construction:	1987	Current Load Limit:	N/A



	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	13.0	23.0

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge B36 is generally in good condition but is demonstrating signs of localized concrete deficiencies. No capital works are recommended at this time.

Structure No. B36 (Continued)	2025 BCI = 73.01

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean debris from approach and deck wearing surfaces, expansion joints	$1,000.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate Need for Replacing with Longer Guide Rail	$1000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to approach curb/gutters, end post, deck top, sidewalk	N/A	$6,000.00
Type C concrete repairs to abutment walls, wingwalls	N/A	$26,000.00
Extend deck drains	N/A	$4,000.00
Waterproof and pave	N/A	$30,000.00
Replace gabion retaining walls with modular concrete block or similar	N/A	$200,000.00
Replace expansion joints	N/A	$105,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
	Rehabilitation Cost Subtotal	**$496,000.00**

Estimate Value of Replacement Structure	$1,300,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities – (4) Utility conduits attached to structure, 1 large dia. pipe crossing under	$20,000.00	$50,000.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other – Proximity to old mill house	$50,000.00	$50,000.00
Total Associated Work Cost	**$85,000.00**	**$115,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$581,000.00	$1,415,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$59,000.00	$126,000.00
Environmental Assessment:	$2,500.00	$35,000.00
Engineering Design:	$59,000.00	$126,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$47,000.00	$71,000.00
Total Capital Work Cost	**$748,500.00**	**$1,893,000.00**

1.28 Structure No. B39

Structure Name:	Bridge No. 39	**2025 BCI =72.32**	
Road Name:	Town Line		
Location:	Lot 13, Conc XIV/I, 2.10 km S of Foxmead Road		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	5 m
Overall Structure Width:	9.5 m	Roadway Width:	6.5 m
Year of Construction:	1959 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	12.3	22.3

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Bridge 39 is generally in good condition with only minor concrete defects noted. Maintenance recommended to be completed within 1 year. Consideration should be given to installing a steel beam guide rail system with a long span treatment spanning over the culvert and end treatments to help protect oncoming traffic.

Structure No. B39 (Continued)	2025 BCI = 72.32

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove vegetation from deck, clear debris accumulated along curbline and in watercourse	$1,500.00
Rout and Seal	Repairs required to Deck Wearing Surface	$500.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, curbs	N/A	$1,000.00
Type B concrete repairs to soffit	N/A	$6,000.00
Type C concrete repairs to abutment walls	N/A	$4,000.00
Waterproof and pave	N/A	$30,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$166,000.00**

Estimate Value of Replacement Structure	$450,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$181,000.00	$465,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$29,000.00	$57,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$24,000.00	$52,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$23,000.00	$24,000.00
Total Capital Work Cost	**$359,500.00**	**$733,000.00**

1.29 Structure No. B40

Structure Name:	Bridge No. 40 (North River Bridge)	**2025 BCI =68.98**	
Road Name:	Taylor Line		
Location:	Lot 5, Conc II/III, 1.08 km S of Upper Big Chute Road		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	21.3 m
Overall Structure Width:	9.7 m	Roadway Width:	8.5 m
Year of Construction:	1970 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	2.0	19.0

Recommendation:	**Minor Rehabilitation is recommended within 2 years.**

Justification:

Bridge B40 is generally in good condition but is exhibiting significant deck deterioration, resulting in water infiltration and accelerated degradation of structural elements. A major rehabilitation should be undertaken within 2 years to prevent further decline of key components. It is noted that due to the cast-in-place rigid frame / T-beam structure, rehabilitation options may be limited. A feasibility study is recommended to confirm the extent of deterioration and inform the rehabilitation requirements.

Structure No. B40 (Continued)	2025 BCI = 68.98

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear debris from Deck Top and blockages in the Deck Drains	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
Detailed Deck Condition Survey; Other: Feasibility Study	$15,000.00

Current Roadside Protection Needs	Estimated Cost
Replace existing steel beam guide and include structure connections and end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, curbs	1 to 5 years	$50,000.00
Type B concrete repairs to soffit	1 to 5 years	$26,000.00
Type C concrete repairs to abutment walls	1 to 5 years	$3,000.00
Extend deck drains	1 to 5 years	$10,000.00
Replace barrier system	1 to 5 years	$60,000.00
Waterproof and pave	1 to 5 years	$40,000.00
General Items – Insurance, Mobilization, Access etc.	1 to 5 years	$125,000.00
	Rehabilitation Cost Subtotal	**$314,000.00**

Estimate Value of Replacement Structure	$1,800,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nesting mitigation.	$15,000.00	$15,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$30,000.00**	**$30,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$344,000.00	$1,830,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$45,000.00	$147,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$40,000.00	$147,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$36,000.00	$92,000.00
Total Capital Work Cost	**$567,500.00**	**$2,351,000.00**

1.30 Structure No. B41

2025 BCI =55.55

Structure Name:	Bridge No. 41		
Road Name:	Concession 4		
Location:	Lot 13, Conc IV, 0.30 km E of Upper Big Chute Road		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	1	Span Lengths:	8.5 m
Overall Structure Width:	4.85 m	Roadway Width:	4.05 m
Year of Construction:	1930 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.0	7.8

Recommendation:	**Forgo rehabilitation and replace structure within 8 years.**

Justification:

Bridge B41 is located on Concession 4, a no-winter-maintenance road. Possible shear cracks were noted on the interior girders. It is recommended to monitor the cracks during future inspections.

Structure No. B41 (Continued)	2025 BCI = 55.55

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top, Railing System	$1,000.00
Erosion Control	Repairs required to Embankments	$1,000.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$3,000.00**

Additional Investigations	Estimated Cost
Load Limit Evaluation; recommended due to the presence of possible shear cracks that were noted on the interior girders.	$2,000.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments and structure connections	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, curbs	N/A	$15,000.00
Type B concrete repairs to Girders, soffit	N/A	$40,000.00
Type C concrete repairs to abutment walls	N/A	$10,000.00
Replace barriers	N/A	$60,000.00
Add slope stabilization	N/A	$10,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$125,000.00
Rehabilitation Cost Subtotal		**$260,000.00**

Estimate Value of Replacement Structure	$700,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$275,000.00	$715,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$38,000.00	$82,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$33,000.00	$77,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$30,000.00	$36,000.00
Total Capital Work Cost	**$478,500.00**	**$1,045,000.00**

1.31 Structure No. C08

Structure Name:	Culvert No. 8	**2025 BCI =100**	
Road Name:	Wainman Line		
Location:	Lot 1, Conc III/IV, 0.60 km N of Division Road West		
Structure Type:	Precast Concrete Box Culvert		
Number of Spans:	1	Span Lengths:	6.71 m
Overall Structure Width:	38.38 m	Roadway Width:	7 m
Year of Construction:	2025 (Known)	Current Load Limit:	N/A

UNDER CONSTRUCTION

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	45.0

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Culvert C08 was replaced in 2025. The structure was under construction during the 2025 inspection. Next biennial inspection will require confirmation of all built elements.

Structure No. C08 (Continued)	2025 BCI = 100

Maintenance Need	Element and Comments	Estimated Cost
N/A	N/A	N/A
	Maintenance Needs Total	**$0.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$1,400,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$0.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$0.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$1,400,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$125,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$125,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$70,000.00
Total Capital Work Cost	**N/A**	**$1,855,000.00**

1.32 Structure No. C09

Structure Name:	Culvert No. 9	**2025 BCI =71.7**	
Road Name:	Uhthoff Line		
Location:	Lot 2, Conc III/IV, 2.10 km N of Division Road West		
Structure Type:	CSP Arch Culvert(s)		
Number of Spans:	2	Span Lengths:	3.8, 3.8 m
Overall Structure Width:	18.3 m	Roadway Width:	7.1 m
Year of Construction:	2000	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	15.9

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Culvert B09 is generally in good condition following the installation of structural rebar reinforcement to address previously identified bolt hole cracking in the barrel. No significant changes were observed during the 2025 inspection. Monitoring for any recurrence of bolt hole cracking should be carried out during future biennial inspections.

Structure No. C09 (Continued)	2025 BCI = 71.7

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove debris buildup in south barrel	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate need for Guide Rail	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$750,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$0.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$0.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$750,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$85,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$80,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$38,000.00
Total Capital Work Cost	**N/A**	**$1,088,000.00**

1.33 Structure No. C20

2025 BCI =73.98

Structure Name:	Culvert No. 20		
Road Name:	Taylor Line		
Location:	Lot 6, Conc II/III, 0.20 km S of Upper Big Chute Road		
Structure Type:	CSP Round Culvert(s)		
Number of Spans:	1	Span Lengths:	3.8 m
Overall Structure Width:	17 m	Roadway Width:	7 m
Year of Construction:	2010	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	17.2

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Culvert C20 is generally in good condition.

Structure No. C20 (Continued)	2025 BCI = 73.98

Maintenance Need	Element and Comments	Estimated Cost
N/A	N/A	N/A
	Maintenance Needs Total	**$0.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Repair Guide Rail	$4,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
Rehabilitation Cost Subtotal		**$0.00**

Estimate Value of Replacement Structure	$350,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$0.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$0.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$350,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$45,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$40,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$590,000.00**

1.34 Structure No. C30

2025 BCI =63.65

Structure Name:	Culvert No. 30		
Road Name:	Division Road West		
Location:	Lot 1, Conc IV, 0.10 km W of Burnside line		
Structure Type:	CSP Arch Culvert(s)		
Number of Spans:	1	Span Lengths:	4 m
Overall Structure Width:	20.9 m	Roadway Width:	7.6 m
Year of Construction:	1990	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	11.8

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Culvert B30 is generally in fair condition. Bolt hole cracking and other barrel deficiencies have been identified and should be monitored during future biennial inspections for any signs of accelerated deterioration. Maintenance recommended to be completed within 1 year.

Structure No. C30 (Continued)	2025 BCI = 63.65

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Place rock protection at outlet to mitigate scouring	$1,000.00
Other	Remove trees adjacent to inlet, outlet	$2,000.00
	Maintenance Needs Total	**$3,000.00**

Additional Investigations	Estimated Cost
Monitoring Crack Widths	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$450,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$465,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$57,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$52,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$24,000.00
Total Capital Work Cost	**N/A**	**$733,000.00**

1.35 Structure No. C33

2025 BCI =52.51

Structure Name:	Culvert No. 33		
Road Name:	Wainman Line		
Location:	Lots 20/21, Conc I/II, 0.60 km S of Mount Stephen Road		
Structure Type:	CSP Arch Culvert(s)		
Number of Spans:	1	Span Lengths:	3.5 m
Overall Structure Width:	14.1 m	Roadway Width:	5.4 m
Year of Construction:	1970 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	1.0

Recommendation:	**Structure replacement is recommended as soon as possible.**

Justification:

Culvert C33 is generally in fair to poor condition, exhibiting severe corrosion, areas of 100% section loss and bolt hole cracking within the barrel. Monitoring of the bolt hole cracking and corrosion should be completed twice a year until such time as the structure can be replaced.

Structure No. C33 (Continued)	2025 BCI = 52.51

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Repair embankment erosion, place rock protections	$1,000.00
Rout and Seal	Reinstate asphalt in eroded areas, rout and seal asphalt cracking on wearing surface	$3,000.00
	Maintenance Needs Total	**$4,000.00**

Additional Investigations	Estimated Cost
Monitoring Crack Widths	$2,500.00

Current Roadside Protection Needs	Estimated Cost
Investigate need for Guide Rail	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
Rehabilitation Cost Subtotal		**$0.00**

Estimate Value of Replacement Structure	$350,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$365,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$47,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$42,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$609,000.00**

1.36 Structure No. C37

Structure Name:	Culvert No. 37	**2025 BCI =99.97**	
Road Name:	Fairgrounds Road		
Location:	Lot 4, Conc II/III, 1.70 km N of Division Road West		
Structure Type:	CSP Ellipse Culvert(s)		
Number of Spans:	2	Span Lengths:	3.7, 3.7 m
Overall Structure Width:	17 m	Roadway Width:	6.5 m
Year of Construction:	2019	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	31.6

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Culvert C37 is in good condition following replacement in 2019. Minor maintenance recommended to be completed within 1 year.

Structure No. C37 (Continued)	2025 BCI = 99.97

Maintenance Need	Element and Comments	Estimated Cost
Hazard Signs	Install (1) missing hazard warning sign at structure	$500.00
	Maintenance Needs Total	**$500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$750,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$765,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$87,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$82,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$39,000.00
Total Capital Work Cost	**N/A**	**$1,108,000.00**

1.37 Structure No. C38

Structure Name:	Culvert No. 38	**2025 BCI =69.21**	
Road Name:	Wainman Line		
Location:	Lot 13, Conc I/II, 1.20 km N of Thornburn Road		
Structure Type:	CSP Arch Culvert(s)		
Number of Spans:	1	Span Lengths:	3.3 m
Overall Structure Width:	16.6 m	Roadway Width:	7 m
Year of Construction:	1970 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	14.6

Recommendation:	**No Capital Works is estimated to be required within the next 10 years.**

Justification:

Culvert 38 is generally in good condition. Only minor maintenance works recommended to be completed within 1 year.

Structure No. C38 (Continued)	2025 BCI = 69.21

Maintenance Need	Element and Comments	Estimated Cost
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate need for Guide Rail	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
Rehabilitation Cost Subtotal		**$0.00**

Estimate Value of Replacement Structure	$350,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$365,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$47,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$42,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$609,000.00**

1.38 Structure No. C39

Structure Name:	Culvert No. 39		**2025 BCI =69.16**
Road Name:	Coldwater Road		
Location:	South of Robinson Street		
Structure Type:	Precast Concrete Box Culvert		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	42 m	Roadway Width:	13.7 m
Year of Construction:	1972 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	1.0	19.2

Recommendation:	**Minor Rehabilitation is recommended as soon as possible.**

Justification:

Structure C39 is generally in fair condition, with concrete deterioration and moisture penetration noted at the outlet and within the culvert barrel. The outlet retaining wall is failing, showing movement and rotation, as well as active undermining of the south footing. Due to the proximity of a private business, replacement of the retaining wall and repairs to address the undermining are recommended within 1 year. Until repairs are completed, biennial inspections should monitor the progression of deficiencies at the outlet (west) end of the structure. Staging has been included in the estimated rehabilitation and replacement costs to account for anticipated elevated staging costs necessary to construct around an operating private business.

Structure No. C39 (Continued)	2025 BCI = 69.16

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Repairs required to Approach Wearing Surface, Deck Wearing Surface	$1,500.00
Hazard Signs	Install hazard warning signs at structure	$500.00
Other	Remove trees in close proximity to the structure's outlet	$2,500.00
	Maintenance Needs Total	**$4,500.00**

Additional Investigations	Estimated Cost
Monitoring of Deformations, Settlements and Movements	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate feasibility of replacing guiderail and end treatments (east side only)	$1,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type C concrete repairs to wall, barrels, outlet	Within 1 year	$73,000.00
Waterproof and pave	Within 1 year	$50,000.00
Replace retaining wall (west end)	Within 1 year	$30,000.00
Replace safety barrier	Within 1 year	$10,000.00
Repair undermining to footing, install rock protections	Within 1 year	$7,000.00
General Items – Insurance, Mobilization, Access etc.	Within 1 year	$125,000.00
	Rehabilitation Cost Subtotal	**$295,000.00**

Estimate Value of Replacement Structure	$700,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$15,000.00	$15,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$15,000.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$310,000.00	$715,000.00
Roadside Protection:	$1,000.00	$50,000.00
Staging Costs:	$150,000.00	$275,000.00
Construction Contingencies:	$47,000.00	$102,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$39,000.00	$88,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$37,000.00	$36,000.00
Total Capital Work Cost	**$586,500.00**	**$1,301,000.00**

1.39 Structure No. TR-BR-001

Structure Name:	Trail Bridge 001	**2025 BCI =83.91**	
Road Name:	Uhthoff Trail		
Location:	1.2 km North of Sturgeon Bay Rd. trail head		
Structure Type:	Steel I-Girder (Timber Deck)		
Number of Spans:	1	Span Lengths:	7.9 m
Overall Structure Width:	3.3 m	Roadway Width:	3 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	36.8

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Trail Bridge 001 (Mile 5.8 Bridge), is generally in good condition following a rehabilitation in 2023 to replace the timber deck, barrier system and ballast walls.

Structure No. TR-BR-001 (Continued)	2025 BCI = 83.91

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove gravel tracked onto timber deck	$500.00
	Maintenance Needs Total	**$500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$400,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$5,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nesting mitigation (activity noted)	$0.00	$15,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$20,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$420,000.00
Roadside Protection:	N/A	$20,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$44,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$43,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$21,000.00
Total Capital Work Cost	**N/A**	**$583,000.00**

1.40 Structure No. TR-BR-002

Structure Name:	Uhthoff Trail Bridge 002	**2025 BCI =35.4**	
Road Name:	Uhthoff Trail System (The Great Trail)		
Location:	Uhthoff Trail Mile 13.76 (Access via Wainmain Line, North of Foxmead – Head West)		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	6.1 m	Roadway Width:	2.8 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	0.0

Recommendation:	**Structure replacement is recommended as soon as possible.**

Justification:

Trail Bridge 002 is generally in poor condition, with severe scaling and delamination throughout. Moisture penetration is evident, as indicated by stalactites at concrete repair joints. The condition should be monitored during biennial inspections until such time as the structure can be replaced.

Structure No. TR-BR-002 (Continued)	2025 BCI = 35.4

Maintenance Need	Element and Comments	Estimated Cost
Other	Remove trees growing in close proximity to the structure	$2,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
Monitoring of Deformations, Settlements and Movements; Monitoring Crack Widths	$0.00

Current Roadside Protection Needs	Estimated Cost
Install Guide Rail, end treatments	$100,000.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top	N/A	$20,000.00
Type B concrete repairs to soffit	N/A	$35,000.00
Type C concrete repairs to abutment walls	N/A	$40,000.00
Waterproof and pave	N/A	$20,000.00
Add slope stabilization	N/A	$6,000.00
General Items – Insurance, Mobilization, Access etc.	N/A	$50,000.00
	Rehabilitation Cost Subtotal	**$171,000.00**

Estimate Value of Replacement Structure	$350,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$5,000.00	$5,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$5,000.00**	**$5,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$176,000.00	$355,000.00
Roadside Protection:	$20,000.00	$20,000.00
Staging Costs:	N/A	$100,000.00
Construction Contingencies:	$20,000.00	$48,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$42,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$20,000.00
Total Capital Work Cost	**$258,500.00**	**$620,000.00**

1.41 Structure No. TR-BR-003

Structure Name:	Uhthoff Trail Bridge No. 3	**2025 BCI =99.41**	
Road Name:	Trans Canada / Uhthoff Trail		
Location:	Trans Canada / Uhthoff Trail, 1.3 km W of Uhthoff trail access		
Structure Type:	Cast-In-Place Conc. Box Culvert		
Number of Spans:	1	Span Lengths:	6 m
Overall Structure Width:	11.5 m	Roadway Width:	3.7 m
Year of Construction:	2019	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	44.4

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

The Uhtoff Trail Bridge No. 3 is generally in excellent condition following replacement in 2019.

Structure No. TR-BR-003 (Continued)	2025 BCI = 99.41

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove beaver dam at inlet	$2,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$350,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$5,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$5,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$355,000.00
Roadside Protection:	N/A	$0.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$36,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$36,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$482,000.00**

1.42 Structure No. TR-BR-004

Structure Name:	Uhthoff Trail Bridge 004 (North River Bridge)	**2025 BCI =58.93**	
Road Name:	Uhthoff Trail System (The Great Trail)		
Location:	Uhthoff Trail Mile 22.12 (Access via Burnside Line, South of Cambrian Rd. – Head South 1.8 km)		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	1	Span Lengths:	12.5 m
Overall Structure Width:	4 m	Roadway Width:	3.2 m
Year of Construction:	1910 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	5.0	9.5

Recommendation:	**Minor Rehabilitation is recommended within 5 years.**

Justification:

Trail Bridge 004 is generally in fair condition, with concrete deterioration noted on the deck top and substructure, while the structural steel members remain in good condition. A rehabilitation is recommended within 5 years to address the deck and abutments.

Structure No. TR-BR-004 (Continued)	2025 BCI = 58.93

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove all vegetation and debris from deck, joint, abutment walls	$1,500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
Type A concrete repairs to approach slabs, deck top	1 to 5 years	$18,000.00
Type C concrete repairs to abutment walls, ballast walls, wingwalls	1 to 5 years	$65,000.00
Waterproof and pave	1 to 5 years	$25,000.00
General Items – Insurance, Mobilization, Access etc.	1 to 5 years	$150,000.00
	Rehabilitation Cost Subtotal	**$258,000.00**

Estimate Value of Replacement Structure	$600,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$5,000.00	$5,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental –	$0.00	$0.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$5,000.00**	**$5,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	$263,000.00	$605,000.00
Roadside Protection:	$0.00	$0.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$27,000.00	$61,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$27,000.00	$61,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$22,000.00	$31,000.00
Total Capital Work Cost	**$341,500.00**	**$793,000.00**

1.43 Structure No. TR-CULV-001

Structure Name:	Uhthoff Trail Culvert 001	**2025 BCI =98.08**	
Road Name:	Trans Canada / Uhthoff Trail		
Location:	Trans Canada / Uhthoff Trail, 2.5 km NW of Division Road E trail access		
Structure Type:	Steel I-Girder (Timber Deck)		
Number of Spans:	1	Span Lengths:	16.5 m
Overall Structure Width:	4.5 m	Roadway Width:	3.75 m
Year of Construction:	2019	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	40.4

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Uhthoff Trail Culvert 001 was replaced with a Steel I-Girder Timber Deck Bridge in 2019 and is generally in excellent condition.

Maintenance Need	Element and Comments	Estimated Cost
N/A	N/A	N/A
	Maintenance Needs Total	**$0.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$600,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$5,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nest mitigation (activity observed)	$0.00	$10,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$615,000.00
Roadside Protection:	N/A	$0.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$62,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$62,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$31,000.00
Total Capital Work Cost	**N/A**	**$805,000.00**

1.44 Structure No. TR-CULV-002

Structure Name:	Uhthoff Trail Culvert No. 2	**2025 BCI =98.4**	
Road Name:	Trans Canada / Uhthoff Trail		
Location:	Trans Canada / Uhthoff Trail, 1.1 km NW of Division Road E trail access		
Structure Type:	Steel I-Girder (Timber Deck)		
Number of Spans:	1	Span Lengths:	18 m
Overall Structure Width:	4.5 m	Roadway Width:	3.75 m
Year of Construction:	2019	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	33.4	43.4

Recommendation:	**No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.**

Justification:

Uhthoff Trail Culvert No. 2 was replaced with a Steel I-Girder Timber Deck Bridge in 2019 and is generally in excellent condition.

Structure No. TR-CULV-002 (Continued)	2025 BCI = 98.4

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove gravel tracked onto Timber deck	$500.00
Other	Add missing hardware to barrier posts	$500.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
N/A	$0.00

Current Roadside Protection Needs	Estimated Cost
N/A	$0.00

Rehabilitation / Repair Required	Priority	Estimated Cost
N/A	N/A	N/A
	Rehabilitation Cost Subtotal	**$0.00**

Estimate Value of Replacement Structure	$650,000.00

Associated Work	Rehabilitation	Replacement
Approaches –	$0.00	$0.00
Detours –	$0.00	$0.00
Traffic Control –	$0.00	$5,000.00
Utilities –	$0.00	$0.00
Right of Way –	$0.00	$0.00
Environmental – Bird nest mitigation (activity observed).	$0.00	$10,000.00
Other –	$0.00	$0.00
Total Associated Work Cost	**$0.00**	**$15,000.00**

Total Capital Works Costs		
Cost	**Rehabilitation**	**Replacement**
Rehab / Replacement Works:	N/A	$665,000.00
Roadside Protection:	N/A	$0.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$67,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$67,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$34,000.00
Total Capital Work Cost	**N/A**	**$868,000.00**

BURNSIDE

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Appendix B

Structure Inventory and Cost Summaries

Township of Severn - STRUCTURE INVENTORY

Structure No.	Inspect. Year	Structure Name	Road Name	Location	Structure Type	Span(s) (m)	Width (m)	Deck Area (m2)	Deterioration Curve	BCI
B03	2025	Bridge No. 3	Townline	Lot 4 Conc XIV - 1.6km S of Warminster	Precast Conc. Hollow Slab Girder	12	10	150	BR-1	93.99
B04	2025	Bridge No. 4	Bond Road	Lot 9, Conc XIV, Washago, 0.10 km E of Highway 11	Cast-In-Place Conc. Rigid Frame	14.2	12.1	211.75	BR-1	58.65
B05	2025	Bridge No. 5 (The Rick Hansen Bridge)	Sturgeon Bay Road	0.03 km W of Coldwater Road, Coldwater	Cast-In-Place Conc. Rigid Frame	15.2	14.2	254.2	BR-1	71.91
B06	2025	Bridge No. 6	Muskoka Street	Lot 11, Conc XV, Washago, 0.10 km S of Coopers Falls Road	Steel I-Girder (Concrete Deck)	18	9.4	178.8	BR-1	68.35
B07	2025	Bridge No. 7	Bayou Road	Lot 3, Conc IX, 0.10 km N of Westchore Cres	Precast Concrete Rigid Frame	10	6.9	74.52	BR-1	71.90
B10	2025	Bridge No. 10	Woodrow Road	Lots 20/21, Conc XI, 0.20 km W of Highway 12	Cast-In-Place Concrete T-Beam	3.75, 6.4, 3.75	5.6	84	BR-1	62.14
B11	2025	Bridge 11	Reinbird Street	0.01 km W of River Street	Bailey Bridge (Timber Deck)	14.6	3.8	57.8	BR	44.83
B12	2025	Bridge 12	Mill Street, Coldwater	0.02 km W of Coldwater Road	Steel Truss (Concrete Deck)	19.5	6.7	134.7	BR-1	72.57
B13	2025	Bridge 13	Hampshire Mills Line	2.3 km N of Cambrian Road	Cast-In-Place Concrete T-Beam	2.9, 7.6, 2.9	4.9	75.5	BR-1	61.37
B14	2025	Bridge 14	Uhthoff Line	0.4 km S of Foxmead Road	Cast-In-Place Concrete T-Beam	7.6	5.5	46.2	BR-1	60.16
B15	2025	Bridge 15	Lawson Line	1.5 km S of Kinnear Sideroad	Steel I-Girder (Concrete Deck)	34.5	6.2	217.6	BR-2	74.43
B16	2025	Bridge 16 - Black River Bridge	Irish Line	0.1 km S of Ellis Road	Precast Concrete I-Girder	12.8,13.1, 12.8	10.3	406.9	BR-2	85.43
B17	2025	Bridge 17	Lovering Line	0.1 km S of Upper Big Chute Road	Steel Truss Arch	4.4, 18.3, 4.4	4.8	143.5	BR-2	72.43
B18	2025	Bridge 18	Laughlin Falls Road	1.3 km E of Taylor Line	Steel I-Girder (Concrete Deck)	18	5.75	108.23	BR-1	91.79
B19	2025	Bridge 19	Kitchen Sideroad	1.4 km E of Church Line North	Cast-In-Place Conc. Rigid Frame	7.9	4.85	41.2	BR-1	47.30
B21	2025	Bridge 21	Foxmead Road	0.2 km E of Uhthoff Line	Precast Concrete Box Culvert	6.2	12.1	79.9	BR-1	80.47
B22	2025	Bridge 22	Burnside Line	1.95 km S of Jeremy Road	Cast-In-Place Conc. Box Culvert	4.9	12.1	64.1	CC	72.48
B23	2025	Bridge 23	Jermey Road	0.2 km W of Carlyon Line	Other - Steel Girder Over Steel Plate	18.5	5.23	91.6	BR-1	99.47
B24	2025	Bridge No. 24	Carlyon Line	Lot 19, Conc V/VI, 2.10 km N of Maple Valley Road	Precast Concrete Box Girder	16.4	8.9	150.4	BR-1	72.60
B25	2025	Bridge No. 25	Carlyon Line	Lot 12, Conc V/VI, 0.50 km N of Cambrian Road	Precast Concrete Rigid Frame	10.5	9.2	102.1	BR-1	70.77
B26	2025	Bridge No. 26	Carlyon line	Lot 12, Conc V/VI, 0.90 km N of Cambrian Road	Cast-In-Place Conc. Rigid Frame	4.3	9.3	45.57	BR	67.38
B27	2025	Bridge No. 27	Maple Valley Road	Lot 15/16, Conc VI, 0.30 km W of Hampshire Mills Line	Cast-In-Place Concrete T-Beam	3.85, 6.9, 3.65	4.9	80.9	BR-1	61.73
B28	2025	Bridge No. 28	Hampshire Mills Line	Lot 14, Conc VI/VII, 1.80 km N of Cambrian Road	Cast-In-Place Concrete T-Beam	3.45, 7.45, 3.45	4.9	80.36	BR-1	47.09
B29	2025	Structure No. 29	Cambrian Road	Lots 10/11, Conc V, 0.45 km W of Carlyon Line	Precast Concrete Rigid Frame	10.4	9.2	101.2	BR-1	71.97
B34	2025	Bridge No. 34	Wainman Line	Lots 20,21, Conc I/II, 3.10 km N of Foxmead Road	Cast-In-Place Conc. Rigid Frame	4.2	10	48	BR	73.94
B35	2025	Bridge No. 35	Town line	Lot 23, Conc XIV/I, 2.30 km N of Southorn Road	Cast-In-Place Concrete T-Beam	7.85	6.5	55.9	BR-1	62.82
B36	2025	Bridge No. 36 (Marchmont Mill Bridge)	Marchmont Road	Lot 2, Conc I, Marchmont, 0.55 km W of Wainman Line	Precast Concrete Box Girder	11.4	6.4	83.2	BR-1	73.01
B39	2025	Bridge No. 39	Town Line	Lot 13, Conc XIV/I, 2.10 km S of Foxmead Road	Cast-In-Place Conc. Rigid Frame	5	9.5	53.2	BR-1	72.32
B40	2025	Bridge No. 40 (North River Bridge)	Taylor Line	Lot 5, Conc II/III, 1.08km S of Upper Big Chute Road	Cast-In-Place Conc. Rigid Frame	21.3	9.7	235.7	BR-2	68.98
B41	2025	Bridge No. 41	Concession 4	Lot 13, Conc IV, 0.30 km E of Upper Big Chute Road	Cast-In-Place Concrete T-Beam	8.5	4.85	45.1	BR-1	55.55
C08	2025	Culvert No. 8	Wainman Line	Lot 1, Conc III/IV, 0.60 km N of Division Road West	Precast Concrete Box Culvert	6.71	38.38	295.91	CC	100.00
C09	2025	Culvert No. 9	Uhthoff Line	Lot 2, Conc III/IV, 2.10 km N of Division Road West	CSP Arch Culvert(s)	3.8, 3.8	18.3	161	CS	71.70
C20	2025	Culvert No. 20	Taylor Line	Lot 6, Conc II/III, 0.20 km S of Upper Big Chute Road	CSP Round Culvert(s)	3.8	17	64.6	CS	73.98
C30	2025	Culvert No. 30	Division Road West	Lot 1, Conc IV, 0.10 km W of Burnside line	CSP Arch Culvert(s)	4	20.9	92	CS	63.65
C33	2025	Culvert No. 33	Wainman Line	Lots 20/21, Conc I/II, 0.60km S of Mount Stephen Road	CSP Arch Culvert(s)	3.5	14.1	49.35	CS	52.51
C37	2025	Culvert No. 37	Fairgrounds Road	Lot 4, Conc II/III, 1.70 km N of Division Road West	CSP Ellipse Culvert(s)	3.7, 3.7	17	156.4	CS	99.97
C38	2025	Culvert No. 38	Wainman Line	Lot 13, Conc I/II, 1.20 km N of Thornburn Road	CSP Arch Culvert(s)	3.3	16.6	54.78	CS	69.21
C39	2025	Culvert No. 39	Coldwater Road	South of Robinson Street	Precast Concrete Box Culvert	3	42	0	BR-1	69.16
TR-BR-001	2025	Trail Bridge 001	Uhthoff Trail System (The Great Trail)	1.2km North of Sturgeon Bay Rd. trail head	Steel I-Girder (Timber Deck)	7.9	3.3	26.73	BR-1	83.91
TR-BR-002	2025	Uhthoff Trail Bridge 002	Uhthoff Trail System (The Great Trail)	Uhthoff Trail Mile 13.76 (Access via Wainmain Line, North of Foxmead - Head West)	Cast-In-Place Conc. Rigid Frame	3	6.1	23.18	BR	35.40
TR-BR-003	2025	Uhthoff Trail Bridge No. 3	Trans Canada / Uhthoff Trail	Trans Canada / Uhthoff Trail, 1.3 km W of Uhthoff trail access	Cast-In-Place Conc. Box Culvert	6	11.5	69	BR	99.41
TR-BR-004	2025	Uhthoff Trail Bridge 004 (North River Bridge)	Uhthoff Trail System (The Great Trail)	Uhthoff Trail Mile 22.12 (Access via Burnside Line, South of Cambrian Rd. - Head South 1.8km)	Steel I-Girder (Concrete Deck)	12.5	4	52.4	BR-1	58.93
TR-CULV-001	2025	Uhthoff Trail Culvert 001	Trans Canada / Uhthoff Trail	Trans Canada / Uhthoff Trail, 2.5 km NW of Division Road E trail access	Steel I-Girder (Timber Deck)	16.5	4.5	75.6	BR	98.08
TR-CULV-002	2025	Uhthoff Trail Culvert No. 2	Trans Canada / Uhthoff Trail	Trans Canada / Uhthoff Trail, 1.1 km NW of Division Road E trail access	Steel I-Girder (Timber Deck)	18	4.5	82.35	BR-1	98.40

Township of Severn - CAPITAL WORKS BY BCI

Structure No.	Inspect. Year	Road Name	Deterioration Curve	BCI	Years to Rehab	Years to Replace	Total Cost of Rehabilitation	Total Cost of Replacement	Recommended Work	Maintenance Needs	Additional Investigations	Current Roadside Protection Needs	Capital Works Within 1 year	Capital Works 1 - 5 Years	Capital Works 6 - 10 Years	10-Year Capital Works Cost
TR-BR-002	2025	Uhthoff Trail System (The Great Trail)	BR	35.40	N/A	0.00	$ 258,500.00	$ 620,000.00	Replace	$ 2,000.00	$ -	$ 100,000.00	$ 620,000.00	$ -	$ -	$ 620,000.00
B11	2025	Reinbird Street	BR	44.83	N/A	0.00	N/A	$ 609,000.00	Replace	$ 2,500.00	$ -	$ 1,000.00	$ 609,000.00	$ -	$ -	$ 609,000.00
B28	2025	Hampshire Mills Line	BR-1	47.09	0.00	3.54	N/A	$ 1,661,000.00	Replace	$ 1,000.00	$ 2,500.00	$ 100,000.00	$ -	$ 1,661,000.00	$ -	$ 1,661,000.00
B19	2025	Kitchen Sideroad	BR-1	47.30	0.00	3.65	$ 544,600.00	$ 1,000,000.00	Replace	$ 1,000.00	$ -	$ 100,000.00	$ -	$ 1,000,000.00	$ -	$ 1,000,000.00
C33	2025	Wainman Line	CS	52.51	N/A	1.00	N/A	$ 609,000.00	Replace	$ 4,000.00	$ 2,500.00	$ 1,000.00	$ 609,000.00	$ -	$ -	$ 609,000.00
B41	2025	Concession 4	BR-1	55.55	0.00	7.77	$ 478,500.00	$ 1,045,000.00	Replace	$ 3,000.00	$ -	$ 100,000.00	$ -	$ -	$ 1,045,000.00	$ 1,045,000.00
B04	2025	Bond Road	BR-1	58.65	0.00	9.33	$ 823,500.00	$ 1,269,000.00	Replace	$ 4,000.00	$ -	$ 100,000.00	$ -	$ -	$ 1,269,000.00	$ 1,269,000.00
TR-BR-004	2025	Uhthoff Trail System (The Great Trail)	BR-1	58.93	5.00	9.47	$ 341,500.00	$ 793,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ -	$ 341,500.00	$ -	$ 341,500.00
B14	2025	Uhthoff Line	BR-1	60.16	0.16	10.00	$ 551,500.00	$ 1,108,000.00	Replace	$ 1,000.00	$ -	$ 100,000.00	$ -	$ -	$ 1,108,000.00	$ 1,108,000.00
B13	2025	Hampshire Mills Line	BR-1	61.37	1.37	11.37	$ 631,500.00	$ 1,776,000.00	Replace	$ 6,000.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
B27	2025	Maple Valley Road	BR-1	61.73	1.73	11.73	$ 657,500.00	$ 1,666,000.00	Replace	$ 1,500.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
B10	2025	Woodrow Road	BR-1	62.14	0.00	2.00	N/A	$ 2,210,000.00	Replace	$ 500.00	$ -	$ -	$ -	$ 2,210,000.00	$ -	$ 2,210,000.00
B35	2025	Town line	BR-1	62.82	2.82	12.82	$ 672,500.00	$ 1,000,000.00	Replace	$ 5,000.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
C30	2025	Division Road West	CS	63.65	N/A	11.83	N/A	$ 733,000.00	Replace	$ 3,000.00	$ -	$ -	$ -	$ -	$ -	$ -
B26	2025	Carlyon line	BR	67.38	N/A	17.38	$ 363,500.00	$ 670,000.00	Replace	$ 1,500.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
B06	2025	Muskoka Street	BR-1	68.35	8.35	18.35	$ 500,500.00	$ 1,988,000.00	Rehabilitate	$ 3,500.00	$ -	$ 100,000.00	$ -	$ -	$ 500,500.00	$ 500,500.00
B40	2025	Taylor Line	BR-2	68.98	2.00	18.98	$ 567,500.00	$ 2,351,000.00	Rehabilitate	$ 1,000.00	$ 15,000.00	$ 100,000.00	$ -	$ 567,500.00	$ -	$ 567,500.00
C39	2025	Coldwater Road	BR-1	69.16	1.00	19.16	$ 586,500.00	$ 1,301,000.00	Rehabilitate	$ 4,500.00	$ -	$ 1,000.00	$ 586,500.00	$ -	$ -	$ 586,500.00
C38	2025	Wainman Line	CS	69.21	N/A	14.61	N/A	$ 609,000.00	Replace	$ 1,000.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
B25	2025	Carlyon Line	BR-1	70.77	6.00	20.77	$ 307,500.00	$ 1,170,000.00	Rehabilitate	$ 1,500.00	$ -	$ 10,000.00	$ -	$ -	$ 307,500.00	$ 307,500.00
C09	2025	Uhthoff Line	CS	71.70	N/A	15.94	N/A	$ 1,088,000.00	Replace	$ 1,000.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
B07	2025	Bayou Road	BR-1	71.90	11.90	21.90	$ 462,500.00	$ 1,551,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ -	$ -	$ -	$ -
B05	2025	Sturgeon Bay Road	BR-1	71.91	11.91	21.91	$ 469,500.00	$ 2,505,000.00	Rehabilitate	$ 8,500.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
B29	2025	Cambrian Road	BR-1	71.97	11.97	21.97	$ 293,500.00	$ 1,170,000.00	Rehabilitate	$ 1,000.00	$ -	$ 15,000.00	$ -	$ -	$ -	$ -
B39	2025	Town Line	BR-1	72.32	12.32	22.32	$ 359,500.00	$ 733,000.00	Rehabilitate	$ 2,000.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
B17	2025	Lovering Line	BR-2	72.43	10.77	21.82	$ 313,500.00	$ 2,838,000.00	Rehabilitate	$ 1,000.00	$ -	$ -	$ -	$ -	$ -	$ -
B22	2025	Burnside Line	CC	72.48	N/A	17.48	$ 321,500.00	$ 733,000.00	Replace	$ -	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
B12	2025	Mill Street, Coldwater	BR-1	72.57	12.57	22.57	$ 303,500.00	$ 2,051,000.00	Rehabilitate	$ 3,000.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
B24	2025	Carlyon Line	BR-1	72.60	5.00	22.60	$ 560,500.00	$ 1,758,000.00	Rehabilitate	$ 2,500.00	$ 17,000.00	$ 100,000.00	$ -	$ 560,500.00	$ -	$ 560,500.00
B36	2025	Marchmont Road	BR-1	73.01	13.01	23.01	$ 748,500.00	$ 1,893,000.00	Rehabilitate	$ 2,000.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
B34	2025	Wainman Line	BR	73.94	N/A	23.94	$ 363,500.00	$ 670,000.00	Replace	$ 2,500.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
C20	2025	Taylor Line	CS	73.98	N/A	17.21	N/A	$ 590,000.00	Replace	$ -	$ -	$ 4,000.00	$ -	$ -	$ -	$ -
B15	2025	Lawson Line	BR-2	74.43	14.43	24.43	$ 725,500.00	$ 3,271,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ 45,000.00	$ -	$ -	$ 45,000.00
B21	2025	Foxmead Road	BR-1	80.47	N/A	35.88	N/A	$ 858,000.00	Rehabilitate	$ 1,000.00	$ -	$ -	$ -	$ -	$ -	$ -
TR-BR-001	2025	Uhthoff Trail System (The Great Trail)	BR-1	83.91	N/A	36.76	N/A	$ 583,000.00	Rehabilitate	$ 500.00	$ -	$ -	$ -	$ -	$ -	$ -
B16	2025	Irish Line	BR-2	85.43	25.77	35.81	N/A	$ 3,603,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ -	$ -	$ -	$ -
B18	2025	Laughlin Falls Road	BR-1	91.79	26.79	36.79	N/A	$ 1,855,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B03	2025	Townline	BR-1	93.99	28.99	38.99	N/A	$ 1,528,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ -	$ -	$ -	$ -
TR-CULV-001	2025	Trans Canada / Uhthoff Trail	BR	98.08	N/A	40.44	N/A	$ 805,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TR-CULV-002	2025	Trans Canada / Uhthoff Trail	BR-1	98.40	33.40	43.40	N/A	$ 868,000.00	Rehabilitate	$ 1,000.00	$ -	$ -	$ -	$ -	$ -	$ -
TR-BR-003	2025	Trans Canada / Uhthoff Trail	BR	99.41	N/A	44.41	N/A	$ 482,000.00	Rehabilitate	$ 2,000.00	$ -	$ -	$ -	$ -	$ -	$ -
B23	2025	Jermey Road	BR-1	99.47	34.47	44.47	N/A	$ 1,873,000.00	Rehabilitate	$ 4,000.00	$ -	$ -	$ -	$ -	$ -	$ -
C37	2025	Fairgrounds Road	CS	99.97	N/A	31.65	N/A	$ 1,108,000.00	Replace	$ 500.00	$ -	$ -	$ -	$ -	$ -	$ -
C08	2025	Wainman Line	CC	100.00	N/A	45.00	N/A	$ 1,855,000.00	Replace	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Sub Totals										**$ 87,500.00**	**$ 37,000.00**	**$ 1,637,000.00**	**$ 2,469,500.00**	**$ 6,340,500.00**	**$ 4,230,000.00**	**$ 13,040,000.00**

Township of Severn - REHABILITATION CAPITAL WORKS

Structure No.	Inspect. Year	Road Name	BCI	Years to Rehab	Years to Replace	Recommended Work	Construction Cost - Rehabilitation [1]	Contingency - Rehabilitation	E.A. - Rehabilitation	Engineering - Rehabilitation	Geotechnical - Rehabilitation	Contract Admin. - Rehabilitation	Capital Works Within 1 year	Capital Works 1 - 5 Years	Capital Works 6 - 10 Years	10-Year Capital Works Cost
C39	2025	Coldwater Road	69.16	1.00	19.16	Rehabilitate	$461,000.00	$ 47,000.00	$ 2,500.00	$ 39,000.00	$ -	$ 37,000.00	$ 586,500.00	$ -	$ -	$ 586,500.00
B40	2025	Taylor Line	68.98	2.00	18.98	Rehabilitate	$444,000.00	$ 45,000.00	$ 2,500.00	$ 40,000.00	$ -	$ 36,000.00	$ -	$ 567,500.00	$ -	$ 567,500.00
B24	2025	Carlyon Line	72.60	5.00	22.60	Rehabilitate	$439,000.00	$ 44,000.00	$ 2,500.00	$ 39,000.00	$ -	$ 36,000.00	$ -	$ 560,500.00	$ -	$ 560,500.00
TR-BR-004	2025	Uhthoff Trail System (The Great Trail)	58.93	5.00	9.47	Rehabilitate	$263,000.00	$ 27,000.00	$ 2,500.00	$ 27,000.00	$ -	$ 22,000.00	$ -	$ 341,500.00	$ -	$ 341,500.00
B25	2025	Carlyon Line	70.77	6.00	20.77	Rehabilitate	$237,000.00	$ 24,000.00	$ 2,500.00	$ 24,000.00	$ -	$ 20,000.00	$ -	$ -	$ 307,500.00	$ 307,500.00
B06	2025	Muskoka Street	68.35	8.35	18.35	Rehabilitate	$391,000.00	$ 40,000.00	$ 2,500.00	$ 35,000.00	$ -	$ 32,000.00	$ -	$ -	$ 500,500.00	$ 500,500.00
B17	2025	Lovering Line	72.43	10.77	21.82	Rehabilitate	$241,000.00	$ 25,000.00	$ 2,500.00	$ 25,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
B07	2025	Bayou Road	71.90	11.90	21.90	Rehabilitate	$366,000.00	$ 37,000.00	$ 2,500.00	$ 27,000.00	$ -	$ 30,000.00	$ -	$ -	$ -	$ -
B05	2025	Sturgeon Bay Road	71.91	11.91	21.91	Rehabilitate	$370,000.00	$ 37,000.00	$ 2,500.00	$ 30,000.00	$ -	$ 30,000.00	$ -	$ -	$ -	$ -
B29	2025	Cambrian Road	71.97	11.97	21.97	Rehabilitate	$226,000.00	$ 23,000.00	$ 2,500.00	$ 22,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
B39	2025	Town Line	72.32	12.32	22.32	Rehabilitate	$281,000.00	$ 29,000.00	$ 2,500.00	$ 24,000.00	$ -	$ 23,000.00	$ -	$ -	$ -	$ -
B12	2025	Mill Street, Coldwater	72.57	12.57	22.57	Rehabilitate	$233,000.00	$ 24,000.00	$ 2,500.00	$ 24,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
B36	2025	Marchmont Road	73.01	13.01	23.01	Rehabilitate	$581,000.00	$ 59,000.00	$ 2,500.00	$ 59,000.00	$ -	$ 47,000.00	$ -	$ -	$ -	$ -
B15	2025	Lawson Line	74.43	14.43	24.43	Rehabilitate	$563,000.00	$ 57,000.00	$ 2,500.00	$ 5,000.00	$ -	$ 46,000.00	$ 45,000.00	$ -	$ -	$ 45,000.00
B16	2025	Irish Line	85.43	25.77	35.81	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B18	2025	Laughlin Falls Road	91.79	26.79	36.79	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B03	2025	Townline	93.99	28.99	38.99	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TR-CULV-002	2025	Trans Canada / Uhthoff Trail	98.40	33.40	43.40	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B23	2025	Jermey Road	99.47	34.47	44.47	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B21	2025	Foxmead Road	80.47	N/A	35.88	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TR-BR-001	2025	Uhthoff Trail System (The Great Trail)	83.91	N/A	36.76	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TR-BR-003	2025	Trans Canada / Uhthoff Trail	99.41	N/A	44.41	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TR-CULV-001	2025	Trans Canada / Uhthoff Trail	98.08	N/A	40.44	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub Totals							**$ 5,096,000.00**	**$ 518,000.00**	**$ 35,000.00**	**$ 420,000.00**	**$ -**	**$ 419,000.00**	**$ 631,500.00**	**$ 1,469,500.00**	**$ 808,000.00**	**$ 2,909,000.00**

(1) - Construction Cost includes cost of rehabilitation / replacement works, associated works, roadside protection, and construction staging (where applicable). See individual OSIM forms for breakdown of construction cost

Township of Severn - REPLACEMENT CAPITAL WORKS

Structure No.	Inspect. Year	Road Name	BCI	Years to Rehab	Years to Replace	Recommended Work	Construction Cost - Replacement [1]	Contingency - Replacement	E.A. - Replacement	Engineering - Replacement	Geotechnical - Replacement	Contract Admin. - Replacement	Capital Works Within 1 year	Capital Works 1 - 5 Years	Capital Works 6 - 10 Years	10-Year Capital Works Cost
B11	2025	Reinbird Street	44.83	N/A	0.00	Replace	$ 465,000.00	$ 47,000.00	$ 15,000.00	$ 42,000.00	$ 20,000.00	$ 20,000.00	$ 609,000.00	$ -	$ -	$ 609,000.00
TR-BR-002	2025	Uhthoff Trail System (The Great Trail)	35.40	N/A	0.00	Replace	$ 475,000.00	$ 48,000.00	$ 15,000.00	$ 42,000.00	$ 20,000.00	$ 20,000.00	$ 620,000.00	$ -	$ -	$ 620,000.00
C33	2025	Wainman Line	52.51	N/A	1.00	Replace	$ 465,000.00	$ 47,000.00	$ 15,000.00	$ 42,000.00	$ 20,000.00	$ 20,000.00	$ 609,000.00	$ -	$ -	$ 609,000.00
B10	2025	Woodrow Road	62.14	0.00	2.00	Replace	$ 1,670,000.00	$ 251,000.00	$ 15,000.00	$ 175,000.00	$ 20,000.00	$ 79,000.00	$ -	$ 2,210,000.00	$ -	$ 2,210,000.00
B28	2025	Hampshire Mills Line	47.09	0.00	3.54	Replace	$ 1,330,000.00	$ 117,000.00	$ 15,000.00	$ 117,000.00	$ 20,000.00	$ 62,000.00	$ -	$ 1,661,000.00	$ -	$ 1,661,000.00
B19	2025	Kitchen Sideroad	47.30	0.00	3.65	Replace	$ 780,000.00	$ 78,000.00	$ 15,000.00	$ 73,000.00	$ 20,000.00	$ 34,000.00	$ -	$ 1,000,000.00	$ -	$ 1,000,000.00
B41	2025	Concession 4	55.55	0.00	7.77	Replace	$ 815,000.00	$ 82,000.00	$ 15,000.00	$ 77,000.00	$ 20,000.00	$ 36,000.00	$ -	$ -	$ 1,045,000.00	$ 1,045,000.00
B04	2025	Bond Road	58.65	0.00	9.33	Replace	$ 1,015,000.00	$ 101,000.00	$ 15,000.00	$ 84,000.00	$ 20,000.00	$ 34,000.00	$ -	$ -	$ 1,269,000.00	$ 1,269,000.00
B14	2025	Uhthoff Line	60.16	0.16	10.00	Replace	$ 865,000.00	$ 87,000.00	$ 15,000.00	$ 82,000.00	$ 20,000.00	$ 39,000.00	$ -	$ -	$ 1,108,000.00	$ 1,108,000.00
B13	2025	Hampshire Mills Line	61.37	1.37	11.37	Replace	$ 1,430,000.00	$ 122,000.00	$ 15,000.00	$ 122,000.00	$ 20,000.00	$ 67,000.00	$ -	$ -	$ -	$ -
B27	2025	Maple Valley Road	61.73	1.73	11.73	Replace	$ 1,335,000.00	$ 117,000.00	$ 15,000.00	$ 117,000.00	$ 20,000.00	$ 62,000.00	$ -	$ -	$ -	$ -
C30	2025	Division Road West	63.65	N/A	11.83	Replace	$ 565,000.00	$ 57,000.00	$ 15,000.00	$ 52,000.00	$ 20,000.00	$ 24,000.00	$ -	$ -	$ -	$ -
B35	2025	Town line	62.82	2.82	12.82	Replace	$ 780,000.00	$ 78,000.00	$ 15,000.00	$ 73,000.00	$ 20,000.00	$ 34,000.00	$ -	$ -	$ -	$ -
C38	2025	Wainman Line	69.21	N/A	14.61	Replace	$ 465,000.00	$ 47,000.00	$ 15,000.00	$ 42,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
C09	2025	Uhthoff Line	71.70	N/A	15.94	Replace	$ 850,000.00	$ 85,000.00	$ 15,000.00	$ 80,000.00	$ 20,000.00	$ 38,000.00	$ -	$ -	$ -	$ -
C20	2025	Taylor Line	73.98	N/A	17.21	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
B26	2025	Carlyon line	67.38	N/A	17.38	Replace	$ 515,000.00	$ 52,000.00	$ 15,000.00	$ 47,000.00	$ 20,000.00	$ 21,000.00	$ -	$ -	$ -	$ -
B22	2025	Burnside Line	72.48	N/A	17.48	Replace	$ 565,000.00	$ 57,000.00	$ 15,000.00	$ 52,000.00	$ 20,000.00	$ 24,000.00	$ -	$ -	$ -	$ -
B34	2025	Wainman Line	73.94	N/A	23.94	Replace	$ 515,000.00	$ 52,000.00	$ 15,000.00	$ 47,000.00	$ 20,000.00	$ 21,000.00	$ -	$ -	$ -	$ -
C37	2025	Fairgrounds Road	99.97	N/A	31.65	Replace	$ 865,000.00	$ 87,000.00	$ 15,000.00	$ 82,000.00	$ 20,000.00	$ 39,000.00	$ -	$ -	$ -	$ -
C08	2025	Wainman Line	100.00	N/A	45.00	Replace	$ 1,500,000.00	$ 125,000.00	$ 15,000.00	$ 125,000.00	$ 20,000.00	$ 70,000.00	$ -	$ -	$ -	$ -
Sub Totals							**$ 17,715,000.00**	**$ 1,782,000.00**	**$ 315,000.00**	**$ 1,613,000.00**	**$ 420,000.00**	**$ 784,000.00**	**$ 1,838,000.00**	**$ 4,871,000.00**	**$ 3,422,000.00**	**$ 10,131,000.00**

(1) - Construction Cost includes cost of rehabilitation / replacement works, associated works, roadside protection, and construction staging (where applicable). See individual OSIM forms for breakdown of construction cost

Township of Severn - MAINTENANCE NEEDS

Structure Name	Road Name	Maintenance Need	Estimated Maintenance Costs
B03	Townline	Clean Deck Wearing Surface; Rout and Seal Approach Wearing Surface, Deck Wearing Surface	$1,500.00
B04	Bond Road	Clean deck, remove vegetation from Wearing Surface, Sidewalk; Clear debris blockages in deck drains.; Install hazard warning signs at structure; Remove tree in close proximity to structure.	$4,000.00
B05	Sturgeon Bay Road	Repair erosion behind SW retaining wall, install rock protection; Rout and seal cracks on Approach Wearing Surface, Deck Wearing Surface; Clear debris from deck drains.; Install hazard warning signs at structure	$8,500.00
B06	Muskoka Street	Clean Deck Wearing Surface; Repairs required to Approach Wearing Surface, Deck Wearing Surface; Install hazard warning signs at structure	$3,500.00
B07	Bayou Road	Clean Bridge Deck, Sidewalk; Install missing endcap on railing.	$1,500.00
B10	Woodrow Road	Clear debris from Streams and Waterways	$500.00
B11	Reinbird Street	Repairs required to Deck Top, Curbs; Install bollards or gate to prevent vehicular traffic	$2,500.00
B12	Mill Street, Coldwater	Clean Deck Wearing Surface; Install hazard warning signs at structure; Remove felled tree under structure.	$3,000.00
B13	Hampshire Mills Line	Clean Deck Wearing Surface; Repair eroded embankments, place rock protections.	$6,000.00
B14	Uhthoff Line	Clean Deck Top	$1,000.00
B15	Lawson Line	Clear expansion joints of debris.; Install hazard warning signs at structure	$1,500.00
B16	Irish Line	Rout and seal Approach Wearing Surface; Clear debris from deck drains.	$1,500.00
B17	Lovering Line	Install missing bolts for SBGR end treatments.	$1,000.00
B19	Kitchen Sideroad	Clean Deck Top	$1,000.00
B21	Foxmead Road	Clean Deck Top	$1,000.00
B23	Jermey Road	Clear vegetation and debris from structural elements.; Install strip seal at joints between approach and deck.; Rout and seal deck wearing surface cracks.	$4,000.00
B24	Carlyon Line	Clean debris from deck and deck drains. Remove vegetation on deck.; Repairs required to Approach Wearing Surface	$2,500.00
B25	Carlyon Line	Repairs required to Deck Wearing Surface; Install hazard warning signs at structure	$1,500.00
B26	Carlyon line	Rout and seal Approach Wearing Surface, Deck Wearing Surface	$1,500.00
B27	Maple Valley Road	Clean gravel tracked onto deck top, remove tree debris under structure's West span.; Install missing hazard warning sign at structure	$1,500.00
B28	Hampshire Mills Line	Clean Deck Wearing Surface	$1,000.00
B29	Cambrian Road	Rout and seal Approach Wearing Surface, Deck Wearing Surface	$1,000.00
B34	Wainman Line	Rout and seal, asphalt patch repairs required to Approach and Deck Wearing Surfaces.	$2,500.00
B35	Town line	Clear channel of obstructions.; Repair washouts, install rock protections.	$5,000.00
B36	Marchmont Road	Clean debris from approach and deck wearing surfaces, expansion joints.; Install hazard warning signs at structure	$2,000.00
B39	Town Line	Remove vegetation from deck, clear debris accumulated along curbline and in watercourse.; Repairs required to Deck Wearing Surface	$2,000.00
B40	Taylor Line	Clear debris from Deck Top and blockages in the Deck Drains.	$1,000.00
B41	Concession 4	Clean Deck Top, Railing System; Repairs required to Embankments; Install hazard warning signs at structure	$3,000.00
C09	Uhthoff Line	Remove debris buildup in south barrel	$1,000.00
C30	Division Road West	Place rock protection at outlef to mitigate scouring.; Remove trees adjacent to inlet, outlet.	$3,000.00
C33	Wainman Line	Repair embankment erosion, place rock protections.; Reinstate asphalt in eroded ares, rout and seal asphalt cracking on wearing surface.	$4,000.00
C37	Fairgrounds Road	Install (1) missing hazard warning sign at structure.	$500.00
C38	Wainman Line	Install hazard warning signs at structure	$1,000.00
C39	Coldwater Road	Repairs required to Approach Wearing Surface, Deck Wearing Surface; Install hazard warning signs at structure; Remove trees in close proximity to the structures outlet.	$4,500.00

Township of Severn - MAINTENANCE NEEDS

Structure Name	Road Name	Maintenance Need	Estimated Maintenance Costs
TR-BR-001	Uhthoff Trail System (The Great Trail)	Remove gravel tracked onto timber deck.	$500.00
TR-BR-002	Uhthoff Trail System (The Great Trail)	Remove trees growing in close proximity to the structure.	$2,000.00
TR-BR-003	Trans Canada / Uhthoff Trail	Remove beaver dam at inlet.	$2,000.00
TR-BR-004	Uhthoff Trail System (The Great Trail)	Remove all vegetation and debirs from deck, joint, abutment walls.	$1,500.00
TR-CULV-002	Trans Canada / Uhthoff Trail	Remove gravel tracked onto Timber deck.; Add missing hardware to barrier posts.	$1,000.00

Total	**$87,500.00**

Township of Severn - ADDITIONAL INVESTIGATIONS REQUIRED

Priority	Structure Name	Road Name	Additional Investigations Required	Estimated Cost
Normal	B11	Reinbird Street	Other: Monitor structure condition and usage	$0
Normal	B24	Carlyon Line	Detailed Deck Condition Survey;	$17,000
Normal	B28	Hampshire Mills Line	Load Limit Evaluation	$2,500
Normal	B35	Town line	Monitoring of Deformations, Settlements and Movements;	$0
Normal	B40	Taylor Line	Other: Feasibility Study;	$15,000
Normal	B41	Concession 4	Monitoring Crack Widths;	$0
Normal	C30	Division Road West	Monitoring Crack Widths;	$0
Normal	C33	Wainman Line	Monitoring Crack Widths;	$2,500
Normal	C39	Coldwater Road	Monitoring of Deformations, Settlements and Movements;	$0
Normal	TR-BR-002	Uhthoff Trail System (The Great Trail)	Monitoring of Deformations, Settlements and Movements; Monitoring Crack Widths;	$0

Total	**$37,000.00**

Township of Severn - CURRENT ROADSIDE SAFETY NEEDS

Structure Name	Road Name	CURRENT Roadside Safety Need	Estimated Cost
B04	Bond Road	Install Guide Rail, end treatments and structure connections	$100,000.00
B05	Sturgeon Bay Road	Investigate feasibility of installing steel beam guide rail.	$1,000.00
B06	Muskoka Street	Repair steel beam guide rail, install end treatments	$100,000.00
B11	Reinbird Street	Investigate feasibility of steel beam guide rail installation.	$1,000.00
B12	Mill Street, Coldwater	Investigate the feasibility of installing steel beam guiderail.	$1,000.00
B13	Hampshire Mills Line	Install Guide Rail, end treatments and structure connections	$100,000.00
B14	Uhthoff Line	Install Guide Rail, end treatments and structure connections	$100,000.00
B19	Kitchen Sideroad	Install Guide Rail, end treatments and structure connections	$100,000.00
B22	Burnside Line	Install Guide Rail and end treatments	$100,000.00
B24	Carlyon Line	Install Guide Rail, end treatments and structure connections	$100,000.00
B25	Carlyon Line	Repair Guide Rail	$10,000.00
B26	Carlyon line	Install Guide Rail, end treatments	$100,000.00
B27	Maple Valley Road	Install Guide Rail, end treatments and structure connections	$100,000.00
B28	Hampshire Mills Line	Install Guide Rail, end treatments and structure connections	$100,000.00
B29	Cambrian Road	Repair guide rail to provide proper anchorage.	$15,000.00
B34	Wainman Line	Install Guide Rail, end treatments	$100,000.00
B35	Town line	Install Guide Rail, end treatments	$100,000.00
B36	Marchmont Road	Investigate Need for Replacing with Longer Guide Rail	$1,000.00
B39	Town Line	Install Guide Rail, end treatments	$100,000.00
B40	Taylor Line	Replace exisiting steel beam guide and include structure connections and end treatements	$100,000.00
B41	Concession 4	Install Guide Rail, end treatments and structure connections	$100,000.00
C09	Uhthoff Line	Investigate need for Guide Rail	$1,000.00
C20	Taylor Line	Repair Guide Rail	$4,000.00
C33	Wainman Line	Investigate need for Guide Rail	$1,000.00
C38	Wainman Line	Investigate need for Guide Rail	$1,000.00
C39	Coldwater Road	Investigate feasibility of replacing guiderail and end treatments (east side only).	$1,000.00
TR-BR-002	Uhthoff Trail System (The Great Trail)	Install Guide Rail, end treatments	$100,000.00

Total	$1,637,000.00

Township of Severn - STRUCTURE LOAD LIMITS

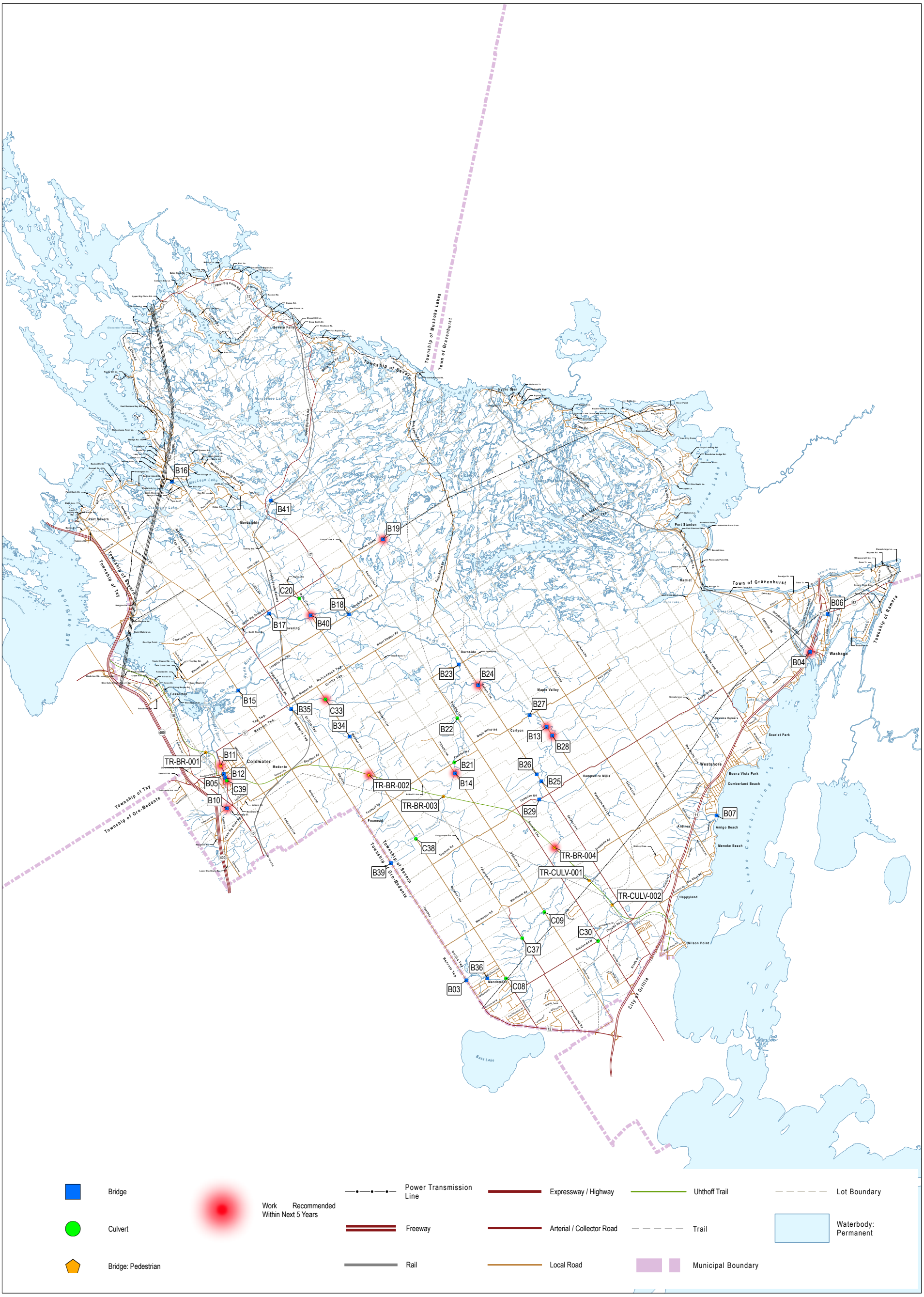
Structure Name	Year Inspected	Road Name	Existing Load Limit (Tonnes)	Recommendation
B11	2025	Reinbird Street	5	No Change
B13	2025	Hampshire Mills Line	14	No Change
B19	2025	Kitchen Sideroad	13	No Change
B27	2025	Maple Valley Road	14	No Change
B28	2025	Hampshire Mills Line	14	5

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Structure Location Map



Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: 0°	Scale Factor: 0.99960

N
True North

0 1 2 3 4 5 6 7 8 9 10
Kilometers

BURNSIDE

Client
TOWNSHIP OF SEVERN

Map Title
2025 OSIM INSPECTIONS
BRIDGE AND CULVERT LOCATIONS

Drawn	Checked	Date	Figure No.
BN	MA	2025/08/14	1
Scale		Project No.	
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File Path: \\elmo\GIS\Project\Bridge Inspections\OSIM Inspection Master.aprx Print Date: 2025/08/14 Time: 11:03 AM

BURNSIDE

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Appendix D

OSIM Forms and Photos

Ontario Structure Inspection Manual - Inspection Form

Site Number: B03
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 3										
Main Hwy/Road #	Townline	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 4 Conc XIV - 1.6km S of Warminster										
Latitude	44.632026	Longitude	-79.521074								
Owners	Shared	Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.				
			Desig./not list		Desig & List						
MTO region	Central	Road Class:	Freeway		Arterial						
			Collector		Local						
MTO District	Central Region	Posted Speed	50	No. of Lanes	2						
Old County	Simcoe	AADT	360	% Trucks							
Geographic Twp.		Inspection Route Sequence									
Structure Type	Precast Conc. Hollow Slab Girder	Interchange Number									
Total Deck Length	15 m	Interchange Structure Number									
Overall Str. Width	10 m	Min. Vertical Clearance	m								
Total Deck Area	150 sq. m	Special Routes:	Transit		Truck						
			School		Bicycle						
Road Platform Width	10 m (btwn tops of slopes)										
Roadway Width	9 m (btwn edges of shoulders)	Detour Length Around Bridge	km								
Skew Angle	25 Degrees	Direction of Structure	N-S								
No. of Spans	1	Fill on Structure	0 m								
Span Lengths	12 m	Height (streambed to structure top)	3.5 m								

Historical Data:

Year Built (◉ Known ○ Estimated ○ Unknown)	2016	Last Evaluation	
Last Biennial Inspection	2023	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year		
Replaced in 2016			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	20°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

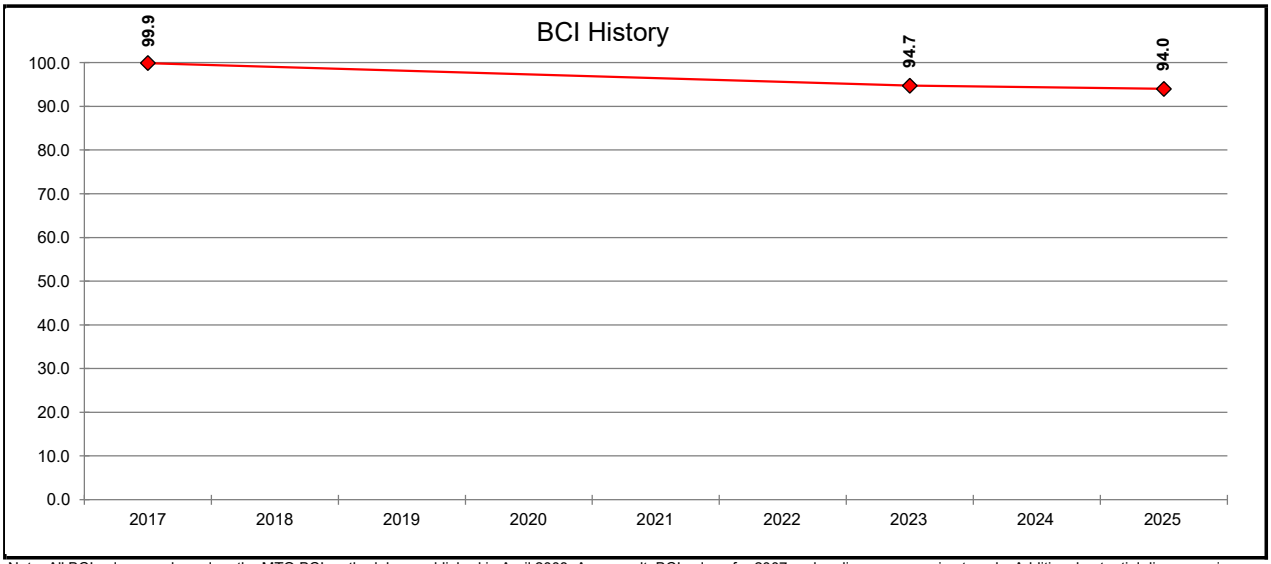
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	94.0	T. Wright	
2023	94.7	M. Ahmed (Doug Dixon)	
2017	99.9	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	9 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	108 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		105	3		Element BCI	74.0

Comments: Longitudinal narrow crack at the crown.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and Seal asphalt cracks.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard warning signs.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Slabs		Width:	9 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	108 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	108				Element BCI	100.0

Comments: Limited inspection. Based on condition of wearing surface.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	15 m			
Element Name:	Deck Wearing Surface		Width:	9 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	135 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		135			Element BCI	75.0

Comments: Debris along curb sides, and narrow crack along the crown.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02 15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning, Rout and Seal	
Routine deck sweeping. Rout and seal asphalt cracks.		Performance Deficiencies: None	

Element Group:	Decks		Length:	15 m			
Element Name:	Deck Top		Width:	10 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	150 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	150				Element BCI	100.0

Comments: Limited Inspection, based on condition of wearing surface and soffit.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	27 m			
Element Name:	Curbs		Width:	0.48 m			
Location:			Height:	0.19 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	36.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		36.2			Element BCI	75.0

Comments: Narrow cracks are found at the curb connection between the end of the wingwall and the curb over the road.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	22.24 m			
Element Name:	Railing System		Width:	m			
Location:	Over Structure		Height:	m			
Material:	Steel		Count:	2			
Element Type:			Total Quantity:	44.48 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		42.48	2		Element BCI	73.4

Comments: We note the top of railing height is less than 1050mm to protect the public / workers from fall (760mm). Snowplow abrasion.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	12.3 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	12.3				Element BCI	99.1

Comments: Limited inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	10.924 m			
Location:	North		Height:	3.3 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	36 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	20	13			Element BCI	87.3

Comments: High water level. Limited Inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	North		Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	1				Element BCI	100.0

Comments: Limite Inspection. Rated on performance only.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Wingwalls		Width:		m		
Location:	Northwest		Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	12.3	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	12.05		0.25		Element BCI	99.1

Comments: Limited inspection. Narrow crack with efflorescence staining carried fown from curb. Hairline map cracking.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	15	m		
Element Name:	Soffit - Thin Slab - Ext		Width:	0.425	m		
Location:	Overhang		Height:	0.74	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	35	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	31	4			Element BCI	97.1

Comments: Narrow cracks along the west fascia.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	13.24 m			
Element Name:	Girders - Middle		Width:	0.915 m			
Location:	Entire girder length		Height:	m			
Material:	Precast Concrete		Count:	10			
Element Type:	Box Beam or Girders		Total Quantity:	121.24 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	121.24				Element BCI	100.0

Comments: Limited inspection due to high water level. One joint filler between girders is falling out.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	12.3 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	12.3				Element BCI	99.1

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	10.92 m			
Location:	South		Height:	3.2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	34.94 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	24.02	10.92			Element BCI	87.3

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	South		Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	1				Element BCI	100.0

Comments: Rated for performance.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Wingwalls		Width:		m		
Location:	Southwest		Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	12.3	Sq.m		
Environment:	Moderate		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	11.55	0.5	0.25		Element BCI	99.1

Comments: Narrow crack with efflorescence. Light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Slope Protection		Width:		m		
Location:	4 Quadrants		Height:		m		
Material:			Count:				
Element Type:	Hand Laid Rip Rap		Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour at time of inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	13.24	m		
Element Name:	Soffit - Thin Slab - Int		Width:	0.92	m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	10			
Element Type:			Total Quantity:	121.24	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	117.24		4		Element BCI	98.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	163 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	4 Quadrants (Total)		Height:	m			
Material:	Steel		Count:				
Element Type:			Total Quantity:	163 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		163			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B03
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface,	$1,000.00
Rout and Seal	Rout and Seal Approach Wearing Surface, Deck Wearing Surface,	$500.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$1,100,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,115,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$111,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$111,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$56,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,528,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	29.0	39.0

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**94.0**
Bridge 3 was newly constructed in 2016 and is generally in excellent condition. The Township should complete routine maintenance of the structure to help maximize the service life of the new structure.		

ELEVATION

APPROACH WEARING SURFACE – NARROW LONGITUDINAL CRACK

DECK WEARING SURFACE

BARRIER

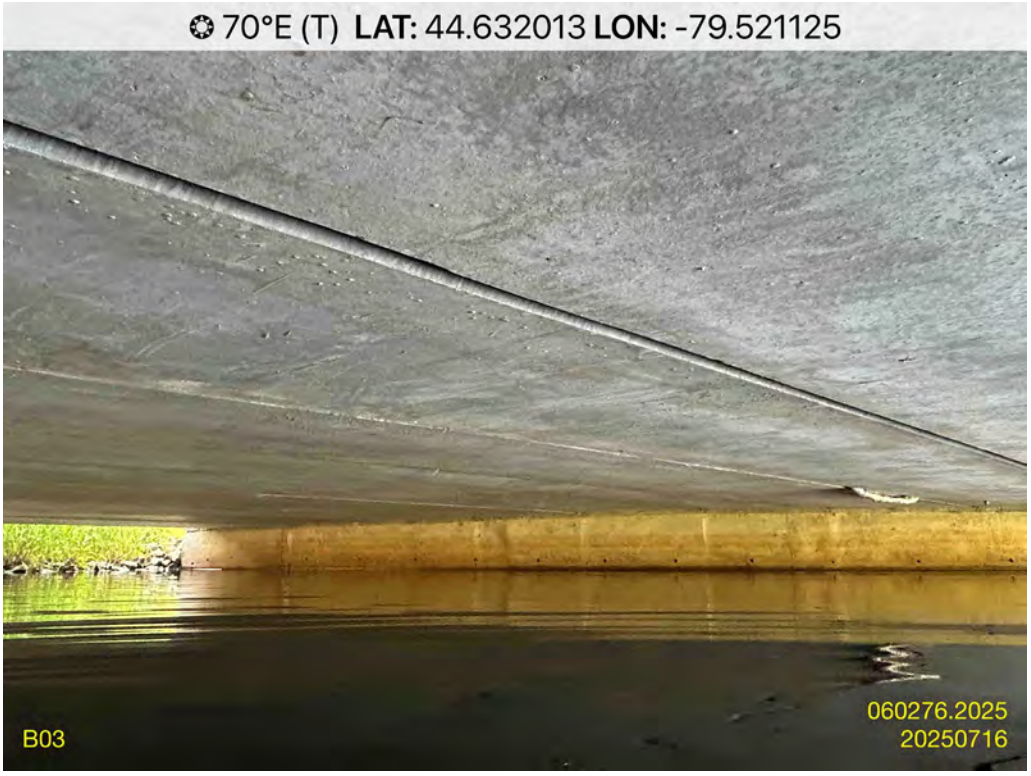
APPROACH GUIDE RAIL

WINGWALL – NARROW CRACK WITH EFFLORESCENCE

SOFFIT EXTERIOR

SOFFIT EXTERIOR – NARROW CRACKS

ABUTMENT WALL



GIRDERS

GIRDERS – LOOSE JOINT SEALANT

EMBANKMENT

Ontario Structure Inspection Manual - Inspection Form

Site Number: B04
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 4										
Main Hwy/Road #	Bond Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 9, Conc XIV, Washago, 0.10 km E of Highway 11										
Latitude	44.750523			Longitude	-79.340093						
Owners	Township of Severn			Heritage Designation	Not Consid:		X	Cons/not App.		List/n.d.	
					Desig./not list			Desig & List			
MTO region	Central			Road Class:	Freeway			Arterial			
					Collector			Local			
MTO District	Central Region			Posted Speed	50			No. of Lanes	2		
Old County	Simcoe			AADT	100			% Trucks			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	17.5 m			Interchange Structure Number							
Overall Str. Width	12.1 m			Min. Vertical Clearance		m					
Total Deck Area	211.75 sq. m			Special Routes:	Transit			Truck			
					School			Bicycle			
Road Platform Width	10 m (btwn tops of slopes)										
Roadway Width	9.2 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	14.2 m			Height (streambed to structure top)	2 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1960	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☑ 6 to 10 years	☐ >10 years
Overall Comments:	Forgo rehabilitation and replace structure within 9 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

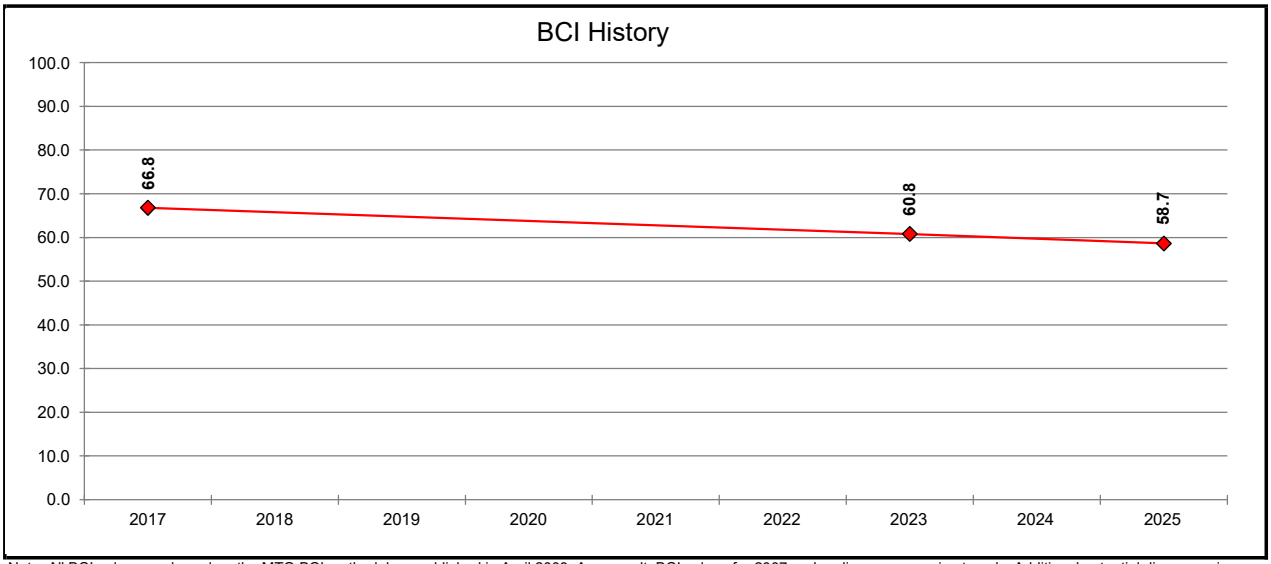
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	58.7	T. Wright	
2023	60.8	M. Ahmed (Doug Dixon)	
2017	66.8	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: No hazard warning signs present at the time of inspection.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Consider installing hazard signs.		Maintenance Needs: Hazard Signs Performance Deficiencies: None	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	9.2	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	110.4	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	10
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			25	85.4	Element BCI	9.1

Comments: Asphalt paved approach roads are in poor condition with cracking, extensive severe ravelling, potholes and severe settlement adjacent to deck on both ends. Ponding present with some patching of potholes.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
Repave.		Maintenance Needs: None Performance Deficiencies: Surface Ponding	

Element Group:	Decks		Length:	17	m		
Element Name:	Deck Wearing Surface		Width:	9.2	m		
Location:			Height:		m		
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	156.4	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			30	126.4	Element BCI	7.7

Comments: The deck wearing surface is in very poor condition with extensive ravelling, ashpalt patches and potholes. Built up sand and vegetation growth along the curbs.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Remove vegetation from bridge deck. Repave.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	17 m			
Element Name:	Deck Top		Width:	12 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	204 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		149	30	25	Element BCI	60.7

Comments: Condition based on wearing surface asphalt and soffit.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	17.5 m			
Element Name:	Sidewalk		Width:	1.4 m			
Location:			Height:	0.15 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	54.25 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			29.25	25	Element BCI	21.6

Comments: Sidewalk and curb are in fair to poor condition. They have random cracks, local delaminations. Debris on top, and vegetation found within cracks

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Remove vegetation from structural element.		Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	10			
Element Type:			Total Quantity:	10 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each				10	Element BCI	0.0

Comments: Severe corrosion and areas of 100% section loss. All drains are plugged by debris on the deck surface.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	16
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Deck Drainage	
Clear debris clogging deck drains.		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	0.45 m			
Element Name:	Posts		Width:	0.25 m			
Location:			Height:	1.21 m			
Material:	Cast-In-Place Concrete		Count:	12			
Element Type:			Total Quantity:	20.33 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		0	12	8.33	Element BCI	23.6

Comments: Concrete spalling and disintegrating; efflorescence found. Alkali-silica reaction expected.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	2.75 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	10			
Element Type:			Total Quantity:	27.5 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m			27.5		Element BCI	40.0

Comments: Steel rail has overall light corrosion, and minor section losses. Rail doesn't meet with the current standards.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	12 m			
Location:	North		Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	12 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9	2	1	Element BCI	62.9

Comments: Inspection limited to above waterline. Concrete has spalls to the end block.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	18
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Other	
Remove tree adjacent to structure.		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	North		Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Rated on performance only						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	14.2	m		
Element Name:	Soffit - Thick Slab - Ext		Width:	1.02	m		
Location:			Height:	0.63	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	46.86	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		36.86	5	5	Element BCI	63.3
Comments:	Concrete deck soffit is in generally good condition with wet areas, severe honeycombing, spalling, narrow stained cracks, efflorescence deposits, rust stains and delamination.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	14.2	m		
Element Name:	Soffit - Thick Slab - Int		Width:	10	m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	142	Sq.m		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		129	6.5	6.5	Element BCI	70.0
Comments:	Concrete deck soffit is in generally good condition with wet areas, severe honeycombing, spalling, narrow stained cracks, efflorescence deposits, rust stains, delaminations and exposed rebar. Limmited Inspection, water is too deep at time of inspection to sound concrete.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	12	m		
Location:	South		Height:	1	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	12	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9	2	1	Element BCI	62.9

Comments: Inspection limited to above waterline. Concrete has spall to the end block

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	South		Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		0	4		Element BCI	40.0

Comments: Stable and vegetated. The lack of wingwalls resulted in localized erosion at the bridge corners.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Watercourse is unobstructed with no evidence of scour.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B04
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean deck, remove vegetation from Wearing Surface, Sidewalk,	$1,500.00
Deck Drainage	Clear debris blockages in deck drains.	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
Other	Remove tree in close proximity to structure.	$1,000.00
	Total Maintenance Needs Costs	**$4,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, sidewalk,					$90,000.00
Type B concrete repairs to soffit,					$42,000.00
Type C concrete repairs to abutment walls,					$10,000.00
Replace Barriers					$60,000.00
Replace deck drains.					$16,000.00
Waterproof and Pave.					$50,000.00
Add slope stabilization					$17,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$410,000.00**

Estimated Value of Replacement Structure	**$650,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$425,000.00	$665,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		$125,000.00	$250,000.00
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$65,000.00	$101,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$54,000.00	$84,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$52,000.00	$34,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$823,500.00**	**$1,269,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.0	9.3

Recommendation:	Forgo rehabilitation and replace structure within 9 years.

Justification:	**Current BCI**	**58.7**

Bridge B04 is generally in fair condition but exhibits concrete deterioration, erosion, and a barrier system that does not meet current standards. The structure only services one residence northeast of the bridge and also appears to provide access to the railway; however, alternative access to the railway appears to be available via Quetton Street. Accordingly, it is recommended to forgo a rehabilitation and replace the bridge when warranted, in approximately 9 years. In the interim, consideration may be given to providing a load restriction on the bridge to limit vehicle usage to pedestrian vehicles only. Staged construction costs have been included, however if the resident can temporarily use the Quetton St access, they may be excluded.

ELEVATION

DECK WEARING SURFACE – RAVELLING, ASPHALT PATCHES, POTHOLES

DECK WEARING SURFACE – WIDE CRACKS

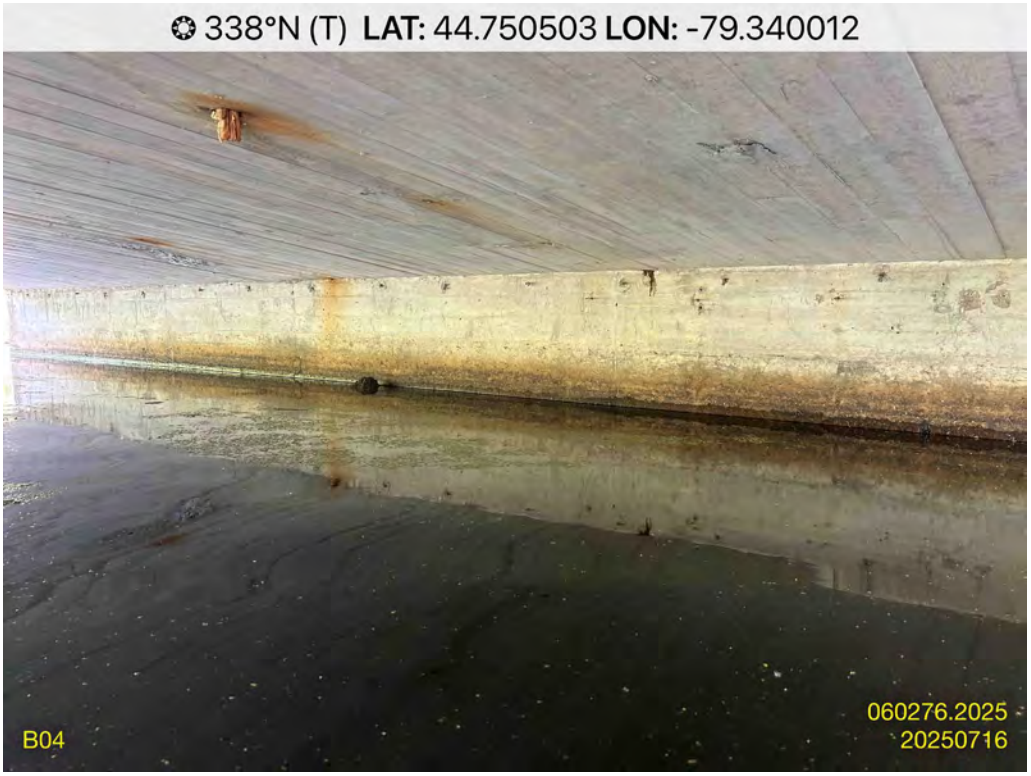
APPROACH WEARING SURFACE – SETTLEMENT, POTHOLES, RAVELLING

BARRIER – POSTS - DISINTEGRATION AND SPALLING

BARRIER – POST - EFFLORESCENCE

BARRIER – RAILING – LIGHT CORROSION

SOFFIT EXTERIOR



ABUTMENT WALL

SOFFIT INTERIOR - SPALLING

Ontario Structure Inspection Manual - Inspection Form

Site Number: B05
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 5 (The Rick Hansen Bridge)										
Main Hwy/Road #	Sturgeon Bay Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	0.03 km W of Coldwater Road, Coldwater										
Latitude	44.70954	Longitude	-79.64442								
Owners	Township of Severn	Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.				
			Desig./not list		Desig & List						
MTO region	Central	Road Class:	Freeway		Arterial						
			Collector		Local						
MTO District	Central region	Posted Speed	50	No. of Lanes	2						
Old County	Simcoe	AADT	2295	% Trucks	8						
Geographic Twp.		Inspection Route Sequence									
Structure Type	Cast-In-Place Conc. Rigid Frame	Interchange Number									
Total Deck Length	17.9 m	Interchange Structure Number									
Overall Str. Width	14.2 m	Min. Vertical Clearance	m								
Total Deck Area	254.2 sq. m	Special Routes:	Transit		Truck						
			School		Bicycle						
Road Platform Width	10.5 m (btwn tops of slopes)										
Roadway Width	10.4 m (btwn edges of shoulders)	Detour Length Around Bridge	km								
Skew Angle	0 Degrees	Direction of Structure	E-W								
No. of Spans	1	Fill on Structure	0 m								
Span Lengths	15.2 m	Height (streambed to structure top)	3 m								

Historical Data:

Year Built (◉ Known ○ Estimated ○ Unknown)	1982	Last Evaluation	
Last Biennial Inspection	2023	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Hammer, Camera, Tape Measure, Chest Waders		
Weather:	Sunny		
Temperature:	20 Deg. C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

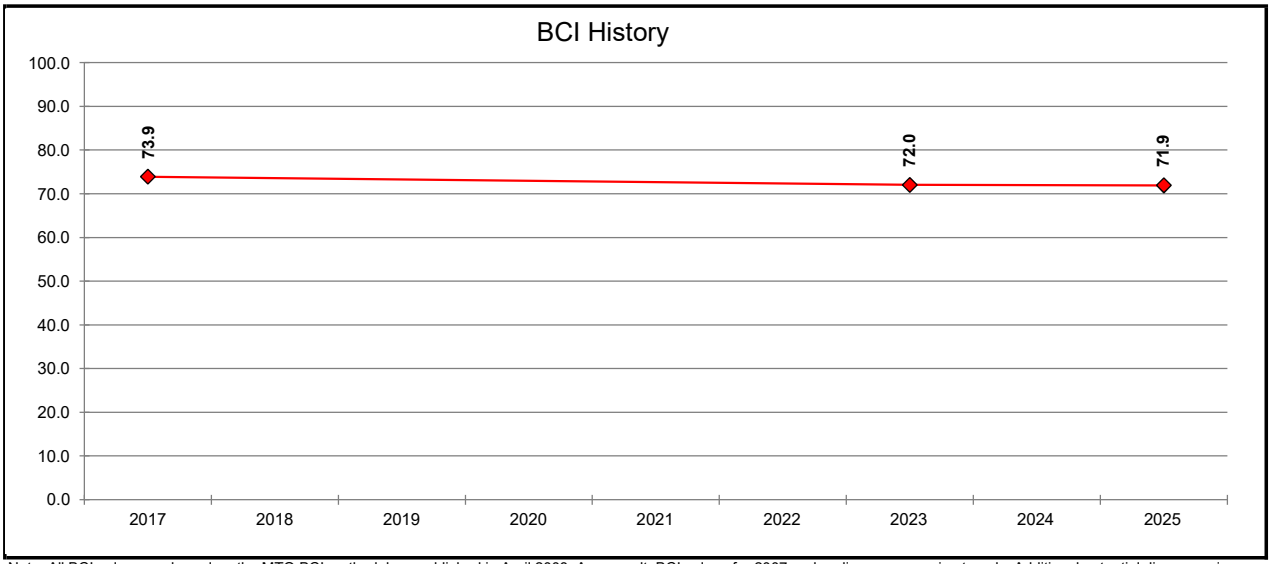
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	71.9	T. Wright	
2023	72.0	M. Ahmed (Doug Dixon)	
2017	73.9	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	10.4 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	124.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		115.8	4.5	4.5	Element BCI	71.0
Comments:	Wide longitudinal and transverse cracks. Potholes on west approach						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☑ 1 Year ☐ 2 Year				
Rout and seal cracks			Maintenance Needs: Rout and Seal Performance Deficiencies: None				

Element Group:	Decks		Length:	17.9 m			
Element Name:	Deck Wearing Surface		Width:	10.4 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	186.16 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		100	78.66	7.5	Element BCI	57.2
Comments:	Wide transverse cracks at deck ends and midspan. Medium longitudinal cracks at centreline.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☑ 1 Year ☐ 2 Year				
Rout and Seal			Maintenance Needs: Rout and Seal Performance Deficiencies: None				

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Sidewalk		Width:	1.7 m			
Location:	All 4 corners		Height:	m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	40.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.8			Element BCI	75.0
Comments:	Concrete sidewalks are in generally good condition with light abrasion. Settlement causing trip hazard at curb joint.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None Performance Deficiencies: Pedestrian/Vehicular Hazard				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	17.9 m			
Element Name:	Sidewalk		Width:	1.9 m			
Location:			Height:	0.2 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	75.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		55.18	20.02		Element BCI	65.7

Comments: Concrete sidewalks are in generally good condition with medium cracking and scaling

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	25.1 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Aluminum		Count:	2			
Element Type:			Total Quantity:	50.2 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		50.2			Element BCI	75.0

Comments: Aluminum tube handrails are in good condition. Light abrasion/scratching.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Deck drainage is accommodated by 4-200mm diameter steel deck drains which outlet below the soffit.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	16	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
		Maintenance Needs: Deck Drainage		
Clean out drainage inlets.		Performance Deficiencies: None		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	17.9 m			
Element Name:	Deck Top		Width:	14.2 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	254.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		245	9.2		Element BCI	73.7

Comments: Condition based on asphalt wearing surface and soffit

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	14.2 m			
Location:	East		Height:	2.1 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	29.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.98	4.82		Element BCI	69.3

Comments: Inspection limited to above waterline. Narrow to medium full height vertical cracks.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:	East		Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	1 All			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only. No settlement apparent at time of inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	5 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	1.1 m			
Material:			Count:	1			
Element Type:			Total Quantity:	5.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.25	0.25		Element BCI	69.7
Comments:	Wingwalls are in good condition above ground. Localized narrow cracks present at the knee joint along with some leaching. Inspection limited to above ground.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	5 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	0.334 m			
Material:			Count:	1			
Element Type:			Total Quantity:	1.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.7			Element BCI	69.7
Comments:	Wingwalls are in good condition above ground. Localized narrow cracks present at the knee joint along with some leaching. Inspection limited to above ground						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	14.2 m			
Location:	West		Height:	2.1 m			
Material:			Count:				
Element Type:	Legs of Rigid Frame		Total Quantity:	29.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.98	4.82		Element BCI	69.3
Comments:	Inspection limited to above waterline. Narrow to medium full height vertical stained cracks and efflorescence staining. Storm sewer outlet through wall.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	West		Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only. No deficiencies noted at time of inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	3 to 8	m		
Element Name:	Wall		Width:		m		
Location:	Southeast		Height:	Varies	m		
Material:	Gabion		Count:	4			
Element Type:	Gabions		Total Quantity:	20	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18	2		Element BCI	71.5

Comments: One Gabion has scour underneath

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	15.2	m		
Element Name:	Soffit - Thick Slab - Ext		Width:	1	m		
Location:			Height:	0.725	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	52.4	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		49.4	3		Element BCI	73.0

Comments: Hairline transverse efflorescence stained cracks with narrow to medium vertical cracks on fascia.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	15.2 m			
Element Name:	Soffit - Thick Slab - Int		Width:	12.2 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	185.44 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		185.44			Element BCI	75.0
Comments:	Hairline transverse cracks. Narrow longitudinal cracks.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	5 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southwest		Height:	1.1 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	5.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3	2.5		Element BCI	69.7
Comments:	Wingwalls are in good condition above ground. Localized narrow cracks present at the knee joint along with some leaching. Inspection limited to above ground						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	5 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northwest		Height:	1.1 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	5.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.5			Element BCI	69.7
Comments:	Wingwalls are in good condition above ground. Localized narrow cracks present at the knee joint along with some leaching. Inspection limited to above ground						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3

Comments: Severe erosion on SW beyond Gabion baskets.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	13
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Erosion Control	
Repair eroded areas, place rock protections.		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Curb/Gutters		Width:	0.27 m			
Location:			Height:	0.2 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	24 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		24			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: No hazard warning signs present at the time of inspection.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Hazard Signs	
Install hazard warning signs.		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B05
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Repair erosion behind SW retaining wall, install rock protection	$5,000.00
Rout and Seal	Rout and seal cracks on Approach Wearing Surface, Deck Wearing Surface,	$2,000.00
Deck Drainage	Clear debris from deck drains.	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$8,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate feasibility of installing steel beam guide rail.	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, sidewalk,					$13,000.00
Type B concrete repairs to soffit,					$4,000.00
Type C concrete repairs to abutment walls,					$12,000.00
Waterproof and Pave					$50,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$204,000.00**

Estimated Value of Replacement Structure	**$1,700,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities	Gas main affixed to structure face.		$10,000.00
Right of Way			
Environmental			
Other			
Total Associated Work Costs		**$15,000.00**	**$25,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$219,000.00	$1,725,000.00
Roadside Protection:		$1,000.00	$100,000.00
Staging Costs:		$150,000.00	$250,000.00
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$37,000.00	$154,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$30,000.00	$154,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$30,000.00	$87,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$469,500.00**	**$2,505,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	11.9	21.9

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**71.9**
Bridge B05 is generally in good condition but is demonstrating signs of bottom up defects in the asphalt wearing surface and localized concrete defects.		

ELEVATION

DECK WEARING SURFACE – MEDIUM LONGITUDINAL CRACKS

DECK WEARING SURFACE – WIDE TRANSVERSE CRACKS

SIDEWALK

SIDEWALK – MEDIUM CRACKING

SOFFIT EXTERIOR

SOFFIT EXTERIOR – HAIRLINE EFFLORESCENCE-STAINED CRACKS

SOFFIT INTERIOR

SOFFIT INTERIOR – NARROW LONGITUDINAL CRACKS

ABUTMENT WALL – FULL HEIGHT NARROW TO MEDIUM CRACK

ABUTMENT WALL – FULL HEIGHT NARROW TO MEDIUM CRACK WITH EFFLORESCENCE

WINGWALL

Ontario Structure Inspection Manual - Inspection Form

Site Number: B06
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 6										
Main Hwy/Road #	Muskoka Street	On	X	Crossing Type:	Navig. Water		Non-Navig.		Ped.		
		Under			Rail		Road		Other		
Structure Location	Lot 11, Conc XV, Washago, 0.10 km S of Coopers Falls Road										
Latitude	44.764286			Longitude	-79.330675						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	50		No. of Lanes	2			
Old County	Simcoe			AADT	1175		% Trucks	5			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Steel I-Girder (Concrete Deck)			Interchange Number							
Total Deck Length	18.6 m			Interchange Structure Number							
Overall Str. Width	9.4 m			Min. Vertical Clearance		m					
Total Deck Area	178.8 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	9 m (btwn tops of slopes)										
Roadway Width	8.4 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	18 m			Height (streambed to structure top)	3.5 m						

Historical Data:

Year Built	◉ Known ○ Estimated ○ Unknown	2000	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
Superstructure replaced in 2000			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☑ 6 to 10 years	☐ >10 years
Overall Comments:	Major Rehabilitation is recommended within 8 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

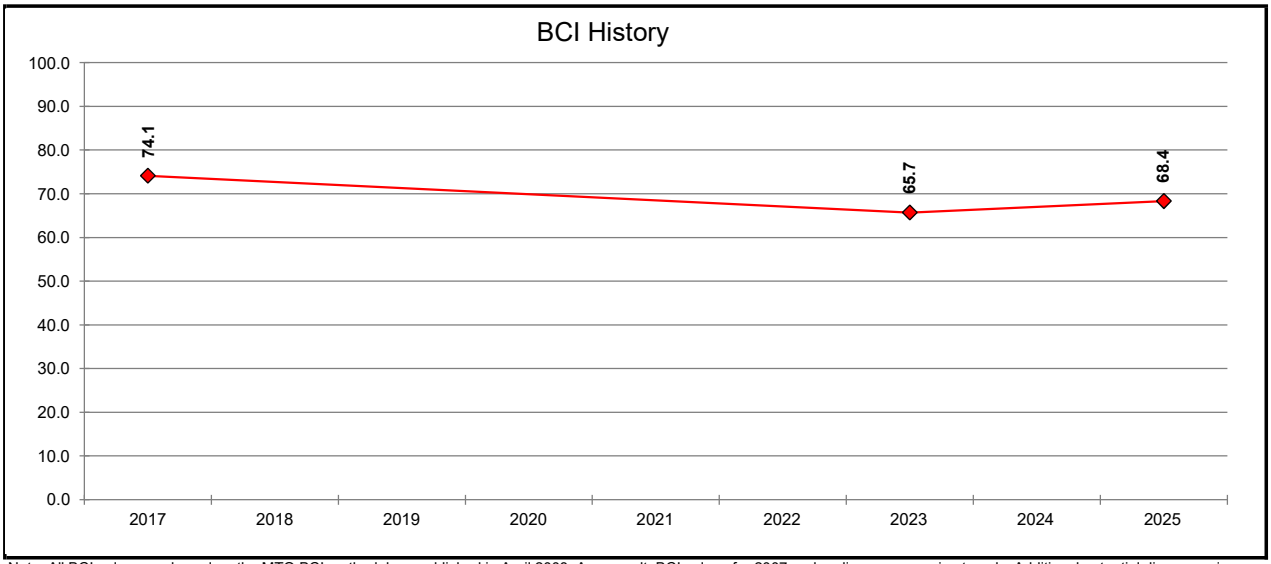
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	68.4	T. Wright	Corrections applied to previous BCI element values.
2023	65.7	M. Ahmed (Doug Dixon)	
2017	74.1	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: No hazard warning signs present at the time of inspection.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Consider installing hazard warning signs.		Maintenance Needs: Hazard Signs Performance Deficiencies: None	

Element Group:	Approach		Length:	3.81	m		
Element Name:	Approach Guide Rail		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	15.24	m		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		7.5	7.74		Element BCI	57.2

Comments: SBGR has minor damage due to vehicle impact along with damage to several timber posts. With burned ends and single SBGR attachment, SBGR does not meet current standards.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
Replace channel, install extruder ends		Maintenance Needs: None Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	8.4	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	100.8	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		100.8			Element BCI	75.0

Comments: Paved since 2023 inspection, wide transverse crack on south approach by deck end.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and seal asphalt cracks.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	18.6 m			
Element Name:	Deck Wearing Surface		Width:	8.4 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	156.24 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		130.24	20	6	Element BCI	67.6
Comments:	Wide full width transverse crack noted at each end of the deck. Medium longitudinal and transverse cracks throughout the deck						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			02	15
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Bridge Cleaning, Rout and Seal				
Rout and Seal cracks, Clean deck			Performance Deficiencies: None				

Element Group:	Decks		Length:	18.6 m			
Element Name:	Deck Top		Width:	8.4 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	156.24 Sq.m			
Environment:	Severe		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		152.24	2	2	Element BCI	73.6
Comments:	Condition based on asphalt and soffit.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:			Total Quantity:	2 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2			Element BCI	75.0
Comments:	Corroding at bottom of drains noted.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Joints		Length:		m		
Element Name:	Concrete End Dams		Width:	8.4	m		
Location:	Deck Ends		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:		Sq.m		
Environment:			Limited Inspection:		☑		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m					Element BCI	

Comments: Expansion joints at each end of the deck are paved over and could not be inspected

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Joints		Length:		m		
Element Name:	Seals / Sealants		Width:	8.4	m		
Location:	Deck Ends		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	16.8	Each		
Environment:			Limited Inspection:		☑		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each				4	Element BCI	0.0

Comments: Expansion joints at each end of the deck are paved over and not functioning as a result. No signs of leakage noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	26.3	m		
Element Name:	Barrier/Parapet Walls Interior		Width:	0.15	m		
Location:			Height:	0.9	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	55.23	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		49.73	4.5	1	Element BCI	70.8

Comments: Localized scaling and abrasions. Bug holes identified throughout the interior. Northwest corner disintegration with exposed rebar. Minor cracking throughout.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	26.3 m			
Element Name:	Barrier/Parapet Walls Exterior		Width:	0.15 m			
Location:			Height:	0.9 m			
Material:			Count:	2			
Element Type:			Total Quantity:	47.34 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		47.34			Element BCI	75.0

Comments: Localized scaling and abrasions. Minor cracking throughout

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	25.4 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:			Total Quantity:	50.8 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		50.8			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	5.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	2.15 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.4 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10	1.4		Element BCI	63.1

Comments: Inspection limited to above ground

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.4	m		
Location:	North		Height:	3	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	28.2	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15	5	8.2	Element BCI	47.0

Comments: Inspection limited to above waterline. Has been refaced. Medium vertical cracks in the refacing. The bottom section of the abutment has evidence of concrete erosion at waterline.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	8.4	m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	North		Height:	0.5	m		
Material:			Count:	1			
Element Type:			Total Quantity:	4.2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2.1		2.1	Element BCI	37.5

Comments: Walls exhibit erosion and concrete spalling as visible at depth through the walls

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	5.3	m		
Element Name:	Wingwalls		Width:		m		
Location:	Northwest		Height:	2.15	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.4	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.4	2	2	Element BCI	63.1

Comments: Concrete wingwall exhibits signs of disintegration, exposed rebar and signs of moisture. Inspection limited of above ground

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	18.6 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.47 m			
Location:			Height:	0.32 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	29.39 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		29.39			Element BCI	75.0
Comments:	Concrete deck soffit is in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	18.6 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.08 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	6			
Element Type:			Total Quantity:	120.53 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		120.53			Element BCI	75.0
Comments:	Concrete deck soffit is in good condition. Limited inspection due to water depth.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.21 m			
Location:			Height:	0.54 m			
Material:	Steel		Count:	14			
Element Type:	I-Beam or Girders		Total Quantity:	23.94 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.54	2.4		Element BCI	71.5
Comments:	Light to medium corrosion. Atmospheric corrosion resistant steel in fair/good condition with some secondary corrosion showing on ends at bearings.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	16 m			
Element Name:	Girders - Middle		Width:	0.21 m			
Location:			Height:	0.54 m			
Material:	Steel		Count:	7			
Element Type:	I-Beam or Girders		Total Quantity:	191.52 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		191.52			Element BCI	75.0
Comments:	Light to medium corrosion						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - End		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	12			
Element Type:			Total Quantity:	12 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		12			Element BCI	75.0
Comments:	Galvanized steel end diaphragms are in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - Middle		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	18			
Element Type:			Total Quantity:	18 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		18			Element BCI	75.0
Comments:	Galvanized steel middle diaphragms are in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	5.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	2.15 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.4 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10.4	0.5	0.5	Element BCI	63.1

Comments: Southeast wingwall is in good condition above ground. Wide cracking at cold joint.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	9.4 m			
Location:	South		Height:	3 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	28.2 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15	5	8.2	Element BCI	47.0

Comments: Inspection limited to above waterline. Narrow to medium full height efflorescence stained vertical cracks. The bottom section of the abutment has evidence of concrete erosion at waterline.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	8.4 m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:	South		Height:	0.5 m			
Material:			Count:	1			
Element Type:			Total Quantity:	4.2 All			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2.1		2.1	Element BCI	37.5

Comments: Exhibit erosion and concrete spalling

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	5.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southwest		Height:	2.15 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.4 Sq.m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.4	2	2	Element BCI	63.1
Comments:	Southwest wingwall is in good condition above ground. Evidence of scaling and cracking with efflorescence staining.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	9.4 m			
Location:			Height:	0.54 m			
Material:			Count:	2			
Element Type:	Reinforced Concrete		Total Quantity:	10.15 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10.15			Element BCI	75.0
Comments:	Ballast walls are generally in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:			Count:	14			
Element Type:	Elastomeric Pad		Total Quantity:	14 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		14			Element BCI	75.0
Comments:	Elastomeric pads are compressed with light bulging and deformation due to poor bearing seat concrete in some locations.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All four quadrants		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:	Southwest		Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			1		Element BCI	40.0

Comments: Rock protection is covered by fill and vegetation.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed, potential scour on southwest.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B06
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface,	$1,000.00
Rout and Seal	Repairs required to Approach Wearing Surface, Deck Wearing Surface,	$1,500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$3,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Repair steel beam guide rail, install end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to barrier/parapet walls interior, deck top,	x				$6,000.00
Type C concrete repairs to abutment walls, wingwalls,	x				$70,000.00
Waterproof and Pave	x				$70,000.00
Add slope stabilization	x				$5,000.00
General Items - Insurance, Mobilization, Access etc.	x				$125,000.00
Rehabilitation Cost Subtotal					**$276,000.00**

Estimated Value of Replacement Structure	**$1,500,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$291,000.00	$1,515,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$40,000.00	$131,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$35,000.00	$131,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$32,000.00	$76,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$500,500.00**	**$1,988,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	8.4	18.4

Recommendation:	Major Rehabilitation is recommended within 8 years.

Justification:	**Current BCI**	**68.4**
Bridge B06, which was noted to have had a previous superstructure replacement, is generally in good condition but is demonstrating signs of some minor localized concrete deficiencies. Consideration should also be given to replacing the steel beam guide rail system, end treatments and structure connections, as the current guide rail does not meet current standards based on the length and buried end treatments.		

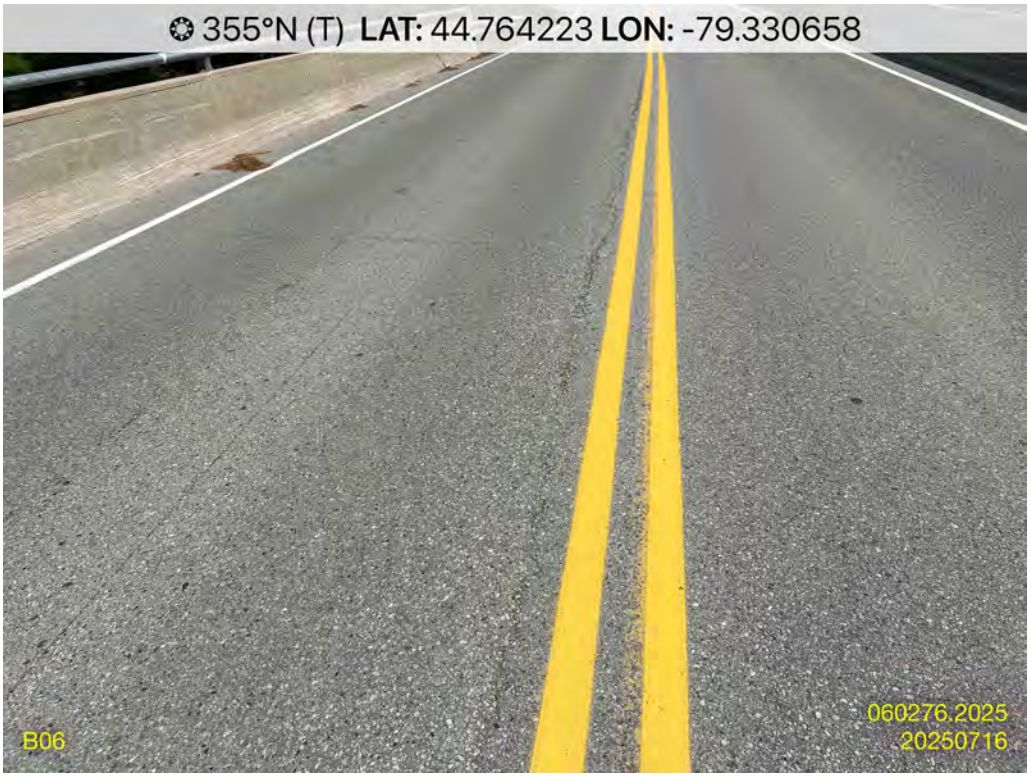
ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – WIDE TRANSVERSE CRACK

DECK WEARING SURFACE

DECK WEARING SURFACE – MEDIUM LONGITUDINAL CRACK



DECK WEARING SURFACE – MEDIUM LONGITUDINAL CRACK

APPROACH GUIDE RAIL

BARRIER

BARRIER – SPALL WITH EXPOSED REBAR

WINGWALL

SOFFIT EXTERIOR

BALLAST WALL

GIRDERS – LIGHT CORROSION

DIAPHGRAMS

SOFFIT INTERIOR

ABUTMENT WALL

Ontario Structure Inspection Manual - Inspection Form

Site Number: B07
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 7										
Main Hwy/Road #	Bayou Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 3, Conc IX, 0.10 km N of Westchore Cres										
Latitude	44.691048			Longitude	-79.390236						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	10		No. of Lanes	1			
Old County	Simcoe			AADT	400		% Trucks	5			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Rigid Frame			Interchange Number							
Total Deck Length	10.8 m			Interchange Structure Number							
Overall Str. Width	6.9 m			Min. Vertical Clearance		m					
Total Deck Area	74.52 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	6 m (btwn tops of slopes)										
Roadway Width	4.7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	10 m			Height (streambed to structure top)	2.5 m						

Historical Data:

Year Built	◉ Known ○ Estimated ○ Unknown	1990	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

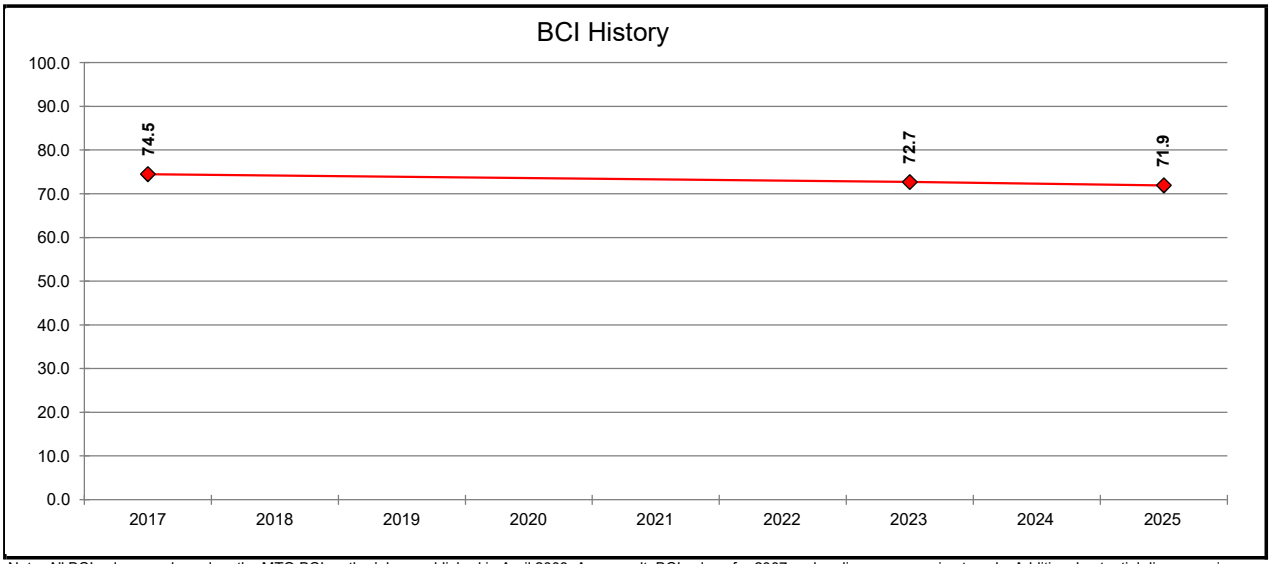
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	71.9	T. Wright	
2023	72.7	M. Ahmed (Doug Dixon)	
2017	74.5	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:	8			
Element Type:			Total Quantity:	8	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		8			Element BCI	75.0

Comments: 4 Hazard warning signs, 2 reduced speed sign and 2 one lane signs.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	24.7	m		
Element Name:	Approach Guide Rail		Width:		m		
Location:	Northeast and Southeast		Height:		m		
Material:			Count:	4			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	98.8	m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		98.8			Element BCI	75.0

Comments: NE and SE are 21 m long while NW and SW are 28.4 m long

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Replace guide rail		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	5.6	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	67.2	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	10
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		60	4.2	3	Element BCI	69.5

Comments: Potholes have been patched. Minor transverse and longitudinal cracking

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: Surface Ponding	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	10.8 m			
Element Name:	Deck Wearing Surface		Width:	4.7 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	50.76 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45.76	5		Element BCI	71.6

Comments: Exposed Concrete Deck. Longitudinal cracks due to differential movement of the precast units. Light scaling throughout. Deck has been sounded, and no delaminations found.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clean Deck.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:	Midspan		Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			1		Element BCI	40.0

Comments: One deck drain at midspan that does not extend below the soffit; recommend extending the drain.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	10.8 m			
Element Name:	Sidewalk		Width:	1.1 m			
Location:	West		Height:	0.15 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	13.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		11.5	1	1	Element BCI	66.9

Comments: Light to moderate scaling with narrow to medium cracks. Impact damage on all corners. Abrasion on face throughout.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clean the deck surface and sidewalk		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	10.8 m			
Element Name:	Curbs		Width:	0.3 m			
Location:	East		Height:	0.15 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	4.86 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.86	0.5	0.5	Element BCI	63.7

Comments: Light scaling and narrow to medium cracks. Impact damage at northeast corner.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	10.8 m			
Element Name:	Barrier/Parapet Walls Interior		Width:	0.23 m			
Location:			Height:	0.7 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall with Single Railing		Total Quantity:	20.09 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		19.59	0.5		Element BCI	74.1

Comments: Light scaling

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	10.8 m			
Element Name:	Barrier/Parapet Walls Exterior		Width:	0.23 m			
Location:			Height:	0.7 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall with Single Railing		Total Quantity:	15.12 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.12			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	7.8 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	Single Railing		Total Quantity:	15.6 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		15.6			Element BCI	75.0

Comments: Localized scaling and abrasions. Minor cracking throughout. Missing end cap SE.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	03
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Handrail Maintenance	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.45 m			
Element Name:	Abutment Walls		Width:	6.9 m			
Location:	North		Height:	2.2 m			
Material:	Precast Concrete		Count:	1			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	17.16 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		13.51	2.45	1.2	Element BCI	65.0

Comments: Inspection limited to above waterline. Generally in good condition, with a large area of severe concrete spalling on the westmost precast unit. Concrete spalling around drains. Face of abutment has steel sheet piles acting as wingwalls.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only. Differential deflection between the precast units was noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Retaining Walls		Length:	6.43 m			
Element Name:	Wall		Width:	m			
Location:	All 4 corners		Height:	3 m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	77.16 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		77.16			Element BCI	75.0
Comments:	Inspection limited to above the waterline						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	0.45 m			
Element Name:	Abutment Walls		Width:	6.9 m			
Location:	South		Height:	2.2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	17.16 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		13.61	2.45	1.1	Element BCI	65.0
Comments:	Inspection limited to above waterline. Generally in good condition, with a large area of severe concrete spalling on the westmost precast unit. Concrete spalling around drains. Face of abutment has steel sheet piles acting as wingwalls.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:	South		Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Rated on performance only						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	10.8 m			
Element Name:	Soffit - Thick Slab - Ext		Width:	0.39 m			
Location:			Height:	0.34 m			
Material:	Precast Concrete		Count:	2			
Element Type:			Total Quantity:	15.77 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.77			Element BCI	75.0

Comments: Concrete deck soffit in generally good condition with localized minor spalling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	10.8 m			
Element Name:	Soffit - Thick Slab - Int		Width:	9.6 m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	103.68 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		103.68			Element BCI	75.0

Comments: Concrete deck soffit in generally good condition with localized minor spalling and staining around deck drain. Some movement of exterior precast units, potentially during construction.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	00
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Accessories		Length:	m			
Element Name:	Utilities		Width:	m			
Location:	All		Height:	m			
Material:			Count:	2			
Element Type:			Total Quantity:	2 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2			Element BCI	75.0

Comments: (1) Gas main affixed to structure face, (1) Communications conduit affixed to structure face.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Accessories		Length:	m			
Element Name:	Lighting		Width:	m			
Location:	East		Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	Sq.m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m					Element BCI	

Comments: Lamp affixed to East Structure face.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B07
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Bridge Deck, Sidewalk,	$1,000.00
Handrail Maintenance	Install missing endcap on railing.	$500.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to barrier/parapet walls interior, curbs, sidewalk,					$3,000.00
Type C concrete repairs to abutment walls,					$12,000.00
Concrete Deck Repairs.					$11,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$151,000.00**

Estimated Value of Replacement Structure	**$1,100,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities	Gas main affixed to structure face.		$15,000.00
Right of Way			
Environmental			
Other	Lighting, conduit for navigatable waterway affixed to structure.		$5,000.00
	Total Associated Work Costs	**$15,000.00**	**$35,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$166,000.00	$1,135,000.00
Roadside Protection:		$0.00	$100,000.00
Staging Costs:		$200,000.00	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$37,000.00	$112,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$27,000.00	$112,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$30,000.00	$57,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$462,500.00**	**$1,551,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	11.9	21.9

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**71.9**
Bridge B07 is generally in good condition but is demonstrating signs of localized concrete defects. Given the narrow, sub-standard driving platform width, consideration may be given to forgoing the rehabilitation and scheduling the replacement of the structure.		

ELEVATION

APPROACH WEARING SURFACE

DECK TOP

SIDEWALK

BARRIER

APPROACH GUIDE RAIL

RETAINING WALL

SOFFIT EXTERIOR

ABUTMENT WALL

ABUTMENT WALL – DISINTEGRATION/SPALLING

SOFFIT INTERIOR

Ontario Structure Inspection Manual - Inspection Form

Site Number: B10
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 10										
Main Hwy/Road #	Woodrow Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lots 20/21, Conc XI, 0.20 km W of Highway 12										
Latitude	44.696863			Longitude	-79.643219						
Owners	Township of Severn			Heritage Designation	Not Consid:		X	Cons/not App.		List/n.d.	
					Desig./not list			Desig & List			
MTO region	Central			Road Class:	Freeway			Arterial			
					Collector			Local			
MTO District	Central region			Posted Speed	60			No. of Lanes	1		
Old County	Simcoe			AADT	500			% Trucks	5		
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Concrete T-Beam			Interchange Number							
Total Deck Length	15 m			Interchange Structure Number							
Overall Str. Width	5.6 m			Min. Vertical Clearance		m					
Total Deck Area	84 sq. m			Special Routes:	Transit			Truck			
					School			Bicycle			
Road Platform Width	6 m (btwn tops of slopes)										
Roadway Width	4.6 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	3			Fill on Structure	0 m						
Span Lengths	3.75, 6.4, 3.75 m			Height (streambed to structure top)	2 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure, Chest Waders		
Weather:	Sunny		
Temperature:	26 Deg. C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☑ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Forgo rehabilitation and replace structure within 2 years. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

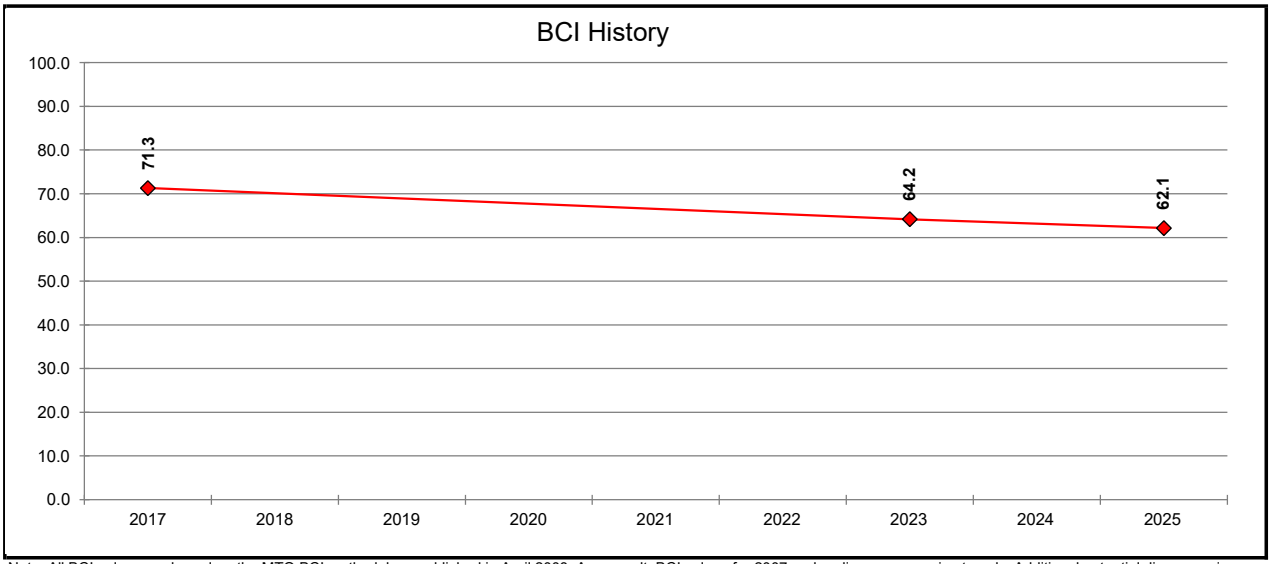
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	62.1	T. Wright	
2023	64.2	Mahmoud Ahmed	
2017	71.3	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.6 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	55.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.2	10	5	Element BCI	61.9

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	15 m			
Element Name:	Deck Wearing Surface		Width:	4.6 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	69 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			44	25	Element BCI	25.5

Comments: Wide cracks and potholing. Some of the potholes have been patched

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	15 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	Both sides		Height:	m			
Material:			Count:	4			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	60 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		51.19	5	3.81	Element BCI	67.3

Comments: Minor damage to steel beam guiderail (SBGR) due to vehicle impact.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	15 m			
Element Name:	Deck Top		Width:	4.6 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	69 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			64.5	4.5	Element BCI	37.4
Comments:	Condition based on deck wearing surface and soffit.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	10			
Element Type:			Total Quantity:	10 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			10		Element BCI	40.0
Comments:	Deck drain is not extended below the soffit of the deck						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Curb and S/W		Length:	15 m			
Element Name:	Curbs		Width:	0.5 m			
Location:	Both sides		Height:	0.1 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	18 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		17	0.5	0.5	Element BCI	71.9
Comments:	Generally in good condition with medium cracking and scaling						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.9 m			
Location:	West		Height:	1.7 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	10 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8	2		Element BCI	66.8

Comments: Light scaling and cracking observed.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.33 m			
Element Name:	Abutment Piles		Width:	0.33 m			
Location:	West		Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	5.3 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.3			Element BCI	68.9

Comments: Light scaling and narrow cracks observed

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.6 m			
Element Name:	P. Caps		Width:	6 m			
Location:	East and West Pier Cap		Height:	2 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	52.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		41.8	10	1	Element BCI	67.0

Comments: Generally in good condition with light to moderate scaling. Severe spalling on south end of east pier.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	0.35 m			
Element Name:	P. Piles		Width:	0.35 m			
Location:	East and west piles		Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	10			
Element Type:			Total Quantity:	14 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9	3.5	1.5	Element BCI	58.2

Comments: Severe scaling and delamination. Areas of disintegration on second pile from south.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete Repairs		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	7 m			
Location:	East		Height:	1.35 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	9.45 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.45	1.5	0.5	Element BCI	66.8

Comments: Light to medium scaling and cracking. Wide crack and delamination on SE

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete Repairs		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.33 m			
Element Name:	Abutment Piles		Width:	0.33 m			
Location:	East		Height:	0.7 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	3.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.7	0.5	0.5	Element BCI	68.9

Comments: Delamination and small spalls noted. Narrow cracking also observed.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	15 m			
Element Name:	Soffit - Thick Slab - Ext		Width:	m			
Location:	Fascia Only		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	12 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		11	0.5	0.5	Element BCI	70.4

Comments: Light scaling and narrow cracks throughout. Some areas of moderate to severe scaling.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	13 m			
Element Name:	Soffit - Thick Slab - Int		Width:	4.3 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	55.9 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.9	9	6	Element BCI	61.3

Comments: Multiple areas of delamination and spalling with exposed rebar. Wide cracks are present.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Element Group:	Girders		Length:	6.1 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	Centre Span		Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	36.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		20	10.3	6.3	Element BCI	52.2

Comments: Delamination on north and south exterior girders. Spalling and exposed rebar on haunch. Wide crack at north.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	3.45 m			
Element Name:	Girders - Ends		Width:	0.3 m			
Location:	2 End Spans		Height:	0.3 m			
Material:	Cast-In-Place Concrete		Count:	8			
Element Type:	T-Beam		Total Quantity:	24.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18	4.8	2	Element BCI	62.2

Comments: Severe delamination and spalling. Narrow to medium cracks present..

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	1	1	Element BCI	47.5

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with potiential evidence of scour on the southwest side

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	18	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
		Maintenance Needs: Other		
Remove debris from watercourse		Performance Deficiencies: None		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard marking signs are provided at all four quadrants of the structure.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B10
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Other	Clear debris from Streams and Waterways,	$500.00
	Total Maintenance Needs Costs	**$500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$1,555,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,570,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	Rehab Contingency = 10% of first $1M + 5% of cost above $1M; Custom Estimate for Replacement	N/A	$251,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	Rehab Cost = See Note 2 Below (Min $20k); Custom Estimate for Replacement	N/A	$175,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$79,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$2,210,000.00**

NOTE 1: Engineering Design Costs calculated using Rehab Cost = 10% of first $1M + 5% of cost above $1M (Min $20k); Custom Estimate for Replacement

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.0	2.0

Recommendation:	Forgo rehabilitation and replace structure within 2 years.

Justification:	**Current BCI**	**62.1**
Bridge B10 is currently in design for replacement. Construction anticipated for 2026 pending budget approval.		

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE – PATCHED POTHOLES, WIDE CRACKS

APPROACH GUIDE RAIL

APPROACH GUIDE RAIL – IMPACT DAMAGE

SOFFIT EXTERIOR

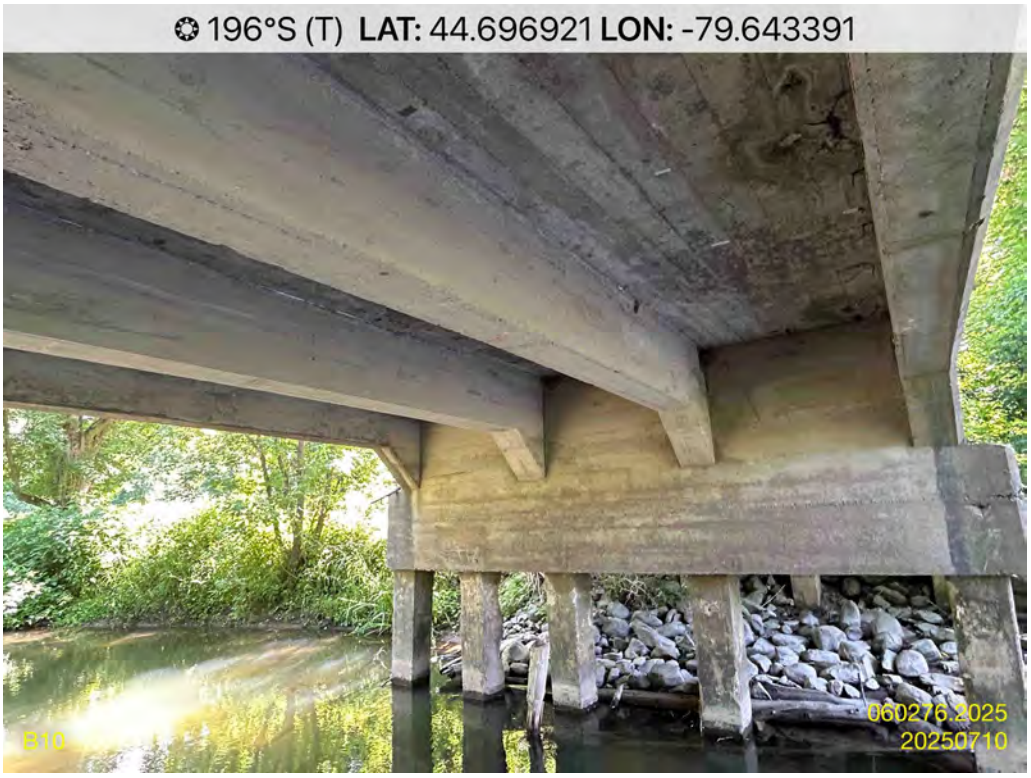
PIER CAPS AND PILES

PIER PILES – DISINTEGRATION

PIER PILES – DISINTEGRATION, SCALING, DELAMINATION

PIER CAPS – SEVERE SPALLING

ABUTMENT WALL & ABUTMENT PILES



GIRDERS

GIRDERS - DELAMINATION

GIRDER – HAUNCH – NARROW CRACK

SOFFIT INTERIOR - DELAMINATION

SOFFIT INTERIOR – SPALLING WITH EXPOSED CORRODED REBAR, STAINING

Ontario Structure Inspection Manual - Inspection Form

Site Number: B11
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 11										
Main Hwy/Road #	Reinbird Street	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	0.01 km W of River Street										
Latitude	44.71256			Longitude	-79.646058						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.			List/n.d.	
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed			No. of Lanes	1			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Bailey Bridge (Timber Deck)			Interchange Number							
Total Deck Length	15.2 m			Interchange Structure Number							
Overall Str. Width	3.8 m			Min. Vertical Clearance		m					
Total Deck Area	57.8 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	3.55 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	14.6 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2017	Current Load Limit	5 tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	1970
Superstructure replaced in 1970. Wearing surface rehabilitated in 2009.		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25 Deg. C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other: Monitor structure condition and usage.		X		$0.00
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes: Routine monitoring of the structure by municipal forces is recommended to assess its ongoing condition and ensure it remains restricted to pedestrian use.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☑ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Structure replacement is recommended as soon as possible. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	5 tonnes			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

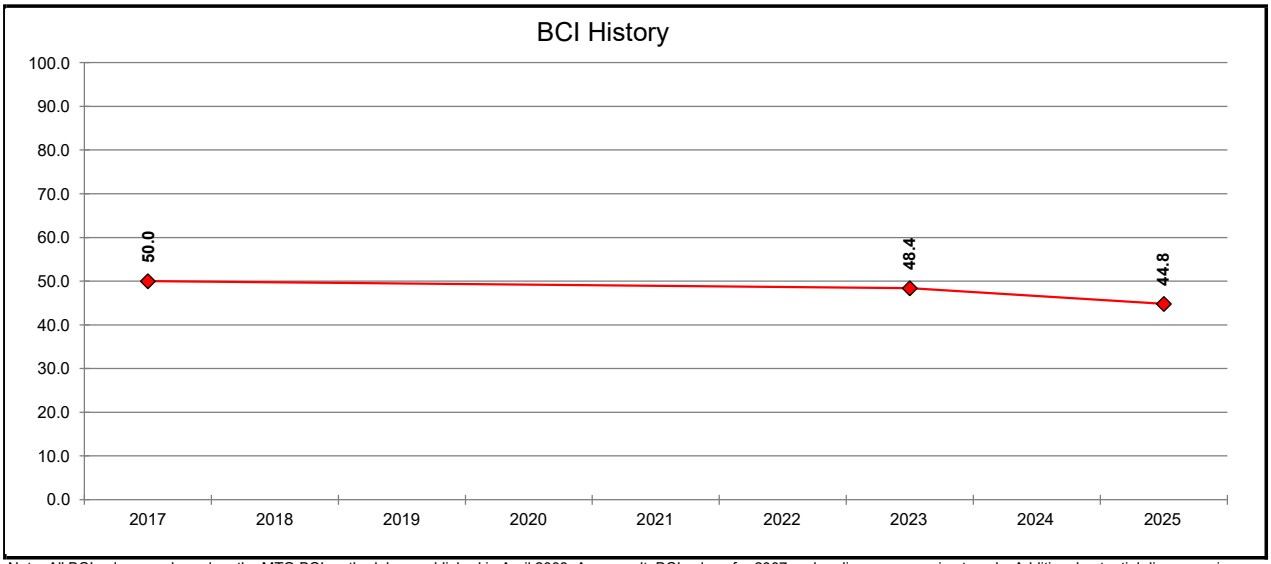
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	44.8	T. Wright	
2023	48.4	M. Ahmed (Doug Dixon)	
2017	50.0	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	3.4 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	40.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.8			Element BCI	75.0

Comments: Asphalt paved approach roads are in good condition, light ravelling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	15.2 m			
Element Name:	Deck Top		Width:	3.55 m			
Location:	Exposed		Height:	m			
Material:	Wood		Count:				
Element Type:			Total Quantity:	54 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		32	20	2	Element BCI	59.3

Comments: Timber deck was previously replaced in 2009. One wood plank is broken, and a few planks need to be nailed. Deck has light to medium checking.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	09
	1-5 Years ☑ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
Replace, fix losse planks.		Maintenance Needs: Timber Repair	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	15.2 m			
Element Name:	Deck Wearing Surface		Width:	2.1 m			
Location:	Running Strips		Height:	m			
Material:	Wood		Count:				
Element Type:			Total Quantity:	31.9 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.98	5	4.92	Element BCI	57.9

Comments: Several splits due to vehicle loading noted.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:	All 4 quadrants		Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard warning signs were present at all 4 corners of the bridge. Load restriction signs noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Barriers		Length:	3.4	m		
Element Name:	Railing System		Width:		m		
Location:	East		Height:		m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	Mass Concrete		Total Quantity:	13.6	m		
Environment:	Moderate		Limited Inspection:		☐		
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m				13.6	Element BCI	0.0

Comments: Generally in poor condition, major disintegration, NE rail has mostly collapsed and is leaning towards the waterway.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
Replace.		Performance Deficiencies: Pedestrian/Vehicular Hazard

Element Group:	Curb and S/W		Length:	15.2	m		
Element Name:	Curbs		Width:	0.09	m		
Location:			Height:	0.09	m		
Material:	Wood		Count:	2			
Element Type:			Total Quantity:	5.5	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2	2	1.5	Element BCI	41.8

Comments: Light to medium checks. Rotting at ends of curb. NE curb damaged due to vehicle impact.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	09
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Timber Repair	
Replace curbs.		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Trusses		Length:	0.8 m			
Element Name:	Verticals / Diagonals		Width:	0.08 m			
Location:	Verticals		Height:	0.04 m			
Material:	Steel		Count:	60			
Element Type:			Total Quantity:	15.36 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.36			Element BCI	75.0
Comments:	Generally good condition with minor to moderate corrosion and flaking of the protective paint coating.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Trusses		Length:	15.25 m			
Element Name:	Top Chords		Width:	0.05 m			
Location:			Height:	0.1 m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	24.4 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		23.4	1		Element BCI	73.6
Comments:	Generally good condition with minor to moderate corrosion and flaking of the protective paint coating. Minor impact damage likely caused during construction.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Trusses		Length:	15.25 m			
Element Name:	Bottom Chords		Width:	0.05 m			
Location:			Height:	0.1 m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	24.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		22.4	2		Element BCI	72.1
Comments:	Generally good condition with minor to moderate corrosion and flaking of the protective paint coating.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Trusses		Length:	0.95 m			
Element Name:	Verticals / Diagonals		Width:	0.08 m			
Location:	Diagonals		Height:	0.04 m			
Material:	Steel		Count:	160			
Element Type:			Total Quantity:	48.64 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		48.64			Element BCI	75.0

Comments: Generally good condition with minor to moderate corrosion and flaking of the protective paint coating. Minor impact damage to 2 interior diagonals on south.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Trusses		Length:	m			
Element Name:	Connections		Width:	m			
Location:			Height:	m			
Material:			Count:	32			
Element Type:			Total Quantity:	32 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		32		0	Element BCI	75.0

Comments: Pins have a lot of corrosion.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	3.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	East		Height:	1.75 m			
Material:	Precast Concrete		Count:	2			
Element Type:			Total Quantity:	11.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4	4.6	3	Element BCI	57.3

Comments: Severe scaling and honeycombing. Large spall on top corner of SE. Cracks on North side.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	6	m		
Location:	East		Height:	2.05	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	12.3	Sq.m		
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m				12.3	Element BCI	32.6

Comments: Inspection limited due to high water level. Abrasion/scouring below water level. Severe scaling on entire wall. Exposed rebar on NE.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	3.6	m		
Element Name:	Wingwalls		Width:		m		
Location:	West		Height:	2.6	m		
Material:	Precast Concrete		Count:	2			
Element Type:			Total Quantity:	14.8	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		13.2	0.95	0.65	Element BCI	57.3

Comments: Light to severe scaling. NW corner has started to rotate towards the river.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	6	m		
Location:	West		Height:	2.05	m		
Material:	Precast Concrete		Count:				
Element Type:			Total Quantity:	12.3	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10.1	1.1	1.1	Element BCI	32.6

Comments: Light to severe scaling

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	5.4 m			
Element Name:	Floor Beams		Width:	0.115 m			
Location:	Transverse		Height:	0.255 m			
Material:	Steel		Count:	11			
Element Type:	I-Beam or Girders		Total Quantity:	50.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	01
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			17.8	33	Element BCI	14.0

Comments: Medium to severe corrosion with medium to severe section loss (10 to 35% in some areas)

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: Load Carrying Capacity	

Element Group:	Girders		Length:	m			
Element Name:	Stringers		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:				
Element Type:			Total Quantity:	15 Each			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	01
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			3	12	Element BCI	8.0

Comments: Medium to severe corrosion with medium to severe section loss. (10% to 45% in some areas). Areas with section loss through the entire web

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: Load Carrying Capacity	

Element Group:	Bracing		Length:	m			
Element Name:	Bracings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	10			
Element Type:	Cross Type		Total Quantity:	10 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4	6	Element BCI	16.0

Comments: Medium to severe corrosion. Deformation to majority of bracings.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Coating		Length:		m		
Element Name:	Coat - Structural Steel - Total		Width:		m		
Location:	Trusses		Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	192	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15	52.68	124.32	Element BCI	16.8

Comments: Flaking of the protective paint coating noted. Poor quantity accounts for all stringers, 80% of beams, and 20% of truss. Fair quantity accounts for 20% of beams and 20% of truss.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Decks		Length:	15.2	m		
Element Name:	Soffit - Thin Slab - Int		Width:	3.8	m		
Location:			Height:		m		
Material:	Wood		Count:				
Element Type:	Bailey Panel		Total Quantity:	57.8	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		57.8			Element BCI	75.0

Comments: Light checks.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	2		Element BCI	57.5

Comments: Erosion on NW and SW.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
Repair erosion		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B11
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Timber Repair	Repairs required to Deck Top, Curbs,	$1,000.00
Traffic Control	Install bollards or gate to prevent vehicular traffic	$1,500.00
	Total Maintenance Needs Costs	**$2,500.00**

Additional Investigations:	Other: Monitor structure condition and usage.;	**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate feasibility of steel beam guide rail installation.	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
				Rehabilitation Cost Subtotal	**$0.00**

Estimated Value of Replacement Structure	**$350,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$365,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$47,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$42,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$20,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$609,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR	Bridge with span less than 4.5m and replacement planned	N/A	0.0

Recommendation:	Structure replacement is recommended as soon as possible.

Justification:	**Current BCI**	**44.8**
Bridge B11, now serving as a pedestrian bridge, is generally in poor condition, with severe section loss observed on the floor beams and stringers, and notable concrete deterioration on the substructure. Although recently converted for pedestrian use and posted with a 5-tonne load limit, replacement with a prefabricated pedestrian bridge is recommended as soon as possible. In the interim, the municipality is strongly advised to implement physical measures to prevent vehicular access, such as installing bollards or similar barriers. Ongoing monitoring by municipal forces should be maintained to assess the structure's condition and ensure it remains restricted to pedestrian use.		

ELEVATION

DECK TOP & RUNNING BORADS

TRUSS

TRUSS – DIAGONAL - DEFORMATION

TRUSS – TOP CHORDS - DEFORMATION

BARRIER ON TOP OF WINGWALL – EXPOSED REBAR

BARRIER - DISINTEGRATION

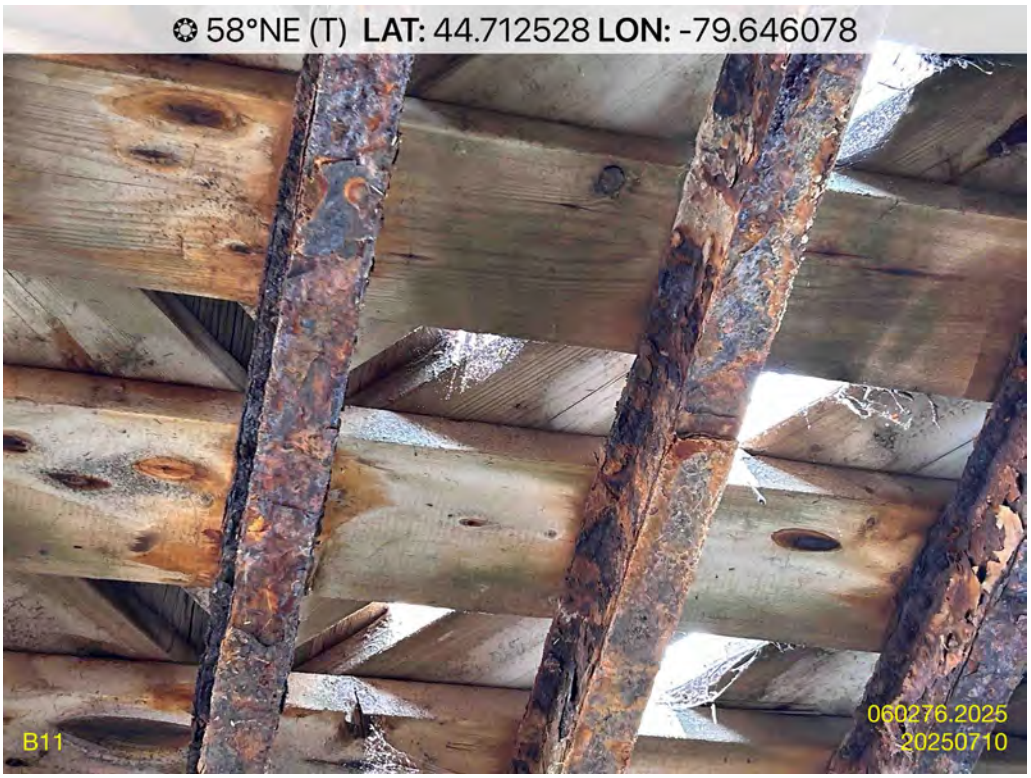
BARRIER – WIDE CRACK

WINGWALL – EFFLORESCENCE, WIDE CRACK, ROTATION TOWARDS RIVER

ABUTMENT WALL – SCALING

ABUTMENT WALL – SEVERE SCALING

SOFFIT INTERIOR, STRINGERS, FLOOR BEAMS, BRACING



FLOOR BEAMS – CORROSION WITH MEDIUM TO SEVERE SECTION LOSS

STRINGER – SECTION LOSS THROUGH ENTIRE WEB

STRINGERS – MEDIUM TO SEVERE CORROSION AND SECTION LOSS

BRACING – MEDIUM TO SEVERE CORROSION

Ontario Structure Inspection Manual - Inspection Form

Site Number: B12
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 12									
Main Hwy/Road #	Mill Street, Coldwater	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.	
		Under			Rail		Road		Other	
Structure Location	0.02 km W of Coldwater Road									
Latitude	44.708151			Longitude	-79.643808					
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.	
					Desig./not list		Desig & List			
MTO region				Road Class:	Freeway		Arterial			
					Collector		Local			
MTO District				Posted Speed	50		No. of Lanes	2		
Old County				AADT			% Trucks			
Geographic Twp.				Inspection Route Sequence						
Structure Type	Steel Truss (Concrete Deck)			Interchange Number						
Total Deck Length	20.1 m			Interchange Structure Number						
Overall Str. Width	6.7 m			Min. Vertical Clearance		m				
Total Deck Area	134.7 sq. m			Special Routes:	Transit		Truck			
					School		Bicycle			
Road Platform Width	6 m (btwn tops of slopes)									
Roadway Width	4.9 m (btwn edges of shoulders)			Detour Length Around Bridge		km				
Skew Angle	Degrees			Direction of Structure	E-W					
No. of Spans	1			Fill on Structure	0 m					
Span Lengths	19.5 m			Height (streambed to structure top)		m				

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1980	Last Evaluation	
Last Biennial Inspection		2017	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	

This relatively modern bridge has remnants of the former truss bridge incorporated. According to records, the superstructure/substructure was replaced in 1980 maintaining the original pony truss and railing (lattice). The original abutments are acting as retaining walls protecting the new set back abutments. An investigation of the bridge corners with a view to modernizing and upgrading the retaining walls in all four corners is advised.

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Hammer, Camera, Tape Measure, Chest Waders		
Weather:	Sunny		
Temperature:	20 Deg. C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

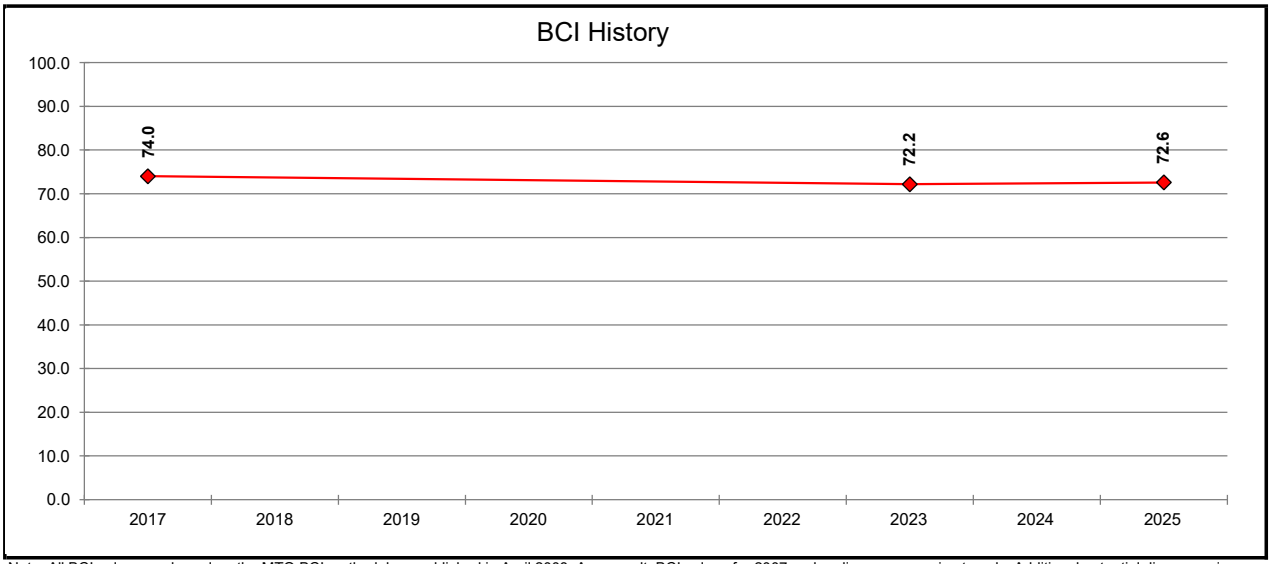
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	72.6	T. Wright	
2023	72.2	M. Ahmed (Doug Dixon)	
2017	74.0	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.9 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	58.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		56.6	1.1	1.1	Element BCI	72.9
Comments:	Generally good condition with patching noted. Light ravelling and light transverse cracking. Wide transverse cracks at end of curbs.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	20.1 m			
Element Name:	Deck Wearing Surface		Width:	4.9 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	98.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		97.49	1.01		Element BCI	74.6
Comments:	Generally in good condition, light ravelling.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**			02	
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☑ 1 Year ☐ 2 Year				
Clean bridge.			Maintenance Needs: Bridge Cleaning				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	20.1 m			
Element Name:	Deck Top		Width:	6.7 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	134.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		134.7			Element BCI	75.0
Comments:	Condition based on deck wearing surface and soffit.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	20.1 m			
Element Name:	Curbs		Width:	0.25 m			
Location:			Height:	0.15 m			
Material:			Count:	1			
Element Type:	Concrete Gutter		Total Quantity:	8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.96	3.04		Element BCI	61.7
Comments:	Light to moderate scaling and snow plow abrasion						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Curb and S/W		Length:	20.1 m			
Element Name:	Sidewalk		Width:	1.5 m			
Location:			Height:	0.15 m			
Material:			Count:	1			
Element Type:	CIP Concrete		Total Quantity:	33.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		27.9	5.3		Element BCI	69.4
Comments:	Light to moderate scaling along edge. Severe scaling at NE corner possibly due to impact.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	13.5 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	Steel Post and Lattice		Total Quantity:	27 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		27			Element BCI	75.0
Comments:	Steel post and lattice railing. Handrail doesn't meet the current standards as a traffic barrier. Nominally meets pedestrian barrier requirements. Light corrosion.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Trusses		Length:	4.3 m			
Element Name:	Bottom Chords		Width:	0.075 m			
Location:			Height:	0.075 m			
Material:	Steel		Count:	6			
Element Type:	Half-Through Truss		Total Quantity:	11.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		11.6			Element BCI	75.0
Comments:	The truss has no bearing at either end and is supported by transverse beams above the main girders.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Trusses		Length:	2.15 m			
Element Name:	Top Chords		Width:	0.1 m			
Location:			Height:	0.085 m			
Material:	Steel		Count:	8			
Element Type:	Half-Through Truss		Total Quantity:	9.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9.8			Element BCI	75.0
Comments:	The truss has no bearing at either end and is supported by transverse beams above the main girders.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Trusses		Length:	2.25 m			
Element Name:	Verticals / Diagonals		Width:	0.05 m			
Location:	Verticals		Height:	0.065 m			
Material:	Steel		Count:	2			
Element Type:	Half-Through Truss		Total Quantity:	2.1 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.1			Element BCI	75.0
Comments:	The truss has no bearing at either end and is supported by transverse beams above the main girders.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Trusses		Length:	3.1 m			
Element Name:	Verticals / Diagonals		Width:	0.05 m			
Location:	Diagonals		Height:	0.079 m			
Material:	Steel		Count:	12			
Element Type:	Half-Through Truss		Total Quantity:	66.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		66.2			Element BCI	75.0

Comments: The truss has no bearing at either end and is supported by transverse beams above the main girders.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	16.1 m			
Element Name:	Hand Railings		Width:	m			
Location:	Ends of deck above wingwalls		Height:	m			
Material:	Aluminum		Count:				
Element Type:	Double Railing		Total Quantity:	16.1 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		16.1			Element BCI	75.0

Comments: In good condition. Welds planned to be reinforced in 2025.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	m			
Element Name:	Wall		Width:	6.4 m			
Location:	Old Structure Abutments		Height:	1.5 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	44.4 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		20.5	12.5	11.4	Element BCI	45.9

Comments: Large cracks are present at all 4 corners where the old abutments connect to the old wingwalls. Complete failure of the NE corner. The old structure abutments do not support the girder bridge and act only as a soil retaining structure.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	6.8 m			
Location:	Newer Abutments		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	5.44 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.44			Element BCI	75.0

Comments: Limited inspection due to inaccessability. Appears to be in good condition

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:			Count:	10			
Element Type:	Elastomeric Pad		Total Quantity:	10 Each			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		10			Element BCI	75.0

Comments: Limited inspection. Appear to be in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only. No signs of settlement.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	20.1 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.75 m			
Location:			Height:	0.45 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	48.24 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		48.24			Element BCI	75.0
Comments:	Exterior fascia and underside beyond girders. In generally good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	20.1 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.1 m			
Location:	Between Girders		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	88.44 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		88.44			Element BCI	75.0
Comments:	Generally in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.21 m			
Location:			Height:	0.53 m			
Material:	Steel		Count:	10			
Element Type:	I-Type		Total Quantity:	16.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		16.9			Element BCI	75.0
Comments:	Atmospheric corrosion resistant steel girders. In good condition. Bird nests noted.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	16.85 m			
Element Name:	Girders - Middle		Width:	0.21 m			
Location:			Height:	0.53 m			
Material:	Steel		Count:	5			
Element Type:	I-Type		Total Quantity:	142.4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		142.4			Element BCI	75.0

Comments: Atmospheric corrosion resistant steel girders. In good condition

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - Middle		Width:	m			
Location:	Between girders		Height:	m			
Material:	Steel		Count:	8			
Element Type:			Total Quantity:	8 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		8			Element BCI	75.0

Comments: Very small localized deformation on SE.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - End		Width:	m			
Location:	Between Girders		Height:	m			
Material:	Steel		Count:	8			
Element Type:			Total Quantity:	8 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		8			Element BCI	75.0

Comments: In good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	4 Quadrants		Height:	m			
Material:			Count:	4			
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	2		Element BCI	57.5

Comments: Stacked stone retaining wall has failed at the SW embankment. Wall failure at the NW embankment.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Fallen tree understructure.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	18
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Other	
Remove tree obstruction		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Hazard Signs	
Consider adding hazard warning signs.		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B12
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface,	$1,000.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
Other	Remove felled tree under structure.	$1,000.00
	Total Maintenance Needs Costs	**$3,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate the feasibility of installing steel beam guiderail.	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type C concrete repairs to wall,					$43,000.00
Waterproof and pave.					$40,000.00
Add slope stabilization					$9,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
			Rehabilitation Cost Subtotal		**$217,000.00**

Estimated Value of Replacement Structure	**$1,500,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental	Bird nesting mitigation (activity observed).		$15,000.00
Other			
	Total Associated Work Costs	**$15,000.00**	**$30,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$232,000.00	$1,530,000.00
Roadside Protection:		$1,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$24,000.00	$132,000.00
Environmental Assessment*:	Replacement assumes Schedule B Class Environmental Assessment	$2,500.00	$60,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$24,000.00	$132,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$20,000.00	$77,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$303,500.00**	**$2,051,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	12.6	22.6

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**72.6**
Bridge B12 is generally in good condition with only concrete deterioration noted on the old abutments, which now act as a retaining wall and do not support the superstructure. Consideration should be given to investigating the need for installing a steel beam guide rail system, end treatments and structure connections to help protect oncoming traffic.		

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE

SIDEWALK

BARRIER & TRUSS

TRUSS

GIRDERS

ABUTMENT WALL, GIRDER ENDS, DIAPHRAGMS, BALLAST WALL

DIAPHRAGMS

FALLEN TREE

RETAINING WALL

RETAINING WALL – WIDE CRACK

RETAINING WALL - FAILURE

WINGWALL

Ontario Structure Inspection Manual - Inspection Form

Site Number: B13
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 13										
Main Hwy/Road #	Hampshire Mills Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	2.3 km N of Cambrian Road										
Latitude	44.724776			Longitude	-79.477166						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	80		No. of Lanes	1			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Concrete T-Beam			Interchange Number							
Total Deck Length	15.4 m			Interchange Structure Number							
Overall Str. Width	4.9 m			Min. Vertical Clearance		m					
Total Deck Area	75.5 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	6 m (btwn tops of slopes)										
Roadway Width	4.2 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	3			Fill on Structure	0 m						
Span Lengths	2.9, 7.6, 2.9 m			Height (streambed to structure top)	2.5 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2017	Current Load Limit	14 tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	
Bridge does not appear to have been rehabilitated extensively since 1930 (90+ years). Railing and other components appear to be original.		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 yrs). Maintenance and Roadside Safety work recommended.
Current Load Limit Posting:	14 tonnes
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

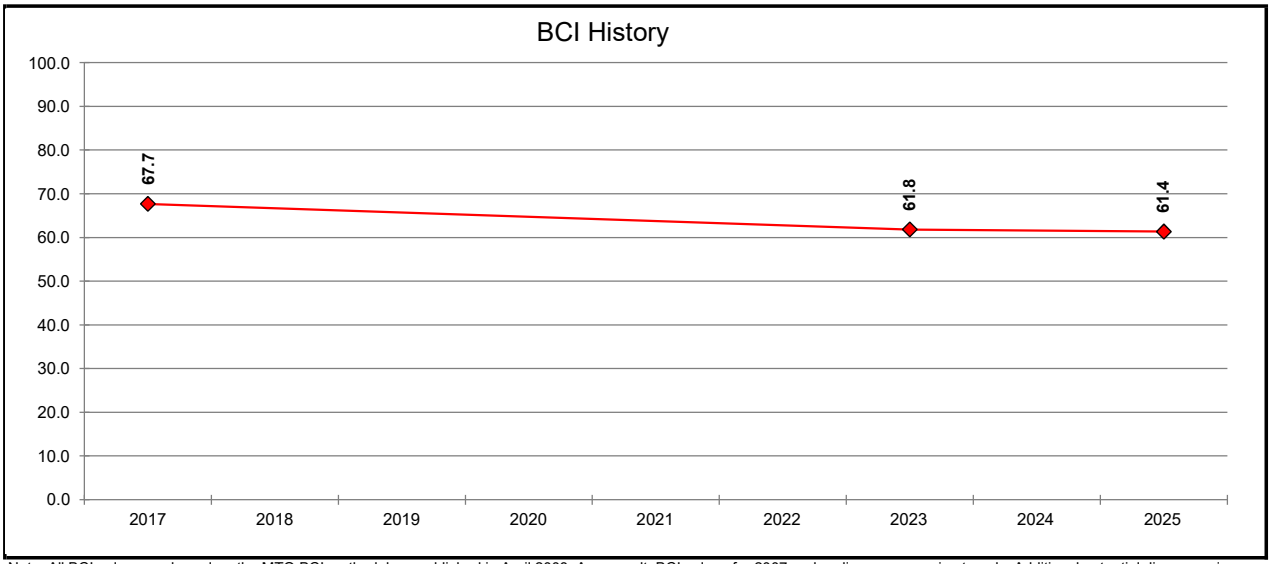
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	61.4	T. Wright	
2023	61.8	Mahmouc Ahmed	
2017	67.7	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.2 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	50.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		49.9	0.5		Element BCI	74.7

Comments: Minor potholes

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Consider installaing SBGR system		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0

Comments: 4 hazard warning signs present afixed to barrier ends. Set too low.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	15.4 m			
Element Name:	Deck Wearing Surface		Width:	4.2 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	64.7 Sq.m			
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		30	34.2	0.5	Element BCI	55.9

Comments: Generally in good-to-fair condition. Limited inspection due to gravel tracked on surface, which was likely poured to cover up poor deck surface. Potholes at midspan and south end.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Sweep wearing surface.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:	Decks		Length:	15.4 m			
Element Name:	Deck Top		Width:	4.9 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	75.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		65.5	5	5	Element BCI	67.7

Comments: Condition based on soffit and asphalt wearing surface.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:			Count:	8			
Element Type:	Holes in Deck		Total Quantity:	8 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			8		Element BCI	40.0

Comments: 100 mm diameter core drilled holes. Flush with soffit.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	15.4 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Concrete Balustrade		Total Quantity:	30.8 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m			27.8	3	Element BCI	36.1

Comments: Collision damage, severe spalling, medium to severe scaling, narrow to wide cracking, one post missing and a second disintegrated. Does not meet current standards. Should be replaced, however it may not warrant investment given remaining life of bridge.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Replace barrier		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	15.4 m			
Element Name:	Curbs		Width:	0.4 m			
Location:			Height:	0.09 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	15.1 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			1.6	13.5	Element BCI	4.2

Comments: Localized spalling, fully delaminated, disintegration. Poured without ties into deck.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Replace curb with barrier		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	4.7 m			
Location:			Height:	2.1 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	19.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.7	3	1	Element BCI	65.9

Comments: Generally good condition, localized severe scaling and delaminations. Erosion along waterline. Limited inspection due to high water level.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	Abutments		Height:		m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2			Element BCI	75.0

Comments: No signs of structure distress

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	15.4	m		
Element Name:	Soffit - Thin Slab - Ext		Width:		m		
Location:	Exterior Fascia Only		Height:	0.4	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	12.3	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			3.1	9.2	Element BCI	10.1

Comments: Spalling, delaminations, leachate, cracks and signs of wet areas. Severe spalling in southeast corner with narrow cracking. Fascia is disintegrating.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	14.4	m		
Element Name:	Soffit - Thin Slab - Int		Width:	1.2	m		
Location:	All Spans		Height:		m		
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	51.8	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		31.8	10	10	Element BCI	53.8

Comments: Spalling with exposed corroded rebar and efflorescence at construction joints. Birds nest noted. Limited inspection due to high water level at time of inspection.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	0.5 m			
Element Name:	Shaft / Bents		Width:	4.9 m			
Location:	South		Height:	1.9 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	20.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		16.5	2	2	Element BCI	63.4
Comments:	Localized severe scaling and delaminations. Limited inspection due to high water level at time of inspection.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Piers		Length:	0.5 m			
Element Name:	Shaft / Bents		Width:	4.9 m			
Location:	North		Height:	1.9 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	20.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.5	3	2	Element BCI	63.4
Comments:	Generally good condition, localized severe scaling and delaminations. Disintegration at NE and NW. Limited inspection due to high water level at time of inspection.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) -Pi		Width:	m			
Location:	Piers		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	No signs of movement						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	2.9 m			
Element Name:	Girders - Ends		Width:	0.32 m			
Location:	End Spans		Height:	0.43 m			
Material:	Cast-In-Place Concrete		Count:	8			
Element Type:	T-Beam		Total Quantity:	27.4 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.4	6	6	Element BCI	50.9
Comments:	Delamination and spalling with exposed reinforcing along bottom corner of girders. Shear ties at 0.6 m spacing. No shear reinforcement. Limited inspection due to high water level at time of inspection.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	7.6 m			
Element Name:	Girders - Middle		Width:	0.32 m			
Location:	Centre Span		Height:	0.62 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	47.4 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.4	3.5	3.5	Element BCI	66.9
Comments:	Hairline to medium shear crack in T-Beams. Limited inspection due to high water level at time of inspection.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 Corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2		2	Element BCI	37.5
Comments:							
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**			13	
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Erosion Control				
Repair eroded embankments, place rock protections.			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Unobstructed, no evidence of scour. High water level at time of inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B13
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface,	$1,000.00
Erosion Control	Repair eroded embankments, place rock protections.	$5,000.00
	Total Maintenance Needs Costs	**$6,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, curbs,					$21,000.00
Type B concrete repairs to Girders, soffit,					$96,000.00
Type C concrete repairs to abutment walls, shaft / bents,					$22,000.00
Replace barrier system.					$60,000.00
Waterproof and Pave.					$40,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$364,000.00**

Estimated Value of Replacement Structure	**$1,300,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental	Bird nesting mitigation (activity noted).	$15,000.00	$15,000.00
Other			
	Total Associated Work Costs	**$30,000.00**	**$30,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$394,000.00	$1,330,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$50,000.00	$122,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$45,000.00	$122,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$40,000.00	$67,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$631,500.00**	**$1,776,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	1.4	11.4

Recommendation:	Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 yrs).

Justification:	**Current BCI**	**61.4**
Given the structure type (T-beam) and significant signs of corrosion of the embedded reinforcing steel, the extent of repairs required would be extensive and it is anticipated a load limitation would still apply to the bridge following rehabilitation. Accordingly, it is recommended the Township forgo the rehabilitation and schedule the replacement of the structure. Installation of a steel beam guide rail system, end treatments, and appropriate structure connections should also be considered to improve safety for oncoming traffic.		

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE

DECK WEARING SURFACE – MINOR POTHOLE

BARRIER

BARRIER – END POST – DISINTEGRATION WITH EXPOSED REBAR

BARRIER – MISSING POST

SOFFIT EXTERIOR

SOFFIT INTERIOR - DELAMINATIONS

SOFFIT INTERIOR – DELAMINATIONS AND SPALLING WITH EXPOSED CORRODED REBAR

GIRDERS

GIRDERS – SPALLING WITH EXPOSED CORRODED REBAR

GIRDERS – MEDIUM CRACK

GIRDERS – SPALLING WITH EXPOSED CORRODED REBAR

GIRDERS – HAIRLINE TO MEDIUM CRACK

ABUTMENT WALL – SEVERE SCALING

PIERS

PIERS - DISINTEGRATION

PIER PILES

Ontario Structure Inspection Manual - Inspection Form

Site Number: B14
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 14								
Main Hwy/Road #	Uhthoff Line	On [X] Under [ ]	Crossing Type:	Navig. Water [ ] Rail [ ]	Non-Navig. [ ] Road [ ]	Ped. [X] Other [ ]			
Structure Location	0.4 km S of Foxmead Road								
Latitude	44.708277		Longitude	-79.524978					
Owners	Township of Severn		Heritage Designation	Not Consid: [ ] Desig./not list [ ]	Cons/not App. [ ] Desig & List [ ]	List/n.d. [ ]			
MTO region			Road Class:	Freeway [ ] Collector [ ]	Arterial [ ] Local [ ]				
MTO District			Posted Speed	80	No. of Lanes	1			
Old County			AADT		% Trucks				
Geographic Twp.			Inspection Route Sequence						
Structure Type	Cast-In-Place Concrete T-Beam		Interchange Number						
Total Deck Length	8.4 m		Interchange Structure Number						
Overall Str. Width	5.5 m		Min. Vertical Clearance	m					
Total Deck Area	46.2 sq. m		Special Routes:	Transit [ ] School [ ]	Truck [ ] Bicycle [ ]				
Road Platform Width	5 m (btwn tops of slopes)								
Roadway Width	4.7 m (btwn edges of shoulders)		Detour Length Around Bridge	km					
Skew Angle	0 Degrees		Direction of Structure	N-S					
No. of Spans	1		Fill on Structure	0 m					
Span Lengths	7.6 m		Height (streambed to structure top)	2.1 m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1940	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☑ 6 to 10 years	☐ >10 years
Overall Comments:	Forgo rehabilitation and replace structure within 10 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

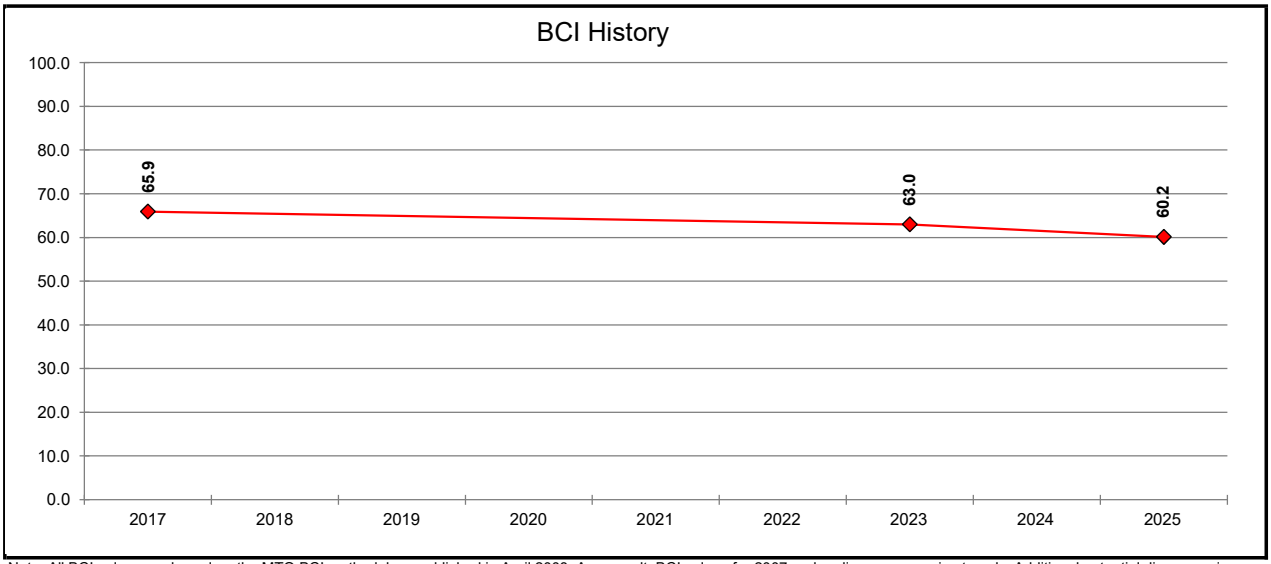
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	60.2	T. Wright	
2023	63.0	M. Ahmed (Doug Dixon)	
2017	65.9	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.7 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	56.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		56.4			Element BCI	75.0

Comments: Minor wheel rutting

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	8.4 m			
Element Name:	Deck Top		Width:	5.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	46.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		23.1	22	1.1	Element BCI	56.5

Comments: Gravel tracked onto deck, deck surface has abrasion

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clean deck		Maintenance Needs: Bridge Cleaning	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Consider installing SBGR.		Maintenance Needs: None	
		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each				4	Element BCI	0.0

Comments: Signage mounted low, not visible due to vegetation.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	8.5	m		
Element Name:	Barrier/Parapet Walls Interior		Width:	0.3	m		
Location:	Including top curb		Height:	0.9	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall without Railing		Total Quantity:	20.4	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10.2	5.1	5.1	Element BCI	47.5

Comments: Minor collision damage, narrow stained map cracking, light scaling, severe disintegration at northeast, large spalls with exposed rebar at northeast, southeast, northwest, wide cracks on southswest.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	8.5	m		
Element Name:	Barrier/Parapet Walls Exterior		Width:		m		
Location:			Height:	0.9	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall without Railing		Total Quantity:	15.3	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.65	3.825	3.825	Element BCI	47.5

Comments: Narrow stained map cracking, small spalls, light scaling. Wide map cracking and delamination on southeast. Height is 105 cm

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	8.5 m			
Element Name:	Curbs		Width:	0.2 m			
Location:			Height:	0.15 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Barrier Curb		Total Quantity:	5.95 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.975	1.4875	1.4875	Element BCI	47.5

Comments: Good condition with minor cracking and collision damage noted. Light abrasion, spalling along edge.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:			Count:	6			
Element Type:	Holes in Deck		Total Quantity:	6 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			6		Element BCI	40.0

Comments: Six 76 mm diameter holes through the deck that do not extend below the soffit.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Install drains to extend 0.3m belllow soffit.		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.7 m			
Location:			Height:	1.6 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	9.12 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.92	0.6	0.6	Element BCI	67.8

Comments: Light to moderate scaling. Medium crack on south wall, narrow vertical cracks, spalls/disintegration on southwest corner.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	0.36 m			
Element Name:	Abutment Piles		Width:	0.36 m			
Location:			Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	8			
Element Type:			Total Quantity:	6.91 Sq.m			
Environment:			Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.19	0.86	0.86	Element BCI	61.3

Comments:

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	7.5 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	m			
Location:			Height:	0.9 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	13.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10	1.75	1.75	Element BCI	60.7

Comments: Small spalls, delaminations

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Element Group:	Decks		Length:	7.5 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.4 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	31.5 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15.52	7.99	7.99	Element BCI	47.1

Comments: Spalls with exposed reinforcing, delaminations throughout. Soffit unable to be sounded due to height

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	7.5 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	Entire length		Height:	0.58 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	43.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		41.7	2	0.1	Element BCI	73.2

Comments: Light scaling, moisture staining adjacent to drains, spalls on bottom of east girder. Hairline to narrow map cracks on exterior.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	0.9 m			
Element Name:	Wall		Width:	m			
Location:			Height:	0.9 m			
Material:			Count:	2			
Element Type:	Retaining Wall		Total Quantity:	1.62 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m				1.62	Element BCI	0.0

Comments: NW and SW corragated steel sheet piling. NW severely rotated, SW slightly rotated.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Replace retaining walls		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3

Comments: Northwest embankment showing signs of moderate erosion and undermining. Steep.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B14
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top,	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to Deck Top.					$21,000.00
Type B concrete repairs to the Girders, Soffit,					$52,000.00
Type C concrete repairs to Abutment Walls,					$3,000.00
Install Extended Deck Drains.					$10,000.00
Replace Barrier System					$60,000.00
Waterproof and pave.					$40,000.00
Add slope stabilization					$5,000.00
General Items - Insurance,					$125,000.00
Rehabilitation Cost Subtotal					**$316,000.00**

Estimated Value of Replacement Structure	**$750,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
Total Associated Work Costs		**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$331,000.00	$765,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$44,000.00	$87,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$39,000.00	$82,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$35,000.00	$39,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$551,500.00**	**$1,108,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.2	10.0

Recommendation:	Forgo rehabilitation and replace structure within 10 years.

Justification:	**Current BCI**	**60.2**

Bridge B14 is generally in fair condition and is demonstrating signs of concrete deterioration on the girders and soffits and has a barrier that does not meet current codes. Given that the structure type (T-beam) and significant signs of corrosion of the embedded reinforcing steel, the extent of repairs required would be extensive. Accordingly, it is recommended the Township forgo the rehabilitation and schedule the replacement of the structure. Preliminary review indicates replacement with a precast, open bottom rigid frame structure may be feasible for this site. Consideration should also be given to installing a steel beam guide rail system, end treatments and structure connections to help protect oncoming traffic.

ELEVATION

APPROACH WEARING SURFACE

APROACH WEARING SURFACE – LIGHT WHEEL RUTTING

DECK TOP – SURFACE ABRASION, GRAVEL TRACKED ON DECK

BARRIER – SEVERE DISINTEGRATION

BARRIER – SPALL WITH EXPOSED REBAR

BARRIER – DELAMINATIONS, NARROW STAINED MAP CRACKING

ABUTMENT WALL

ABUTMENT WALL – MEDIUM CRACK

GIRDERS & SOFFIT INTERIOR – EXPOSED REBAR

SOFFIT INTERIOR – DELAMINATIONS & SPALLING WITH EXPOSED CORRODED REBAR

ABUTMENT PILES

Ontario Structure Inspection Manual - Inspection Form

Site Number: B15
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 15										
Main Hwy/Road #	Lawson Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	1.5 km S of Kinnear Sideroad										
Latitude	44.74026			Longitude	-79.636319						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	60		No. of Lanes	1			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Steel I-Girder (Concrete Deck)			Interchange Number							
Total Deck Length	35.1 m			Interchange Structure Number							
Overall Str. Width	6.2 m			Min. Vertical Clearance		m					
Total Deck Area	217.6 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	5.1 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	34.5 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1980	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	21 Deg. C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

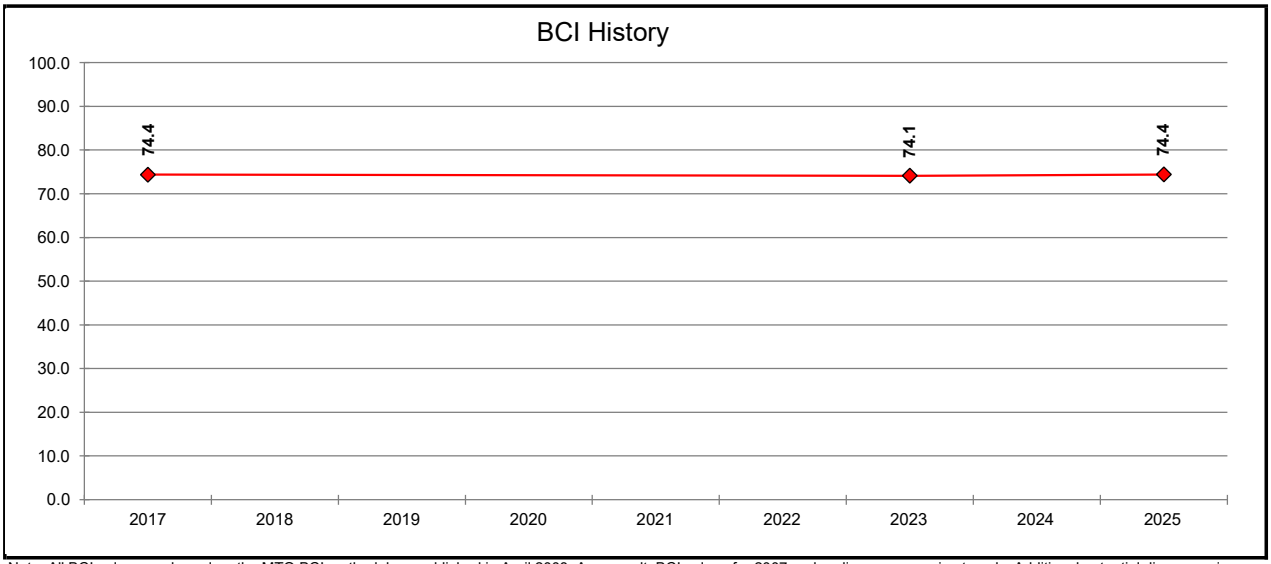
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	74.4	T. Wright	
2023	74.1	M. Ahmed (Doug Dixon)	
2017	74.4	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	5.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	61.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		61.2			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	20 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	80 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		80			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	35.1 m			
Element Name:	Deck Top		Width:	6.2 m			
Location:	Exposed		Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	217.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		217.6	0	0	Element BCI	75.0

Comments: In good condition with minor abrasion along wheel tracks

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Joints		Length:		m		
Element Name:	Seals / Sealants		Width:		m		
Location:			Height:		m		
Material:			Count:	2			
Element Type:	Compression Seal		Total Quantity:	2	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2			Element BCI	75.0

Comments: North seal is buldging and south seal is missing and filled with debris. This may be indication of movement of the superstructure from south to north.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Clear debris from joints.		Performance Deficiencies: None	

Element Group:	Joints		Length:	6.1	m		
Element Name:	Armouring/Retaining Device		Width:	0.13	m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	24.4	m		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		12.2	12.2		Element BCI	57.5

Comments: Both armour angles have moderate corrosion and light abrasion.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Joints		Length:	0.125	m		
Element Name:	Concrete End Dams		Width:	6.2	m		
Location:			Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	1.55	Sq.m		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.55			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	3.81 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	18			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	68.58 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		68.58			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	35.1 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.83 m			
Location:			Height:	0.2 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	72.3 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		67.3	5		Element BCI	72.6
Comments:							
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	3.4 m			
Element Name:	Wingwalls		Width:	m			
Location:			Height:	0.75 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	10.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10.9			Element BCI	75.0
Comments:	In good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	0.6 m			
Element Name:	Abutment Walls		Width:	6.2 m			
Location:			Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	19.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18.8	0.5	0.5	Element BCI	72.2
Comments:	Localized spalling, hairline cracks and bugholes						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	6			
Element Type:			Total Quantity:	6 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	3		Element BCI	57.5
Comments:	Light to moderate corrosion and rust staining noted. Monitor bearings for continued function						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	6.2 m			
Location:			Height:	1.5 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	18.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18.6			Element BCI	75.0
Comments:	Narrow pattern cracks noted						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.55 m			
Location:			Height:	1.2 m			
Material:	Steel		Count:	6			
Element Type:	I-Type		Total Quantity:	48.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		47.4	1.2		Element BCI	74.1

Comments: ACR steel - light to medium corrosion; normal performance. Some section loss at southwest girder.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Girders		Length:	32.5 m			
Element Name:	Girders - Middle		Width:	0.55 m			
Location:			Height:	1.2 m			
Material:	Steel		Count:				
Element Type:	I-Type		Total Quantity:	394.88 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		394.88			Element BCI	75.0

Comments: Light corrosion

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - Middle		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:				
Element Type:	Cross Type		Total Quantity:	8 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		8			Element BCI	75.0

Comments: In good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:		m		
Element Name:	Diaphragms - End		Width:		m		
Location:			Height:		m		
Material:	Steel		Count:	4			
Element Type:	I-Type		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3

Comments: Medium corrosion on SW with light flaking, less than 10% section loss.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	34.5	m		
Element Name:	Soffit - Thin Slab - Int		Width:	4.1	m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	143.9	Sq.m		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		143.9			Element BCI	75.0

Comments: Deck inspection is observed by stay-in-place steel formwork. Deck formowork in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: In good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Unobstructed, no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Hazard Signs	
Consider installing hazard warning signs.		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Utilities		Width:	m			
Location:	Interior of outside girder		Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All					Element BCI	

Comments: Communication conduit running on interior of southern most exterior girder.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B15
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear expansion joints of debris.	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		**$0.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type B concrete repairs to soffit,					$6,000.00
Type C concrete repairs to abutment walls,					$2,000.00
Steel repairs to girders - ends and diaphragms - end,					$15,000.00
Waterproof and pave.					$60,000.00
Conversion of expansion joint to semi-integral.					$200,000.00
Jacking structure, replace bearings					$100,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Replace joint seals			x		$40,000.00
			Rehabilitation Cost Subtotal		**$548,000.00**

Estimated Value of Replacement Structure	**$2,600,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities	Communication conduit running on inside of southern girder.		$15,000.00
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$30,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$563,000.00	$2,630,000.00
Roadside Protection:		$0.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$57,000.00	$187,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	Custom Estimate for Rehab; Replacement Cost = See Note 2 Below(Min $40k)	$5,000.00	$187,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$46,000.00	$132,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$673,500.00**	**$3,271,000.00**

NOTE 1: Engineering Design Costs calculated using Custom Estimate for Rehab; Replacement Cost = 10% of first $1M + 5% of cost above $1M (Min $40k)

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-2	Bridge with span over 20m. Two rehabilitation cycles planned	14.4	24.4

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**74.4**
Structure B15 is generally in good condition, with localized concrete damage on the fascia and minor section loss due to corrosion at the girder ends near the leaking expansion joint. Joint seal replacements should be completed within 1 year to slow the prevent accelerated deterioration.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

BARRIER

DECK TOP

JOINT - BULGING

WINGWALL

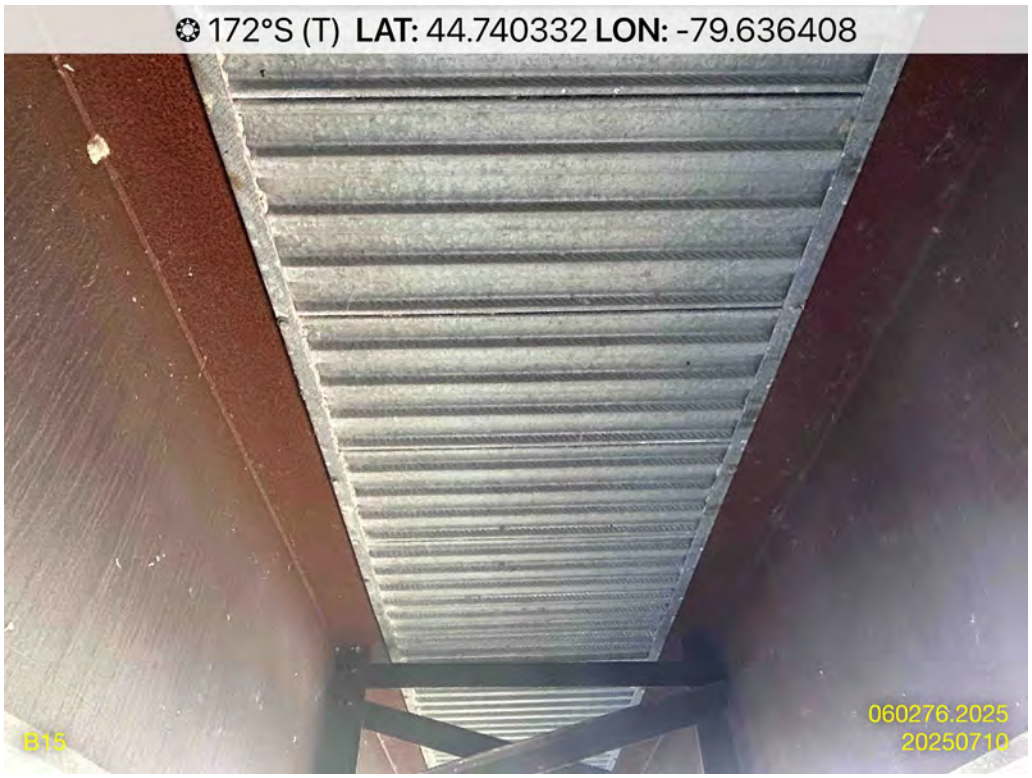
SOFFIT EXTERIOR

BALLAST WALL

GIRDER

DIAPHRAGM

ABUTMENT WALL



SOFFIT INTERIOR

Ontario Structure Inspection Manual - Inspection Form

Site Number: B16
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 16 - Black River Bridge										
Main Hwy/Road #	Irish Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	0.1 km S of Ellis Road										
Latitude	44.817533			Longitude	-79.668868						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	40		No. of Lanes	2			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete I-Girder			Interchange Number							
Total Deck Length	39.5 m			Interchange Structure Number							
Overall Str. Width	10.3 m			Min. Vertical Clearance		m					
Total Deck Area	406.9 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	8.5 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	3			Fill on Structure	0 m						
Span Lengths	12.8,13.1, 12.8 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1961	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	2021
The bridge had a rehab work between 2021 (deck rehab., semi integral conversion, concrete patching to piers and abutments, rock protections).		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

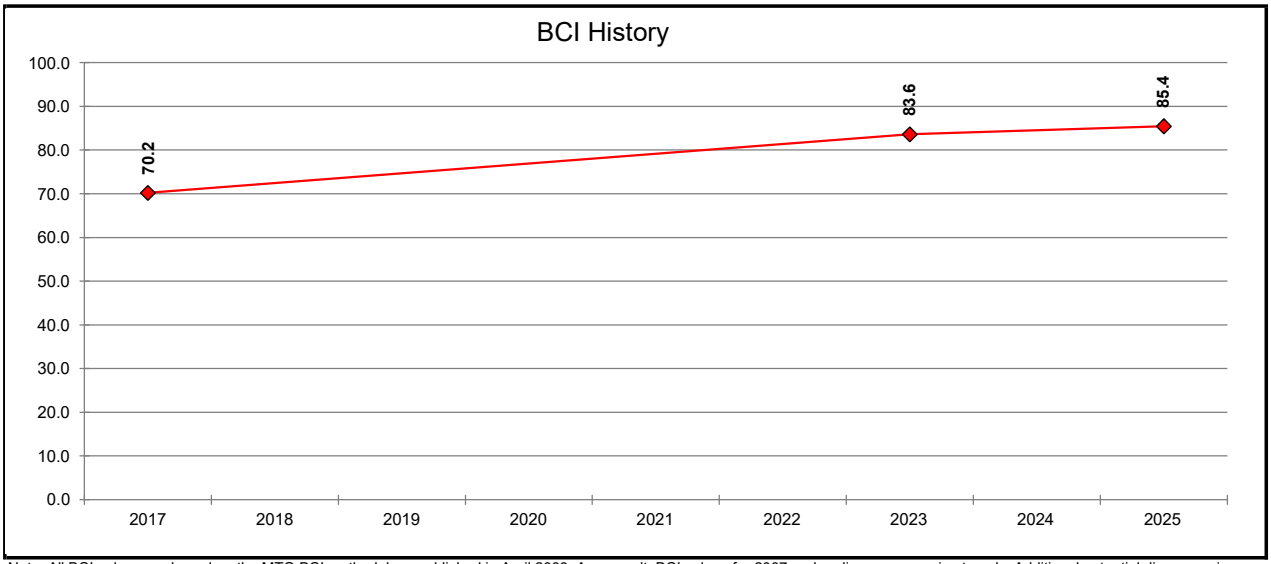
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	85.4	T. Wright	Correction to element BCI adjustments following the 2021 rehabilitatio
2023	83.6	M. Ahmed (Doug Dixon)	
2017	70.2	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	8.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	102 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	101		1		Element BCI	99.4
Comments:	Replaced in 2021. Medium longitudinal crack						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
Rout and seal asphalt cracks.			Maintenance Needs: Rout and Seal Performance Deficiencies: None				

Element Group:	Approach		Length:	20 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	80 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	80	0			Element BCI	100.0
Comments:	Installed in 2021.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None Performance Deficiencies: None				

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	4 hazard signs were located at each corner of the structure						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	39.5 m			
Element Name:	Deck Wearing Surface		Width:	10.3 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	406.85 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	406.85				Element BCI	100.0

Comments: Replaced in 2021. Light ravelling

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	39.5 m			
Element Name:	Deck Top		Width:	8.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	335.75 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	335.75				Element BCI	100.0

Comments: Rehabilitated in 2021. Deck condition is based on the observed conditions of the deck wearing surface and the soffit.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	8			
Element Type:			Total Quantity:	8 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	8				Element BCI	100.0

Comments: Deck drains replaced in 2021.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	16
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Deck Drainage	
Flush drains		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Joints		Length:	m			
Element Name:	Seals / Sealants		Width:	m			
Location:	In sidewalk		Height:	m			
Material:	Other		Count:				
Element Type:	Unsealed		Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: Eliminated in 2021, conversion to semi-integral.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Joints		Length:	m			
Element Name:	Seals / Sealants		Width:	m			
Location:	Piers		Height:	m			
Material:	Other		Count:				
Element Type:	Paved Over		Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: Eliminated in 2021, conversion to semi-integral.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Joints		Length:	m			
Element Name:	Seals / Sealants		Width:	m			
Location:	Deck Ends		Height:	m			
Material:	Other		Count:				
Element Type:	Paved Over		Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: Eliminated in 2021, conversion to semi-integral.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	39.5 m			
Element Name:	Curbs		Width:	0.9 m			
Location:			Height:	0.25 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	90.85 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	90		0.85		Element BCI	99.4
Comments:	Replaced in 2021. Snow plow abrasion, light scaling						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	0.13 m			
Element Name:	Posts		Width:	0.13 m			
Location:			Height:	0.92 m			
Material:	Steel		Count:	36			
Element Type:	Steel Post & Steel Rails		Total Quantity:	17.22 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	17.22				Element BCI	100.0
Comments:	Installed in 2021. Steel I-beam posts. Generally in good condition with flaking of coating noted. Does not meet current standards.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: Pedestrian/Vehicular Hazard				

Element Group:	Barriers		Length:	45.6 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	4 Rail Metal Railing		Total Quantity:	91.2 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	90	1.2			Element BCI	99.7
Comments:	Replaced in 2021. Standard 4 rail HSS. Local corrosion is seen on the East rail.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	3.2 m			
Element Name:	Wingwalls		Width:	m			
Location:	All 4 Quadrants		Height:	m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	9.4 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9	0.4		Element BCI	73.5

Comments: Localized spalling that has been patched on the SW wingwall, the patch is falling off. Hairline cracks.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	10 m			
Location:	North & South		Height:	0.92 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	18.4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		17.2	1.2		Element BCI	72.7

Comments: Minor cracking and scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Piles		Width:	m			
Location:	All		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1			Element BCI	75.0

Comments: Limited Inspection. Abutment pile repairs undertaken in 2021. Rating based on performance.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	10 m			
Location:			Height:	1.1 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	22 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.5	0.5		Element BCI	74.2

Comments: Flaking of surface concrete.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	12			
Element Type:			Total Quantity:	12 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	12				Element BCI	100.0

Comments: Replaced in 2021.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	39.5 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.45 m			
Location:			Height:	0.5 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	75.1 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	74.1	1			Element BCI	99.7

Comments: Rehabilitated 2021. Light scaling. Minor corrosion of form ties.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	39.5 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	5			
Element Type:			Total Quantity:	296.25 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		296.25			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.465 m			
Location:			Height:	0.9 m			
Material:	Precast Concrete		Count:	36			
Element Type:			Total Quantity:	92.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		92.9			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	32.7 m			
Element Name:	Girders - Middle		Width:	0.465 m			
Location:			Height:	0.9 m			
Material:	Precast Concrete		Count:	6			
Element Type:			Total Quantity:	506.2 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		506.2			Element BCI	75.0
Comments:	Light honeycombing						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - End		Width:	m			
Location:	At Abutments		Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: Eliminated in 2021, conversion to semi-integral.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - Middle		Width:	m			
Location:	Includes Over Piers		Height:	m			
Material:	Cast-In-Place Concrete		Count:	35			
Element Type:			Total Quantity:	35 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		35			Element BCI	75.0

Comments: Light honeycombing.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.9 m			
Element Name:	P. Caps		Width:	10 m			
Location:	North		Height:	0.9 m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	19.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		19.6			Element BCI	75.0

Comments: Efflorescence staining from above on North face.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	0.38 m			
Element Name:	P. Piles		Width:	0.38 m			
Location:	North		Height:	2.3 m			
Material:	Steel		Count:	6			
Element Type:	Steel H Piles with Capping Beam		Total Quantity:	20.98 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		20.98			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.9 m			
Element Name:	P. Caps		Width:	10 m			
Location:	South		Height:	0.9 m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	19.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		19.6			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.38 m			
Element Name:	P. Piles		Width:	0.38 m			
Location:	South		Height:	2.3 m			
Material:	Precast Concrete		Count:	6			
Element Type:			Total Quantity:	20.98 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		20.98			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	m			
Element Name:	P. Bearings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	12			
Element Type:			Total Quantity:	12 Each			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	12				Element BCI	100.0
Comments:	Replaced in 2021.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	New rock protection around each abutment						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Unobstructed, no evidence of scour.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Utilities		Width:		m		
Location:			Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Conduit fixed to east abutment face.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	1.5	m		
Element Name:	End Post		Width:	0.35	m		
Location:	4 Quadrants		Height:	1.05	m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	17.64	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	16	1	0.64		Element BCI	96.4

Comments: Installed in 2021.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:		m		
Element Name:			Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		#N/A		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B16
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal Approach Wearing Surface,	$1,000.00
Deck Drainage	Clear debris from deck drains.	$500.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$2,900,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities	Utility conduit affixed to girder and abutment face.		$5,000.00
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$20,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$2,920,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$201,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$201,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$146,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$3,603,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-2	Bridge with span over 20m. Two rehabilitation cycles planned	25.8	35.8

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**85.4**
Bridge B16 is generally in excellent condition following a major rehabiliation in 2021.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – MEDIUM LONGITUDINAL CRACK

DECK WEARING SURFACE

APPROACH GUIDE RAIL

BARRIER

WINGWALL

SOFFIT EXTERIOR - BUGHOLES

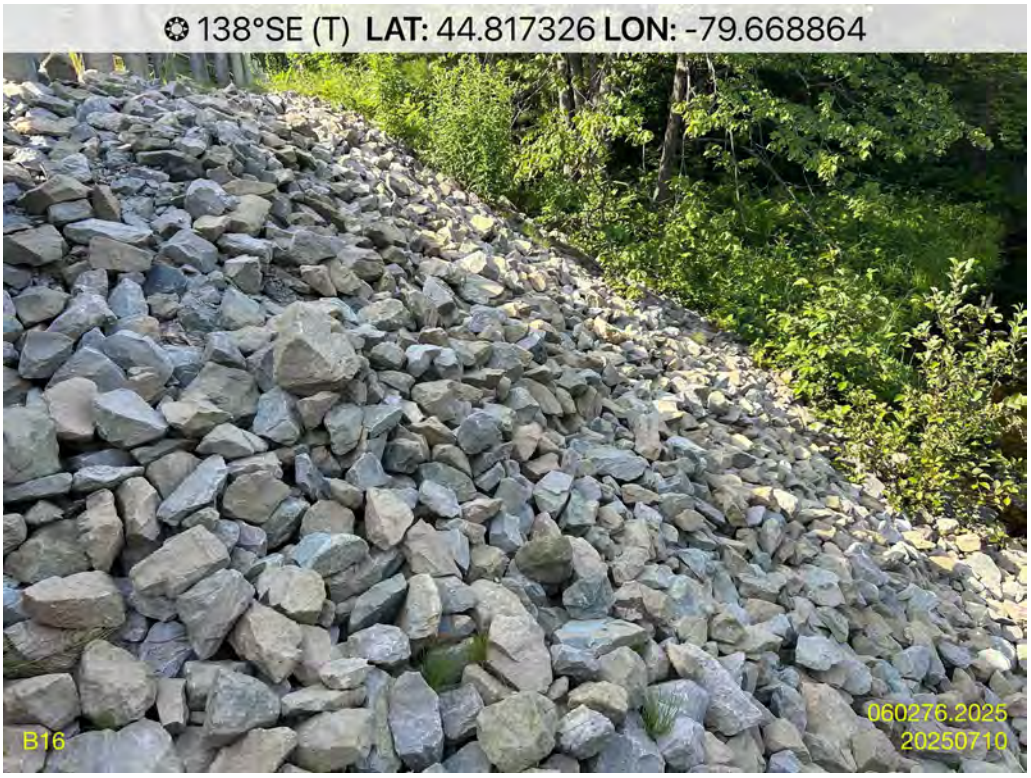
DECK DRAINS

GIRDERS & DIAPHRAGMS

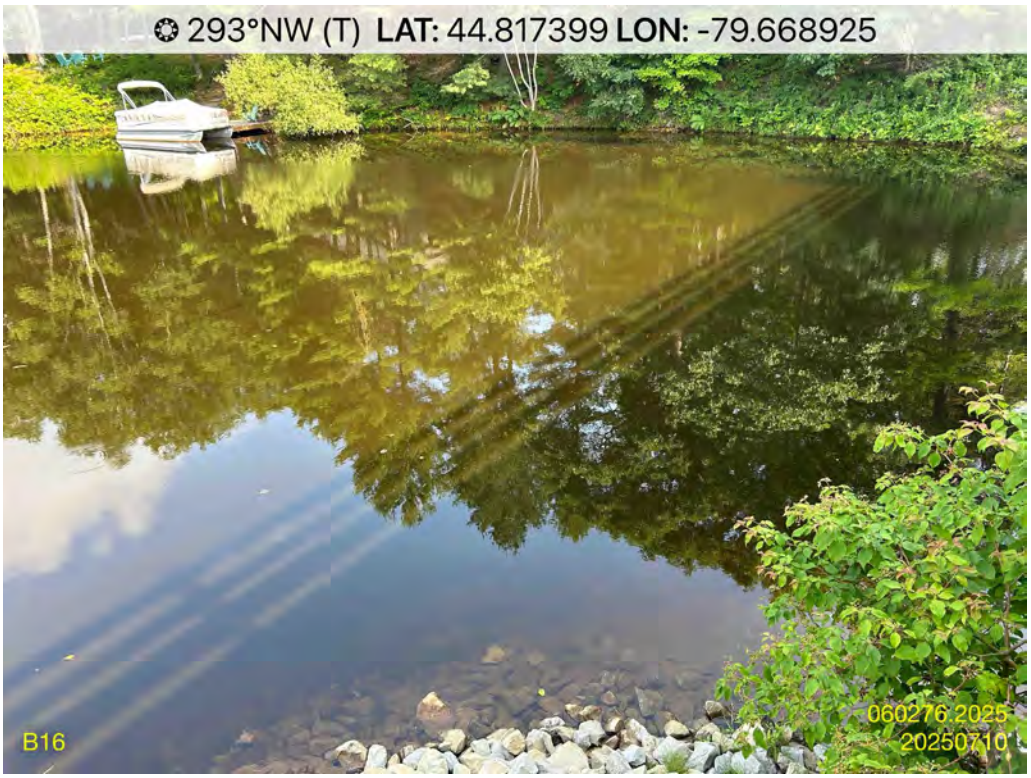
GIRDERS - BUGHOLES

PIER CAPS & PILES

SOFFIT INTERIOR



EMBANKMENT



STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: B17
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 17										
Main Hwy/Road #	Lovering Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.		
		Under			Rail		Road		Other		
Structure Location	0.1 km S of Upper Big Chute Road										
Latitude	44.768362			Longitude	-79.619711						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	60		No. of Lanes	1			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Steel Truss Arch			Interchange Number							
Total Deck Length	29.9 m			Interchange Structure Number							
Overall Str. Width	4.8 m			Min. Vertical Clearance		m					
Total Deck Area	143.5 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	4.3 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	3			Fill on Structure	0 m						
Span Lengths	4.4, 18.3, 4.4 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	2011
Middle span Superstructure replaced in 2011. Middle span wearing surface replaced in 2024.		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

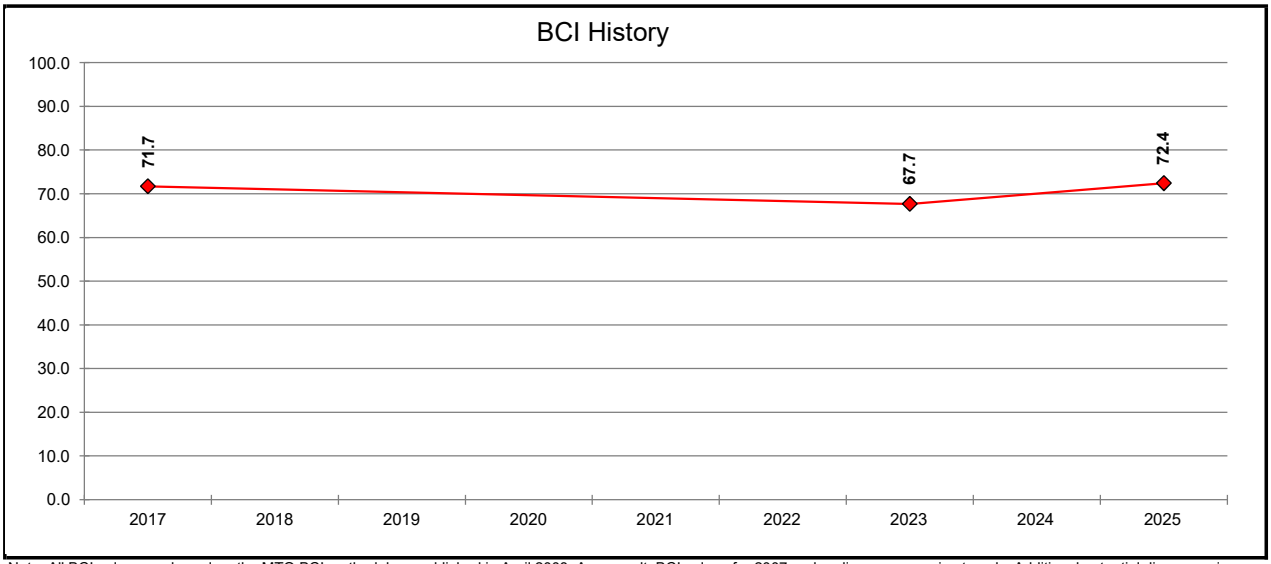
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	72.4	T. Wright	Corrections applied to previous BCI element values.
2023	67.7	M. Ahmed (Doug Dixon)	
2017	71.7	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.3 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	51.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		51.6			Element BCI	75.0
Comments:	In good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	40 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	160 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		80	80		Element BCI	57.5
Comments:	NW barrier has loose energy absorbed, which requires bolts.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			18	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
Install missing bolts to SBGR end treatments.			Maintenance Needs: Other				
			Performance Deficiencies: Pedestrian/Vehicular Hazard				

Element Group:	Decks		Length:	5.8 m			
Element Name:	Deck Wearing Surface		Width:	4.3 m			
Location:	On End Spans		Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	49.9 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		49.9			Element BCI	90.3
Comments:	In good condition						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	18.4 m			
Element Name:	Deck Wearing Surface		Width:	4.3 m			
Location:	On Middle Span		Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	79.1 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	79.1				Element BCI	90.3
Comments:	Wearing surface replaced 2024.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	5.8 m			
Element Name:	Deck Top		Width:	4.8 m			
Location:	Above End Spans		Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	55.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		54.7	0.5	0.5	Element BCI	73.3
Comments:	Condition assumed based on asphalt and soffit						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	18.4 m			
Element Name:	Deck Top		Width:	4.8 m			
Location:	Above Middle Span		Height:	m			
Material:	Steel		Count:	1			
Element Type:			Total Quantity:	88.3 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		83	5.3		Element BCI	73.3
Comments:	Condition based on asphalt and soffit. Light to moderate corrosion						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Trusses		Length:	18.4 m			
Element Name:	Bottom Chords		Width:	0.15 m			
Location:	Along Middle Span		Height:	0.2 m			
Material:	Weathering Steel		Count:	2			
Element Type:			Total Quantity:	25.76 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		25.76			Element BCI	75.0
Comments:	Light to moderate corrosion, no signs of section loss						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Trusses		Length:	18.4 m			
Element Name:	Top Chords		Width:	0.15 m			
Location:	Along Middle Span		Height:	0.2 m			
Material:	Weathering Steel		Count:	2			
Element Type:			Total Quantity:	25.76 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		25.76			Element BCI	75.0
Comments:	Light to moderate corrosion, no signs of section loss.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Trusses		Length:	0.1 m			
Element Name:	Verticals / Diagonals		Width:	0.15 m			
Location:	Verticals		Height:	1.35 m			
Material:	Weathering Steel		Count:	32			
Element Type:			Total Quantity:	21.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.6			Element BCI	75.0
Comments:	Light to moderate corrosion, no signs of section loss.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Trusses		Length:	1.7 m			
Element Name:	Verticals / Diagonals		Width:	0.15 m			
Location:	Diagonals - Middle		Height:	0.05 m			
Material:	Weathering Steel		Count:	28			
Element Type:			Total Quantity:	19.04 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		19.04			Element BCI	75.0

Comments: Light to moderate corrosion, no signs of section loss.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Trusses		Length:	1.7 m			
Element Name:	Verticals / Diagonals		Width:	0.15 m			
Location:	Diagonals - End		Height:	0.1 m			
Material:	Weathering Steel		Count:	4			
Element Type:			Total Quantity:	3.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.4			Element BCI	75.0

Comments: Light to moderate corrosion, no signs of section loss

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	19.4 m			
Element Name:	Railing System		Width:	m			
Location:	Middle Span		Height:	m			
Material:	Steel		Count:	2			
Element Type:	Thrie Beam on Steel Post		Total Quantity:	38.8 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		38.8			Element BCI	75.0

Comments: In good condition

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	18.3 m			
Element Name:	Soffit - Thin Slab - Int		Width:	2.8 m			
Location:	End Spans		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	51.24 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		50	1.24		Element BCI	74.6
Comments:	Light scaling and honeycombing						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	4.4 m			
Element Name:	Girders - Ends		Width:	0.56 m			
Location:	End Spans, Entire Length		Height:	m			
Material:	Cast-In-Place Concrete		Count:	8			
Element Type:	T-Beam		Total Quantity:	19.71 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18.51	1	0.2	Element BCI	72.5
Comments:	In good condition, patching present. Light scaling, narrow vertical and horizontal shrinkage cracks. Small spall with exposed corroded repar on south span girder.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	4.4 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	m			
Location:	End Spans, between girder haunchs		Height:	0.56 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	9.9 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9	0.45	0.45	Element BCI	70.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	5.43 m			
Element Name:	Floor Beams		Width:	0.15 m			
Location:	Middle Span		Height:	0.2 m			
Material:	Weathering Steel		Count:	16			
Element Type:			Total Quantity:	43.4 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.4	3		Element BCI	72.6

Comments: Light to moderate corrosion. Light section loss on bottom face of north beams

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	m			
Element Name:	Stringers		Width:	m			
Location:	Middle Span		Height:	m			
Material:	Weathering Steel		Count:	16			
Element Type:			Total Quantity:	16 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		14	2		Element BCI	70.6

Comments: Light to moderate corrosion, no signs of section loss on center stringers. Light section loss on the 2 exterior stringers.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Bracing		Length:	m			
Element Name:	Bracings		Width:	m			
Location:	Between Floor Beams		Height:	m			
Material:	Weathering Steel		Count:	15			
Element Type:			Total Quantity:	15 Each			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		15			Element BCI	75.0

Comments: Light to moderate corrosion, no signs of section loss

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	18.3 m			
Element Name:	Soffit - Thin Slab - Int		Width:	2.8 m			
Location:	Middle Span		Height:	m			
Material:	Weathering Steel		Count:	1			
Element Type:	Steel Plate - Non-Composite		Total Quantity:	51.2 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		51.2			Element BCI	74.6
Comments:	Appears to be in good condition. Limited inspection due to height and water depth. Light to moderate corrosion. No section loss observed.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	4.9 m			
Location:	North		Height:	2.4 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		11.8			Element BCI	75.0
Comments:	Narrow vertical cracks, dampness						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Retaining Walls		Length:	3.2 m			
Element Name:	Wall		Width:	m			
Location:	North		Height:	0.9 m			
Material:	Precast Concrete		Count:	2			
Element Type:			Total Quantity:	5.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.8			Element BCI	75.0
Comments:	Precast concrete blocks in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	5 m			
Element Name:	P. Caps		Width:	1.1 m			
Location:	North		Height:	2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	24.4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		17.4	7		Element BCI	66.3

Comments: Patched open cold joint. Narrow to medium cracks as well as light to medium scaling. Piers have water scale damaged.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.38 m			
Element Name:	P. Piles		Width:	0.38 m			
Location:	North		Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	12			
Element Type:			Total Quantity:	18.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18.2			Element BCI	75.0

Comments: Narrow cracks, light scaling, minor abrasion. A pile has been observed to be leaning, but no signs of stress in the surrounding concrete was noted, nor were there signs of movement in the adjacent piles; therefore it is assumed the leaning pile was a construction issue.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	4.9 m			
Location:	South		Height:	2.9 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	14.2 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14.2			Element BCI	75.0

Comments: Narrow vertical cracks

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Retaining Walls		Length:	4.8 m			
Element Name:	Wall		Width:	m			
Location:	South		Height:	0.9 m			
Material:	Precast Concrete		Count:				
Element Type:			Total Quantity:	8.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8.6			Element BCI	75.0
Comments:	In generally good condition, narrow cracks present.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Piers		Length:	1.1 m			
Element Name:	P. Caps		Width:	4.69 m			
Location:	South		Height:	3 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	48 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		37	11	0	Element BCI	66.3
Comments:	Patched open cold joint. Narrow to medium pattern cracks as well as light to medium scaling with efflorescence staining.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Piers		Length:	0.38 m			
Element Name:	P. Piles		Width:	0.38 m			
Location:	South		Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	12			
Element Type:			Total Quantity:	18.2 Sq.m			
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18.2			Element BCI	75.0
Comments:	Narrow cracks, light scaling, minor abrasion.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:	Hand Laid Rip Rap		Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Rip rap around both abutments (concrete rubble).

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Unobstructed, no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3

Comments:

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B17
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Other	Install missing bolts for SBGR end treatments.	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		**$0.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top,					$4,000.00
Type B concrete repairs to Girders, soffit,					$5,000.00
Type C concrete repairs to p. caps,					$22,000.00
Waterproof and pave (end sections).					$30,000.00
Strip, re-apply overlay					$40,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
			Rehabilitation Cost Subtotal		**$226,000.00**

Estimated Value of Replacement Structure	**$2,200,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$241,000.00	$2,215,000.00
Roadside Protection:		$0.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$25,000.00	$166,000.00
Environmental Assessment*:	Replacement assumes Schedule B Class Environmental Assessment	$2,500.00	$60,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$25,000.00	$166,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$20,000.00	$111,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$313,500.00**	**$2,838,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-2	Bridge with span over 20m. Two rehabilitation cycles planned	10.8	21.8

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**72.4**
Structure B17 is generally in good condition with only minor deficiencies noted at this time. The middle span was replaced in 2011. In 2024, the wearing surface was replaced after damage from vehicles doing burnouts on the surface treatment. The end spans show signs of concrete deterioration and cracking. It is anticipated a rehabilitation should be completed within approximately 11 years on the end spans.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

DECK WEARING SURFACE

SIGNS - DEFORMATION

TRUSS & BARRIER

TRUSS

RETAINING WALL

ABUTMENT WALL

ABUTMENT WALL - BUGHOLES

PIER

GIRDERS

GIRDERS – SPALLING WITH EXPOSED CORRODED REBAR

PIER CAPS & PILES

PIER PILE – CAST POORLY DURING CONSTRUCTION

GIRDER - HONEYCOMBING

Ontario Structure Inspection Manual - Inspection Form

Site Number: B18
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 18										
Main Hwy/Road #	Laughlin Falls Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	1.3 km E of Taylor Line										
Latitude	44.767593			Longitude	-79.578415						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	50		No. of Lanes	1			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Steel I-Girder (Concrete Deck)			Interchange Number							
Total Deck Length	19.5 m			Interchange Structure Number							
Overall Str. Width	5.75 m			Min. Vertical Clearance		m					
Total Deck Area	108.23 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	5 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	18 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	◉ Known ○ Estimated ○ Unknown	2017	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	camera, hammer, measuring tape		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

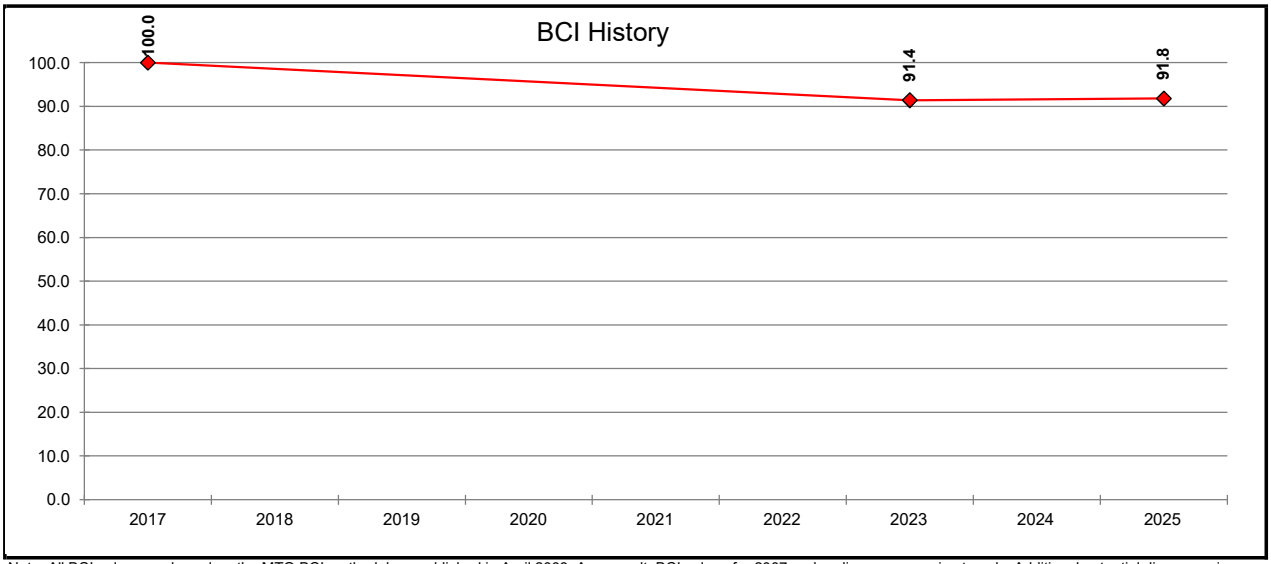
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	91.8	T. Wright	
2023	91.4	M. Ahmed (Doug Dixon)	
2017	100.0	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	5 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	60 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	24	36			Element BCI	85.0

Comments: Minor edge cracking and narrow cracks near bridge joint (semi-integral joint).

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Approach		Length:	12 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	48 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	18.2	28.8	1		Element BCI	83.8

Comments: Minor damage due to vehicle impact

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Decks		Length:	19.5 m			
Element Name:	Deck Top		Width:	5.55 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	108.23 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	108.23				Element BCI	100.0

Comments: Condtition based on asphalt and soffit

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	19.5 m			
Element Name:	Deck Wearing Surface		Width:	5 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	97.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	39	58.5			Element BCI	85.0
Comments:	Narrow cracks at both deck joints (semi-integral joints).						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	19.4 m			
Element Name:	Barrier/Parapet Walls Interior		Width:	0.3 m			
Location:			Height:	0.45 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall with Two Rails		Total Quantity:	46.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	18.64	27.96			Element BCI	85.0
Comments:	Light scaling. Hairline cracks						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	2.2 m			
Element Name:	Barrier/Parapet Walls Exterior		Width:	0.3 m			
Location:	All 4 Quadrants		Height:	1.05 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	Parapet Wall with Two Rails		Total Quantity:	16.1 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	10	6.1			Element BCI	90.5
Comments:	Light scaling						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	19.4 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	Parapet Wall with Two Rails		Total Quantity:	38.8 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	15.52	23.28			Element BCI	85.0
Comments:	Minor scuffs. Railing is not to current standard for pedestrians.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	17.5 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.95 m			
Location:			Height:	0.35 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	47.25 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	30	17.25			Element BCI	90.9
Comments:	Minor scaling and narrow cracks						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	17.5 m			
Element Name:	Soffit - Thin Slab - Int		Width:	3.8 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	66.5 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	55	11.5			Element BCI	95.7
Comments:	Minor scaling and narrow cracks						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3
Comments:	Hazard warning signs on either side of each approach. Sign at NW is bent.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	5.6	m		
Location:	North		Height:	0.9	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	7.07	Sq.m		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	6.07	1			Element BCI	96.6
Comments:	Includes footing (width = 5.8 m). Minor scaling						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Retaining Walls		Length:	2.2	m		
Element Name:	Wall		Width:		m		
Location:	North		Height:	1.74	m		
Material:	Corrugated Steel		Count:	2			
Element Type:			Total Quantity:	7.66	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	6.66	1			Element BCI	96.3
Comments:	Light waterline corrosion						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	5.6 m			
Location:	North		Height:	0.565 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	3.16 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	3.16				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.6 m			
Location:	South		Height:	0.99 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	7.57 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	6.57	1			Element BCI	96.6

Comments: Includes footing (width = 5.8 m) to bearing seat. Minor scaling

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	2.2 m			
Element Name:	Wall		Width:	m			
Location:	South		Height:	1.34 m			
Material:	Corrugated Steel		Count:	2			
Element Type:			Total Quantity:	5.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	4.9	1			Element BCI	96.3

Comments: Light waterline corrosion

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	5.6 m			
Location:	South		Height:	0.565 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	3.16 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	3.16				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	5 m			
Location:			Height:	0.05 m			
Material:	Cast-In-Place Concrete		Count:	6			
Element Type:			Total Quantity:	6 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	6				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	17.5 m			
Element Name:	Girders - Middle		Width:	0.268 m			
Location:	All		Height:	0.76 m			
Material:			Count:	3			
Element Type:			Total Quantity:	122.01 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		122.01			Element BCI	75.0

Comments: Light to moderate corrosion. No signs of section loss.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3
Comments:	Rip rap. NE embankment is very steep and appears unstable						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - End		Width:	m			
Location:	End		Height:	m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	Minor staining						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - Middle		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A
Comments:	N/A						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B18
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
	Total Maintenance Needs Costs	**$0.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$1,400,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$0.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,400,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$125,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$125,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$70,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,855,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	26.8	36.8

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**91.8**
Bridge B18 was replaced in 2017 is in excellent condition.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

DECK WEARING SURFACE

BARRIER

WINGWALL

SOFFIT EXTERIOR

GIRDERS

GIRDERS – LIGHT CORROSION

DIAPHRAGMS

RETAINING WALL

SOFFIT INTERIOR

BALLAST WALL & BEARING PADS & GIRDER ENDS & ABUTMENT WALL

Ontario Structure Inspection Manual - Inspection Form

Site Number: B19
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 19										
Main Hwy/Road #	Kitchen Sideroad	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	1.4 km E of Church Line North										
Latitude	44.795022			Longitude	-79.560128						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	60		No. of Lanes	1			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	8.5 m			Interchange Structure Number							
Overall Str. Width	4.85 m			Min. Vertical Clearance		m					
Total Deck Area	41.2 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	4.05 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	7.9 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1924	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	13 tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☑ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Forgo rehabilitation and replace structure within 4 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	13 tonnes			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

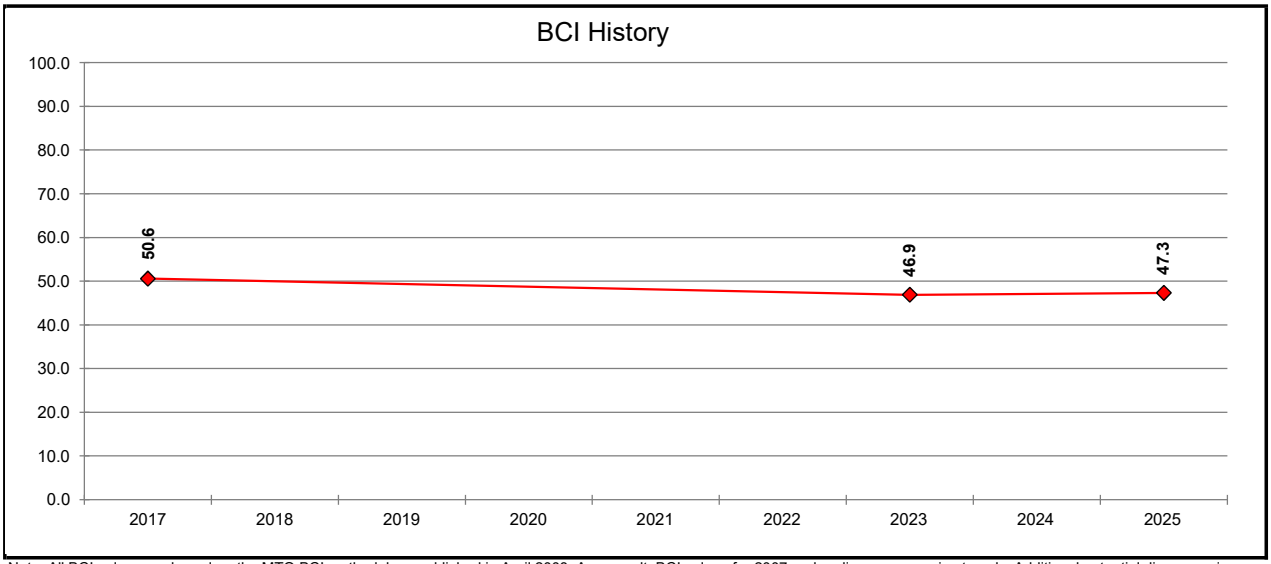
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	47.3	T. Wright	
2023	46.9	M. Ahmed (Doug Dixon)	
2017	50.6	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.05 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	48.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		48.6			Element BCI	75.0
Comments:	Generally in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	
Comments:	None present.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
Consider installing SBGR system			Performance Deficiencies: Pedestrian/Vehicular Hazard				

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	5			
Element Type:			Total Quantity:	5 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4	1	0	Element BCI	68.0
Comments:	Hazard warning signs at each corner of the structure. One 13 tonne load posting sign.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	8.5 m			
Element Name:	Deck Top		Width:	4.05 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	34.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		12.4	22		Element BCI	52.6

Comments: Exposed concrete deck. Narrow to medium cracks. Light to severe scaling. Gravel build up along the edges of the structure.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Sweep tracked gravel from deck.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Holes in Deck		Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0

Comments: Deck drain does not extend past the soffit of the deck.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
Consider installing deck drains that extend 0.3m below soffit.		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	8.5 m			
Element Name:	Curbs		Width:	0.4 m			
Location:			Height:	0.15 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	9.35 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		6.6	2	0.75	Element BCI	61.5

Comments: Wide cracks along the other edge. Small spalls

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	8.5 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	2			
Element Type:	Concrete Balustrade		Total Quantity:	17 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		11	4	2	Element BCI	57.9

Comments: Wide cracks and severe spalling with exposed rebar at corner posts. Narrow to medium cracks. Light to medium scaling throughout. There are cracks at SW of the balusters. Efflorescence staining.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	3.5 m			
Element Name:	Wall		Width:	m			
Location:			Height:	1.7 m			
Material:			Count:	4			
Element Type:			Total Quantity:	23.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		6		17.8	Element BCI	18.9

Comments: Stacked stone retaining walls. NE and SE wall have failed. NW showing signs of rotation/displacement. Monitor slopes and embankment

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	7.5 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	All		Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	45 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40	5		Element BCI	71.1

Comments: Localized narrow to medium cracks. South girder exhibiting medium scaling on interior side. Bird nests noted.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	8.5 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	m			
Location:	Fascia, Exterior Curb Face		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	6.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.8	2.5	2.5	Element BCI	34.6
Comments:	Narrow to medium cracks. Delamination and disintegration.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	7.5 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.22 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	27.5 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		17	5.5	5	Element BCI	54.4
Comments:	Wet areas near the deck drains with concrete spalling and exposed rebar throughout.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.2 m			
Location:	West		Height:	1.68 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.2	2.5	2	Element BCI	47.7
Comments:	Moderate to severe scaling and narrow to medium vertical cracks.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	0.33 m			
Element Name:	Abutment Piles		Width:	0.33 m			
Location:	West		Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	3.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			1.6	1.6	Element BCI	27.9

Comments:

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.2 m			
Location:	East		Height:	1.68 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Legs of Rigid Frame		Total Quantity:	8.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.2	2.5	2	Element BCI	47.7

Comments: Moderate to severe scaling and narrow to medium vertical cracks.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.33 m			
Element Name:	Abutment Piles		Width:	0.33 m			
Location:	East		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	2.1 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			2.1		Element BCI	27.9

Comments: Moderate scaling and abrasions throughout.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	4 Quadrants		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	2		Element BCI	57.5

Comments: West embankment experienced erosion. Rip rap on SE embankment

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B19
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top,	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, curbs,					$13,000.00
Type B concrete repairs to Girders, soffit,					$34,000.00
Type C concrete repairs to abutment walls,					$15,600.00
Replace barrier system.					$60,000.00
Install deck dtrains					$10,000.00
Waterproof and pave.					$30,000.00
Add slope stabilization					$8,500.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$296,100.00**

Estimated Value of Replacement Structure	**$650,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental	Bird nest mitigation (activity observed).	$15,000.00	$15,000.00
Other			
	Total Associated Work Costs	**$30,000.00**	**$30,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$326,100.00	$680,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$43,000.00	$78,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$38,000.00	$73,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$35,000.00	$34,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$544,600.00**	**$1,000,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.0	3.7

Recommendation:	Forgo rehabilitation and replace structure within 4 years.

Justification:	**Current BCI**	**47.3**
Bridge B19 is generally in poor condition, with concrete deterioration on the girders, soffit, and abutments, as well as failing block retaining walls and a barrier railing that does not meet current standards. Consideration should also be given to installing a steel beam guide rail system, end treatments, and structure connections to improve safety for oncoming traffic.		

ELEVATION

APPROACH WEARING SURFACE

DECK TOP – GRAVEL BUILD UP

BARRIER

BARRIER – SMALL SPALL WITH EXPOSED REBAR

SOFFIT EXTERIOR

GIRDER

GIRDER – SCALING AND DELAMINATION

SOFFIT EXTERIOR – DELAMINATION, SCALING, SPALLING WITH EXPOSED REBAR

ABUTMENT WALL – MODERATE TO SEVERE SCALING

ABUTMENT WALL – NARROW TO MEDIUM VERTICAL CRACKS

ABUTMENT WALL & ABUTMENT PILES

EXTERIOR GIRDER/GIRDER HAUNCH – SMALL SPALL

EMBANKMENT & RETAINING WALL

Ontario Structure Inspection Manual - Inspection Form

Site Number: B21
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 21										
Main Hwy/Road #	Foxmead Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	0.2 km E of Uhthoff Line										
Latitude	44.712342			Longitude	-79.525285						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	80		No. of Lanes	2			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Box Culvert			Interchange Number							
Total Deck Length	6.6 m			Interchange Structure Number							
Overall Str. Width	12.1 m			Min. Vertical Clearance		m					
Total Deck Area	79.9 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	6.2 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	◉ Known ○ Estimated ○ Unknown	2000	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	2024
Rehabilitation 2024 (distribution slab, waterproofing, wearing surface overlay, approach asphalt, guide rail, retaining walls).		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Partly Cloudy		
Temperature:	15°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☑ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

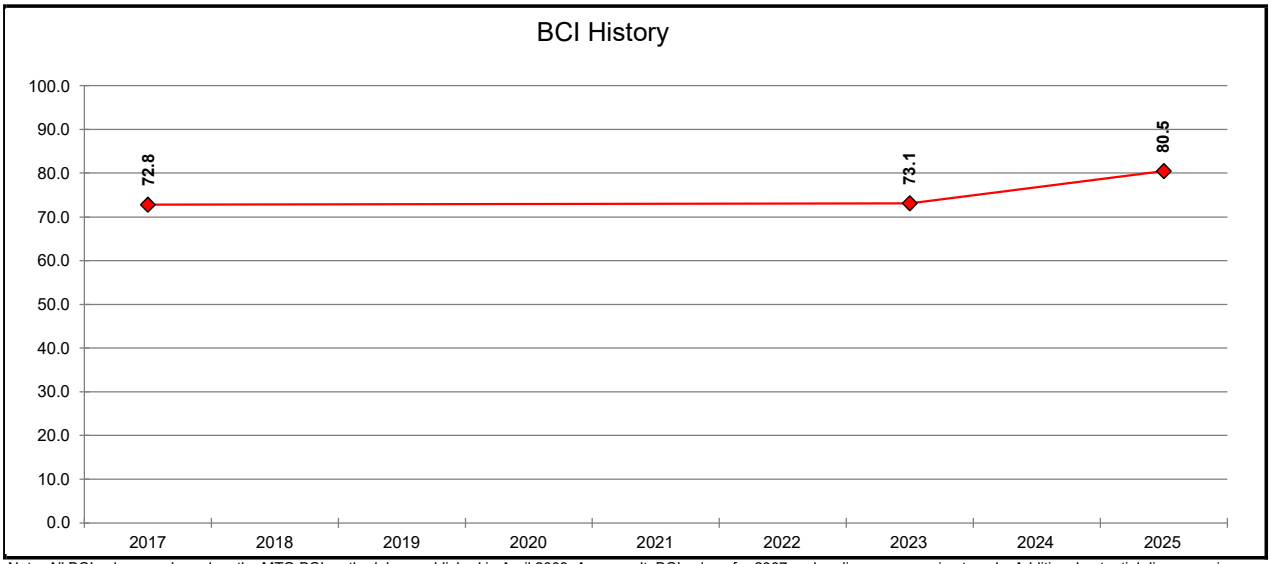
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	80.5	T. Wright	Rehabilitation 2024.
2023	73.1	M. Ahmed (Doug Dixon)	
2017	72.8	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	84 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	84				Element BCI	100.0

Comments: Replaced in 2024.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	50.05 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	North and South		Height:	m			
Material:			Count:	2			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	100.1 m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	100.1				Element BCI	100.0

Comments: Installed in 2024. Approaches and Barrier for culvert.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments: Installed in 2024.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	6.6 m			
Element Name:	Deck Wearing Surface		Width:	7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	46.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	46.2				Element BCI	100.0
Comments:	Installed 2024. Wearing surface overlay on new distribution slab.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	6.6 m			
Element Name:	Deck Top		Width:	12.1 m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	79.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	79.9				Element BCI	100.0
Comments:	Installed 2024.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			02	
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Bridge Cleaning				
			Performance Deficiencies: None				

Element Group:	Culvert		Length:	6.13 m			
Element Name:	Inlet		Width:	m			
Location:			Height:	1.5 m			
Material:	Steel		Count:	1			
Element Type:			Total Quantity:	3.35 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.35			Element BCI	75.0
Comments:	Minor spalls.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Element Data

Element Group:	Culvert		Length:	6.08 m			
Element Name:	Barrels		Width:	12.1 m			
Location:			Height:	2.4 m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	131.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		121.8	9.6	0.2	Element BCI	72.3
Comments:	Localized spalling. New waterproofing installed 2024 to resolved previously identified active leakage through joints.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Culvert		Length:	6.13 m			
Element Name:	Outlet		Width:	m			
Location:			Height:	1.5 m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	3.35 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.35			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Rated on performance only.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	Steep but well vegetated.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0
Comments:	Installed 2024.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Unobstructed, no scour observed.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Element Data

Element Group:	Retaining Walls		Length:	6.134 m			
Element Name:	Wall		Width:	m			
Location:	4 Quadrants		Height:	2 m			
Material:	Corrugated Steel		Count:	4			
Element Type:	Retaining Wall		Total Quantity:	24.536 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	24.536				Element BCI	100.0

Comments: Installed 2024. Field measurements require confirmation.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B21
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top,	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$550,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$565,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$67,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$62,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$29,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$858,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	N/A	35.9

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**80.5**
Bridge 21 is generally in good to excellent condition following a rehabilitation in 2024.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

DECK WEARING SURFACE

DECK TOP

CULVERT BARREL – STAINING AROUND DRAINS

CULVERT BARREL - SPALLING

NEW DISTRIBUTION SLAB AND FASCIA

CULVERT BARREL

RETAINING WALL & RIP RAP

Ontario Structure Inspection Manual - Inspection Form

Site Number: B22
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 22										
Main Hwy/Road #	Burnside Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	1.95 km S of Jeremy Road										
Latitude	44.728575			Longitude	-79.523263						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District				Posted Speed	80		No. of Lanes	2			
Old County				AADT			% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Box Culvert			Interchange Number							
Total Deck Length	5.3 m			Interchange Structure Number							
Overall Str. Width	12.1 m			Min. Vertical Clearance		m					
Total Deck Area	64.1 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	6.7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	1			Fill on Structure	0.3 m						
Span Lengths	4.9 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1958	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Roadside Safety work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

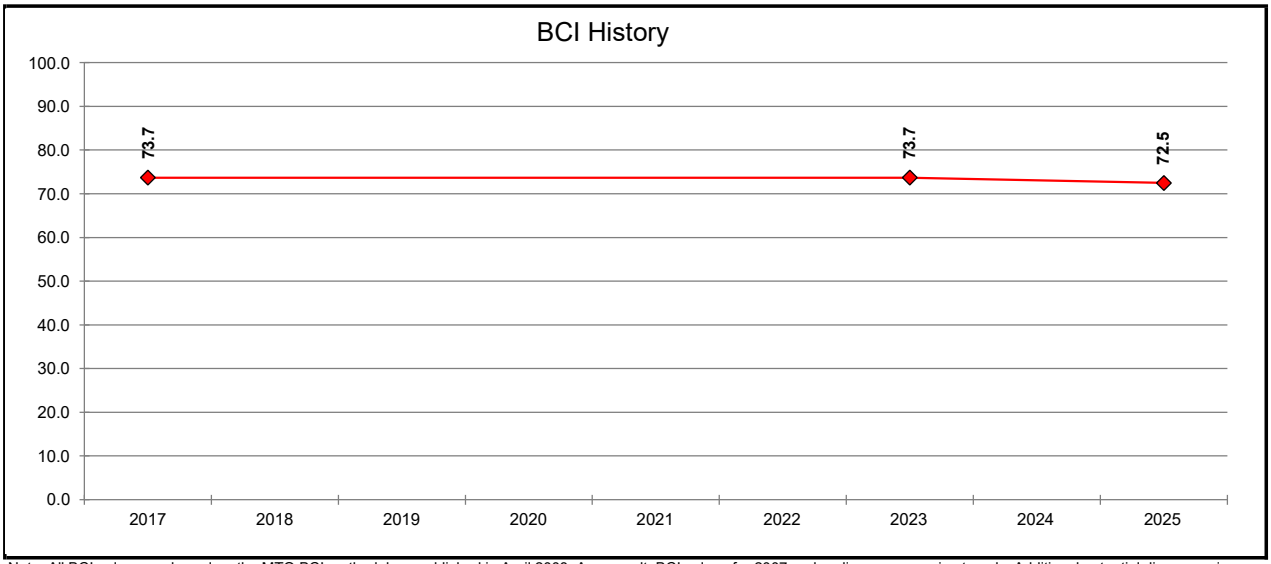
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	72.5	T. Wright	
2023	73.7	M. Ahmed (Doug Dixon)	
2017	73.7	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:	All four corners		Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	6.7	m		
Location:			Height:		m		
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	40.2	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40.2			Element BCI	75.0

Comments: Well graded.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:		m		
Element Name:	Approach Guide Rail		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		m		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Consider installing steel beam guiderail.		Maintenance Needs: None	
		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	5.4 m			
Element Name:	Deck Wearing Surface		Width:	6.7 m			
Location:			Height:	m			
Material:	Gravel		Count:	1			
Element Type:			Total Quantity:	36.18 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		36.18			Element BCI	75.0

Comments: Well graded.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	5.4 m			
Element Name:	Deck Top		Width:	12.1 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	65.34 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		65.34			Element BCI	75.0

Comments: Limited inspection, condition based on wearing surface and soffit conditions.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	0.4 m			
Element Name:	Outlet		Width:	5.4 m			
Location:			Height:	2.7 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.24 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.24			Element BCI	75.0

Comments: Light scaling noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

Element Data

Element Group:	Culvert		Length:	8.94 m			
Element Name:	Barrels		Width:	10.1 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	90.29 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		84.29	3.5	2.5	Element BCI	71.6

Comments: Localized severe honeycombing. Localized severe scaling and erosion on walls.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete repairs		Performance Deficiencies: None	

Element Group:	Culvert		Length:	0.4 m			
Element Name:	Inlet		Width:	5.4 m			
Location:			Height:	2.7 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.24 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.14	0.1		Element BCI	74.2

Comments: Light to medium scaling noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:	All		Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	2 All			
Environment:			Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1	1		Element BCI	57.5

Comments: Rated on performance only. Footing at North leg has damage.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Unobstructed, no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B22
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
	Total Maintenance Needs Costs	**$0.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail and end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type C concrete repairs to barrels, inlet,					$11,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
			Rehabilitation Cost Subtotal		**$136,000.00**

Estimated Value of Replacement Structure	**$450,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$151,000.00	$465,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$26,000.00	$57,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$21,000.00	$52,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$21,000.00	$24,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$321,500.00**	**$733,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CC	Concrete culvert - No rehabilitation planned.	N/A	17.5

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**72.5**
Bridge B22 is generally in good condition but is demonstrating signs of localized concrete deficiencies in the culvert barrel. Consideration should be given to installing a steel beam guide rail and end treatments to help protect oncoming traffic.		

238°SW (T) LAT: 44.728626 LON: -79.523175
1958
B22
060276.2025
20250715

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE

DECK TOP

SOFFIT EXTERIOR

CULVERT INLET/OUTLET

CULVERT INLET/OUTLET

CULVERT BARREL

CULVERT BARREL – EROSION, SEVERE HONEYCOMBING, SCALING

CULVERT BARREL – SMALL SPALL

CULVERT BARREL – MEDIUM TO WIDE CRACK

Ontario Structure Inspection Manual - Inspection Form

Site Number: B23
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge 23									
Main Hwy/Road #	Jermey Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.	
		Under			Rail		Road		Other	
Structure Location	0.2 km W of Carlyon Line									
Latitude	44.74837			Longitude	-79.522035					
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.	
					Desig./not list		Desig & List			
MTO region				Road Class:	Freeway		Arterial			
					Collector		Local			
MTO District				Posted Speed	50		No. of Lanes	1		
Old County				AADT			% Trucks			
Geographic Twp.				Inspection Route Sequence						
Structure Type	Other - Steel Girder Over Steel Plate			Interchange Number						
Total Deck Length	18.9 m			Interchange Structure Number						
Overall Str. Width	5.23 m			Min. Vertical Clearance		m				
Total Deck Area	91.6 sq. m			Special Routes:	Transit		Truck			
					School		Bicycle			
Road Platform Width	m (btwn tops of slopes)									
Roadway Width	4.674 m (btwn edges of shoulders)			Detour Length Around Bridge		km				
Skew Angle	0 Degrees			Direction of Structure	E-W					
No. of Spans	1			Fill on Structure	0 m					
Span Lengths	18.5 m			Height (streambed to structure top)		m				

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	2021	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☑ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

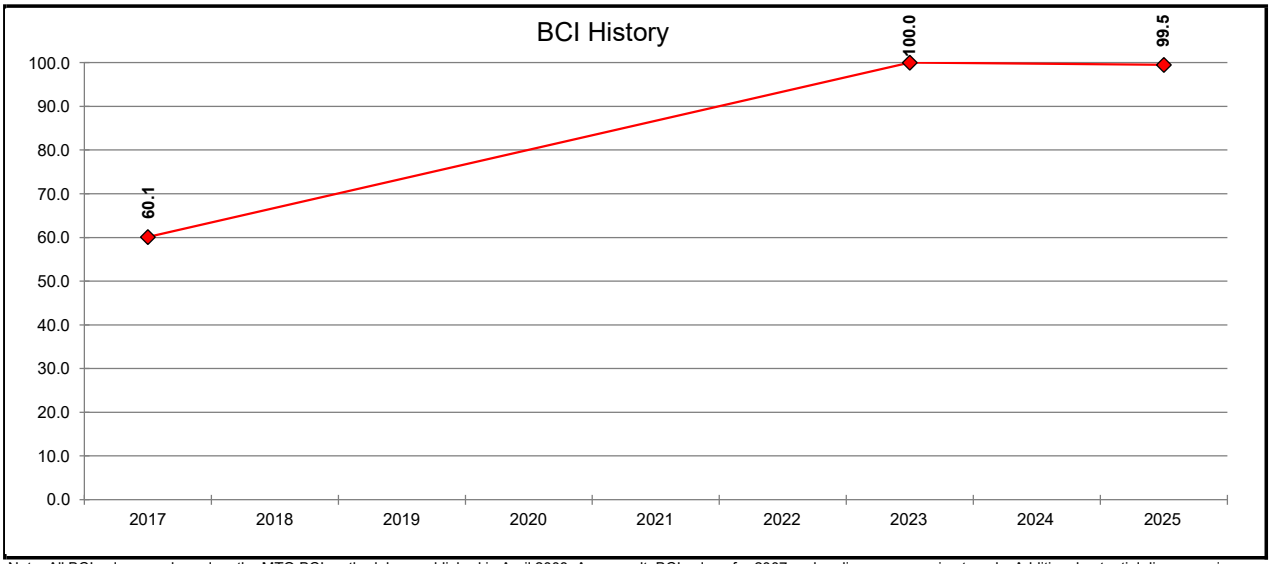
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	99.5	T. Wright	
2023	100.0	M. Ahmed (Doug Dixon)	Structure replaced in 2021
2017	60.1	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	2.65 m			
Element Name:	Wingwalls		Width:	2.5 m			
Location:			Height:	0.2 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	5.3 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	5	0.3			Element BCI	98.6
Comments:	Light scaling. Cold joint at northwest wingwall.						

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Add drainage pipes		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	3		1		Element BCI	85.0
Comments:	NE sign impact damage.						

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	18.94 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:			Count:	2			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	37.88 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	37.88				Element BCI	100.0
Comments:							

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.97 m			
Location:			Height:	1.92 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	22.94 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	02
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	22.9	0.04			Element BCI	100.0
Comments:	Constructed behind an old abutment. Vegetation noted.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			02	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
Remove vegetation growing on structure.			Maintenance Needs: Bridge Cleaning Performance Deficiencies: Excessive Deformations (Deflections & Rotations)				

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	5.97 m			
Location:			Height:	0.73 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	8.72 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	8.72				Element BCI	100.0
Comments:	Constructed behind an old abutment.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:			Count:	8			
Element Type:	Elastomeric Pad		Total Quantity:	8 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	8				Element BCI	100.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			02	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
Remove debris.			Maintenance Needs: Bridge Cleaning Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	1.17 m			
Element Name:	Diaphragms - Middle		Width:	0.09 m			
Location:			Height:	0.38 m			
Material:	Steel		Count:	12			
Element Type:			Total Quantity:	12 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	12				Element BCI	100.0
Comments:	Diaphragms made of C380x50						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	4.67 m			
Element Name:	Stringers		Width:	0.15 m			
Location:			Height:	0.15 m			
Material:	Steel		Count:	76			
Element Type:			Total Quantity:	76 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	76				Element BCI	100.0
Comments:	Floor Beamsd made of W150x22						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
Concrete repairs			Performance Deficiencies: None				

Element Group:	Girders		Length:	18.94 m			
Element Name:	Girders - Middle		Width:	0.29 m			
Location:	All		Height:	0.48 m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	129.86 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	129.86				Element BCI	100.0
Comments:	Girders made of W460x177						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Coating		Length:		m		
Element Name:	Coat - Structural Steel - Total		Width:		m		
Location:			Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	600.66	Sq.m		
Environment:	Moderate		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	582.66	18			Element BCI	99.3

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	#REF!	m		
Element Name:	Deck Top		Width:	18.94	m		
Location:			Height:		m		
Material:	Steel		Count:	1			
Element Type:	Steel Plate - Composite		Total Quantity:	88.53	Sq.m		
Environment:	Benign		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	88.53				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	18.94	m		
Element Name:	Deck Wearing Surface		Width:	4.67	m		
Location:			Height:		m		
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	88.53	Sq.m		
Environment:	Benign		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	17.01	68.02	3.5		Element BCI	78.4

Comments: Transverse cracking on east end.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	15	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
		Maintenance Needs: Rout and Seal		
Rout and seal wearing surface cracks.		Performance Deficiencies: None		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Slope Protection		Width:		m		
Location:			Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	Each		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	2				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	2				Element BCI	100.0

Comments: Not inspected, rated for performance

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) -Pi		Width:		m		
Location:			Height:		m		
Material:	Steel		Count:	26			
Element Type:	Other		Total Quantity:	26	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	26				Element BCI	100.0

Comments: Limited Inspection, rated for performance

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	20	m		
Element Name:	Approach Wearing Surface		Width:	7.19	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	287.4	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	287.4				Element BCI	100.0

Comments: Light ravelling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	0.18 m			
Element Name:	Posts		Width:	0.18 m			
Location:			Height:	1.25 m			
Material:	Wood		Count:	20			
Element Type:			Total Quantity:	20 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	20				Element BCI	100.0

Comments: Light splits and checking

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	49 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	North and South		Height:	m			
Material:	Steel		Count:	2			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	98 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	98				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Joints		Length:	4.7 m			
Element Name:	Concrete End Dams		Width:	0.3 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	2.82 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	2.82				Element BCI	100.0

Comments: Concrete armouring at transition from approach to deck. Seal not readily visible.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	05
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Deck Joint Repair	
Install strip seal.		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B23
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear vegetation and debris from structural elements.	$1,000.00
Deck Joint Repair	Install strip seal at joints between approach and deck.	$2,000.00
Rout and Seal	Rout and seal deck wearing surface cracks.	$1,000.00
	Total Maintenance Needs Costs	**$4,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$1,400,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,415,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$126,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$126,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$71,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,873,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	34.5	44.5

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**99.5**
Bridge B23 is generally in excellent condition following replacement in 2021. Maintenance recommended to be completed within 1 year.		

ELEVATION

DECK WEARING SURFACE

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

JOINT

EMBANKMENT

WINGWALL

FLOOR BEAMS & DECK

GIRDERS

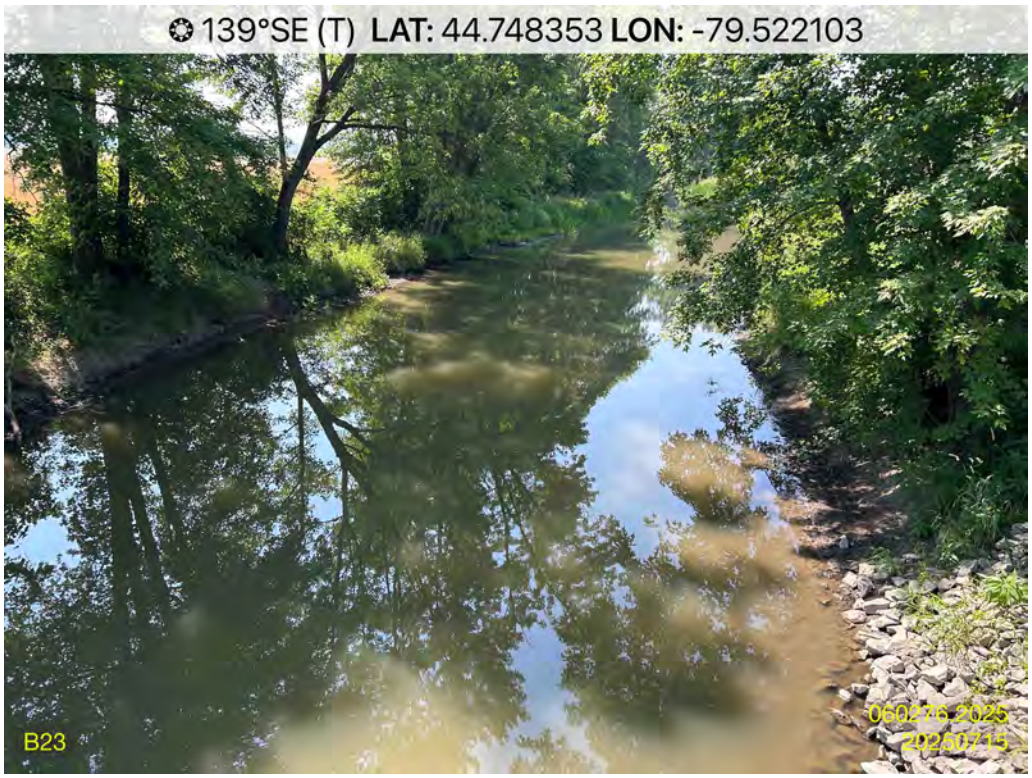
DIAPHRAGMS

BALLAST WALL

BEARING PADS

GIRDER CONNECTIONS

RETAINING WALL & ABUTMENT WALL



STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: B24
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 24										
Main Hwy/Road #	Carlyon Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 19, Conc V/VI, 2.10 km N of Maple Valley Road										
Latitude	44.740653			Longitude	-79.51223						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central reigon			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	50		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Box Girder			Interchange Number							
Total Deck Length	16.9 m			Interchange Structure Number							
Overall Str. Width	8.9 m			Min. Vertical Clearance		m					
Total Deck Area	150.4 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	7.9 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	20 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	16.4 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1980	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	23°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:		X		$17,000.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes: Deck condition survey to verify requriements for a rehabilitation.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☑ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Minor Rehabilitation is recommended within 5 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

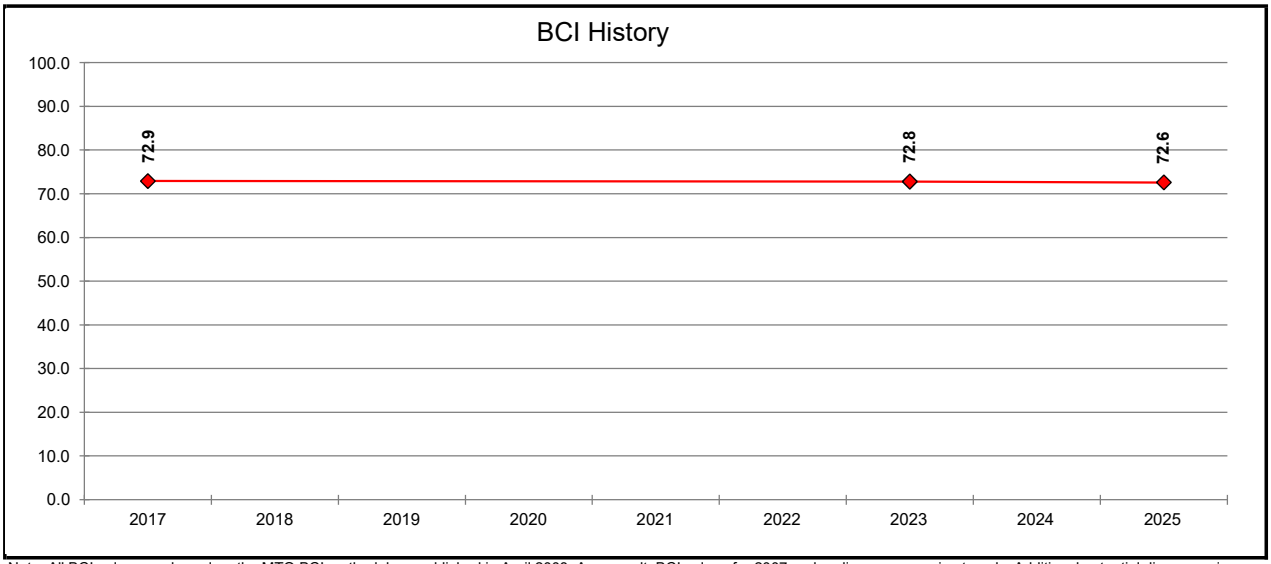
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	72.6	T. Wright	
2023	72.8	M. Ahmed (Doug Dixon)	
2017	72.9	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	7.9 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	94.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		93.8	0.5	0.5	Element BCI	74.4

Comments: Loss of asphalt over top of concrete end dams. Light transverse cracks and light wheel rutting.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Rout and seal cracking.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard markers are provided at the four quadrants of the structure.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Decks		Length:	16.9 m			
Element Name:	Deck Wearing Surface		Width:	7.9 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	133.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			73.425	60.075	Element BCI	22.0

Comments: Severe wide transverse and longitudinal cracks. Severe wide map cracking

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
Replace deck wearing surface. Remove debris and vegetation on structure.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	16.9 m			
Element Name:	Deck Top		Width:	7.9 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	133.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		120	13.5		Element BCI	71.5

Comments: Condition based on girders and wearing surface.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:			Total Quantity:	2 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2			Element BCI	75.0

Comments: Deck drainage is accommodated by 2-152mm diamter steel deck drains which outlet below the soffit. Partially blocked by debris. Pipes edges were corroded.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Remove debris from deck drains.		Performance Deficiencies: None	

Element Group:	Barriers		Length:	23.7 m			
Element Name:	Barrier/Parapet Walls Interior		Width:	0.15 m			
Location:			Height:	0.8 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall with Single Railing		Total Quantity:	45.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		43.1	2.2	0.3	Element BCI	72.8

Comments: Hairline to narrow vertical cracks, light scaling. Small spalls with exposed rebar due to low cover. Vehicle hazard due to structure connection extending from barrier with no guide rail attached.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Install steel beam guide rail.		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	23.7 m			
Element Name:	Barrier/Parapet Walls Exterior		Width:	0.15 m			
Location:			Height:	0.8 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall with Single Railing		Total Quantity:	45.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45.6			Element BCI	75.0
Comments:	Hairline to narrow vertical cracks, light scaling. Efflorescence staining						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	22.4 m			
Element Name:	Hand Railings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:			Total Quantity:	44.8 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		44.8			Element BCI	75.0
Comments:	Galzanized single steel rail on top of barriers are in good condition.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Joints		Length:	9.1 m			
Element Name:	Armouring/Retaining Device		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:			Total Quantity:	18.2 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m			14.6	3.6	Element BCI	32.1
Comments:	Moderate to severe surface rust with minor section loss. Damaged near centreline on both ends.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Joints		Length:	9.1 m			
Element Name:	Seals / Sealants		Width:	m			
Location:			Height:	m			
Material:			Count:	2			
Element Type:			Total Quantity:	2 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		1	0.7	0.3	Element BCI	51.5
Comments:	Appears to be functional, but deformed in areas of damaged armouring near centreline, paved over in other areas..						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
Replace seals.			Performance Deficiencies: None				

Element Group:	Joints		Length:	9.1 m			
Element Name:	Concrete End Dams		Width:	0.3 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	5.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			4.1	1.4	Element BCI	29.8
Comments:	Moderate to severe scaling/abrasions.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	4 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	2.2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8.8			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.9	m		
Location:	North		Height:	2.5	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	24.75	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.25	0.5		Element BCI	73.9

Comments: Hairline to narrow vertical cracks - some with efflorescence. Light scaling on bottom.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	4	m		
Element Name:	Wingwalls		Width:		m		
Location:	Northwest		Height:	2.2	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.8	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8.8			Element BCI	75.0

Comments: Hairline to narrow map cracks with some efflorescence.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	2	m		
Element Name:	Girders - Ends		Width:	1.22	m		
Location:	Including Exterior Vertical Face		Height:	0.8	m		
Material:	Precast Concrete		Count:	14			
Element Type:	Box Beam or Girders		Total Quantity:	283.9	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		273.6	10	0.3	Element BCI	73.7

Comments: Hairline to narrow map cracking on exterior vertical face. Hairline longitudinal cracks. Leaking between units with efflorescence and stalactites. Small spall on northwest.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	12.4 m			
Element Name:	Girders - Middle		Width:	1.22 m			
Location:	Including Exterior vertical Face		Height:	0.8 m			
Material:	Precast Concrete		Count:	7			
Element Type:	Box Beam or Girders		Total Quantity:	851.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		847.3	4.5		Element BCI	74.8

Comments: Leakage from surface with efflorescence and stalactites between all units. Hairline longitudinal cracks.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	4 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	2.2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8.8			Element BCI	75.0

Comments: Hairline to narrow cracks, light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	9.9 m			
Location:	South		Height:	2.5 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	24.75 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		23.65	1.1		Element BCI	73.9

Comments: Hairline to narrow vertical cracks, some with efflorescence. Light scaling along bottom.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	4 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southwest		Height:	2.2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8.8			Element BCI	75.0

Comments: Hairline to narrow efflorescence stained cracks, light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:	Both		Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:			Count:	56			
Element Type:	Elastomeric Pad		Total Quantity:	56 Each			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		56			Element BCI	75.0

Comments: 4 pads per girder. Limited inspection due to height. Exterior pads noted to be in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankments are in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B24
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean debris from deck and deck drains. Remove vegetation on deck.	$1,500.00
Rout and Seal	Repairs required to Approach Wearing Surface,	$1,000.00
	Total Maintenance Needs Costs	**$2,500.00**

Additional Investigations:	Detailed Deck Condition Survey;	**$17,000.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to barrier/parapet walls interior, deck top, concrete end dams,		x			$12,000.00
Type B concrete repairs to Girders,		x			$19,000.00
Type C concrete repairs to abutment walls,		x			$2,000.00
Waterproof and Pave		x			$61,000.00
Replace joints		x			$105,000.00
General Items - Insurance, Mobilization, Access etc.		x			$125,000.00
Rehabilitation Cost Subtotal					**$324,000.00**

Estimated Value of Replacement Structure	**$1,300,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$339,000.00	$1,315,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$44,000.00	$121,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$39,000.00	$121,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$36,000.00	$66,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$560,500.00**	**$1,758,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	5.0	22.6

Recommendation:	Minor Rehabilitation is recommended within 5 years.

Justification:	**Current BCI**	**72.6**

Bridge B24 is generally in good condition but is showing signs of leaking expansion joints, bottom-up defects in the wearing surface, and active leakage with efflorescence/stalactites between the girders—indicating that salt-laden water is penetrating the concrete deck and reaching critical structural elements. To preserve these elements and maintain the serviceable life of the structure, minor rehabilitation is recommended within 1–5 years. Consideration should be given to installing a steel beam guide rail system, end treatments, and structure connections to improve safety for oncoming traffic. A deck condition survey is recommended to verify the scope for rehabilitation.

ELEVATION

APPROACH WEARING SURFACE – LIGHT WHEEL RUTTING

DECK WEARING SURFACE – WIDE LONGITUDINAL AND MAP CRACKING

DECK WEARING SURFACE – WIDE TRANSVERSE CRACKS

BARRIER

BARRIER – SPALLING WITH EXPOSED CORRODED REBAR (LOW COVER)

JOINTS – MEDIUM TO SEVERE SURFACE RUST

SOFFIT EXTERIOR/BARRIER EXTERIOR

WINGWALL – CRACK WITH EFFLORESCENCE

BEARING PADS

ABUTMENT WALL

ABUTMENT WALL – HAIRLINE VERTICAL CRACK

ABUTMENT WALL – EFFLORESCENCE, STAINING

GIRDERS - EFFLORESCENCE

GIRDERS - STALACITES

GIRDERS - DELAMINATION

Ontario Structure Inspection Manual - Inspection Form

Site Number: B25
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 25										
Main Hwy/Road #	Carlyon Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 12, Conc V/VI, 0.50 km N of Cambrian Road										
Latitude	44.704759			Longitude	-79.480448						
Owners	Township of Severn			Heritage Designation	Not Consid:		X	Cons/not App.		List/n.d.	
					Desig./not list			Desig & List			
MTO region	Central			Road Class:	Freeway			Arterial			
					Collector			Local			
MTO District	Central region			Posted Speed	80			No. of Lanes	2		
Old County	Simcoe			AADT	80			% Trucks			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Rigid Frame			Interchange Number							
Total Deck Length	11.1 m			Interchange Structure Number							
Overall Str. Width	9.2 m			Min. Vertical Clearance		m					
Total Deck Area	102.1 sq. m			Special Routes:	Transit			Truck			
					School			Bicycle			
Road Platform Width	8.5 m (btwn tops of slopes)										
Roadway Width	8.4 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	10.5 m			Height (streambed to structure top)	3.5 m						

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	1990	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	
Rehabilitiation: New steel beam guide rail and barrier. (estimated 2018)		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	23°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☑ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☑ 6 to 10 years	☐ >10 years
Overall Comments:	Major Rehabilitation is recommended within 6 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

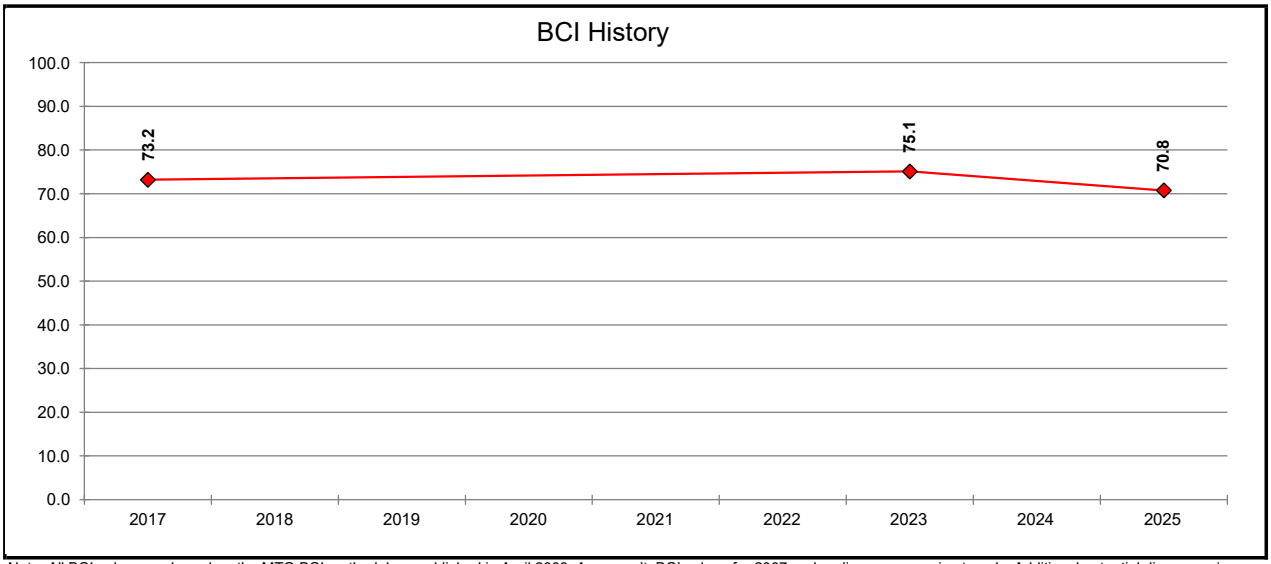
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	70.8	T. Wright	Transition of rehab. elements excellent to good per MTO guidelines.
2023	75.1	M. Ahmed (Doug Dixon)	
2017	73.2	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	3			
Element Type:			Total Quantity:	3	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3			Element BCI	75.0

Comments: Warining signs installed at 3 of the 4 guide rail ends.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	17
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Consider installing additional hazard warning sign.		Maintenance Needs: Hazard Signs Performance Deficiencies: None	

Element Group:	Approach		Length:	20	m		
Element Name:	Approach Guide Rail		Width:		m		
Location:	All 4 quadrants		Height:		m		
Material:	Steel		Count:	4			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	80	m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	30.4	45.6		4	Element BCI	80.8

Comments: Newly installed Railing system. The guide rail post located at each corner of the structure has no anchorage and is supported by the railing system. Would require walls to be constructed.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Make adjustments to steel beam guide rail to meet current standards.		Maintenance Needs: None Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	7	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	84	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		83	1		Element BCI	74.6

Comments: Edge cracks, traverse cracks at transitions to deck.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	11.1 m			
Element Name:	Deck Wearing Surface		Width:	8.4 m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	93.24 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		92.24	1		Element BCI	74.6
Comments:	Transverse cracks at ends of structure						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Rout and Seal				
Rout and seal cracks.			Performance Deficiencies: None				

Element Group:	Decks		Length:	11.1 m			
Element Name:	Deck Top		Width:	9.2 m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	102.12 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		97.12	2.5	2.5	Element BCI	72.3
Comments:	Limited inspection - condition based on asphalt and soffit. Moisture present in joints between precast units.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	12.23 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	Thrie Beam on Steel Post		Total Quantity:	24.46 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	9.78	14.68			Element BCI	85.0
Comments:	Newly installed railing system.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.2	m		
Location:	North		Height:	2.9	m		
Material:	Precast Concrete		Count:	1			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	26.68	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.68	5		Element BCI	68.4

Comments: Honeycombing at joints. Staining around the drain holes. Light to medium scaling, especially along waterline.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.2	m		
Location:	South		Height:	2.9	m		
Material:	Precast Concrete		Count:	1			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	26.68	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.68	5		Element BCI	68.4

Comments: Honeycombing at joints. Staining around the drain holes. Light to medium scaling, especially along waterline.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	Both		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2			Element BCI	75.0

Comments: Rated on performance only.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	9.3 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	1 m			
Location:			Height:	0.63 m			
Material:	Precast Concrete		Count:	2			
Element Type:			Total Quantity:	30.3 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		29.3	1		Element BCI	73.8
Comments:	Light to medium scaling.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	11.1 m			
Element Name:	Soffit - Thin Slab - Int		Width:	9.2 m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	102.12 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		82.12	19.5	0.5	Element BCI	67.9
Comments:	Light honeycobming at joints. Efflorescence staining at joints between precast units.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3
Comments:	Settlement noted at the NE corner. Steep. Well vegetated. Rip rap protection.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B25
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Repairs required to Deck Wearing Surface,	$500.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Repair Guide Rail	**$10,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top,	x				$4,000.00
Type B concrete repairs to soffit,	x				$26,000.00
Type C concrete repairs to abutment walls,	x				$12,000.00
Waterproof and pave.	x				$40,000.00
Add slope stabilization	x				$5,000.00
General Items - Insurance, Mobilization, Access etc.	x				$125,000.00
			Rehabilitation Cost Subtotal		**$212,000.00**

Estimated Value of Replacement Structure	**$800,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$227,000.00	$815,000.00
Roadside Protection:		$10,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$24,000.00	$92,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$24,000.00	$87,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$20,000.00	$41,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$307,500.00**	**$1,170,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	6.0	20.8

Recommendation:	Major Rehabilitation is recommended within 6 years.

Justification:	**Current BCI**	**70.8**
Structure B25 is generally in good condition but shows signs of concrete deterioration and moisture penetration into the deck, as evidenced by staining between the precast units girders. Minor rehabilitation should be considered to prevent further deterioration. Recommended work includes concrete repairs, deck waterproofing and paving, and erosion protection.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – EDGE CRACKING (NO SEALANT JOINT)

DECK WEARING SURFACE

APPROACH GUIDE RAIL

BARRIER

SOFFIT EXTERIOR

SOFFIT INTERIOR

SOFFIT INTERIOR – LIGHT HONEYCOMBING AT JOINTS

ABUTMENT WALL – STAINING AROUND DRAINS

Ontario Structure Inspection Manual - Inspection Form

Site Number: B26
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 26										
Main Hwy/Road #	Carlyon line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 12, Conc V/VI, 0.90 km N of Cambrian Road										
Latitude	44.707418			Longitude	-79.482799						
Owners	Township of Severn			Heritage Designation	Not Consid:		X	Cons/not App.		List/n.d.	
					Desig./not list			Desig & List			
MTO region	Central			Road Class:	Freeway			Arterial			
					Collector			Local			
MTO District	Central region			Posted Speed	80			No. of Lanes	2		
Old County	Simcoe			AADT	80			% Trucks			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	4.9 m			Interchange Structure Number							
Overall Str. Width	9.3 m			Min. Vertical Clearance		m					
Total Deck Area	45.57 sq. m			Special Routes:	Transit			Truck			
					School			Bicycle			
Road Platform Width	9 m (btwn tops of slopes)										
Roadway Width	6.2 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	4.3 m			Height (streambed to structure top)	1.6 m						

Historical Data:

Year Built	◉ Known ○ Estimated ○ Unknown	1958	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	23°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Maintenance and Roadside Safety work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

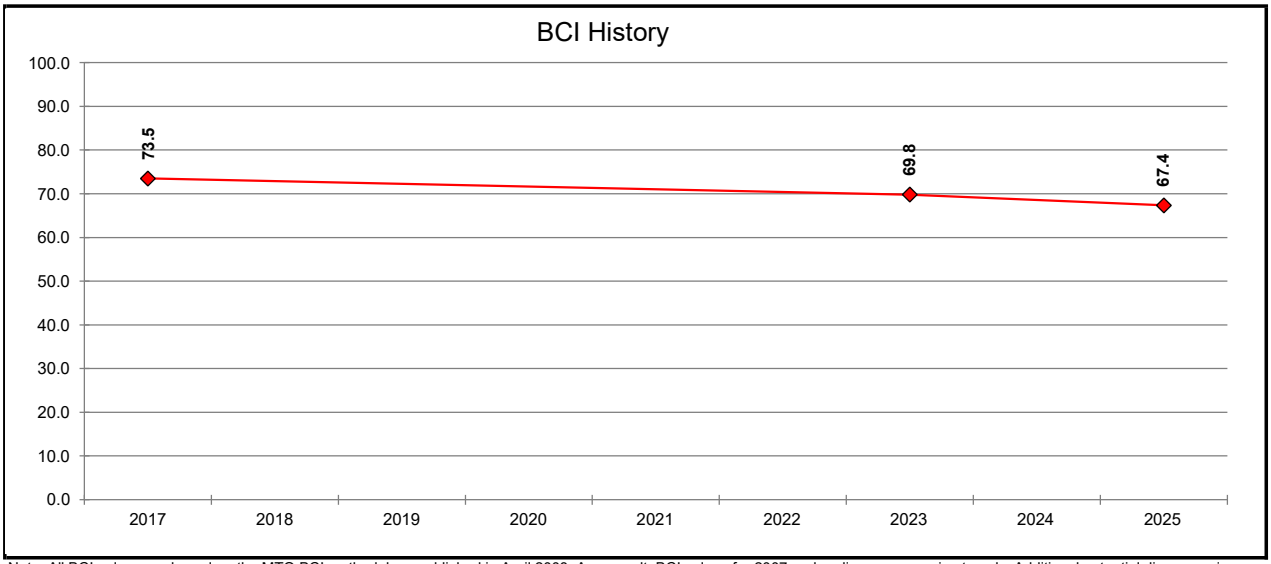
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	67.4	T. Wright	
2023	69.8	M. Ahmed (Doug Dixon)	
2017	73.5	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	2		Element BCI	57.5

Comments: Hazard warning signs are located ateach corner of the structure. South signs are missing the bottom bolt.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	8	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	96	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		92	2	2	Element BCI	72.7

Comments: Light wear along center line. Wide crack at edge of structure

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and seal asphalt cracks on wearing surface.		Maintenance Needs: Rout and Seal	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	4.9	m		
Element Name:	Deck Wearing Surface		Width:	8	m		
Location:			Height:		m		
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	39.2	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		37.2	1	1	Element BCI	72.2

Comments: Light wear along center line. Longitudinal crack

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and seal asphalt cracks on wearing surface.		Maintenance Needs: Rout and Seal	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	4.9 m				
Element Name:	Deck Top		Width:	9.1 m				
Location:			Height:	m				
Material:	Cast-In-Place Concrete		Count:	1				
Element Type:			Total Quantity:	44.59 Sq.m				
Environment:	Moderate		Limited Inspection:	☑				
Protection System:	Waterproof and Paving with AC Overlay						Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		44.59				Element BCI	75.0

Comments: Limited inspection. Condition based on soffit and wearing surface.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Barriers		Length:	m				
Element Name:	Railing System		Width:	m				
Location:			Height:	m				
Material:			Count:					
Element Type:			Total Quantity:	m				
Environment:			Limited Inspection:	☐				
Protection System:							Performance	08
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	m						Element BCI	

Comments: No traffic protection is provided over the structure or on the approaches.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
Consider installing steel beam guiderail.		Performance Deficiencies: Pedestrian/Vehicular Hazard

Element Group:	Curb and S/W		Length:	9.65 m				
Element Name:	Curbs		Width:	0.3 m				
Location:			Height:	0.3 m				
Material:	Cast-In-Place Concrete		Count:	2				
Element Type:			Total Quantity:	11.58 Sq.m				
Environment:	Severe		Limited Inspection:	☑				
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		11.58				Element BCI	75.0

Comments: Light scaling noted. Only top surface visible.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	2.7 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	1.5 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.05 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.05			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	2.7 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northwest		Height:	1.8 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	4.86 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.86			Element BCI	75.0
Comments:	Light scaling, hairline horizontal cracks.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	9.2 m			
Element Name:	Abutment Walls		Width:	m			
Location:	North, below haunch		Height:	1.3 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	11.96 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10	1.96		Element BCI	69.1
Comments:	Honeycombing and light to medium scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	Both		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2			Element BCI	75.0
Comments:	Rated on performance only.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	9.2	m		
Element Name:	Abutment Walls		Width:		m		
Location:	South, below haunch		Height:	1.3	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.96	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9.86	2.1		Element BCI	69.1
Comments:	Honeycombing. Light to medium scaling. Efflorescence staining at haunch.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	2.7	m		
Element Name:	Wingwalls		Width:		m		
Location:	Southeast		Height:	1.5	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.05	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.05			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	2.7 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southwest		Height:	1.6 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.32 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.32			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	4.3 m			
Element Name:	Soffit - Thick Slab - Ext		Width:	1 m			
Location:			Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	13.76 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10	2.76	1	Element BCI	62.5
Comments:	Honeycombing at joints. Staining around the drain holes. Light to medium scaling, especially along waterline.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	4.3 m			
Element Name:	Soffit - Thick Slab - Int		Width:	7.2 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	30.96 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		19.96	6.8	4.2	Element BCI	57.1
Comments:	Honeycombing, light to medium scaling, delamination and spalling with exposed rebar.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B26
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal Approach Wearing Surface, Deck Wearing Surface,	$1,500.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required:	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Element-Repair and Rehabilitation Required					
Type B concrete repairs to soffit,					$24,000.00
Type C concrete repairs to abutment walls,					$5,000.00
Patch asphalt					$16,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$170,000.00**

Estimated Value of Replacement Structure	**$400,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$185,000.00	$415,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$29,000.00	$52,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$24,000.00	$47,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$23,000.00	$21,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$363,500.00**	**$670,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR	Bridge with span less than 4.5m and replacement planned	N/A	17.4

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**67.4**
Bridge B26 is generally in good condition but exhibits concrete defects on the soffit and abutment walls. Consideration should be given to installing a steel beam guide rail system and appropriate end treatments to enhance safety for oncoming traffic.		

57°NE (T) LAT: 44.707362 LON: -79.482848
1958
B26
060276.2025
20250715

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE – TRANSVERSE CRACK

SOFFIT EXTERIOR - SCALING

ABUTMENT WALL

ABUTMENT WALL – DISINTEGRATION

ABUTMENT WALL – EXPOSED REBAR

SOFFIT INTERIOR

SOFFIT INTERIOR – LIGHT HONEYCOMBING

SOFFIT INTERIOR - DELAMINATION

Ontario Structure Inspection Manual - Inspection Form

Site Number: B27
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 27										
Main Hwy/Road #	Maple Valley Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 15/16, Conc VI, 0.30 km W of Hampshire Mills Line										
Latitude	44.729204			Longitude	-79.48588						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	1			
Old County	Simcoe			AADT	100		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Concrete T-Beam			Interchange Number							
Total Deck Length	16.5 m			Interchange Structure Number							
Overall Str. Width	4.9 m			Min. Vertical Clearance		m					
Total Deck Area	80.9 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	5 m (btwn tops of slopes)										
Roadway Width	4.1 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	3			Fill on Structure	0 m						
Span Lengths	3.85, 6.9, 3.65 m			Height (streambed to structure top)	3 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	14 tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 yrs). Maintenance and Roadside Safety work recommended.
Current Load Limit Posting:	14 tonnes
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

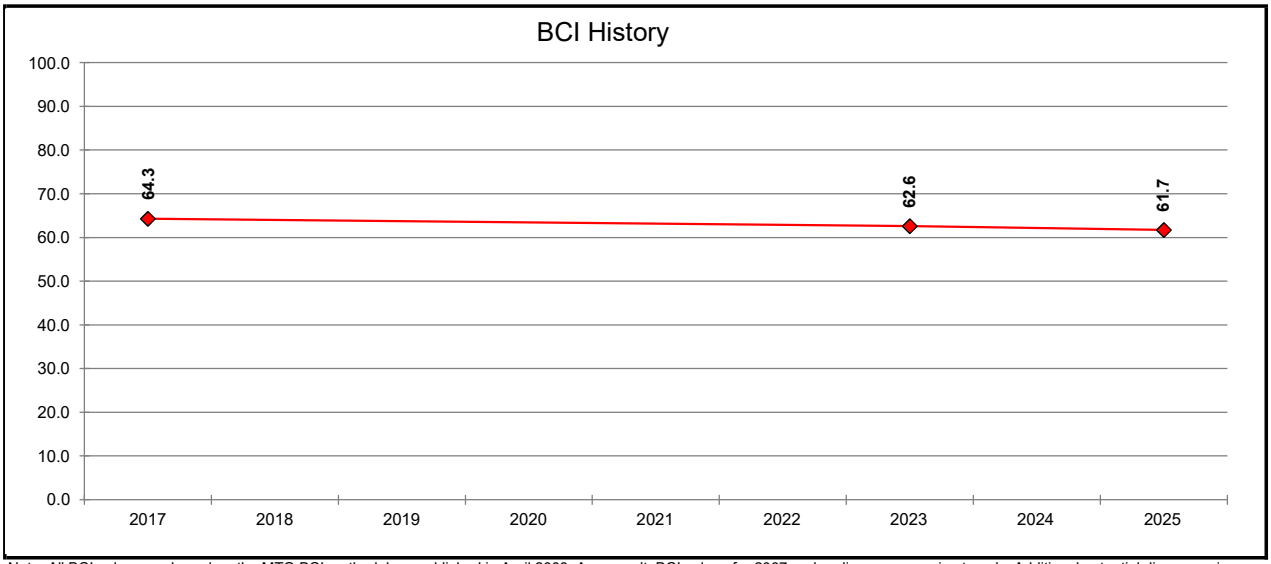
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	61.7	T. Wright	
2023	62.6	M. Ahmed (Doug Dixon)	
2017	64.3	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.1 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	49.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		49.2			Element BCI	75.0

Comments: Well graded

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3		1	Element BCI	56.3

Comments: NW hazard sign damaged, NE missing.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	17	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
Install missing hazard warning sign		Maintenance Needs: Hazard Signs		
		Performance Deficiencies: None		

Element Group:	Decks		Length:	16.6 m			
Element Name:	Deck Top		Width:	4.1 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	68.1 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		61.1	6	1	Element BCI	70.8

Comments: Light to moderate scaling. Gravel tracked on deck

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
Removed tracked gravel from deck.		Maintenance Needs: Bridge Cleaning		
		Performance Deficiencies: None		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	16.6 m			
Element Name:	Curbs		Width:	0.4 m			
Location:			Height:	0.12 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	17.3 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			8.7	8.6	Element BCI	20.1
Comments:	Wide cracks, severe abrasion on curb face along entire length. Medium scaling. Small spalls at end.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	0.31 m			
Element Name:	Posts		Width:	0.23 m			
Location:	Larger posts		Height:	0.8 m			
Material:	Cast-In-Place Concrete		Count:	16			
Element Type:			Total Quantity:	13.8 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		8.8	2.5	2.5	Element BCI	55.1
Comments:	Severe spalls on all end posts. Severe scaling/abrasion on interior posts. Barrier does not meet current standards.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	16.5 m			
Element Name:	Railing System		Width:	0.235 m			
Location:	Including Ballusters		Height:	0.9 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Concrete Balustrade		Total Quantity:	33 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		30.4	2.1	0.5	Element BCI	71.6
Comments:	Small spalls on railing, wide crack on SW. Medium scaling on Ballusters. Delamination on SW. Barrier does not meet current standards.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:		m		
Element Name:	Deck Drainage		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	6			
Element Type:			Total Quantity:	6	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4	2	Element BCI	26.7

Comments: Deck drainage is accommodated by 6-76mm diameter core drilled holes hthrough the deck. The deck drains are flush with the soffit.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Install new deck drains per standards.		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	5.2	m		
Location:	East		Height:	1.95	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	10.1	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.5	1.3	1.3	Element BCI	63.7

Comments: Light scaling, hairline to narrow cracking. Wide crack at cold joint with minor spalling on SE.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.33	m		
Element Name:	Abutment Piles		Width:	0.33	m		
Location:	East		Height:	0.3	m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	1.6	Sq.m		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.6			Element BCI	75.0

Comments: Limited inspection. Condition based on other visible piles

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	3.85 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	East Span		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	16.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.9	4.5	4.5	Element BCI	54.1

Comments: Exposed corroded rebar, wide horizontal cracks with spalling and delaminations along bottom corner of girders. Cracking in girder ends. Birds nests noted.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.65 m			
Element Name:	P. Caps		Width:	5.2 m			
Location:	East		Height:	1.7 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	19.9 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14	3.4	2.5	Element BCI	55.1

Comments: Light scaling. Wide horizontal and vertical cracking, light delaminations. Small spalls/popouts. Disintegration on south face. Exposed rebar bottom of west face. Medium vertical crack.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.33 m			
Element Name:	Shaft / Bents		Width:	0.33 m			
Location:	East		Height:	0.75 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.8	0.2		Element BCI	74.2

Comments: Medium scaling, minor abrasions

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	16.5 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	m			
Location:			Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	13.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5	4.1	4.1	Element BCI	40.8
Comments:	Spalling, narrow horizontal cracking with efflorescence, hairline map cracking, wide crack in exterior curb face.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	14.4 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.22 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	52.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		32.9	10.5	9.3	Element BCI	54.8
Comments:	Centre span: spalling, delaminations, exposed corroded rebar and wet areas. Formwork still in place. East span: spalls, corroded rebar, formwork left in place. West span: spalls, exposed corroded rebar, delaminations.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	6.9 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	Centre Span		Height:	0.56 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	39.2 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		30.2	5	4	Element BCI	54.1
Comments:	Concrete T-Beams are in generally fair to good condtion with cracking, spalling and delaminations along bottom portions. Exposed rebar.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	0.65 m			
Element Name:	P. Caps		Width:	5.2 m			
Location:	West		Height:	1.6 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	18.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10	4.8	3.9	Element BCI	55.1

Comments: Wide horizontal cracks. Moderate scaling. Medium vertical cracks at center.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.33 m			
Element Name:	Shaft / Bents		Width:	0.33 m			
Location:	West		Height:	1 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	5.3 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.3			Element BCI	74.2

Comments: Limited inspection. Light scaling, minor abrasions.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	3.65 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	West Span		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	16.1 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		6	5.5	4.6	Element BCI	54.1

Comments: Severe delaminations on bottom of girders. Medium to wide horizontal cracks.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	5.2	m		
Location:	West		Height:	1.85	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	9.6	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8	1	0.6	Element BCI	63.7

Comments: Medium to wide horizontal cracks, cold joint, light scaling.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.33	m		
Element Name:	Abutment Piles		Width:	0.33	m		
Location:	West		Height:	0.3	m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	1.6	Sq.m		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.6			Element BCI	75.0

Comments: Limited inspection. Condition based on other visible piles

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0

Comments: Embankments are vertical at abutments, but appear stable. Stone (rip rap) at some corners.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse has tree debris built up at the end span. No evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Remove debris from under the structure.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B27
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean gravel tracked onto deck top, remove tree debris under structure's West span.	$1,000.00
Hazard Signs	Install missing hazard warning sign at structure	$500.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to posts, deck top, curbs,					$19,000.00
Type B concrete repairs to Girders, soffit,					$91,000.00
Type C concrete repairs to abutment walls, p. caps, shaft / bents,					$27,000.00
Install deck drains.					$10,000.00
Replace Barriers					$60,000.00
Waterproof and pave.					$30,000.00
Add slope stabilization					$17,000.00
General Items - Insurance,					$125,000.00
Rehabilitation Cost Subtotal					**$379,000.00**

Estimated Value of Replacement Structure	**$1,200,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental	Bird nesting mitigation (activity observed)	$20,000.00	$20,000.00
Other			
	Total Associated Work Costs	**$35,000.00**	**$35,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$414,000.00	$1,235,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$52,000.00	$117,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$47,000.00	$117,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$42,000.00	$62,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$657,500.00**	**$1,666,000.00**

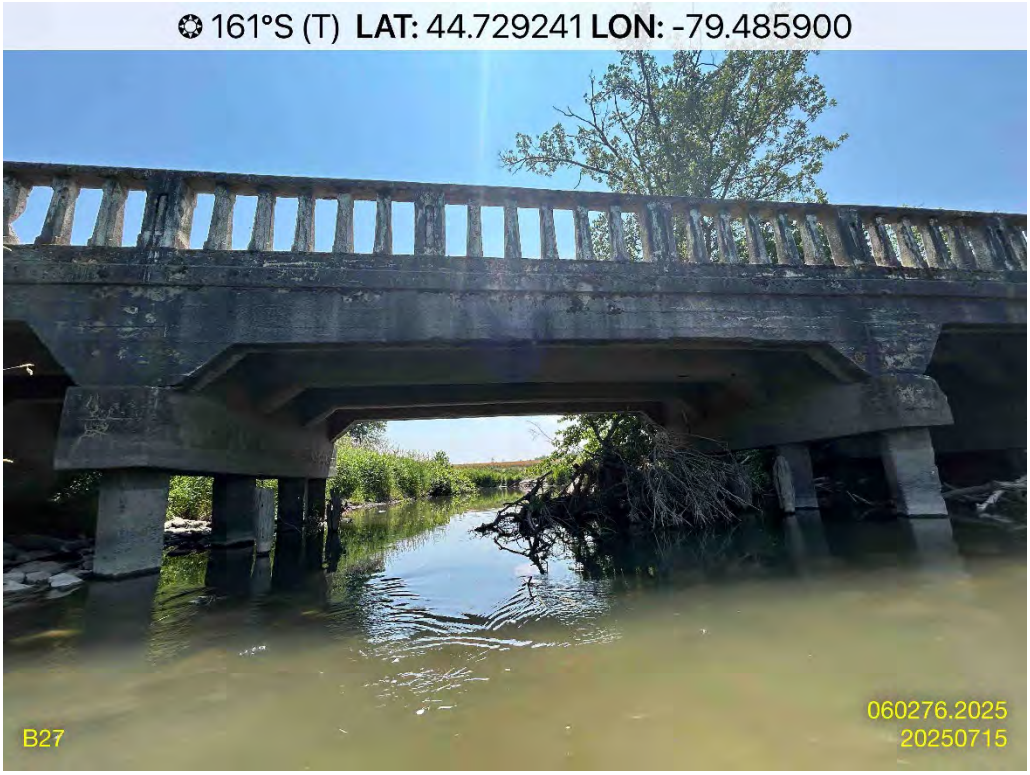
NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	1.7	11.7

Recommendation:	Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 yrs).

Justification:	**Current BCI**	**61.7**
Bridge B27 is generally in fair condition, with concrete deterioration observed on the girders and soffit, and a deteriorated barrier system that does not meet current standards. Given the narrow, substandard driving platform, it is recommended to plan for the replacement of the bridge in the future. Consideration should also be given to installing a steel beam guide rail system, end treatments, and structure connections to improve safety for oncoming traffic. A 14-tonne load limit posting is currently in effect for this structure.		



ELEVATION

APPROACH WEARING SURFACE

DECK TOP – GRAVEL ON DECK

BARRIER

BARRIER – POST - SPALL

BARRIER – SEVERE SPALL WITH EXPOSED REBAR

BARRIER – POST – MEDIUM CRACKING

SOFFIT EXTERIOR

PIER CAPS & PILES – PILES CAST AT ANGLE DURING POOR CONSTRUCTION

PIER CAP - SPALLING

ABUTMENT WALL & PILES

ABUTMENT WALL & PILES – SCALING, HAIRLINE TO NARROW CRACKING

SOFFIT INTERIOR – DELAMINATIONS, RUST STAINING, SPALLING WITH EXPOSED REBAR

GIRDERS

GIRDERS – EXPOSED CORRODED REBAR, WIDE HORIZONTAL CRACK, SPALLING

GIRDERS – ENDS – CRACKING, DELAMINATIONS

PIER CAP – WIDE HORIZONTAL CRACK

Ontario Structure Inspection Manual - Inspection Form

Site Number: B28
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 28										
Main Hwy/Road #	Hampshire Mills Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 14, Conc VI/VII, 1.80 km N of Cambrian Road										
Latitude	44.721618			Longitude	-79.474392						
Owners	Township of Severn			Heritage Designation	Not Consid:		X	Cons/not App.		List/n.d.	
					Desig./not list			Desig & List			
MTO region	Central			Road Class:	Freeway			Arterial			
					Collector			Local			
MTO District	Central region			Posted Speed	80			No. of Lanes	1		
Old County	Simcoe			AADT	80			% Trucks			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Concrete T-Beam			Interchange Number							
Total Deck Length	16.4 m			Interchange Structure Number							
Overall Str. Width	4.9 m			Min. Vertical Clearance		m					
Total Deck Area	80.36 sq. m			Special Routes:	Transit			Truck			
					School			Bicycle			
Road Platform Width	6 m (btwn tops of slopes)										
Roadway Width	4.1 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	3			Fill on Structure	0 m						
Span Lengths	3.45, 7.45, 3.45 m			Height (streambed to structure top)	3 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	14 tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	29°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:		X		$2,500.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes: Recommend load limit evaluation to determine if strucuture requires further load reduction or full closure.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☑ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Forgo rehabilitation and replace structure within 4 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	14 tonnes			
Recommended Load Limit Posting:	5			
Date of Next Inspection:	2027			

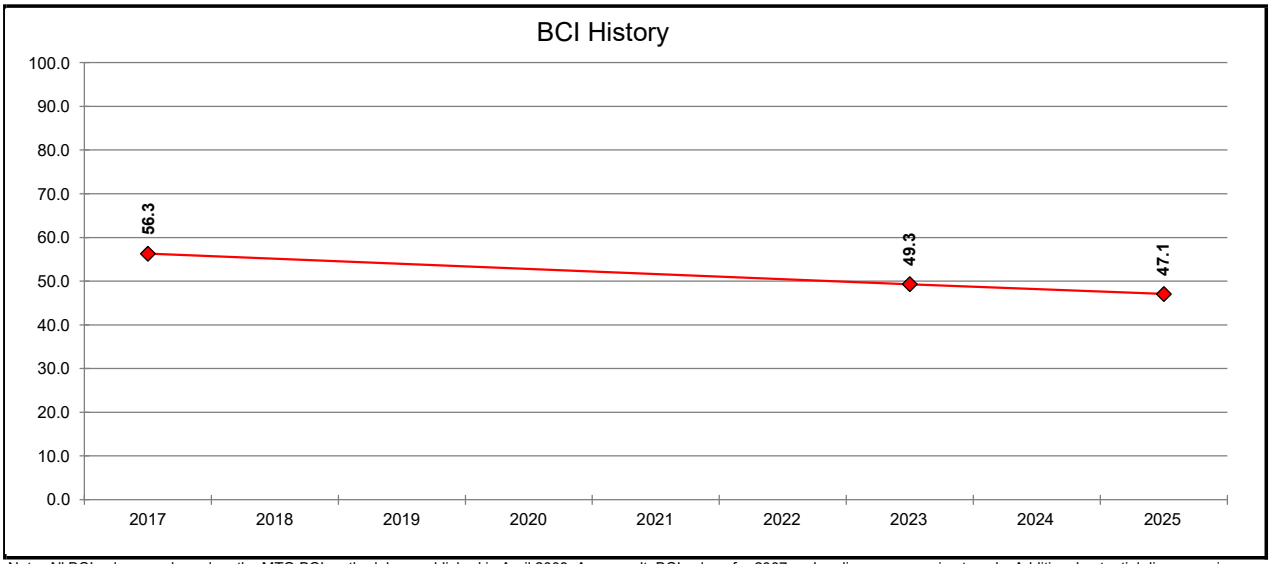
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	47.1	T. Wright	
2023	49.3	M. Ahmed (Doug Dixon)	
2017	56.3	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.1 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	49.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		48	1.2		Element BCI	74.1

Comments: Minor potholes

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0

Comments: Warning hazard markers are provided at all four quadrants of the structure. Signs should be mounted on posts.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	16.4 m			
Element Name:	Deck Wearing Surface		Width:	4.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	67.24 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			7	60.24	Element BCI	4.2

Comments: Asphalt cover on previously exposed concrete deck.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	16.4	m		
Element Name:	Deck Top		Width:	4.1	m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	67.24	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.24	34.3	8.7	Element BCI	47.4

Comments: Limited Inspection due to asphalt cover on deck. Based on condition of asphalt wearing surface and soffit

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:		m		
Element Name:	Deck Drainage		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	10	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			10		Element BCI	40.0

Comments: Deck drainage is accommodated by 10-100mm diameter core drilled holes through the deck. The deck drains are flush with the soffit.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	16.4	m		
Element Name:	Curbs		Width:	0.4	m		
Location:			Height:	0.12	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	17.06	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			8.53	8.53	Element BCI	20.0

Comments: Very wide cracks along curb faces, disintegration of east curb, moderate scaling and abrasion.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	0.31 m			
Element Name:	Posts		Width:	0.23 m			
Location:	All		Height:	0.8 m			
Material:	Cast-In-Place Concrete		Count:	12			
Element Type:	Concrete Balustrade		Total Quantity:	10.37 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		5.11	2.63	2.63	Element BCI	47.1

Comments: Severe scaling/abrasion, disintegration, medium vertical cracks, wide horizontal cracks. Parapet walls are sub-standard. Missing posts at NW quadrant.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	15.7 m			
Element Name:	Railing System		Width:	0.24 m			
Location:			Height:	0.9 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Concrete Balustrade		Total Quantity:	31.4 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		15.7	7.85	7.85	Element BCI	47.5

Comments: Localized spalling with exposed rebar, narrow to wide cracking and severe disintegration of 2 ballusters.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	16.4 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	m			
Location:			Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	13.12 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.96	4.08	4.08	Element BCI	40.8

Comments: Large spalls, wide horizontal cracks, severe disintegration, light scaling.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	5.2 m			
Location:	North		Height:	1.85 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	9.62 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.42	2.6	2.6	Element BCI	49.9

Comments: Medium disintegration and honeycombing. Vertical stained cold joint.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	0.33 m			
Element Name:	Abutment Piles		Width:	0.33 m			
Location:	North		Height:	0.5 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	2.64 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.64			Element BCI	75.0

Comments: Limited inspection - below soil

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	3.45 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	North span		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	15.18 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		0.38	7.4	7.4	Element BCI	37.5

Comments: Spalling with exposed corroded rebar, delaminations, light scaling, medium to wide cracks, disintegration, seperation between girder and deck. Cracks are likely due to rebar swelling.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	3.45	m		
Element Name:	Soffit - Thin Slab - Int		Width:	1.23	m		
Location:	North span		Height:		m		
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	12.73	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.76	6.37	1.6	Element BCI	40.8
Comments:	Spalling with exposed corroded rebar, delaminations, light to moderate scaling.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Piers		Length:	0.55	m		
Element Name:	P. Caps		Width:	5.2	m		
Location:	North		Height:	1.85	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	21.28	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		12.08	4.6	4.6	Element BCI	47.6
Comments:	Light to severe scaling/abrasion. Spalling and disintegration on ends. Wide horizontal cracks along cold joint.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Piers		Length:	0.33	m		
Element Name:	P. Piles		Width:	0.33	m		
Location:	North		Height:	0.3	m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	1.58	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.18	0.4		Element BCI	68.9
Comments:							
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	7.45 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	Middle span		Height:	0.58 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	T-Beam		Total Quantity:	43.508 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		12.508	17.5	13.5	Element BCI	37.5

Comments: Light to moderate scaling, wide horizontal cracks at haunches/abrasions at bottom edges, spalling on haunches.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	7.45 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.22 m			
Location:	Middle span		Height:	m			
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	27.27 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.22	18.65	6.4	Element BCI	40.8

Comments: Concrete soffit is spalling with delaminations, wet areas and exposed corroded rebar.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Piers		Length:	0.55 m			
Element Name:	P. Caps		Width:	5.2 m			
Location:	South		Height:	1.85 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	21.28 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9.38	5.8	6.1	Element BCI	47.6

Comments: Light scaling, medium to severe abrasion, wide cracks at cold joint.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Piers		Length:	0.33 m			
Element Name:	P. Piles		Width:	0.33 m			
Location:	South		Height:	0.3 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	1.58 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.43	0.15		Element BCI	68.9

Comments:

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	3.45 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:	South span		Height:	0.4 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	15.18 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8.68	3.9	2.6	Element BCI	37.5

Comments: Spalling with exposed corroded rebar, delaminations, light scaling, medium to wide cracks, disintegration, seperation between girder and deck.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	3.45 m			
Element Name:	Soffit - Thin Slab - Int		Width:	1.23 m			
Location:	South span		Height:	m			
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	12.73 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		6.65	3.18	2.9	Element BCI	40.8

Comments: Spalling with exposed corroded rebar, delaminations, light to moderate scaling.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	5.2	m		
Location:	South		Height:	1.85	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	9.62	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.62	2.6	1.4	Element BCI	49.9
Comments:	Light to moderate scaling, wide cracks at cold joints.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	0.33	m		
Element Name:	Abutment Piles		Width:	0.33	m		
Location:	South		Height:	0.5	m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	2.64	Sq.m		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.64			Element BCI	75.0
Comments:	Limited inspection due to water level and ground						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0
Comments:	Very steep sloped at abutment but appear stable.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All			1		Element BCI	40.0

Comments: Watercourse is partially obstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Consider installing steel beam guiderail.		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B28
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Wearing Surface,	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:	Structure Evaluation;	**$2,500.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$1,200,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental	Bird nesting mitigation (activity observed)		$15,000.00
Other			
	Total Associated Work Costs	**$0.00**	**$30,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,230,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$117,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$117,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$62,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,661,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.0	3.5

Recommendation:	Forgo rehabilitation and replace structure within 4 years.

Justification:	**Current BCI**	**47.1**
Bridge B28 is in poor condition, exhibiting severe concrete deterioration on the girders, soffit, and substructure, wide shear cracks in the girders, and a deteriorated barrier system that does not meet current standards. Early signs of abutment undermining have also been observed. Replacement is recommended, as the structure is no longer a candidate for rehabilitation. The presence of shear cracks indicates the girders are overstressed and have experienced structural failure. A load limit evaluation should be conducted to assess the need for further load restrictions or potential closure until replacement is completed.		

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE

DECK WEARING SURFACE – EXPOSED CONCRETE SURFACE

BARRIER

BARRIER – MISSING POSTS

BARRIER – DISINTEGRATION, EXPOSED CORRODED REBAR

SOFFIT EXTERIOR

ABUTMENT WALL - DISINTEGRATION

SOFFIT INTERIOR – SPALLING, EXPOSED CORRODED REBAR, STAINING

GIRDERS – DISINTEGRATION, DELAMINATIONS AND EXPOSED CORRODED REBAR

EXTERIOR GIRDER – DISINTEGRATION, EXPOSED CORRODED REBAR

GIRDER – END – WIDE CRACK

GIRDER – SHEAR CRACK

SOFFIT INTERIOR- SCALING, DELAMIANTIONS

PIER CAPS & PIER PILES - SCALING

PIER CAPS – DISINTEGRATION

Ontario Structure Inspection Manual - Inspection Form

Site Number: B29
MTO Site Number: N/A

Inventory Data:

Structure Name	Structure No. 29										
Main Hwy/Road #	Cambrian Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lots 10/11, Conc V, 0.45 km W of Carlyon Line										
Latitude	44.69803			Longitude	-79.48174						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	175		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Rigid Frame			Interchange Number							
Total Deck Length	11 m			Interchange Structure Number							
Overall Str. Width	9.2 m			Min. Vertical Clearance		m					
Total Deck Area	101.2 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	11 m (btwn tops of slopes)										
Roadway Width	8.7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	10.4 m			Height (streambed to structure top)	3.5 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1980	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

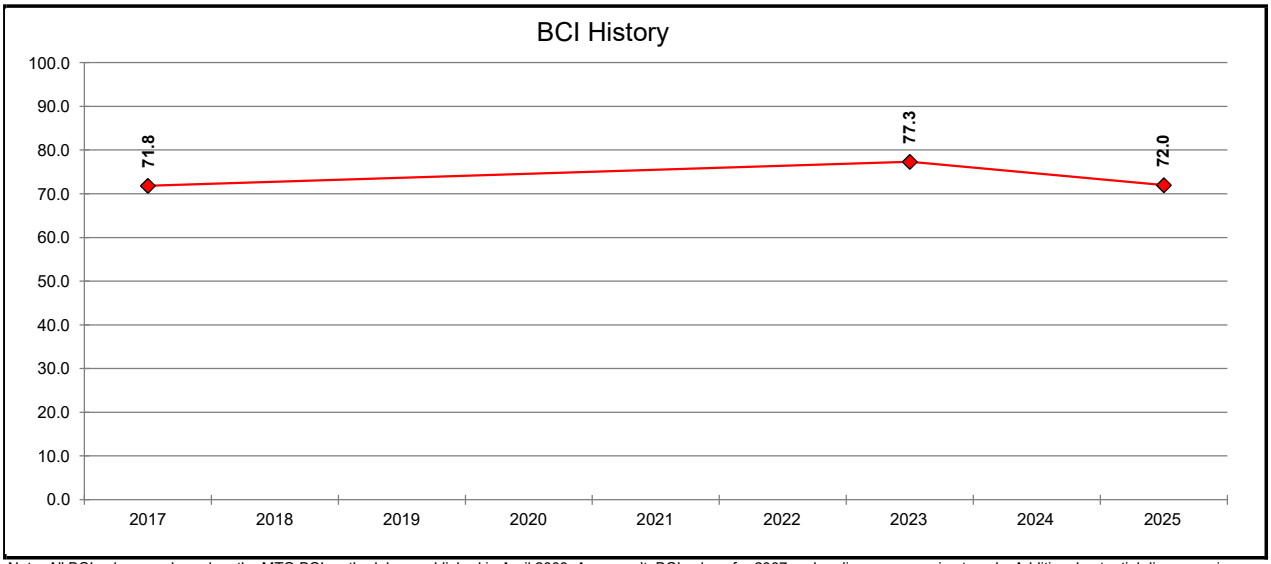
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	72.0	T. Wright	Corrections applied to previous BCI element values.
2023	77.3	M. Ahmed (Doug Dixon)	
2017	71.8	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	Hazard warning markers provided at all four quadrants.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	20	m		
Element Name:	Approach Guide Rail		Width:		m		
Location:			Height:		m		
Material:	Steel		Count:	4			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	80	m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		76		4	Element BCI	71.3
Comments:	Two of guide rail posts located at each corner of the structure have no anchorage and/or are missing bolts. Will require construction of wingwalls / retaining walls to anchor post or narrow roadway over bridge.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
Provide proper anchorage for guiderail.			Maintenance Needs: None				
			Performance Deficiencies: Pedestrian/Vehicular Hazard				

Element Group:	Approach		Length:	9	m		
Element Name:	Approach Wearing Surface		Width:	7	m		
Location:			Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	84	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		81.5	2.5		Element BCI	74.0
Comments:	Generally in good condition with light ravelling and medium transverse cracks at the ends of the structure.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
Rout and seal asphalt cracks.			Maintenance Needs: Rout and Seal				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	11 m			
Element Name:	Deck Wearing Surface		Width:	8.7 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	95.7 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		94.7	1		Element BCI	74.6

Comments: Narrow cracking at the joint location

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Rout and Seal	
Rout and seal asphalt cracks.		Performance Deficiencies: None	

Element Group:	Decks		Length:	11 m			
Element Name:	Deck Top		Width:	9.2 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	101.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		95	6.2		Element BCI	72.9

Comments: Wet areas along the joints between precast units. Suspected deck top issues

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	12.23 m			
Element Name:	Railing System		Width:	m			
Location:	Over structure		Height:	m			
Material:	Steel		Count:	2			
Element Type:	Thrie Beam on Steel Post		Total Quantity:	24.46 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		24.46			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.2	m		
Location:	East		Height:	2.9	m		
Material:	Precast Concrete		Count:				
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	26.68	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.68	1.5	0.5	Element BCI	71.6

Comments: Honeycombing at joints. Staining around the drain holes. Light to medium scaling, especially along waterline.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.2	m		
Location:	West		Height:	2.9	m		
Material:	Precast Concrete		Count:				
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	26.68	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.68	1.5	0.5	Element BCI	71.6

Comments: Honeycombing at joints. Staining around the drain holes. Light to medium scaling, especially along waterline.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	Both		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2			Element BCI	75.0

Comments: Rated on performance only.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Element Data

Element Group:	Decks			Length:	10.2	m		
Element Name:	Soffit - Thin Slab - Ext			Width:	1	m		
Location:				Height:	0.62	m		
Material:	Precast Concrete			Count:	2			
Element Type:				Total Quantity:	33	Sq.m		
Environment:	Moderate			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		30.4	2.5	0.1		Element BCI	72.1
Comments:	Light to medium scaling. Wide horizontal crack at joint between precast unit. Small spall							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Element Group:	Decks			Length:	10.2	m		
Element Name:	Soffit - Thin Slab - Int			Width:	9.2	m		
Location:				Height:		m		
Material:	Precast Concrete			Count:				
Element Type:				Total Quantity:	93.84	Sq.m		
Environment:	Benign			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		78.54	15.3			Element BCI	69.3
Comments:	Light honeycombing and moisture staining at joints between precast units.							
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Element Group:	Retaining Walls			Length:		m		
Element Name:	Wall			Width:		m		
Location:	All 4 corners			Height:		m		
Material:				Count:	4			
Element Type:	Other			Total Quantity:	4	Sq.m		
Environment:				Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		3	1			Element BCI	66.3
Comments:	Stacked large stone retaining walls in place of wingwalls at each corner of the structure are in good condition, appear to be stable.							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All Four Quadrants		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankments in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B29
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal Approach Wearing Surface, Deck Wearing Surface,	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Repair guide rail to provide proper anchorage.	**$15,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top,					$3,000.00
Type B concrete repairs to soffit,					$22,000.00
Type C concrete repairs to abutment walls,					$6,000.00
Waterproof and pave.					$40,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$196,000.00**

Estimated Value of Replacement Structure	**$800,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$211,000.00	$815,000.00
Roadside Protection:		$15,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$23,000.00	$92,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$22,000.00	$87,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$20,000.00	$41,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$293,500.00**	**$1,170,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	12.0	22.0

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**72.0**
Bridge B29 is generally in good condition but shows signs of moisture penetration at the joints between precast culvert units. The municipality should undertake the recommended maintenance and address anchorage deficiencies in the existing steel beam guiderail within 1 year.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – MEDIUM TRANSVERSE CRACK

DECK WEARING SURFACE

DECK WEARING SURFACE – NARROW CRACK AT JOINT

APPROACH GUIDE RAIL

BARRIER – THRIE BEAM

SOFFIT EXTERIOR

ABUTMENT WALL

ABUTMENT WALL – HONEYCOMBING AT JOINTS

SOFFIT INTERIOR

SOFFIT INTERIOR – HONEYCOMBING AT JOINTS

Ontario Structure Inspection Manual - Inspection Form

Site Number: B34
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 34										
Main Hwy/Road #	Wainman Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lots 20,21, Conc I/II, 3.10 km N of Foxmead Road										
Latitude	44.722493			Longitude	-79.579063						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	135		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	4.8 m			Interchange Structure Number							
Overall Str. Width	10 m			Min. Vertical Clearance		m					
Total Deck Area	48 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	9 m (btwn tops of slopes)										
Roadway Width	6.25 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	20 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0.3 m						
Span Lengths	4.2 m			Height (streambed to structure top)	2 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1959	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Maintenance and Roadside Safety work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

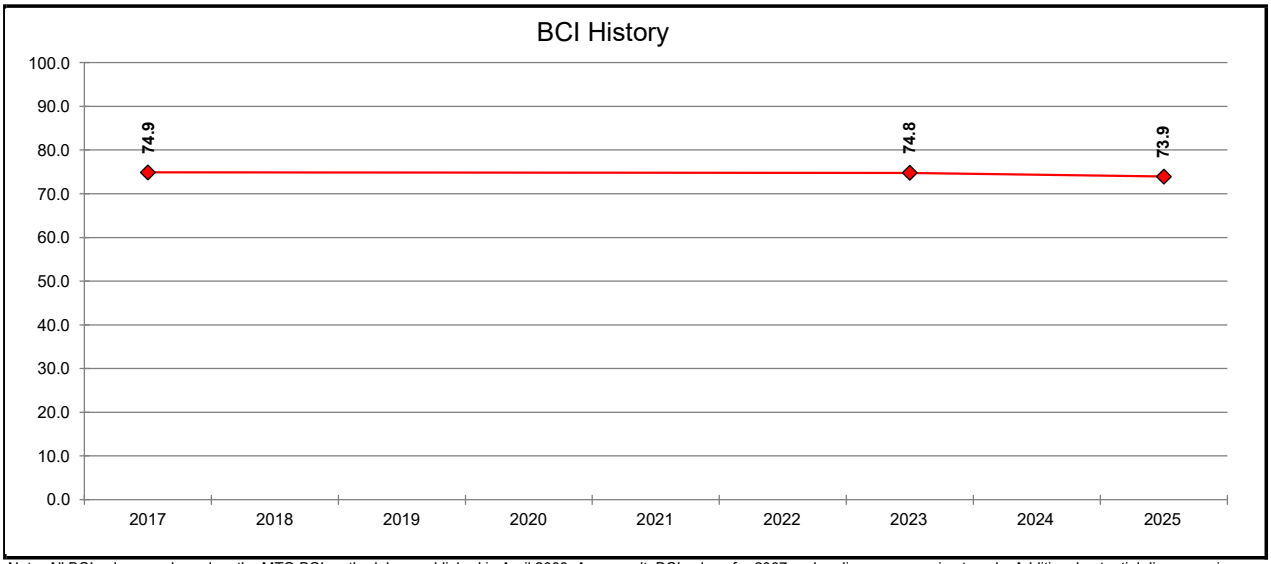
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	73.9	T. Wright	
2023	74.8	M. Ahmed (Doug Dixon)	
2017	74.9	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	6.25 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	75 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		40	30	5	Element BCI	56.0
Comments:	Medium to wide longitudinal and transverse cracking. Medium cracking along ends of structure and a few potholes.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☑ 1 Year ☐ 2 Year				
Rout and Seal, patch asphalt.			Maintenance Needs: Rout and Seal Performance Deficiencies: None				

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	
Comments:	None present						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
Consider adding SBGR system			Maintenance Needs: None Performance Deficiencies: Pedestrian/Vehicular Hazard				

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	Hazard markers are provided at all four quadrants of the structure.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	4.8 m			
Element Name:	Deck Wearing Surface		Width:	6.25 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	30 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		24.5	5	0.5	Element BCI	67.9
Comments:	Light to medium unsealed cracking along structure ends and edge of pavement.						

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and Seal cracks, patch asphalt.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Element Group:	Decks		Length:	4.8 m			
Element Name:	Deck Top		Width:	10 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	48 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:	Waterproof and Paving with AC Overlay					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		48			Element BCI	75.0
Comments:	Condition based on wearing surface and soffit.						

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	10.4 m			
Element Name:	Curbs		Width:	0.3 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	6.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.2	0.75	0.25	Element BCI	67.7
Comments:	Light to medium scaling. Cracks at both curbs.						

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	3.1 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	0.95 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.9			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	11.1 m			
Location:	North		Height:	1.22 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	13.5 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		13.5			Element BCI	74.6
Comments:	Light to medium honeycombing and narrow cracks. Exposed ends of form ties.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northwest		Height:	0.95 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.85 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.85			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	4.2 m			
Element Name:	Soffit - Thick Slab - Ext		Width:	1 m			
Location:			Height:	0.525 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	12.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		11.8	0.5	0.5	Element BCI	70.7
Comments:	Light scaling, narrow to medium cracks with staining						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	11.1 m			
Element Name:	Soffit - Thick Slab - Int		Width:	3.6 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	40 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		39	1		Element BCI	74.1
Comments:	Light scaling, narrow cracks. Narrow horizontal crack with efflorescence staining.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	0.95 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.85 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.85			Element BCI	75.0
Comments:	Light scaling. Narrow cracking.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	11.1	m		
Location:	South		Height:	1.22	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	13.5	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		13.3	0.1	0.1	Element BCI	74.6

Comments: Honeycombing. Light to medium scaling. Narrow cracks. Small spall

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Abutments		Length:	3	m		
Element Name:	Wingwalls		Width:		m		
Location:	Southwest		Height:	0.95	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.85	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.85			Element BCI	75.0

Comments: Light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	Both		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	14
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All			2		Element BCI	40.0

Comments: Scouring along footings, both exposed.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
Place rock protection along footing.		Performance Deficiencies: Undermining of Foundation

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B34
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Rout and seal, asphalt patch repairs required to Approach and Deck Wearing Surfaces.	$2,500.00
	Total Maintenance Needs Costs	**$2,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to curbs,					$1,000.00
Type B concrete repairs to soffit,					$3,000.00
Type C concrete repairs to abutment walls,					$1,000.00
Place rock protection to mitigate scouring, undermining of footings.					$10,000.00
Waterproof and Pave					$30,000.00
General Items - Insurance,					$125,000.00
Rehabilitation Cost Subtotal					**$170,000.00**

Estimated Value of Replacement Structure	**$400,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$185,000.00	$415,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$29,000.00	$52,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$24,000.00	$47,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$23,000.00	$21,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$363,500.00**	**$670,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR	Bridge with span less than 4.5m and replacement planned	N/A	23.9

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**73.9**
Bridge B34 is generally in good condition with only minor deficiencies noted. No capital works are recommended at this time, however, consideration should be given to installing a steel beam guide rail system with end treatments to help protect oncoming traffic.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – TRANSVERSE AND LONGITUDINAL CRACKS

DECK WEARING SURFACE – LIGHT TO MEDIUM CRACKING, PATCHED POTHOLES

CURB

CURB – NARROW CRACK

WINGWALL

SOFFIT EXTERIOR – LIGHT SCALING

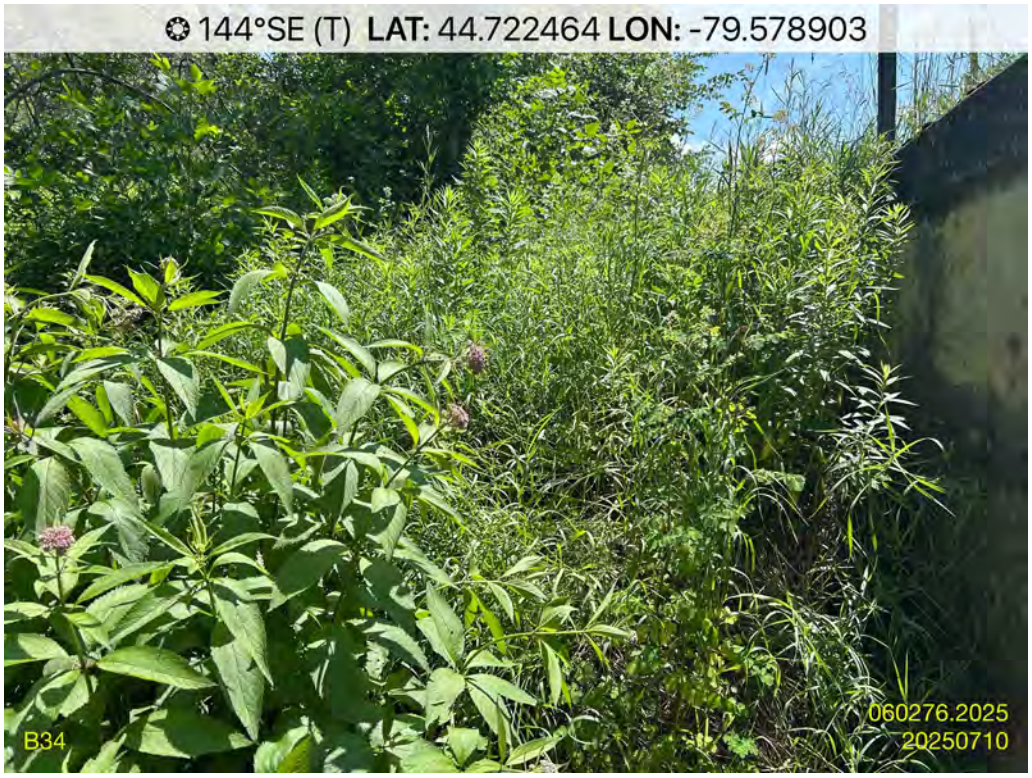
ABUTMENT WALL

ABUTMENT WALL - HONEYCOMBING

ABUTMENT WALL – NARROW CRACKS

SOFFIT INTERIOR

SOFFIT INTERIOR – NARROW CRACKS



EMBANKMENT

FOOTING - EROSION

Ontario Structure Inspection Manual - Inspection Form

Site Number: B35
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 35									
Main Hwy/Road #	Town line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.	
		Under			Rail		Road		Other	
Structure Location	Lot 23, Conc XIV/I, 2.30 km N of Southorn Road									
Latitude	44.73307			Longitude	-79.609016					
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.	
					Desig./not list		Desig & List			
MTO region	Central			Road Class:	Freeway		Arterial			
					Collector		Local			
MTO District	Central region			Posted Speed	80		No. of Lanes	2		
Old County	Simcoe			AADT	160		% Trucks			
Geographic Twp.				Inspection Route Sequence						
Structure Type	Cast-In-Place Concrete T-Beam			Interchange Number						
Total Deck Length	8.6 m			Interchange Structure Number						
Overall Str. Width	6.5 m			Min. Vertical Clearance		m				
Total Deck Area	55.9 sq. m			Special Routes:	Transit		Truck			
					School		Bicycle			
Road Platform Width	6 m (btwn tops of slopes)									
Roadway Width	5.5 m (btwn edges of shoulders)			Detour Length Around Bridge		km				
Skew Angle	0 Degrees			Direction of Structure						
No. of Spans	1			Fill on Structure	0 m					
Span Lengths	7.85 m			Height (streambed to structure top)	3 m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	5 tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
East curb has been rehabilitated in 2020			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25 Deg. C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:		X		$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes: Monitor abutment crack directly below bearing seat for movement in future biennial inspections.				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 yrs). Maintenance and Roadside Safety work recommended.
Current Load Limit Posting:	5 tonnes
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

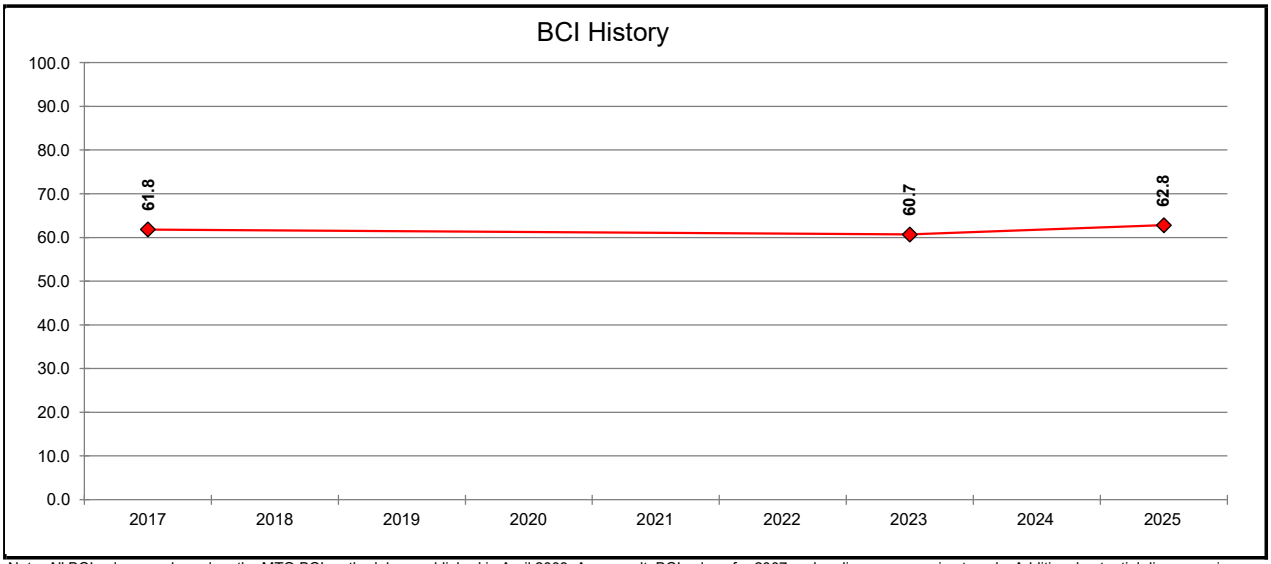
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	62.8	T. Wright	Corrections applied to previous BCI element values.
2023	60.7	Mahmoud Ahmed	
2017	61.8	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	5.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	66 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		66			Element BCI	75.0
Comments:	Asphalt roadway is in good condition						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	Hazard markers are provided at all four corners of the structure and flexible posts along edges to move traffic in from edge. The bridge originally had eight traffic signs, now only four of them remain.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	8 m			
Element Name:	Deck Wearing Surface		Width:	5.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	44 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		44			Element BCI	75.0
Comments:	Asphalt wearing surface is in good condition						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	8.6 m			
Element Name:	Deck Top		Width:	6.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:	CIP Concrete on Supports		Total Quantity:	55.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		55	0.7	0.2	Element BCI	74.3

Comments: Limited Inspection. Condition based on soffit and wearing surface. There is another concrete deck on top of the original deck, and this slab its west curb in severe working condition, spalling and disintegration.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	Including barrier for structure.		Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Consider installing steel beam guiderail.		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Abutments		Length:	3.6 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	1.25 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		0.4	2.3	1.8	Element BCI	40.1

Comments: Wide crack at control joint. Very wide crack near top. Spall at end.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	6.85	m		
Location:	North		Height:	2.1	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	14.4	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5	5.2	4.2	Element BCI	54.2

Comments: Wide crack at cold joint. Medium to severe scaling/erosion. Wide vertical crack on NE.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:		m		
Element Name:	Ballast Walls		Width:	5.35	m		
Location:	North		Height:	0.6	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	3.21	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.21	0.5	0.5	Element BCI	66.4

Comments: Medium to wide pattern cracking. Light scaling

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	1.1	m		
Element Name:	Wingwalls		Width:		m		
Location:	Northwest		Height:	3.1	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	3.41	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.81	0.3	0.3	Element BCI	40.1

Comments: Spalls and disintegration below the construction joint.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	8.6	m		
Element Name:	Soffit - Thin Slab - Ext		Width:	0.4	m		
Location:			Height:	0.4	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	13.76	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			2.44	11.32	Element BCI	7.1

Comments: Concrete fascias are in poor condition with extensive severe spalling and disintegration. Concrete curbs are seperating from the deck. Very wide cracks in fascia.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	8.6	m		
Element Name:	Soffit - Thin Slab - Int		Width:	1.6	m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	3			
Element Type:			Total Quantity:	41.28	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		39.08	1.1	1.1	Element BCI	72.1

Comments: Concrete soffit is in generally good condition with localized wet areas and narrow stained cracks. Spall with exposed corroded rebar on SE. Hairline to narrow stained transverse cracking. 2 medium transverse cracks on west panel. Stalicites, efflorescence.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	1	m		
Element Name:	Girders - Ends		Width:	0.3	m		
Location:			Height:	0.6	m		
Material:	Cast-In-Place Concrete		Count:	8			
Element Type:			Total Quantity:	12	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.5	3.9	3.6	Element BCI	41.1

Comments: NW girder has large spalling with exposed corroded rebar.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	7 m			
Element Name:	Girders - Middle		Width:	0.3 m			
Location:			Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	84 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		77.2	3.4	3.4	Element BCI	70.5
Comments:	Delamination of bottom of exterior girders - 1.1 m on east, 5.25 m on west. Bird nests noted.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	3.6 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	1.25 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	4.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1	2.3	1.2	Element BCI	40.1
Comments:	Light to medium scaling, wide cracking at cold joints.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	0.6 m			
Element Name:	Abutment Walls		Width:	6.85 m			
Location:	South		Height:	2.1 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	18.5 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		15	1.9	1.6	Element BCI	54.2
Comments:	Concrete abutments are in good condition. Light to medium scaling. Erosion/severe scaling on southeast. Spall on soouthwest.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Ballast Walls		Width:	5.35	m		
Location:	South		Height:	0.6	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	3.21	Sq.m		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.21			Element BCI	66.4
Comments:	Light scaling						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	1.1	m		
Element Name:	Wingwalls		Width:		m		
Location:	Southwest		Height:	3.1	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	3.4	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1	1.2	1.2	Element BCI	40.1
Comments:	Spalls and disintegration below construction joint.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	Both		Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Scour along footing. No performance deficiencies noted.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	8			
Element Type:			Total Quantity:	8 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		8			Element BCI	75.0

Comments: Steel plates. Moderate corrosion with light section loss on exteriors.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:				
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	2		Element BCI	57.5

Comments: Washouts on north ends of structures. Erosion at west adjacent to structure.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	13
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Erosion Control	
Repair washouts/erosion.		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All			1		Element BCI	40.0

Comments: Very large dam upstream

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Remove dam		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B35
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear channel of obstructions.	$1,000.00
Erosion Control	Repair washouts, install rock protections.	$4,000.00
	Total Maintenance Needs Costs	**$5,000.00**

Additional Investigations:	Monitoring of Deformations, Settlements and Movements;	**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top,					$5,000.00
Type B concrete repairs to Girders, soffit,					$60,000.00
Type C concrete repairs to abutment walls, ballast walls, wingwalls,					$43,000.00
Add slope stabilization					$13,000.00
Waterproof and pave.					$40,000.00
Add barrier over structure.					$125,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
			Rehabilitation Cost Subtotal		**$411,000.00**

Estimated Value of Replacement Structure	**$650,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way	Bird nesting mitigation (activity observed)		$15,000.00
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$30,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$426,000.00	$680,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$53,000.00	$78,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$48,000.00	$73,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$43,000.00	$34,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$672,500.00**	**$1,000,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	2.8	12.8

Recommendation:	Forgo rehabilitation and replace structure in future (replacement timeline estimated to exceed 10 yrs).

Justification:	**Current BCI**	**62.8**
Bridge B35 is generally in fair condition, with localized concrete deterioration observed on key structural elements, including the exterior fascia, girders, and abutments, exhibiting severe cracking, disintegration, and separation. Due to the narrow structure width, this structure should be planned for replacement. Installation of guide rail and a barrier system should also be considered if replacement is not scheduled in the near future. Monitoring of the abutment crack directly below the bearing seat is recommended during future biennial inspections to assess potential movement.		

ELEVATION

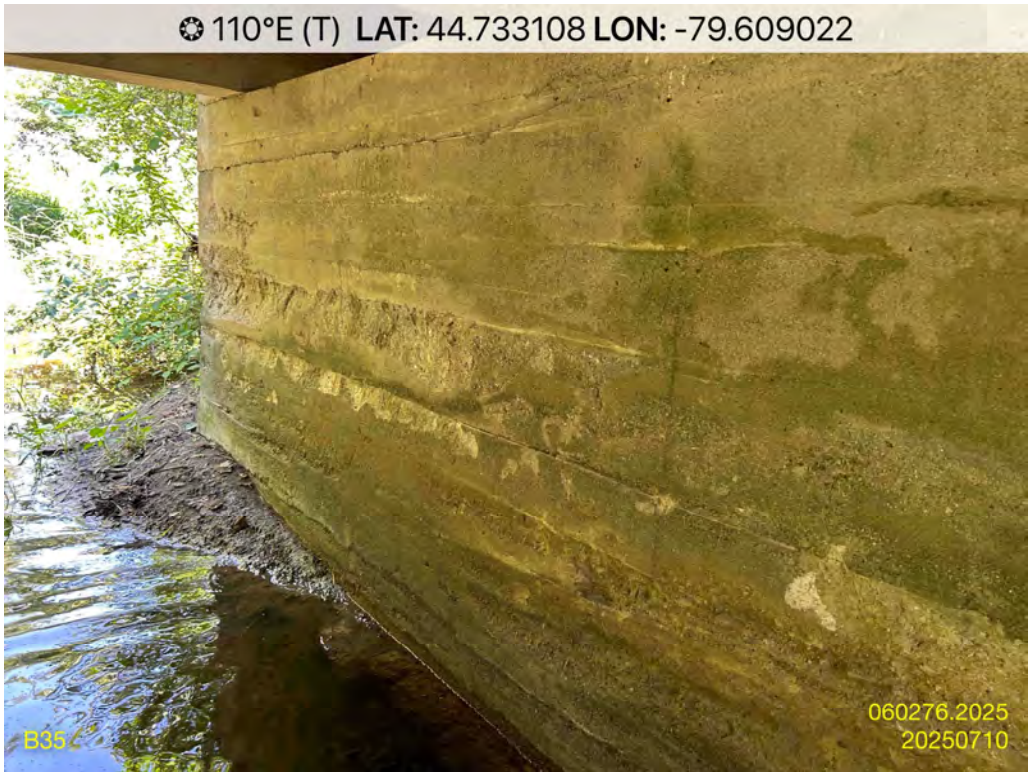
DECK WEARING SURFACE

SIGNS & BARRIER POSTS

SOFFIT EXTERIOR – SEVERE DISINTEGRATION

GIRDERS – SPALLING WITH EXPOSED CORRODED REBAR

GIRDERS – SPALLING WITH EXPOSED REBAR, WIDE CRACK



ABUTMENT WALL – SCALING, EROSION

ABUTMENT WALL – SEVERE SCALING, SPALLING, EROSION

SOFFIT INTERIOR

SOFFIT INTERIOR – SPALLING WITH EXPOSED CORRODED REBAR

WINGWALL – WIDE CRACK

WINGWALL

ABUTMENT WALL – SPALLING, DISINTEGRATION, SCALING

Ontario Structure Inspection Manual - Inspection Form

Site Number: B36
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 36 (Marchmont Mill Bridge)										
Main Hwy/Road #	Marchmont Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.		
		Under			Rail		Road		Other		
Structure Location	Lot 2, Conc I, Marchmont, 0.55 km W of Wainman Line										
Latitude	44.632622			Longitude	-79.510171						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	50		No. of Lanes	2			
Old County	Simcoe			AADT	400		% Trucks	5			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Box Girder			Interchange Number							
Total Deck Length	13 m			Interchange Structure Number							
Overall Str. Width	6.4 m			Min. Vertical Clearance		m					
Total Deck Area	83.2 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	6 m (btwn tops of slopes)										
Roadway Width	4.7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	11.4 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	1987	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
1986 / New superstructure. Substructure from previous bridge at site.			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

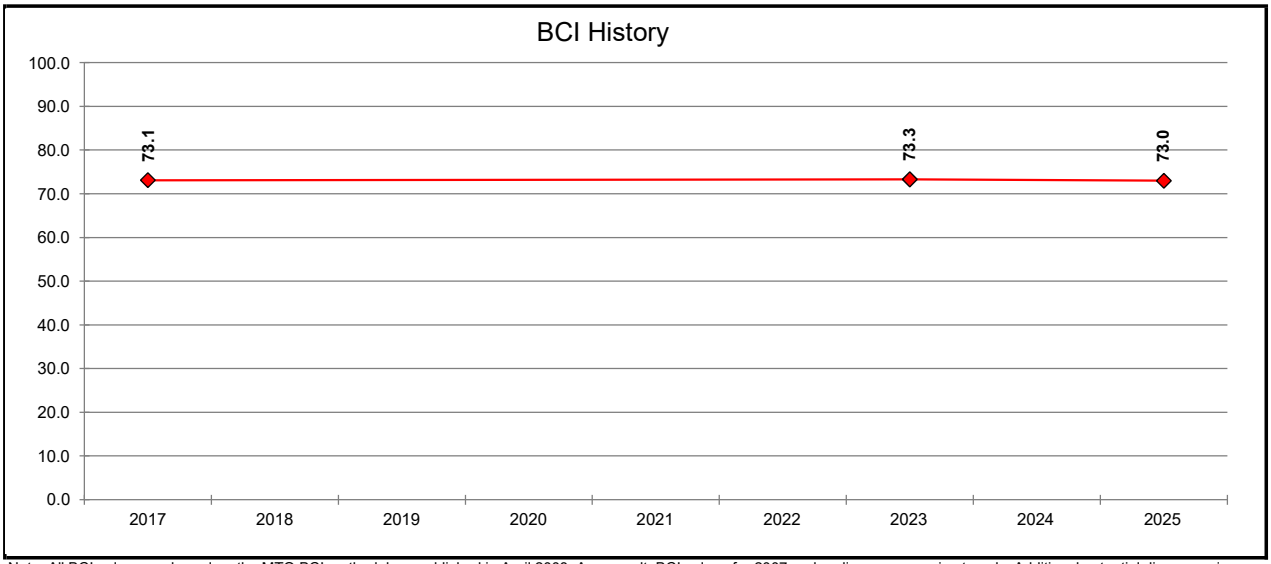
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	73.0	T. Wright	
2023	73.3	M. Ahmed (Doug Dixon)	
2017	73.1	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	56.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		55.4	0.5	0.5	Element BCI	74.0

Comments: Small pothole on south approach.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Sweep		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:	Decks		Length:	11 m			
Element Name:	Deck Wearing Surface		Width:	4.7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	51.7 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	10
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		48.7	3		Element BCI	73.0

Comments: Deck asphalt wearing surface is in good condition

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Sweep.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: Surface Ponding	

Element Group:	Decks		Length:	13 m			
Element Name:	Deck Top		Width:	6.4 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	83.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		80.2	1.5	1.5	Element BCI	73.0

Comments: Condition assumed based on asphalt and soffit..

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Decks			Length:		m		
Element Name:	Deck Drainage			Width:		m		
Location:				Height:	0.77	m		
Material:	Steel			Count:	4			
Element Type:				Total Quantity:	4	Each		
Environment:	Severe			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Each			4			Element BCI	40.0

Comments: Deck drainage is accommodated by 4-200mm diamter deck drains which outlet below the girders, in good condition. Drains do not meet current standards for extension beyond soffit.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers			Length:	1.22	m		
Element Name:	End Post			Width:	0.36	m		
Location:				Height:	1.15	m		
Material:	Cast-In-Place Concrete			Count:	4			
Element Type:				Total Quantity:	16.3	Sq.m		
Environment:	Severe			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		15.7	0.3	0.3		Element BCI	73.0

Comments: Concrete end posts are in good condition with narrow stained cracks, minor impact damage, and random hairline cracking.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers			Length:	9.45	m		
Element Name:	Railing System			Width:		m		
Location:				Height:	1.15	m		
Material:	Aluminum			Count:				
Element Type:				Total Quantity:	9.45	m		
Environment:	Severe			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	m		9.45				Element BCI	75.0

Comments: Light abrasions. Does not meet current code requirements (is not a TL-barrier). Loose endcap SE.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Curb and S/W		Length:	13 m				
Element Name:	Sidewalk		Width:	0.82 m				
Location:			Height:	0.15 m				
Material:	Cast-In-Place Concrete		Count:	2				
Element Type:			Total Quantity:	25.2 Sq.m				
Environment:	Severe		Limited Inspection:	☐				
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		21.2	4			Element BCI	69.4

Comments: Abrasion damage on curb face from snow plow throughout. Hairline pattern cracking, light scaling.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	6 m				
Element Name:	Approach Curb/Gutters		Width:	0.5 m				
Location:	All 4 corners		Height:	0.13 m				
Material:	Cast-In-Place Concrete		Count:	4				
Element Type:			Total Quantity:	15.1 m				
Environment:	Severe		Limited Inspection:	☐				
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	m		13.1	2			Element BCI	70.4

Comments: Settlement noted where curb meets sidewalk. Abrasion damage from snow plow.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	3.81 m				
Element Name:	Approach Guide Rail		Width:	m				
Location:	All 4 corners		Height:	m				
Material:			Count:	18				
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	68.6 m				
Environment:	Severe		Limited Inspection:	☐				
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	m		68.6				Element BCI	75.0

Comments: Steel beam guiderail is provided at all four qudrants of the structure. Steel beam guiderail has terminal end treatments in the northwest and southeast quadrants. No end treatment is provided in the southwest quadrant. The northeast quadrant is end buried. No channel, connection to structure not to code. Minor impact damage. Rot in wood posts

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Joints		Length:		m		
Element Name:	Seals / Sealants		Width:		m		
Location:			Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	Each		
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			2		Element BCI	40.0

Comments: The seals are coverd with debris. No signs of leakage

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Clean debris off joints.		Performance Deficiencies: None	

Element Group:	Joints		Length:		m		
Element Name:	Armouring/Retaining Device		Width:	4.7	m		
Location:			Height:		m		
Material:			Count:	8			
Element Type:			Total Quantity:	37.6	m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		30	7.6		Element BCI	67.9

Comments: Corroded with minor section loss and impact damage.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Joints		Length:	0.51	m		
Element Name:	Concrete End Dams		Width:	4.7	m		
Location:			Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	4.8	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.8			Element BCI	75.0

Comments: Light abrasions.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	6.1	m		
Location:	East		Height:	5.3	m		
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	32.3	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		32.3			Element BCI	74.9

Comments: Concrete abutments are in good condition. Light scaling and hair crack noted.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	Both		Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	14
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only. Erosion along waterline of exposed west footing.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Place rockprotection along footing to mitigate scouring.		Performance Deficiencies: Undermining of Foundation	

Element Group:	Abutments		Length:	1.2	m		
Element Name:	Wingwalls		Width:		m		
Location:	All 4 Corners		Height:	5.3	m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	25.4	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		11.4	7	7	Element BCI	44.7

Comments: Localized disintegration, medium to severe scaling.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Consider installing hazard warning signs, narrow bridge sign.		Maintenance Needs: Hazard Signs Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	m			
Element Name:	Wall		Width:	m			
Location:	All 4 corners		Height:	m			
Material:	Gabion		Count:	4			
Element Type:	Gabions		Total Quantity:	168.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		167.7	1		Element BCI	74.8

Comments: SW = 11.7m x 6.3m, NW = 9m x 6.3m, NE = 5.4m x 2.5m, SE = 9.9 x 2.5m. Two baskets noted to be damaged at SW and NW. General galvanized wire in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	6.1 m			
Location:	West		Height:	5.3 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	32.3 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		32.1	0.2		Element BCI	74.9

Comments: Concrete abutments are in good condition. Light scaling and hair cracks noted. Concrete patching.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	9.4	m		
Element Name:	Soffit - Thin Slab - Ext		Width:	0.76	m		
Location:			Height:	0.4	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	21.8	Sq.m		
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.8			Element BCI	75.0

Comments: Concrete deck soffit is in good condition with narrow stained cracks on exterior fascia. Limited inspection due to height.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 Corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankments are in good condition. Very Steep. Scour at the south bank noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	1.2 m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	8			
Element Type:	Box Beam or Girders		Total Quantity:	9.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9.6			Element BCI	75.0

Comments: Limited inspection due to height.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	9.4 m			
Element Name:	Girders - Middle		Width:	1.2 m			
Location:			Height:	m			
Material:	Precast Concrete		Count:	4			
Element Type:	Box Beam or Girders		Total Quantity:	45.1 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45.1			Element BCI	75.0

Comments: Limited inspection due to height.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Utilities		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	5 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		5			Element BCI	75.0

Comments: 4 utilitiy conduits on rack affixed to southerly exterior girder. Large diameter pipe crossing under the structure (unknown if active or abandoned).

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B36
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean debris from approach and deck wearing surfaces, expansion joints.	$1,000.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$2,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate Need for Replacing with Longer Guide Rail	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required:	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Element-Repair and Rehabilitation Required					
Type A concrete repairs to approach curb/gutters, end post, deck top, sidewalk,					$6,000.00
Type C concrete repairs to abutment walls, wingwalls,					$26,000.00
Extend deck drains.					$4,000.00
Waterproof and pave.					$30,000.00
Replace gabion retaining walls with modular concrete block or similar.					$200,000.00
Replace expansion joints.					$105,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$496,000.00**

Estimated Value of Replacement Structure	**$1,300,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities	(4) Utility condutis attached to structure, 1 large dia. pipe crossing under.	$20,000.00	$50,000.00
Right of Way			
Environmental			
Other	Proximity to old mill house	$50,000.00	$50,000.00
	Total Associated Work Costs	**$85,000.00**	**$115,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$581,000.00	$1,415,000.00
Roadside Protection:		$1,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$59,000.00	$126,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$35,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$59,000.00	$126,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$47,000.00	$71,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$749,500.00**	**$1,893,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	13.0	23.0

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**73.0**
Bridge B36 is generally in good condition but is demonstrating signs of localized concrete deficiencies. No capital works are recommended at this time.		

ELEVATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE

JOINT

BARRIER

APPROACH GUIDE RAIL

SIDEWALK

CURB – SNOWPLOW ABRASION

RETAINING WALL – GABION BASKETS

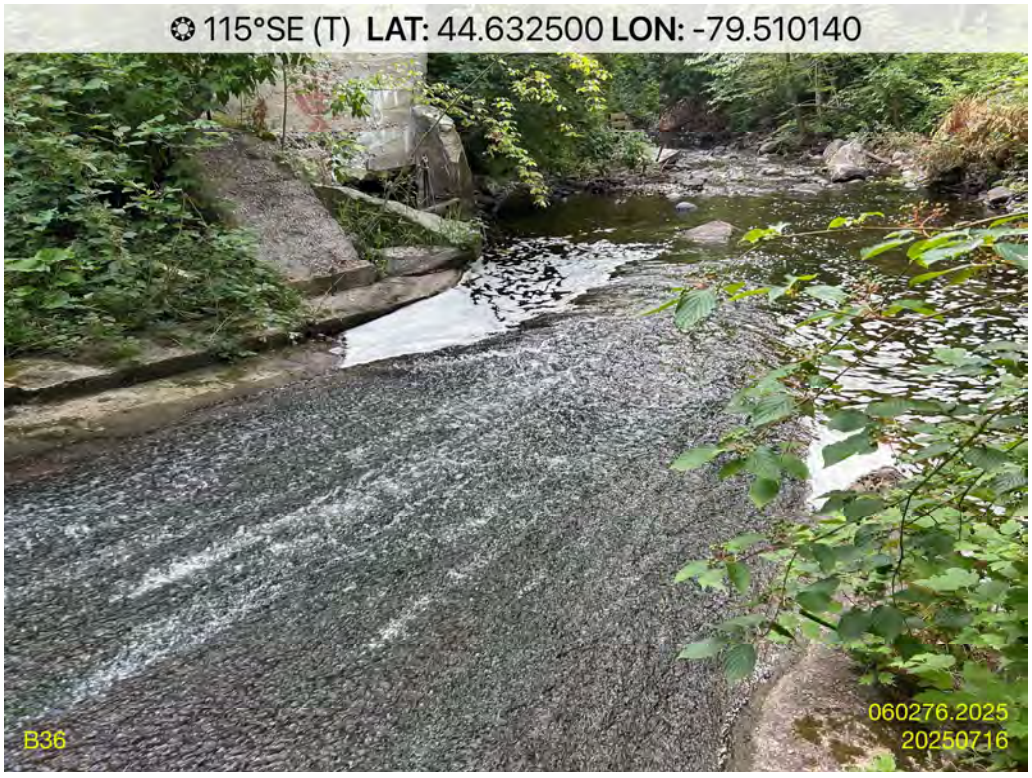
RETAINING WALL – GABION BASKETS – DAMAGED BASKETS

WINGWALL – SCALING, SPALLING, DISINTEGRATION

ABUTMENT WALL & FOOTING - EROSION

ABUTMENT WALL – CONCRETE PATCHING, SCALING

GIRDERS



STREAM

EMBANKMENT

Ontario Structure Inspection Manual - Inspection Form

Site Number: B39
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 39										
Main Hwy/Road #	Town Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 13, Conc XIV/I, 2.10 km S of Foxmead Road										
Latitude	44.675706			Longitude	-79.558915						
Owners	Shared Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	50		No. of Lanes	2			
Old County	Simcoe			AADT	360		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	5.6 m			Interchange Structure Number							
Overall Str. Width	9.5 m			Min. Vertical Clearance		m					
Total Deck Area	53.2 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	8.5 m (btwn tops of slopes)										
Roadway Width	6.5 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0.3 m						
Span Lengths	5 m			Height (streambed to structure top)	1.8 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1959	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	20°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

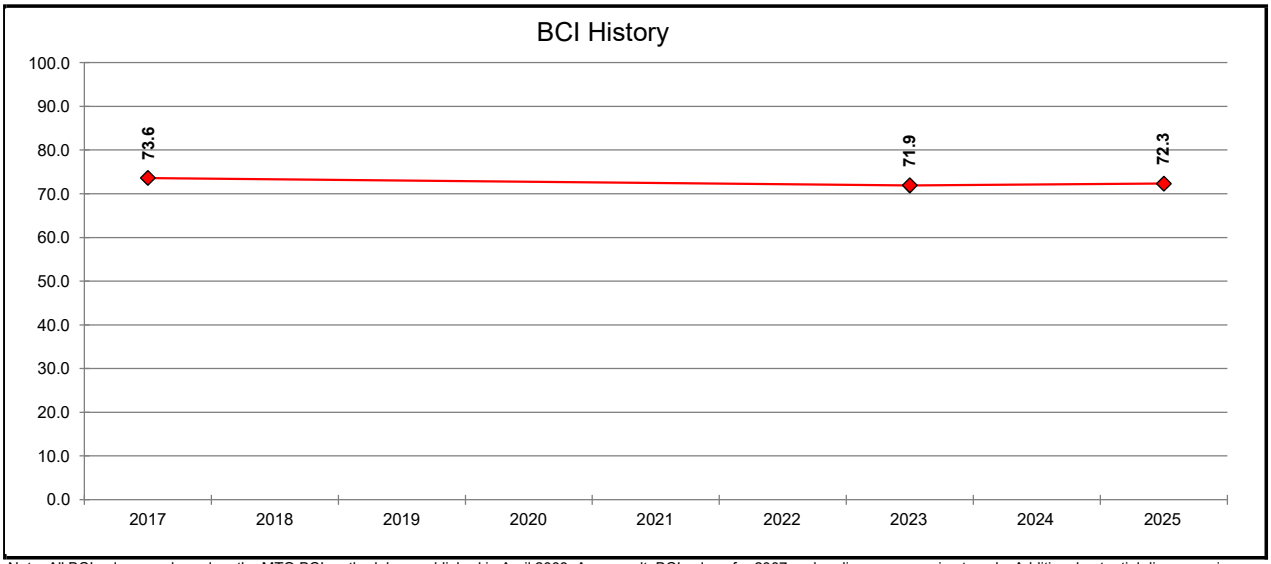
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	72.3	T. Wright	
2023	71.9	M. Ahmed (Doug Dixon)	
2017	73.6	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	6.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	78 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		73	2.5	2.5	Element BCI	71.5

Comments: Longitudinal cracking and transverse cracking at the ends of the structure.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Investigate need for guide rail.		Maintenance Needs: None	
		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard markers are provided at all four quadrants of the structure. NW and NE rotated.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	5.6 m			
Element Name:	Deck Wearing Surface		Width:	6.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	36.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		35	1.4		Element BCI	73.7

Comments: Transverse crack at the edge of the bridge from both sides

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and seal asphalt cracks.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Element Group:	Decks		Length:	5.6 m			
Element Name:	Deck Top		Width:	9.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	53.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		52	1.2		Element BCI	74.2

Comments: Condition based on wearing surface and soffit condition.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	10.4 m			
Element Name:	Curbs		Width:	0.3 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	6.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.96	0.24		Element BCI	73.6

Comments: Light scaling. Blocked by vegetation

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clear vegetation, debris along curb line.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	2.7 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	0.93 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.5			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	9.65 m			
Element Name:	Abutment Walls		Width:	m			
Location:	North		Height:	0.81 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	7.8 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		6	1.8		Element BCI	69.3
Comments:	Light to medium honeycombing and scaling.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	2.7 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northwest		Height:	0.93 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.5			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	4.9 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	1 m			
Location:			Height:	0.6 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	15.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14	1.7		Element BCI	71.2
Comments:	Light scaling and narrow cracks						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	4.9 m			
Element Name:	Soffit - Thin Slab - Int		Width:	7.65 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	37.5 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		35	2.5		Element BCI	72.7
Comments:	Light scaling and narrow cracks.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Abutments		Length:	2.7 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	0.93 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.5			Element BCI	75.0
Comments:	Light scaling.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	9.65	m		
Location:	South		Height:	0.9	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.7	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.8	0.9		Element BCI	69.3

Comments: Honeycombing. Light to medium scaling. Narrow cracks.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Abutments		Length:	2.7	m		
Element Name:	Wingwalls		Width:		m		
Location:	Southwest		Height:	0.93	m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	2.5	Sq.m		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.5			Element BCI	75.0

Comments: Light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:	Both		Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:			Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		2			Element BCI	75.0

Comments: Rated on performance only

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankements are steep but in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Logs and other debris obstructing watercourse beneath structure.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Clear debris from watercourse.		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B39
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove vegetation from deck, clear debris accumulated along curbline and in watercourse.	$1,500.00
Rout and Seal	Repairs required to Deck Wearing Surface,	$500.00
	Total Maintenance Needs Costs	**$2,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, curbs,					$1,000.00
Type B concrete repairs to soffit,					$6,000.00
Type C concrete repairs to abutment walls,					$4,000.00
Waterproof and pave.					$30,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
			Rehabilitation Cost Subtotal		**$166,000.00**

Estimated Value of Replacement Structure	**$450,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$181,000.00	$465,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$29,000.00	$57,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$24,000.00	$52,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$23,000.00	$24,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$359,500.00**	**$733,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	12.3	22.3

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**72.3**
Bridge 39 is generally in good condition with only minor concrete defects noted. Maintenance recommended to be completed within 1 year. Consideration should be given to installing a steel beam guide rail system with a long span treatment spanning over the culvert and end treatments to help protect oncoming traffic.		

ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – LONGITUDINAL CRACKING

DECK WEARING SURFACE

DECK WEARING SURFACE – WIDE TRANSVERSE CRACK

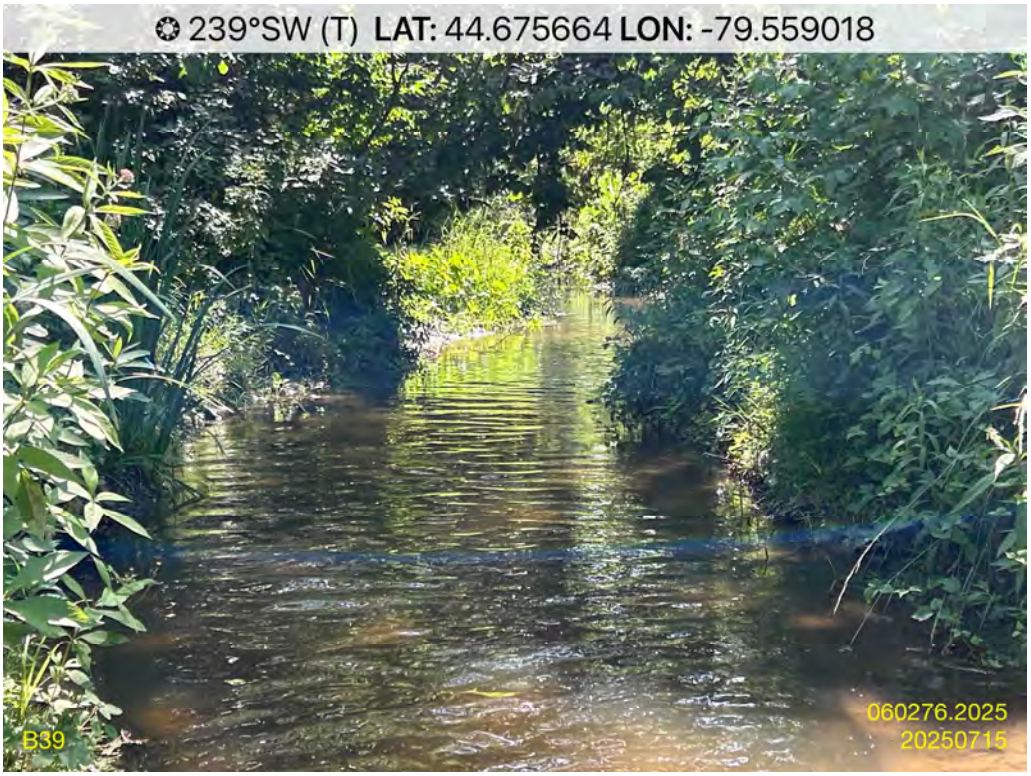
SOFFIT EXTERIOR - LIGHT SCALING

WINGWALL

SOFFIT INTERIOR

ABUTMENT WALL

ABUTMENT WALL - HONEYCOMBING



STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: B40
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 40 (North River Bridge)										
Main Hwy/Road #	Taylor Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 5, Conc II/III, 1.08km S of Upper Big Chute Road										
Latitude	44.767503	Longitude	-79.59819								
Owners	Township of Severn	Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.				
			Desig./not list		Desig & List						
MTO region	Central	Road Class:	Freeway		Arterial						
			Collector		Local						
MTO District	Central region	Posted Speed	80	No. of Lanes	2						
Old County	Simcoe	AADT	50	% Trucks							
Geographic Twp.		Inspection Route Sequence									
Structure Type	Cast-In-Place Conc. Rigid Frame	Interchange Number									
Total Deck Length	24.3 m	Interchange Structure Number									
Overall Str. Width	9.7 m	Min. Vertical Clearance	m								
Total Deck Area	235.7 sq. m	Special Routes:	Transit		Truck						
			School		Bicycle						
Road Platform Width	9 m (btwn tops of slopes)										
Roadway Width	8.5 m (btwn edges of shoulders)	Detour Length Around Bridge	km								
Skew Angle	0 Degrees	Direction of Structure	N-S								
No. of Spans	1	Fill on Structure	0 m								
Span Lengths	21.3 m	Height (streambed to structure top)	4.5 m								

Historical Data:

Year Built (○ Known ◉ Estimated ○ Unknown)	1970	Last Evaluation	
Last Biennial Inspection	2023	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other: Feasibility Study		X		$15,000.00
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes: Recommended deck condition survey to assess extent of rehabilitation and Feasibility study to review options.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☑ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Minor Rehabilitation is recommended within 2 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

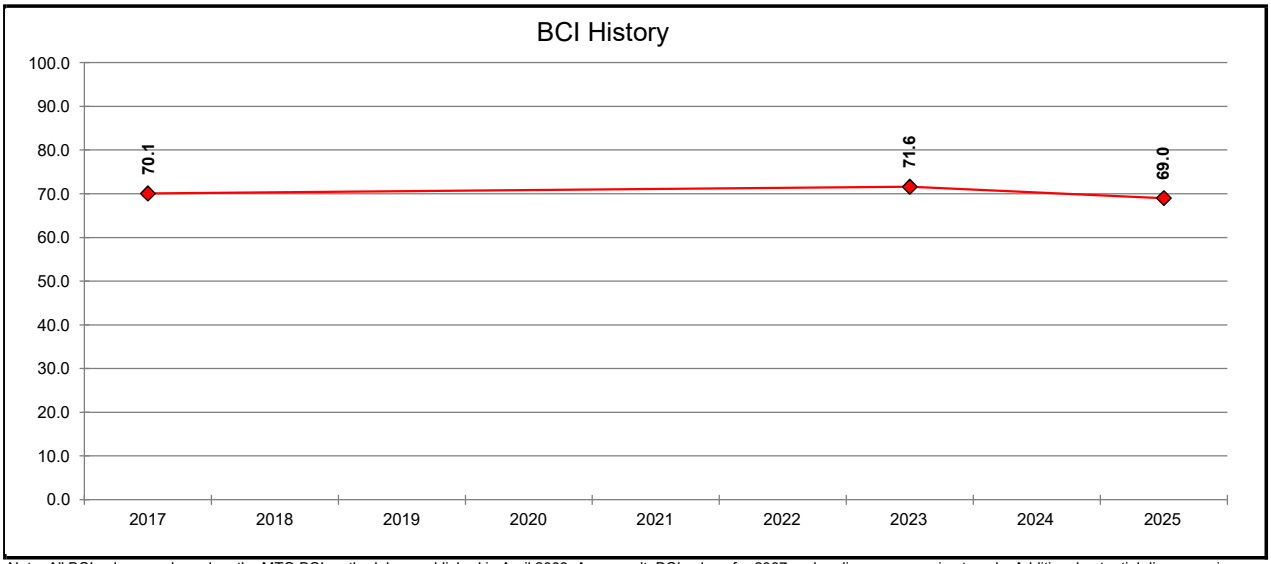
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	69.0	T. Wright	
2023	71.6	M. Ahmed (Doug Dixon)	
2017	70.1	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	8.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	102 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		99.5		2.5	Element BCI	73.2
Comments:	Light flushing. Wide crack at south approach deck joint						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	3.81 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	All 4 corners		Height:	m			
Material:	Steel		Count:	18			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	68.58 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		53.34	7.62	7.62	Element BCI	62.8
Comments:	Steel beam guiderail is provided at all four quadrants of the structure and is not connected to the structure. Steel beam guiderail is end buried in the southeast quadrant. Terminal end treatments are provided in the remaining quadrants.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
Consider replacement of guiderail coordinated with barrier replacement.			Maintenance Needs: None				
			Performance Deficiencies: Pedestrian/Vehicular Hazard				

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:	All 4 Quadrants		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0
Comments:	Hazard warning signs are provided at structure but not in front of guide rail.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	24.3 m			
Element Name:	Deck Top		Width:	8.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	206.55 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		146.05	35	25.5	Element BCI	59.8

Comments: Exposed concrete deck. Areas noted as unsound by chain dragging. Severe abrasion on NW. Narrow to medium map cracking and transverse cracks. Areas of spalling and severe scaling previously patched with cold patch asphalt.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clear debris tracked on deck.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2		2	Element BCI	37.5

Comments: Deck drains extensions are shorter than standard 0.3m below soffit.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02	16
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
Extend deck drains, clear debris blocking drains.		Maintenance Needs: Bridge Cleaning, Deck Drainage Performance Deficiencies: None		

Element Group:	Curb and S/W		Length:	36.2 m			
Element Name:	Curbs		Width:	0.6 m			
Location:			Height:	0.24 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	60.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		60.1	0.5	0.2	Element BCI	74.5

Comments: Narrow map and transverse cracks throughout. Abrasion along vertical face. Small spall on ends.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**		
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year		
		Maintenance Needs: None Performance Deficiencies: None		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	36 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	72 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		71.8	0.1	0.1	Element BCI	74.8

Comments: Concrete handrails are in generally good condition with narrow stained cracks throughout. Small localized spalls. Wide crack on one post.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Replace barrier.		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Abutments		Length:	7.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northeast		Height:	2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	14.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14.6			Element BCI	75.0

Comments: Hairline to narrow map cracking with light staining present in some locations. Limited Inspection. Vegetation blocking walls.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	9.6 m			
Location:	North		Height:	3.3 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	31.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		30.5	1.2		Element BCI	73.8

Comments: Concrete abutments are in good condition with light honeycombing. Narrow vertical cracks, light localized scaling.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	7.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Northwest		Height:	2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	14.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14.6			Element BCI	75.0

Comments: Concrete in wingwalls is in good condition. Limited Inspection, vegetation blocking wingwalls.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	21.3 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.075 m			
Location:			Height:	1.15 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	52.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		52.2			Element BCI	75.0

Comments: Concrete deck soffit is in good condition with efflorescent staining on both fascias and narrow stained pattern cracking on west fascia. Efflorescence staining at joint.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	21.3 m			
Element Name:	Soffit - Thin Slab - Int		Width:	9.6 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	303.3 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		287.5	10.5	5.3	Element BCI	72.5

Comments: Narrow stained cracks. Localized light scaling. Parging noted. Medium to wide cracks at ends of soffit with efflorescence staining. Limited inspection due to water depth. Bird nests noted.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	7.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southeast		Height:	2 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	14.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14.6			Element BCI	75.0

Comments: Hairline to narrow cracks with staining in some locations. Localized light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	9.6 m			
Location:	South		Height:	3.3 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	31.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		30.7	1		Element BCI	73.8

Comments: Concrete abutments are in good condition with light honeycombing and narrow stained cracks. Medium vertical crack continues from above soffit.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	7.3 m			
Element Name:	Wingwalls		Width:	m			
Location:	Southwest		Height:	2 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	14.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		14.6			Element BCI	75.0

Comments: Hairline to narrow cracks with staining in some locations. Localized light scaling.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:	Both		Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Rated on performance only.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankments are in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B40
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clear debris from Deck Top and blockages in the Deck Drains.	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:	Other: Feasibility Study;	**$15,000.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Replace exisiting steel beam guide and include structure connections and end treatements	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, curbs,		x			$50,000.00
Type B concrete repairs to soffit,		x			$26,000.00
Type C concrete repairs to abutment walls,		x			$3,000.00
Extend deck drains.		x			$10,000.00
Replace barrier system.		x			$60,000.00
Waterproof and pave.		x			$40,000.00
General Items - Insurance,		x			$125,000.00
				Rehabilitation Cost Subtotal	**$314,000.00**

Estimated Value of Replacement Structure	**$1,800,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental	Bird nesting mitigation (activity observed).	$15,000.00	$15,000.00
Other			
	Total Associated Work Costs	**$30,000.00**	**$30,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$344,000.00	$1,830,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$45,000.00	$147,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$40,000.00	$147,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$36,000.00	$92,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$567,500.00**	**$2,351,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-2	Bridge with span over 20m. Two rehabilitation cycles planned	2.0	19.0

Recommendation:	Minor Rehabilitation is recommended within 2 years.

Justification:	**Current BCI**	**69.0**
Bridge B40 is generally in good condition but is exhibiting significant deck deterioration, resulting in water infiltration and accelerated degradation of structural elements. A major rehabilitation should be undertaken within 2 years to prevent further decline of key components. It is noted that due to the cast-in-place rigid frame/T-beam structure, rehabilitation options may be limited. A feasibility study is recommended to confirm the extent of deterioration and inform the rehabilitation requirements.		

ELEVATION

APPROACH WEARING SURFACE

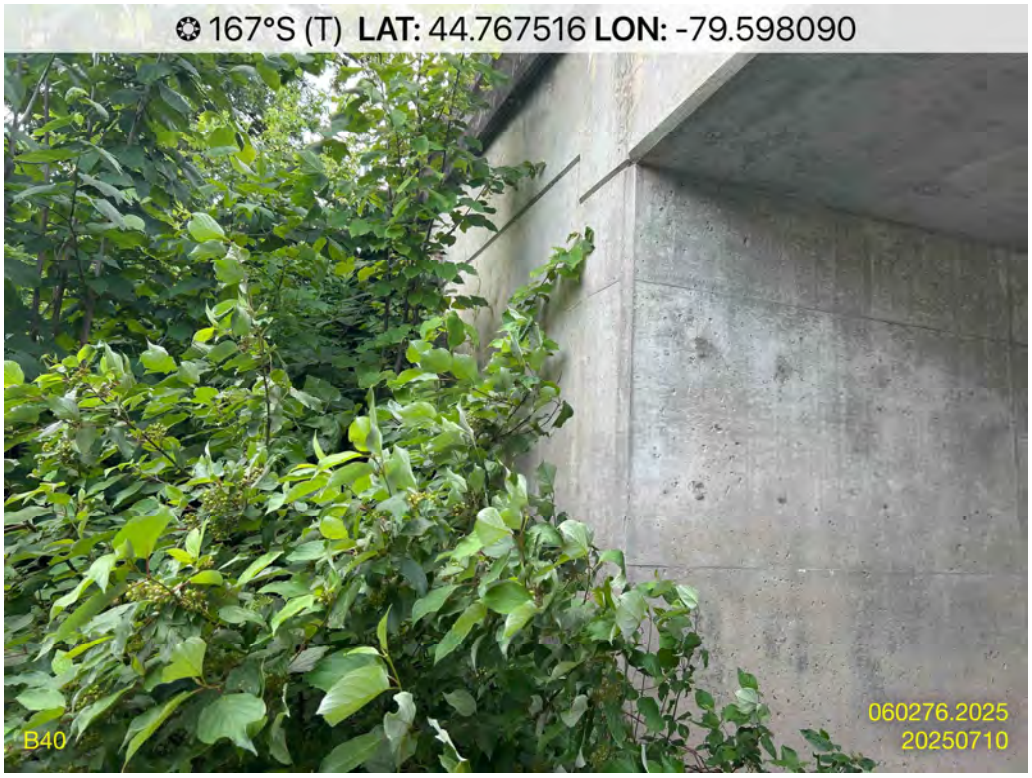
DECK TOP – NARROW TO MEDIUM MAP CRACKING

DECK TOP – SEVERE SPALLING, SCALING, ASPHALT PATCHES

APPROACH GUIDE RAIL

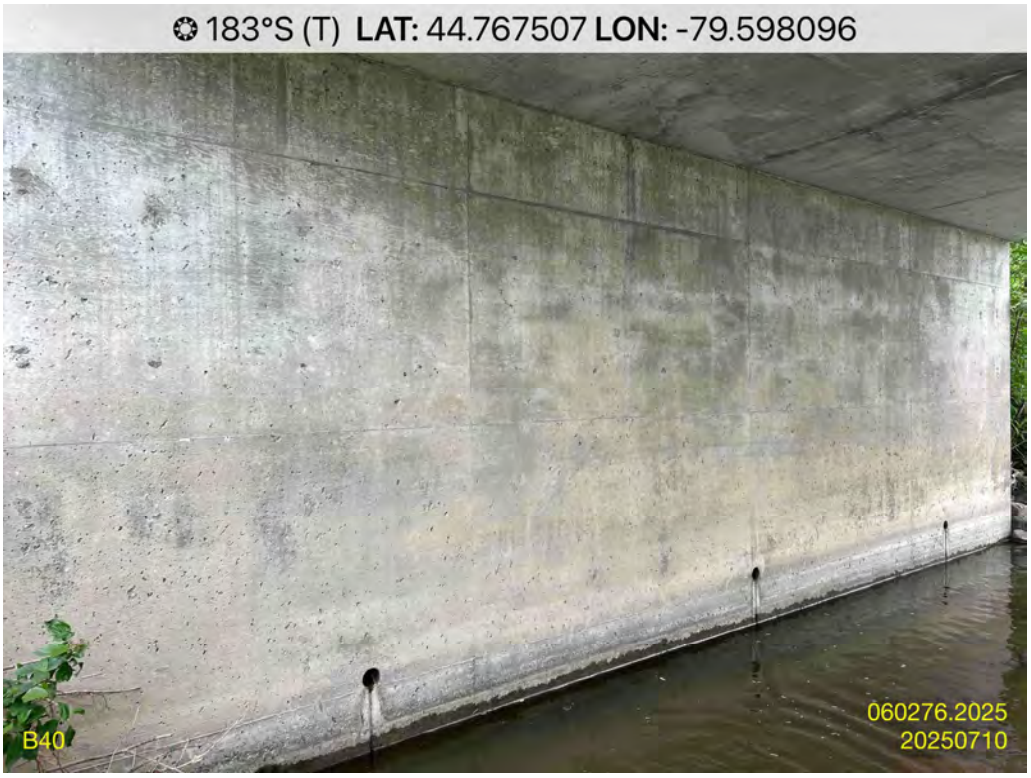
APPROACH GUIDE RAIL – ROTTING POSTS

BARRIER



WINGWALL

SOFFIT INTERIOR



ABUTMENT WALL

ABUTMENT WALL – MEDIUM VERTICAL FULL-LENGTH CRACK

Ontario Structure Inspection Manual - Inspection Form

Site Number: B41
MTO Site Number: N/A

Inventory Data:

Structure Name	Bridge No. 41										
Main Hwy/Road #	Concession 4	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 13, Conc IV, 0.30 km E of Upper Big Chute Road										
Latitude	44.8100002			Longitude	-79.59819						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	1			
Old County	Simcoe			AADT	1		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	Cast-In-Place Concrete T-Beam			Interchange Number							
Total Deck Length	9.3 m			Interchange Structure Number							
Overall Str. Width	4.85 m			Min. Vertical Clearance		m					
Total Deck Area	45.1 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	3 m (btwn tops of slopes)										
Roadway Width	4.05 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	90 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	8.5 m			Height (streambed to structure top)	4 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1930	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	J. Cober		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:				$0.00
Other:	X			$0.00
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:		X		$0.00
Investigation Notes: Load Limit evaluation recommended due to the prescence of possible shear cracks that were noted on the interior girders.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☑ 6 to 10 years	☐ >10 years
Overall Comments:	Forgo rehabilitation and replace structure within 8 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	10			
Date of Next Inspection:	2027			

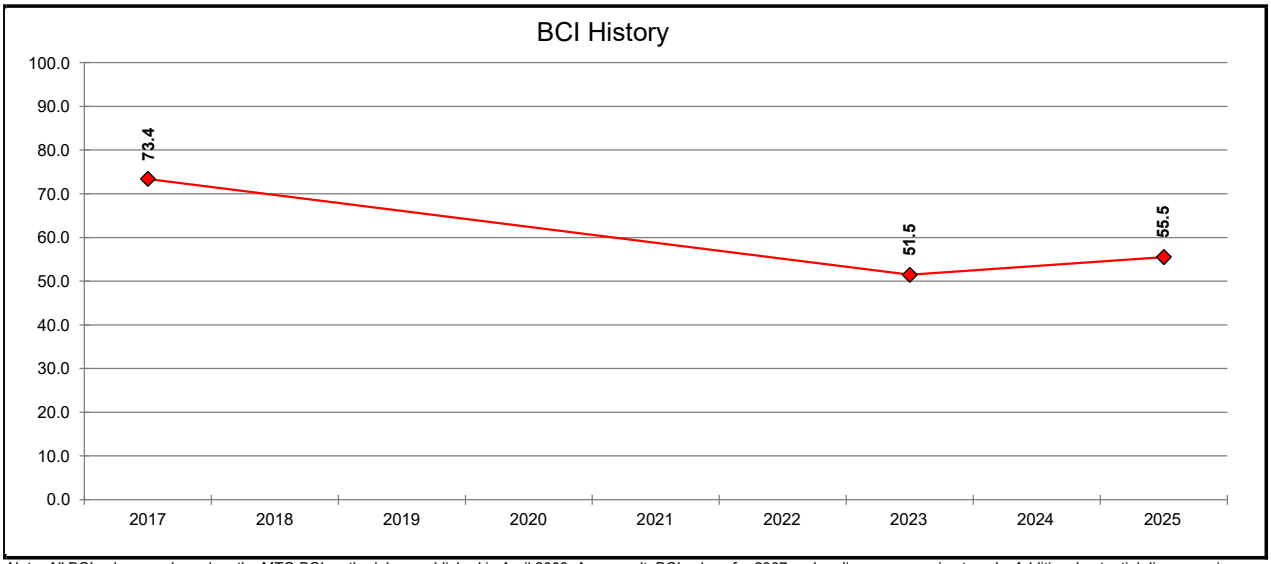
Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	55.5	J. Cober	Corrections applied to previous BCI element values.
2023	51.5	M. Ahmed (Doug Dixon)	
2017	73.4	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	4.05 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	48.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			48.6		Element BCI	40.0

Comments: Gravel approcah roads are in fair condition with minor settlement at each approach of structure. Road is overgrown with vegetation.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: No hazard warning signs present at the time of inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	17
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Consider installing hazard warning signs.		Maintenance Needs: Hazard Signs	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	9.3 m			
Element Name:	Deck Top		Width:	4.85 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	45.1 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		20	25.1		Element BCI	55.5

Comments: Exposed concrete deck is in generally good to fair condition with waterponding and vegetative growth along curbline. Hairline to narrow map cracking. Light scaling. Visible portions sounded, no delaminations noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:		m		
Element Name:	Deck Drainage		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0

Comments: Deck drainage is accommodated by 4-75mm diameter core drilled holes through deck. Holes are plugged with leaves/debris

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
		Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	9.3	m		
Element Name:	Curbs		Width:	0.4	m		
Location:			Height:	0.15	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	10.2	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.2	5.8	0.2	Element BCI	53.6

Comments: Hairline to narrow cracking, light scaling, moss growing on surface. Spall on SE and NE.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	9.3	m		
Element Name:	Railing System		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Concrete Balustrade		Total Quantity:	18.6	m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m			17.6	1	Element BCI	37.8

Comments: Concrete balustrade handrail over structure is in fair condition with narrow cracking, light scaling and abrasion. Spall on NE balustrade and SE end posts.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Element Data

Element Group:	Abutments			Length:		m		
Element Name:	Abutment Walls			Width:	5.2	m		
Location:	North			Height:	0.85	m		
Material:	Cast-In-Place Concrete			Count:	1			
Element Type:				Total Quantity:	4.4	Sq.m		
Environment:	Benign			Limited Inspection:		☐		
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		2	2.4			Element BCI	51.7
Comments:	Concrete abutments are in fair condition with localized spalls and delaminations. Bottom of abutment wall is exposed creating potential for backfill material to wash out from behind abutment.							
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Element Group:	Abutments			Length:	0.33	m		
Element Name:	Abutment Piles			Width:	0.33	m		
Location:	North			Height:	0.5	m		
Material:	Cast-In-Place Concrete			Count:	4			
Element Type:				Total Quantity:	2.64	Sq.m		
Environment:	Benign			Limited Inspection:		☐		
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m			2.64			Element BCI	58.7
Comments:	Light scaling.							
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Element Group:	Decks			Length:	9.3	m		
Element Name:	Soffit - Thin Slab - Ext			Width:		m		
Location:	Fascia Only			Height:	0.4	m		
Material:	Cast-In-Place Concrete			Count:	2			
Element Type:				Total Quantity:	7.4	Sq.m		
Environment:	Moderate			Limited Inspection:		☐		
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		3	4.4			Element BCI	54.2
Comments:	In fair condition with narrow stained and unstained vertical and horizontal cracks. Quantity includes outside face of curb and fascia - Vertical portions only.							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Element Data

Element Group:	Decks			Length:	8.5 m			
Element Name:	Soffit - Thin Slab - Int			Width:	1.25 m			
Location:				Height:	m			
Material:	Cast-In-Place Concrete			Count:	3			
Element Type:				Total Quantity:	31.9 Sq.m			
Environment:	Benign			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		15	15	1.9		Element BCI	54.1
Comments:	Concrete deck soffit is in good condition with narrow stained and unstained cracks. Moisture staining around deck drains. Light scaling.							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Element Group:	Girders			Length:	8.5 m			
Element Name:	Girders - Middle			Width:	0.3 m			
Location:				Height:	0.6 m			
Material:	Cast-In-Place Concrete			Count:	4			
Element Type:	T-Beam			Total Quantity:	51 Sq.m			
Environment:	Benign			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		38.5	10	2.5		Element BCI	64.5
Comments:	Narrow horizontal cracks on exterior faces. Spalling and delamination on bottom of girder. Hairline to narrow possible shear cracks on interior girders							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Element Group:	Abutments			Length:	m			
Element Name:	Abutment Walls			Width:	5.2 m			
Location:	South			Height:	0.85 m			
Material:	Cast-In-Place Concrete			Count:				
Element Type:				Total Quantity:	4.4 Sq.m			
Environment:	Benign			Limited Inspection:	☐			
Protection System:							Performance	
Condition	Units	Exc.	Good	Fair	Poor		Deficiencies	
Data:	Sq.m		1.4	2.6	0.4		Element BCI	51.7
Comments:	Spall with exposed rebar due to low cover. Localized delaminations. Light scaling. Narrow to wide vertical cracks. Bottom of abutment wall is exposed creating potential for backfill material to wash out from behind abutment.							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**					
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year					
			Maintenance Needs: None					
			Performance Deficiencies: None					

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	0.33 m			
Element Name:	Abutment Piles		Width:	0.33 m			
Location:	South		Height:	0.7 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	3.7 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.5	0.1	0.1	Element BCI	58.7

Comments: Light scaling, small spalls.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each			4		Element BCI	40.0

Comments: Vegetated roadway embankments are in generally good condition but severely steep with moderate erosion at all quadrants. Stone has been placed.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	13
	1-5 Years ☑ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Erosion Control	
Install erosion protection on SE		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	B41
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top, Railing System,	$1,000.00
Erosion Control	Repairs required to Embankments,	$1,000.00
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$3,000.00**

Additional Investigations:	Monitoring Crack Widths;	**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments and structure connections	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top, curbs,					$15,000.00
Type B concrete repairs to Girders, soffit,					$40,000.00
Type C concrete repairs to abutment walls,					$10,000.00
Replace barriers					$60,000.00
Add slope stabilization					$10,000.00
General Items - Insurance, Mobilization, Access etc.					$125,000.00
Rehabilitation Cost Subtotal					**$260,000.00**

Estimated Value of Replacement Structure	**$700,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$275,000.00	$715,000.00
Roadside Protection:		$100,000.00	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$38,000.00	$82,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$33,000.00	$77,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$30,000.00	$36,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$478,500.00**	**$1,045,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.0	7.8

Recommendation:	Forgo rehabilitation and replace structure within 8 years.

Justification:	**Current BCI**	**55.5**
Bridge B41 is located on Concession 4, a no-winter-maintenance road. Possible shear cracks were noted on the interior girders. It is recommended to monitor the cracks during future inspections.		

BRG: 248°W (M) LAT: 44.810077 LON: -79.617552
Bridge 41
060276.2025
2025/08/05

ELEVATION

APPROACH WEARING SURFACE – ROAD OVERGROWN WITH VEGETATION

DECK TOP – VEGETATION GROWTH ALONG CURBLINE

RAILING SYSTEM

SOFFIT EXTERIOR

SOFFIT INTERIOR & GIRDERS

SOFFIT INTERIOR – MOISTURE STAINING AROUND DECK DRAINS

GIRDER – SMALL SPALL WITH EXPOSED REBAR, NARROW HORIZONTAL CRACK

GIRDER HAUNCH – NARROW TO MEDIUM DIAGONAL CRACK

GIRDERs - INTERIOR – NARROW SHEAR CRACKs

GIRDER – NARROW VERTICAL CRACK

GIRDER – MOISTURE STAINING

ABUTMENT WALL & PILES

ABUTMENT WALL – SPALL WITH EXPOSED CORRODED REBAR

ABUTMENT PILES

ABUTMENT WALL – PATTERN CRACKING

BARRIER POST - SPALL

GIRDER HAUNCH EXTERIOR – CRACK AT JOINT

Ontario Structure Inspection Manual - Inspection Form

Site Number: C08
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 8										
Main Hwy/Road #	Wainman Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 1, Conc III/IV, 0.60 km N of Division Road West										
Latitude	44.632452			Longitude	-79.500625						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	60		No. of Lanes				
Old County	Simcoe			AADT	800		% Trucks	8			
Geographic Twp.				Inspection Route Sequence							
Structure Type	Precast Concrete Box Culvert			Interchange Number							
Total Deck Length	7.71 m			Interchange Structure Number							
Overall Str. Width	38.38 m			Min. Vertical Clearance		m					
Total Deck Area	295.91 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	8 m (btwn tops of slopes)										
Roadway Width	7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	12.3 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0.3 m						
Span Lengths	6.71 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	◉ Known ○ Estimated ○ Unknown	2025	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
Structure replaced in 2025			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, hammer, tape measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

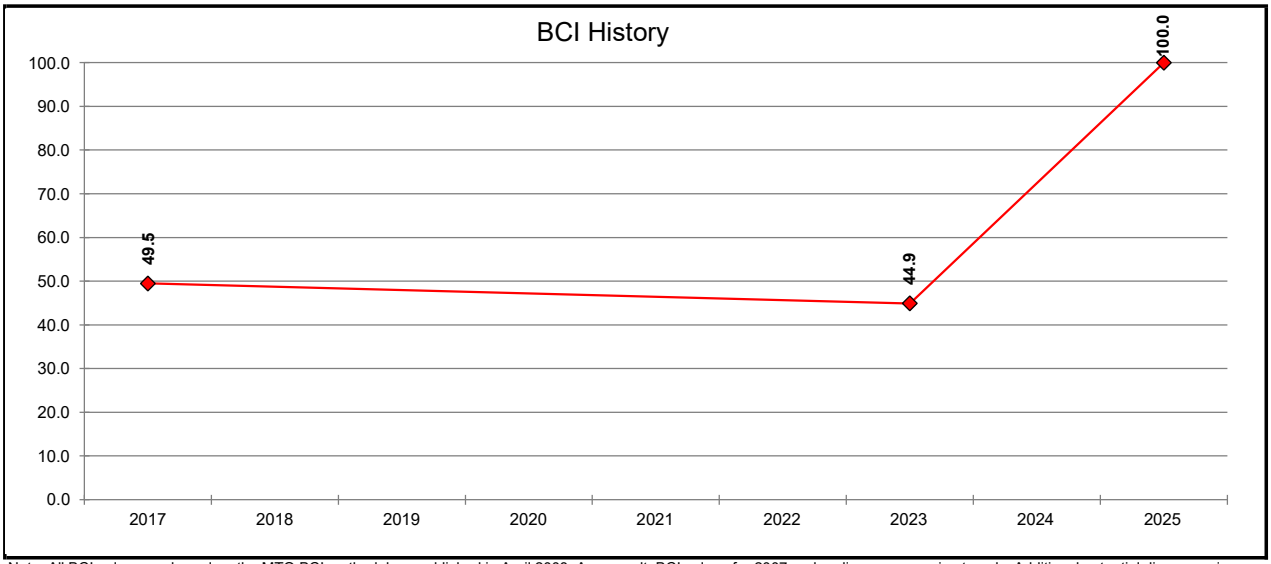
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	100.0	T. Wright	Replaced 2025
2023	44.9	M. Ahmed (Doug Dixon)	
2017	49.5	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	119.535	m		
Element Name:	Approach Guide Rail		Width:		m		
Location:	East and West		Height:		m		
Material:			Count:	2			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	239.07	m		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	239.07				Element BCI	100.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	7	m		
Location:	North and South		Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	84	Sq.m		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	84				Element BCI	100.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	7.71 m			
Element Name:	Deck Wearing Surface		Width:	7 m			
Location:	Over Structure		Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	53.97 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	53.97				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	15 m			
Element Name:	Curbs		Width:	0.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	15 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	15				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	7.71 m			
Element Name:	Deck Top		Width:	38.38 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	295.91 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	295.91				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Element Data

Element Group:	Culvert		Length:	7.71 m			
Element Name:	Inlet		Width:	7.2 m			
Location:			Height:	2.1 m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	84.05 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	84.05				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	7.71 m			
Element Name:	Outlet		Width:	7.3 m			
Location:			Height:	2.1 m			
Material:	Precast Concrete		Count:	1			
Element Type:			Total Quantity:	85.14 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	85.14				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	6.71 m			
Element Name:	Barrels		Width:	23.88 m			
Location:			Height:	2.1 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	260.53 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	260.53				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Abut		Width:		m		
Location:			Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	1				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:	Other		Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Element Data

Element Group:	Retaining Walls		Length:		m		
Element Name:	Wall		Width:		m		
Location:	East and West		Height:	2.3	m		
Material:	Precast Concrete		Count:	2			
Element Type:			Total Quantity:		Sq.m		
Environment:	Moderate		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m					Element BCI	

Comments:

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	Varies	m		
Element Name:	Wall		Width:		m		
Location:	East and West		Height:		m		
Material:	Steel		Count:	4			
Element Type:	Steel Sheet Piles		Total Quantity:		Sq.m		
Environment:	Moderate		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m					Element BCI	

Comments:

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:		m		
Element Name:			Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		#N/A		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C08
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
	Total Maintenance Needs Costs	**$0.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$1,400,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$0.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,400,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$125,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$125,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$70,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,855,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CC	Concrete culvert - No rehabilitation planned.	N/A	45.0

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**100.0**
Culvert C08 was replaced in 2025. The structure was under construction during the 2025 inspection. Next bennial inspection will require confirmation of all built elements.		

Under Construction 2025

Ontario Structure Inspection Manual - Inspection Form

Site Number: C09
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 9										
Main Hwy/Road #	Uhthoff Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 2, Conc III/IV, 2.10 km N of Division Road West										
Latitude	44.656539			Longitude	-79.480142						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	195		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	CSP Arch Culvert(s)			Interchange Number							
Total Deck Length	8.8 m			Interchange Structure Number							
Overall Str. Width	18.3 m			Min. Vertical Clearance		m					
Total Deck Area	161 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	m (btwn tops of slopes)										
Roadway Width	7.1 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	5 Degrees			Direction of Structure	E-W						
No. of Spans	2			Fill on Structure	0.4 m						
Span Lengths	3.8, 3.8 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	2000	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	2017
2017 repair to bolts and installation of welded rebar between panels to address previously identified bolt hole cracking.		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C09
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Tape Measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Maintenance and Roadside Safety work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

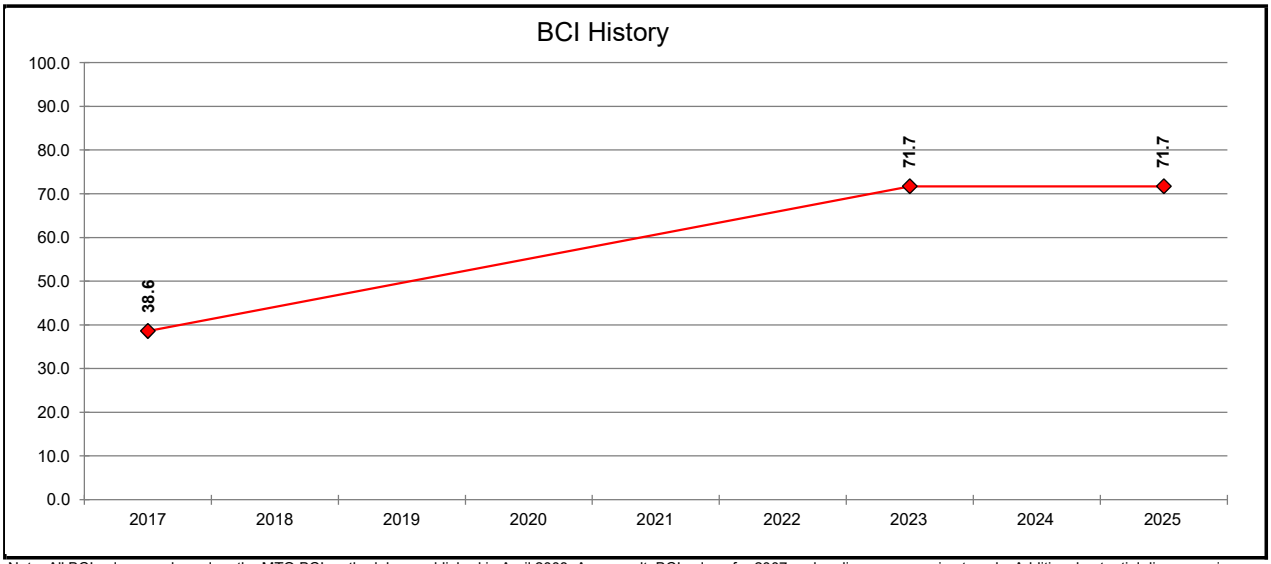
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C09
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	71.7	T. Wright	
2023	71.7	Mahmoud Ahmed	
2017	38.6	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C09
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	7.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	85.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		85.2			Element BCI	75.0
Comments:	Light edge cracking. Wheel rutting.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	8.8 m			
Element Name:	Deck Wearing Surface		Width:	7.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	62.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		62.5			Element BCI	75.0
Comments:	Light edge cracking. Wheel rutting.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	
Comments:	None present						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
Consider installing SBGR system			Maintenance Needs: None				
			Performance Deficiencies: Pedestrian/Vehicular Hazard				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C09
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:	4			
Element Type:			Total Quantity:	4	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard warning signs installed.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	18.3	m		
Element Name:	Barrels		Width:	3.8	m		
Location:			Height:	2.9	m		
Material:	Corrugated Steel		Count:	2			
Element Type:			Total Quantity:	441.6	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		400	41.6		Element BCI	71.7

Comments: Repairs were undertaken to resolve previously identified bolt cracking. Reinforcement rebars have been installed on the culvert walls at the midspan. Note, cover of 0.4m was identified, this is generally insufficient and may lead to significantly greater stresses then what the structure is designed for.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Monitor repairs to barrel in future inspections.		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Stone protection installed on west end.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C09
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: South Barrel watercourse is unobstructed.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	3 m			
Element Name:	Wall		Width:	1 m			
Location:	West, Between Cells		Height:	2.9 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	11.7 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		10	1.7		Element BCI	69.9

Comments: Crack in retaining wall has been patched. Moderate honeycombing.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C09
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove debris buildup in south barrel	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate need for Guide Rail	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$750,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$0.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$750,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$85,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$80,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$38,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,088,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CS	Metal culvert - No rehabilitation planned.	N/A	15.9

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**71.7**
Culvert B09 is generally in good condition following the installation of structural rebar reinforcement to address previously identified bolt hole cracking in the barrel. No significant changes were observed during the 2025 inspection. Monitoring for any recurrence of bolt hole cracking should be carried out during future biennial inspections.		

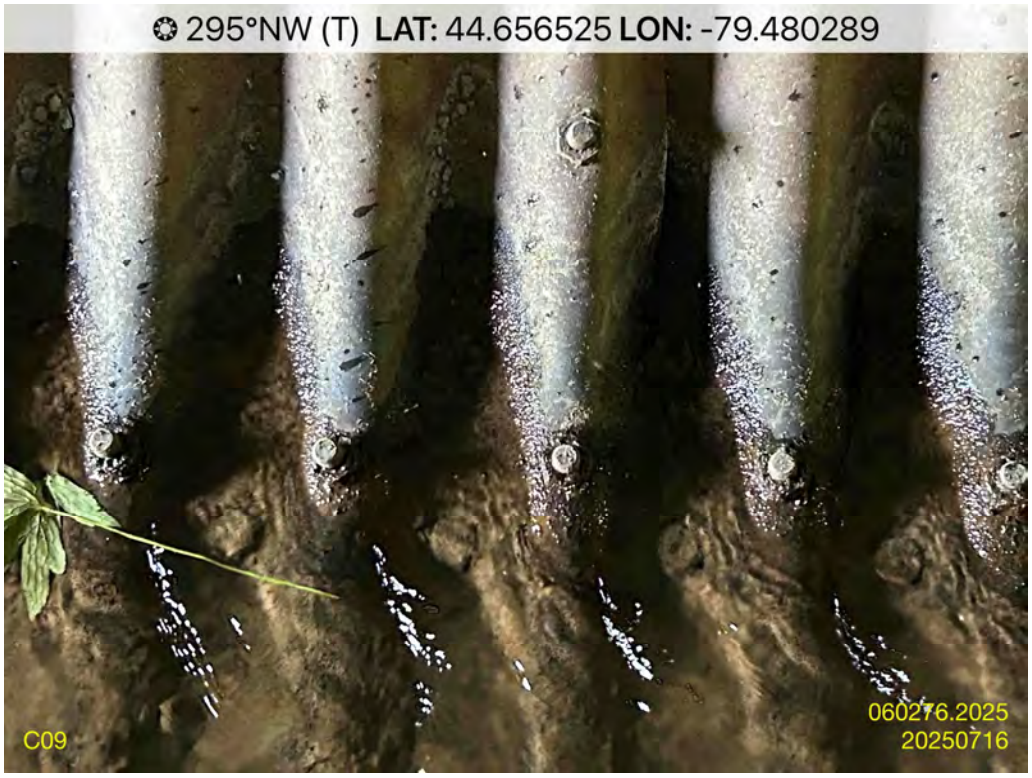
ELEVATION

APPROACH WEARING SURFACE

APPROACH WEARING SURFACE – NARROW CRACKING

EMBANKMENT – HEAVY VEGETATION

CULVERT BARREL



CULVERT BARREL – LIGHT WATERLINE CORROSION

CULVERT BARREL – MODERATE WATERLINE CORROSION

CULVERT BARREL – REINFORCEMENT REBARS TO REMEDY BOLTHOLE CRACKING

STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: C20
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 20										
Main Hwy/Road #	Taylor Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 6, Conc II/III, 0.20 km S of Upper Big Chute Road										
Latitude	44.773803			Longitude	-79.603894						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	50		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	CSP Round Culvert(s)			Interchange Number							
Total Deck Length	3.8 m			Interchange Structure Number							
Overall Str. Width	17 m			Min. Vertical Clearance		m					
Total Deck Area	64.6 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	9 m (btwn tops of slopes)										
Roadway Width	7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	10 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0.2 m						
Span Lengths	3.8 m			Height (streambed to structure top)	2.4 m						

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	2010	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C20
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

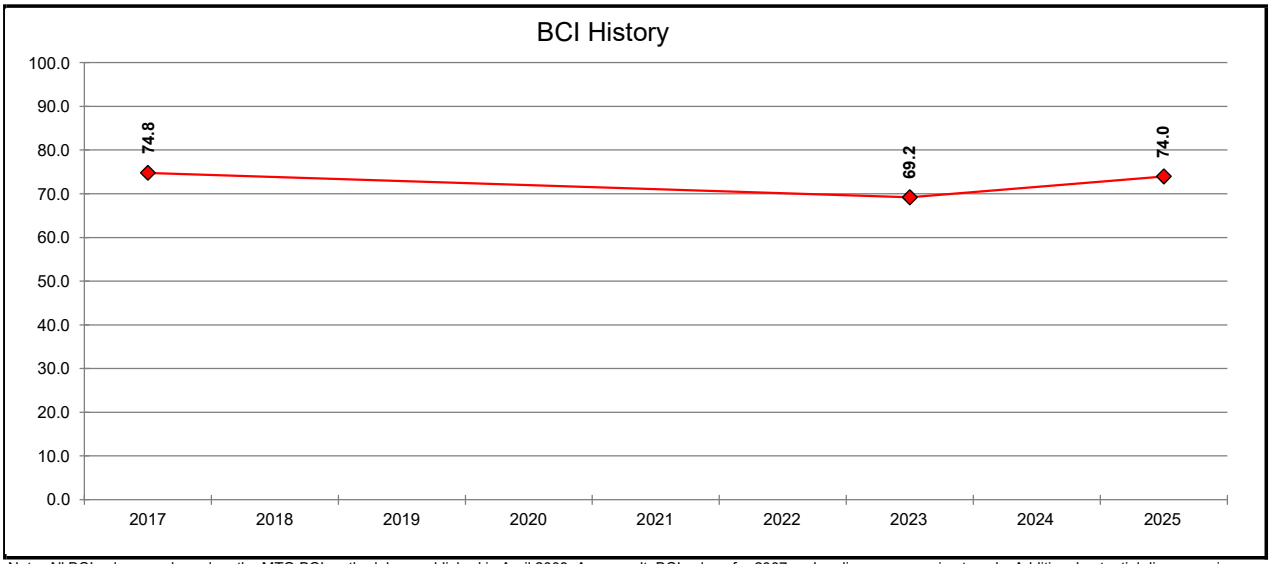
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C20
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	74.0	T. Wright	Corrections applied to previous BCI element values.
2023	69.2	M. Ahmed (Doug Dixon)	
2017	74.8	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C20
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	84 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		84			Element BCI	75.0

Comments: Minor wheel rutting

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	3.8 m			
Element Name:	Deck Wearing Surface		Width:	7 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	26.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		26.6			Element BCI	75.0

Comments: Light ravelling

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	95.7 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:	2			
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	191.4 m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		185.04		6.36	Element BCI	72.5

Comments: Steel posts on approach and wood posts on either side of the structure. Railing installed in 2018.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C20
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:	All 4 Corners		Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard warning signs present at each end of the SBGR.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	17	m		
Element Name:	Barrels		Width:	3.8	m		
Location:			Height:		m		
Material:	Corrugated Steel		Count:	1			
Element Type:			Total Quantity:	202.9	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		196.9	6		Element BCI	74.0

Comments: Light to medium waterline corrosion. Section loss <10%, obvert is in good condition. Note, cover of 0.2m was identified, this is generally insufficient and may lead to significantly greater stresses then what the structure is designed for.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:	1			
Element Type:			Total Quantity:	1	All		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C20
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankments are in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Rock protection is in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C20
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
	Total Maintenance Needs Costs	**$0.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Repair Guide Rail	**$4,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$350,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$0.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$350,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$45,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$40,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$20,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$590,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CS	Metal culvert - No rehabilitation planned.	N/A	17.2

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**74.0**
Culvert C20 is generally in good condition.		

ELEVATION

CULVERT BARREL

CULVERT BARREL – WATERLINE CORROSION

CULVERT BARREL – MEDIUM CORROSION, SECTION LOSS

EMBANKMENT – HEAVY VEGETATION

STREAM

DECK WEARING SURFACE

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

APPROACH GUIDE RAIL – LARGE GAP BETWEEN POSTS

ELEVATION

Ontario Structure Inspection Manual - Inspection Form

Site Number: C30
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 30										
Main Hwy/Road #	Division Road West	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 1, Conc IV, 0.10 km W of Burnside line										
Latitude	44.645563	Longitude	-79.452635								
Owners	Township of Severn	Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.				
			Desig./not list		Desig & List						
MTO region	Central	Road Class:	Freeway		Arterial						
			Collector		Local						
MTO District	Central region	Posted Speed	60	No. of Lanes	2						
Old County	Simcoe	AADT	2400	% Trucks	5						
Geographic Twp.		Inspection Route Sequence									
Structure Type	CSP Arch Culvert(s)	Interchange Number									
Total Deck Length	4.4 m	Interchange Structure Number									
Overall Str. Width	20.9 m	Min. Vertical Clearance	m								
Total Deck Area	92 sq. m	Special Routes:	Transit		Truck						
			School		Bicycle						
Road Platform Width	8.6 m (btwn tops of slopes)										
Roadway Width	7.6 m (btwn edges of shoulders)	Detour Length Around Bridge	km								
Skew Angle	10 Degrees	Direction of Structure	E-W								
No. of Spans	1	Fill on Structure	2.5 m								
Span Lengths	4 m	Height (streambed to structure top)	3.6 m								

Historical Data:

Year Built (◉ Known ○ Estimated ○ Unknown)	1990	Last Evaluation	
Last Biennial Inspection	2023	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C30
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Tape Measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:		X		$0.00
Investigation Notes: Recommend monitoring for any acceleration of bolt hole cracking in the barrel.				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☑ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Maintenance work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

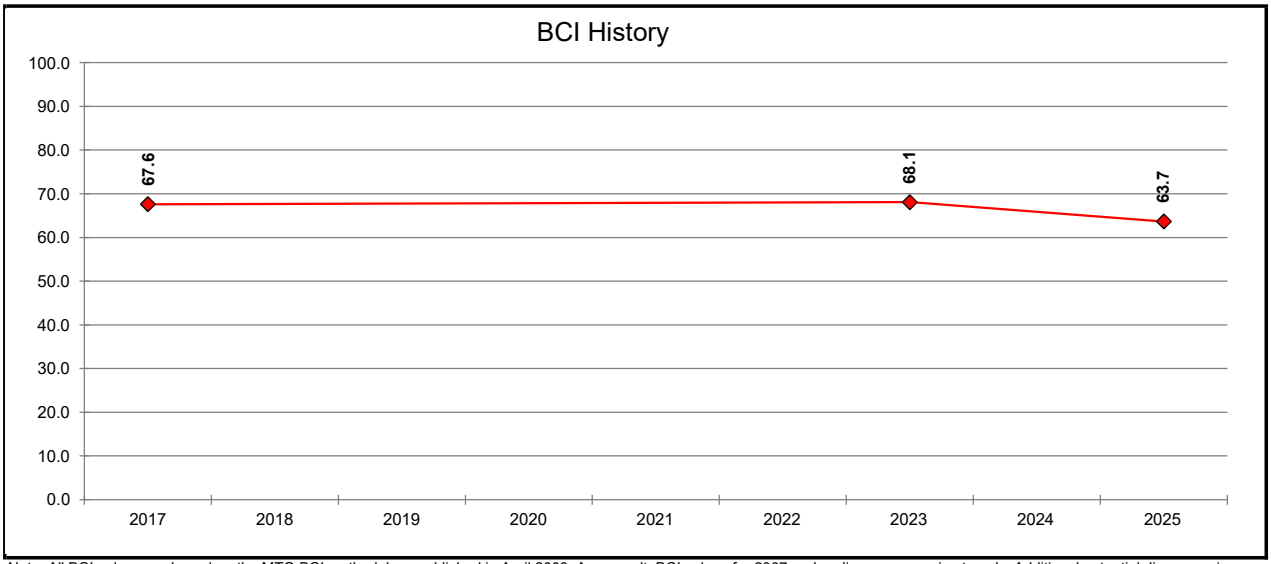
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C30
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	63.7	T. Wright	
2023	68.1	M. Ahmed (Doug Dixon)	
2017	67.6	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C30
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	10.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	121.2 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		121.2			Element BCI	75.0
Comments:	Light ravelling						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	4.5 m			
Element Name:	Deck Wearing Surface		Width:	10.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	45.5 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45.5			Element BCI	75.0
Comments:	Light ravelling and wheel rutting						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Approach		Length:	3.81 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:	Both sides		Height:	m			
Material:			Count:	32			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	121.92 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		121.92			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C30
MTO Site Number:	N/A

Element Data

Element Group:	Coating		Length:	20.9 m			
Element Name:	Coat - Structural Steel - Total		Width:	4.4 m			
Location:	Culvert Barrel		Height:	3.6 m			
Material:	Other		Count:	1			
Element Type:			Total Quantity:	269.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		180	20	69.2	Element BCI	53.1

Comments: Coating no longer present at and below waterline as evident by section loss. Some areas of flaking on culvert walls

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Hazard warining signs present at each end of the SBGR.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	20.9 m			
Element Name:	Barrels		Width:	4.4 m			
Location:			Height:	3.6 m			
Material:	Corrugated Steel		Count:	1			
Element Type:			Total Quantity:	269.2 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		236.3		32.9	Element BCI	65.8

Comments: Light to medium waterline corrosion with some areas of 10% section loss. Minor bulges and deformations at both ends. Severe bolt hole crack at SW, entire circumference taken as poor, appears to be caused by stone retaining wall

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C30
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3	1		Element BCI	66.3
Comments:	Minor erosion at NE end.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2		2	Element BCI	37.5
Comments:	South side rock protection at outlet and inlet is leaning forward						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			13	
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Erosion Control				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All			1		Element BCI	40.0
Comments:	Watercourse is obstructed by large trees at the inlet and outlet. Scour is undermining the outlet.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**			18	13
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Other, Erosion Control				
Remove debris. Install rock protection to mitigate scouring.			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C30
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Place rock protection at outlef to mitigate scouring.	$1,000.00
Other	Remove trees adjacent to inlet, outlet.	$2,000.00
	Total Maintenance Needs Costs	**$3,000.00**

Additional Investigations:	Monitoring Crack Widths;	**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$450,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$465,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$57,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$52,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$24,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$733,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

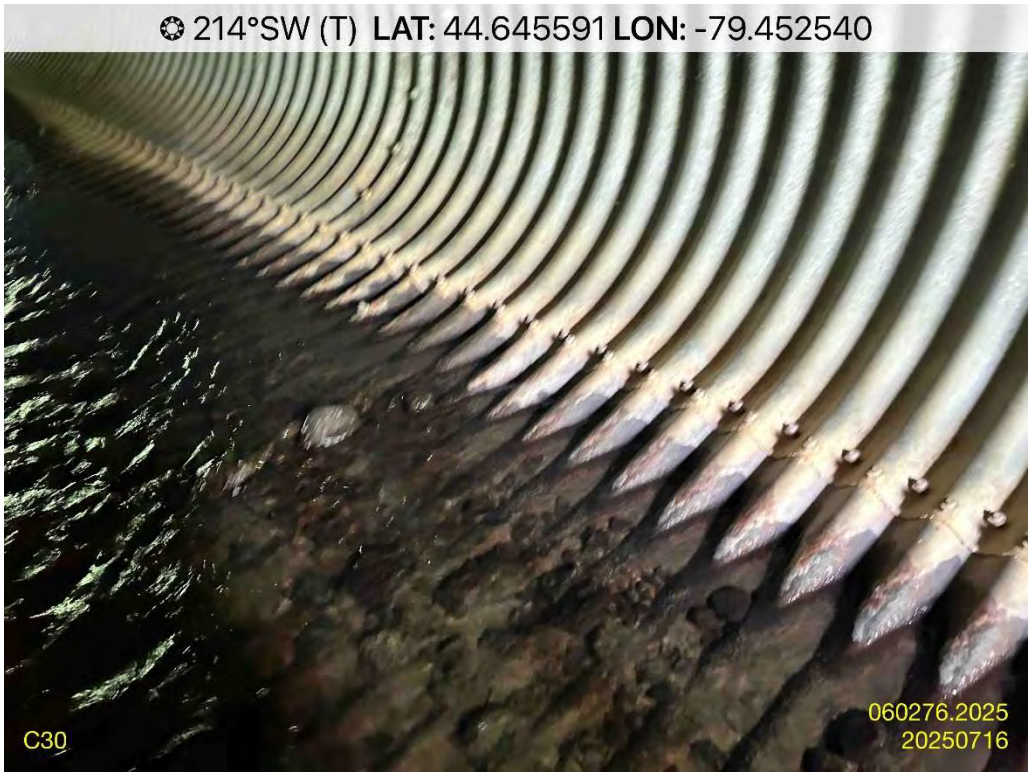
BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CS	Metal culvert - No rehabilitation planned.	N/A	11.8

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**63.7**
Culvert B30 is generally in fair condition. Bolt hole cracking and other barrel deficiencies have been identified and should be monitored during future biennial inspections for any signs of accelerated deterioration. Maintenance recommended to be completed within 1 year.		

ELEVATION – CULVERT INLET

CULVERT BARREL



CULVERT BARREL – WATERLINE CORROSION

CULVERT BARREL – MINOR BULGE

CULVERT BARREL – BOLT HOLE CRAKING

CULVERT OUTLET

FALLEN TREE OVER CULVERT INLET

EMBANKMENT – HEAVY VEGETATION

STREAM

APPROACH WEARING SURFACE

APPROACH GUIDE RAIL

Ontario Structure Inspection Manual - Inspection Form

Site Number: C33
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 33										
Main Hwy/Road #	Wainman Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lots 20/21, Conc I/II, 0.60km S of Mount Stephen Road										
Latitude	44.736376			Longitude	-79.591266						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	135		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	CSP Arch Culvert(s)			Interchange Number							
Total Deck Length	3.5 m			Interchange Structure Number							
Overall Str. Width	14.1 m			Min. Vertical Clearance		m					
Total Deck Area	49.35 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	7 m (btwn tops of slopes)										
Roadway Width	5.4 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	10 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0.3 m						
Span Lengths	3.5 m			Height (streambed to structure top)		m					

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1970	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C33
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 10, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:		X		$2,500.00

Investigation Notes:
Bolt hole cracking and structural shape should be monitored twice a year until the structure can be replaced

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☑ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Structure replacement is recommended as soon as possible. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

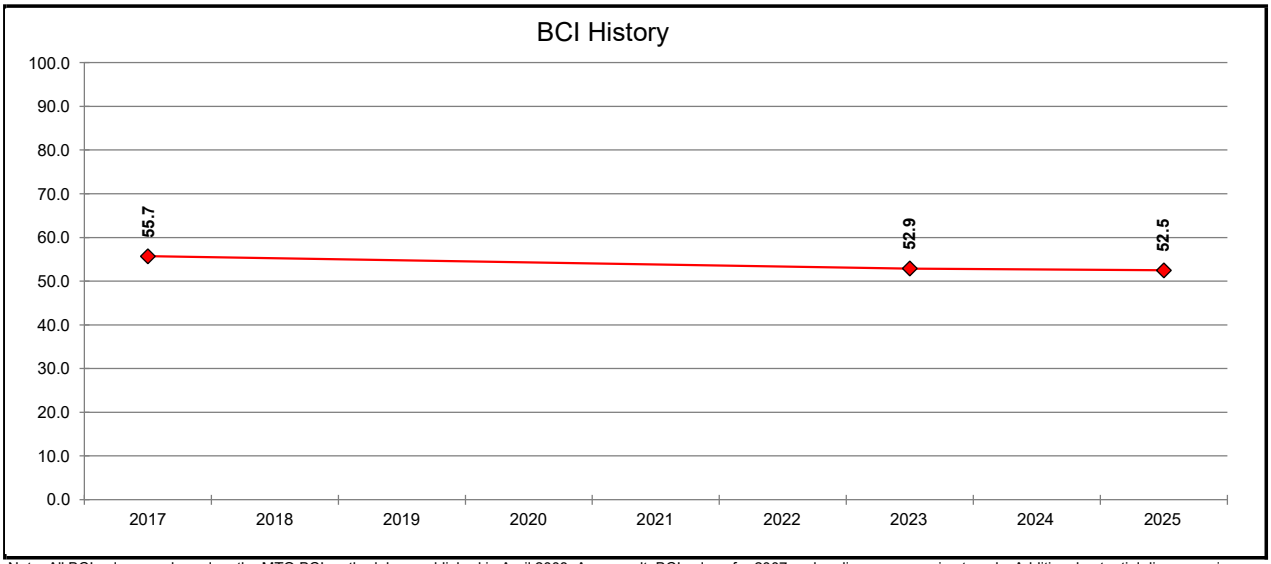
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C33
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	52.5	T. Wright	
2023	52.9	M. Ahmed (Doug Dixon)	
2017	55.7	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C33
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	5.4 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	64.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		64.2	0.3	0.3	Element BCI	74.5

Comments: Medium edge cracking.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and Seal		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Consider installing SBGR system.		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: SE sign rotated

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C33
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	3.5 m			
Element Name:	Deck Wearing Surface		Width:	5.4 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	18.9 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		17.8	1.1		Element BCI	73.0
Comments:	Transverse light to medium cracking along centreline of culvert.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**			15	
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Rout and Seal				
Rout and Seal			Performance Deficiencies: None				

Element Group:	Culvert		Length:	14.1 m			
Element Name:	Barrels		Width:	3.5 m			
Location:			Height:	m			
Material:	Corrugated Steel		Count:	1			
Element Type:			Total Quantity:	132.89 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		65.44	50.45	17	Element BCI	52.1
Comments:	Moderate to severe corrosion of culvert at and below the waterline. Light to moderate corrosion of culvert wall. Infiltration of backfill through areas of severe section loss.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:				
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		3		1	Element BCI	56.3
Comments:	Severe washout at SE corner.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**			13	
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☑ 1 Year ☐ 2 Year				
			Maintenance Needs: Erosion Control				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C33
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All			1		Element BCI	40.0

Comments: Watercourse is unobstructed with no evidence of scour. High water levels at time of inspection

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C33
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Repair embankment erosion, place rock protections.	$1,000.00
Rout and Seal	Reinstate asphalt in eroded ares, rout and seal asphalt cracking on wearing surface.	$3,000.00
	Total Maintenance Needs Costs	**$4,000.00**

Additional Investigations:	Monitoring Crack Widths;	**$2,500.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate need for Guide Rail	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$350,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$365,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$47,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$42,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$20,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$609,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CS	Metal culvert - No rehabilitation planned.	N/A	1.0

Recommendation:	Structure replacement is recommended as soon as possible.

Justification:	**Current BCI**	**52.5**
Culvert C33 is generally in fair to poor condition, exhibiting severe corrosion, areas of 100% section loss and bolt hole cracking within the barrel. Monitoring of the bolt hole cracking and corrosion should be completed twice a year until such time as the structure can be replaced.		

ELEVATION

CULVERT BARREL

CULVERT BARREL – SEVERE SECTION LOSS AND BACKFILL INFILTRATION

CULVERT BARREL – CORROSION, EFFLORESCENCE

CULVERT BARREL – SEVERE CORROSION AND SECTION LOSS

STREAM

OVERGROWN VEGETATION

APPROACH WEARING SURFACE

DECK WEARING SURFACE – LIGHT TO MEDIUM TRANSVERSE CRACKING

Ontario Structure Inspection Manual - Inspection Form

Site Number: C37
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 37									
Main Hwy/Road #	Fairgrounds Road	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.	
		Under			Rail		Road		Other	
Structure Location	Lot 4, Conc II/III, 1.70 km N of Division Road West									
Latitude	44.647025			Longitude	-79.491735					
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.	
					Desig./not list		Desig & List			
MTO region	Central			Road Class:	Freeway		Arterial			
					Collector		Local			
MTO District	Central region			Posted Speed	80		No. of Lanes	2		
Old County	Simcoe			AADT	340		% Trucks			
Geographic Twp.				Inspection Route Sequence						
Structure Type	CSP Ellipse Culvert(s)			Interchange Number						
Total Deck Length	9.2 m			Interchange Structure Number						
Overall Str. Width	17 m			Min. Vertical Clearance		m				
Total Deck Area	156.4 sq. m			Special Routes:	Transit		Truck			
					School		Bicycle			
Road Platform Width	8.5 m (btwn tops of slopes)									
Roadway Width	6.5 m (btwn edges of shoulders)			Detour Length Around Bridge		km				
Skew Angle	2 Degrees			Direction of Structure	N-S					
No. of Spans	2			Fill on Structure	0.3 m					
Span Lengths	3.7, 3.7 m			Height (streambed to structure top)	2.5 m					

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	2019	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
New double CSPs			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C37
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	30°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	x			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

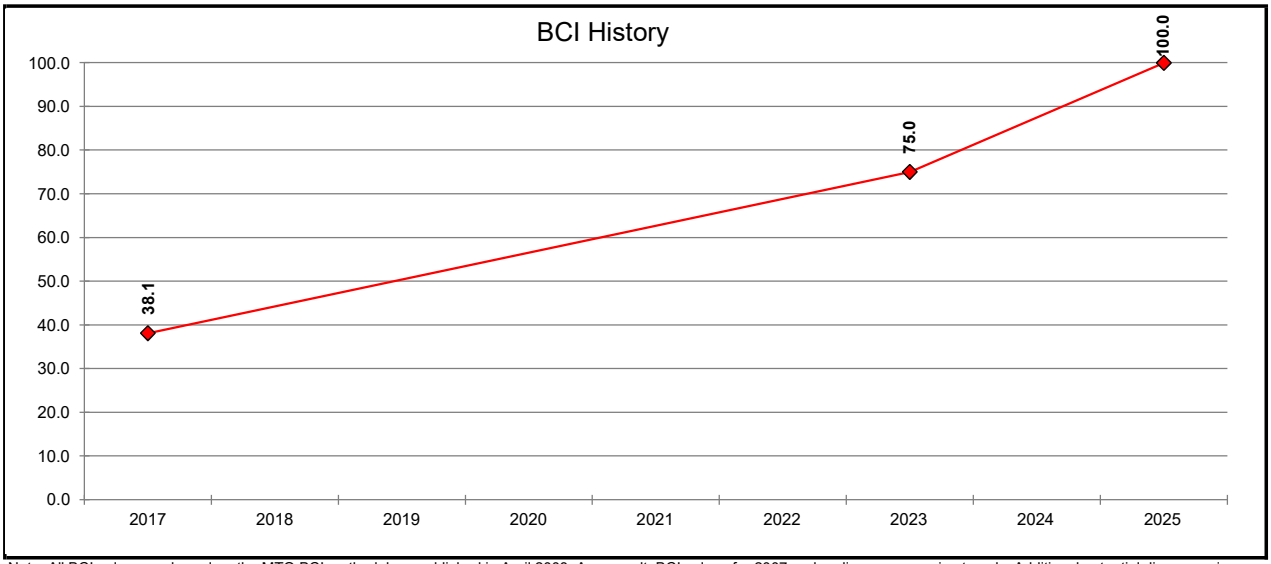
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C37
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	100.0	T. Wright	Updated transition of excellent to good
2023	75.0	M. Ahmed (Doug Dixon)	
2017	38.1	Jeremy Cober	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C37
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	21.2 m			
Element Name:	Approach Wearing Surface		Width:	6.5 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	137.8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	110.24	27.56			Element BCI	95.0

Comments:

Recommended Work: Rehab ☐ Replace ☐	**Maintenance Needs:**
1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
Repave	Maintenance Needs: None Performance Deficiencies: None

Element Group:	Approach		Length:	110 m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	220 m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	176	44			Element BCI	95.0

Comments:

Recommended Work: Rehab ☐ Replace ☐	**Maintenance Needs:**
1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
Consider installing SBGR system	Maintenance Needs: None Performance Deficiencies: None

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	2	1			Element BCI	68.8

Comments: Hazard warning signs located at each end of the SBGR. One sign is missing. Replace.

Recommended Work: Rehab ☑ Replace ☐	**Maintenance Needs:**	17
1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Replace hazard warning sign	Maintenance Needs: Hazard Signs Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C37
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:	All		Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed with no evidence of scour.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	17	m		
Element Name:	Barrels		Width:	3.7	m		
Location:			Height:	2.5	m		
Material:	Corrugated Steel		Count:	2			
Element Type:	Ellipse Culvert		Total Quantity:	352.5	Sq.m		
Environment:	Benign		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	352.5				Element BCI	100.0

Comments: No observed defects.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	13	m		
Element Name:	Wall		Width:		m		
Location:			Height:	1.2	m		
Material:	Retained Soil System		Count:	2			
Element Type:			Total Quantity:	31.2	Sq.m		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	31.2				Element BCI	100.0

Comments: Minor corrosion, bulging NE.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C37
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All Four Quadrants		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments: Stone protection installed at each end

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C37
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Hazard Signs	Install (1) missing hazard warning sign at structure.	$500.00
	Total Maintenance Needs Costs	**$500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$750,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$765,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$87,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$82,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$39,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,108,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CS	Metal culvert - No rehabilitation planned.	N/A	31.6

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**100.0**
Culvert C37 is in good condition following replacement in 2019. Minor maintenance recommended to be completed within 1 year.		

ELEVATION

APPROACH AND DECK WEARING SURFACE

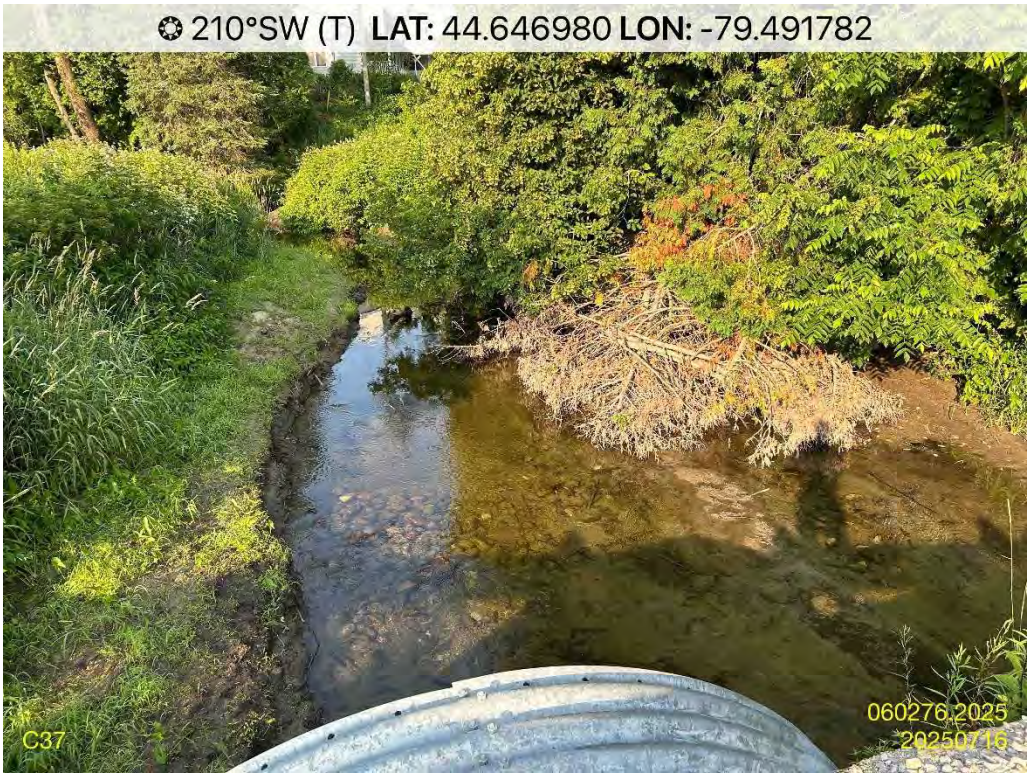
APPROACH GUIDE RAIL

CULVERT BARREL – WATERLINE CORROSION

CULVERT BARREL - OBVERT

DRAIN PIPE

RETAINING WALL



STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: C38
MTO Site Number: N/A

Inventory Data:

Structure Name	Culvert No. 38										
Main Hwy/Road #	Wainman Line	On	X	Crossing Type:	Navig. Water		Non-Navig.		X	Ped.	
		Under			Rail		Road			Other	
Structure Location	Lot 13, Conc I/II, 1.20 km N of Thornburn Road										
Latitude	44.68443			Longitude	-79.545764						
Owners	Township of Severn			Heritage Designation	Not Consid:	X	Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed	80		No. of Lanes	2			
Old County	Simcoe			AADT	250		% Trucks				
Geographic Twp.				Inspection Route Sequence							
Structure Type	CSP Arch Culvert(s)			Interchange Number							
Total Deck Length	3.3 m			Interchange Structure Number							
Overall Str. Width	16.6 m			Min. Vertical Clearance		m					
Total Deck Area	54.78 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	8 m (btwn tops of slopes)										
Roadway Width	7 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	N-S						
No. of Spans	1			Fill on Structure	0.3 m						
Span Lengths	3.3 m			Height (streambed to structure top)	2 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1970	Last Evaluation	
Last Biennial Inspection		2023	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C38
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Tape Measure		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works is estimated to be required within the next 10 years. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

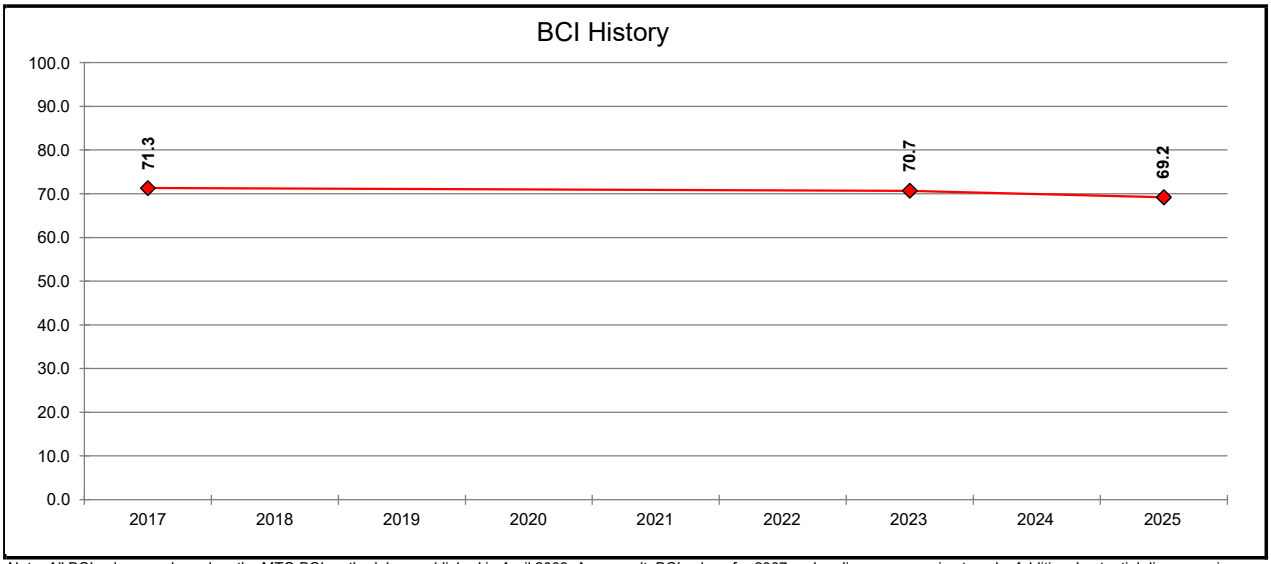
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C38
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	69.2	T. Wright	
2023	70.7	M. Ahmed (Doug Dixon)	
2017	71.3	Andrew Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C38
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	84 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	33.6	50.4			Element BCI	85.0

Comments: Asphalt in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	3.3 m			
Element Name:	Deck Wearing Surface		Width:	7 m			
Location:			Height:	m			
Material:	Asphalt		Count:	1			
Element Type:			Total Quantity:	23.1 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	9.24	13.86			Element BCI	85.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Approach		Length:	m			
Element Name:	Approach Guide Rail		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m					Element BCI	

Comments: None present

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Investigate need for guide rail		Performance Deficiencies: Pedestrian/Vehicular Hazard	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C38
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: No hazard warning signs.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Hazard Signs	
Install hazard warning signs at all quadrants		Performance Deficiencies: None	

Element Group:	Culvert		Length:	16.6	m		
Element Name:	Barrels		Width:	3.4	m		
Location:			Height:	2.01	m		
Material:	Corrugated Steel		Count:	1			
Element Type:			Total Quantity:	142.8	Sq.m		
Environment:	Benign		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		117.8	25		Element BCI	68.9

Comments: Corrugated plate steel pipe arch culvert is in generally good condition with localized medium corrosion noted of the invert. The earth fill above CSP is about 300 mm.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All 4 corners		Height:		m		
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Vegetated roadway embankments are in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C38
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:	All 4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Rock protection is in good condition.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Watercourse is unobstructed

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C38
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Hazard Signs	Install hazard warning signs at structure	$1,000.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate need for Guide Rail	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$350,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$365,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$47,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$42,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$20,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$609,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
CS	Metal culvert - No rehabilitation planned.	N/A	14.6

Recommendation:	No Capital Works is estimated to be required within the next 10 years.

Justification:	**Current BCI**	**69.2**
Culvert 38 is generally in good condition. Only minor maintenance works recommended to be completed within 1 year.		

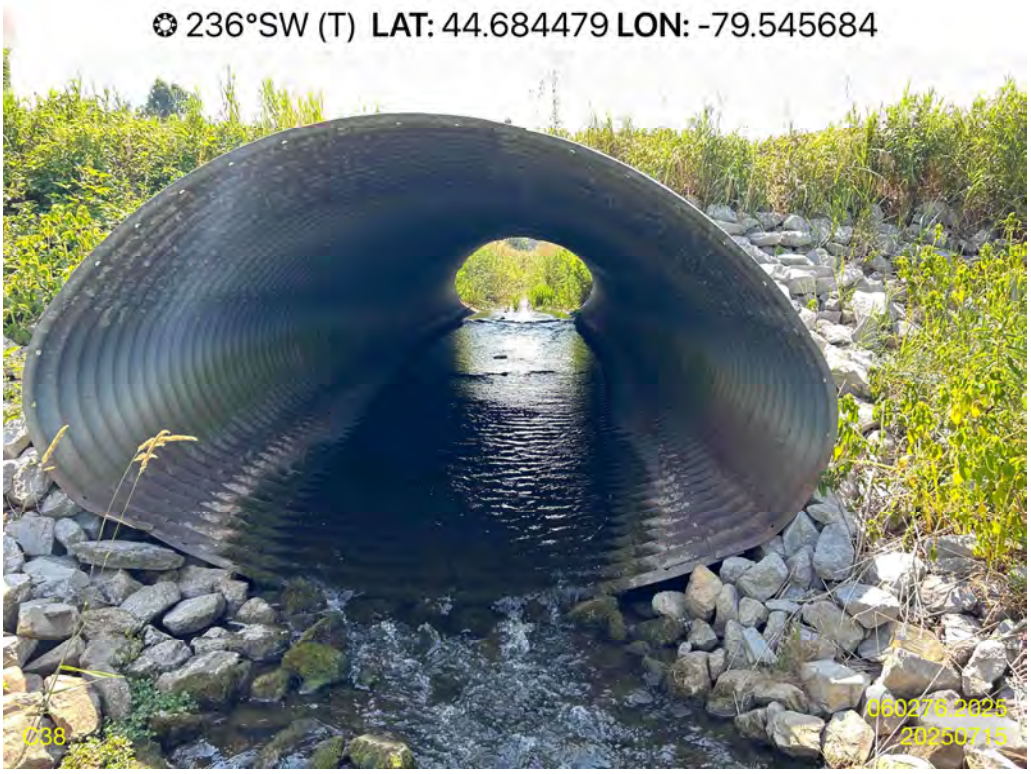
ELEVATION – CULVERT INLET

APPROACH WEARING SURFACE

CULVERT BARREL

CULVERT BARREL – WATERLINE CORROSION

CULVERT BARREL - CORROSION



CULVERT OUTLET

STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: C39
MTO Site Number:

Inventory Data:

Structure Name	Culvert No. 39										
Main Hwy/Road #	Coldwater Road	On ☐ Under ☐	Crossing Type:	Navig. Water ☐ Rail ☐	Non-Navig. ☐ Road ☐	Ped. ☐ Other ☐					
Structure Location	South of Robinson Street										
Latitude	44.70706248		Longitude	-79.64300772							
Owners			Heritage Designation	Not Consid: ☐ Desig./not list ☐	Cons/not App. ☐ Desig & List ☐	List/n.d. ☐					
MTO region			Road Class:	Freeway ☐ Collector ☐	Arterial ☐ Local ☐						
MTO District			Posted Speed		No. of Lanes						
Old County			AADT		% Trucks						
Geographic Twp.			Inspection Route Sequence								
Structure Type	Precast Concrete Box Culvert		Interchange Number								
Total Deck Length	3 m		Interchange Structure Number								
Overall Str. Width	42 m		Min. Vertical Clearance	m							
Total Deck Area	sq. m		Special Routes:	Transit ☐ School ☐	Truck ☐ Bicycle ☐						
Road Platform Width	15 m (btwn tops of slopes)										
Roadway Width	13.7 m (btwn edges of shoulders)		Detour Length Around Bridge	km							
Skew Angle	Degrees		Direction of Structure								
No. of Spans	1		Fill on Structure	1.2 m							
Span Lengths	3 m		Height (streambed to structure top)	m							

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1972	Last Evaluation	
Last Biennial Inspection			Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
Structure first included in inventory in 2025			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	Tanner Wright		
Others in Party:	Noah Opt'Hoog		
Equipment Used:	Measuring tape, digital camera, chain, hammer.		
Weather:	Sunny		
Temperature:	31 deg		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:		X		$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes: Monitoring during future biennial inspections is recommended to track ongoing footing undermining and movement of the failing retaining wall at the outlet (west) end of the structure.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☑ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Minor Rehabilitation is recommended as soon as possible. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

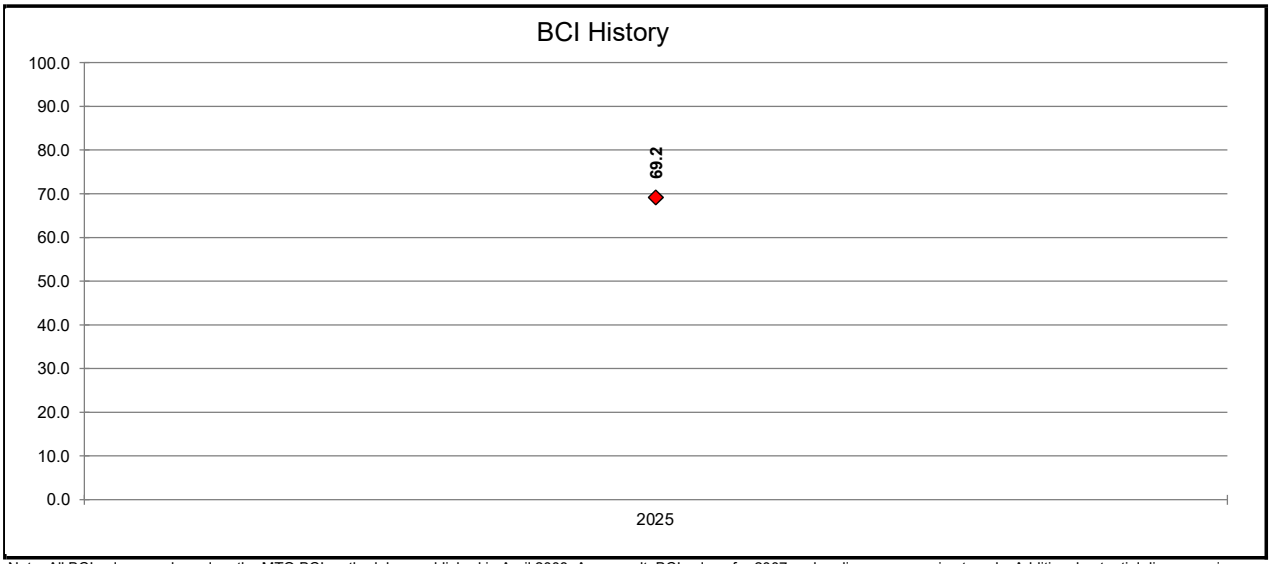
Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	69.2	Tanner Wright	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:		Each		
Environment:			Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each					Element BCI	

Comments: No hazard warning signs present. East side of structure is adjacent to a roadway, West side of structure is on other side of private site (Gas Station).

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	17
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Consider hazard warning signs on the east end of culvert.		Maintenance Needs: Hazard Signs Performance Deficiencies: None	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	13.7	m		
Location:	North and South		Height:		m		
Material:	Asphalt		Count:	2			
Element Type:			Total Quantity:	164.4	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		158.9	5	0.5	Element BCI	73.7

Comments: Only includes area measurement on public roadway. Longitudinal and transverse cracking

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and seal approach wearing surfaces.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Element Group:	Decks		Length:	3	m		
Element Name:	Deck Wearing Surface		Width:	13.7	m		
Location:			Height:		m		
Material:	Asphalt		Count:	1			
Element Type:	N/A		Total Quantity:	41.1	Sq.m		
Environment:	Severe		Limited Inspection:		☐		
Protection System:	Coal Tar Epoxy					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		37.9	3.2		Element BCI	72.3

Comments: Only includes area measurement on public roadway. Longitudinal and transverse cracking

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	15
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Rout and seal deck wearing surfaces.		Maintenance Needs: Rout and Seal Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	8 m			
Element Name:	Railing System		Width:	m			
Location:	East		Height:	m			
Material:			Count:				
Element Type:	Steel Flex Beam on Wood Post		Total Quantity:	8 m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	08
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		8			Element BCI	75.0

Comments: No end treatments.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Consider installing expanded SBGR protection complete with end treatments.		Maintenance Needs: None Performance Deficiencies: Pedestrian/Vehicular Hazard	

Element Group:	Curb and S/W		Length:	8 m			
Element Name:	Sidewalk		Width:	1 m			
Location:	East		Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	8 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		8			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Curb and S/W		Length:	15 m			
Element Name:	Curbs		Width:	0.15 m			
Location:	East, West Roadway		Height:	0.2 m			
Material:			Count:	1			
Element Type:			Total Quantity:	5.25 Sq.m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.25	2		Element BCI	61.7

Comments: Snow plow abrasion. Only includes area measurement on public roadway.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Element Data

Element Group:	Culvert		Length:	5 m			
Element Name:	Outlet		Width:	0.41 m			
Location:	West		Height:	1.8 m			
Material:	Precast Concrete		Count:				
Element Type:			Total Quantity:	3.526 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.826	0.5	0.2	Element BCI	65.8

Comments: Light to medium scaling. Vertical cracks with efflorescence staining. Small spall. Significant tree growth in close proximity of outlet structural elements.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	18
	1-5 Years ☐ 6-10 Years ☑	☑ Urgent ☐ 1 Year ☐ 2 Year	
Remove trees in close proximity of the structures outlet.		Maintenance Needs: Other Performance Deficiencies: None	

Element Group:	Culvert		Length:	3 m			
Element Name:	Inlet		Width:	0.41 m			
Location:	East		Height:	1.8 m			
Material:			Count:				
Element Type:			Total Quantity:	2.706 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.306	0.4		Element BCI	69.8

Comments: Light to medium scaling. Vertical cracks with efflorescence staining.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Culvert		Length:	42 m			
Element Name:	Barrels		Width:	3 m			
Location:	East (Original)		Height:	1.8 m			
Material:	Precast Concrete		Count:				
Element Type:	Rectangular Culvert		Total Quantity:	277.2 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		244	30	3.2	Element BCI	70.4

Comments: Wide transverse stained cracks. Light to medium honeycombing. 2 spots of erosion along waterline. Delamination on obvert. Spalled concrete around wall drains. Alignment of culvert traverses through private property.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Element Data

Element Group:	Culvert		Length:	5 m			
Element Name:	Barrels		Width:	6 m			
Location:	Rigid frame extension (West)		Height:	1.8 m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:	Other		Total Quantity:	51.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45.6	6		Element BCI	70.4

Comments: Extension in 1997, open footing rigid frame. South side of outlet, footing shows active undermining. Light to medium scaling. Monitor for any future rotation.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Retaining Walls		Length:	7 m			
Element Name:	Wall		Width:	m			
Location:	West		Height:	1.2 m			
Material:	Precast Concrete		Count:				
Element Type:	Retaining Wall		Total Quantity:	8.4 Sq.m			
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	02
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	04
Data:	Sq.m				8.4	Element BCI	0.0

Comments: Unable to measure dimensions of block retaining wall above culvert. Estimate 1.2m high. Retaining wall above culvert has started to fail with material bulging through. Confirm measurements during future bennial inspection. Monitor for continued forward rotation and bulging of the wall.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Replace retaining wall.		Performance Deficiencies: Excessive Deformations (Deflections & Rotations), Continuing Movemer	

Element Group:	Barriers		Length:	32 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	1			
Element Type:	Steel Post and Lattice		Total Quantity:	32 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		32			Element BCI	75.0

Comments: Affixed to top of retaining wall. Confirm measurements during future bennial inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	4 quadrants.		Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:	No observed defects.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	C39
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Rout and Seal	Repairs required to Approach Wearing Surface, Deck Wearing Surface,	$1,500.00
Hazard Signs	Install hazard warning signs at structure	$500.00
Other	Remove trees in close proximity to the structures outlet.	$2,500.00
	Total Maintenance Needs Costs	**$4,500.00**

Additional Investigations:	Monitoring of Deformations, Settlements and Movements;	**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Investigate feasibility of replacing guiderail and end treatments (east side only).	**$1,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current r .

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type C concrete repairs to wall, barrels, outlet,			x		$73,000.00
Waterproof and pave.			x		$50,000.00
Replace retaining wall (west end).			x		$30,000.00
Replace safety barrier.			x		$10,000.00
Repair undermining to footing, install rock proctections.			x		$7,000.00
General Items - Insurance, Mobilization, Access etc.			x		$125,000.00
Rehabilitation Cost Subtotal					**$295,000.00**

Estimated Value of Replacement Structure	**$700,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$15,000.00	$15,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$15,000.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$310,000.00	$715,000.00
Roadside Protection:		$1,000.00	$50,000.00
Staging Costs:	Temp. traffic signals, roadway protection, TCBs & crash cushions, Staged Construction	$150,000.00	$275,000.00
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$47,000.00	$102,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$39,000.00	$88,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$37,000.00	$36,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$586,500.00**	**$1,301,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	1.0	19.2

Recommendation:	Minor Rehabilitation is recommended as soon as possible.

Justification:	**Current BCI**	**69.2**
Structure C39 is generally in fair condition, with concrete deterioration and moisture penetration noted at the outlet and within the culvert barrel. The outlet retaining wall is failing, showing movement and rotation, as well as active undermining of the south footing. Due to the proximity of a private business, replacement of the retaining wall and repairs to address the undermining are recommended within 1 year. Until repairs are completed, biennial inspections should monitor the progression of deficiencies at the outlet (west) end of the structure. Staging has been included in the estimated rehabilitation and replacement costs to account for anticipated elevated staging costs necessary to construct around an operating private business.		

ELEVATION – CULVERT INLET

SIDEWALK

BARRIER

BARRIER – MISSING BOLTS

APPROACH WEARING SURFACE – TRANSVERSE AND LONGITUDINAL CRACKS

CULVERT INLET - HONEYCOMBING

CULVERT BARREL

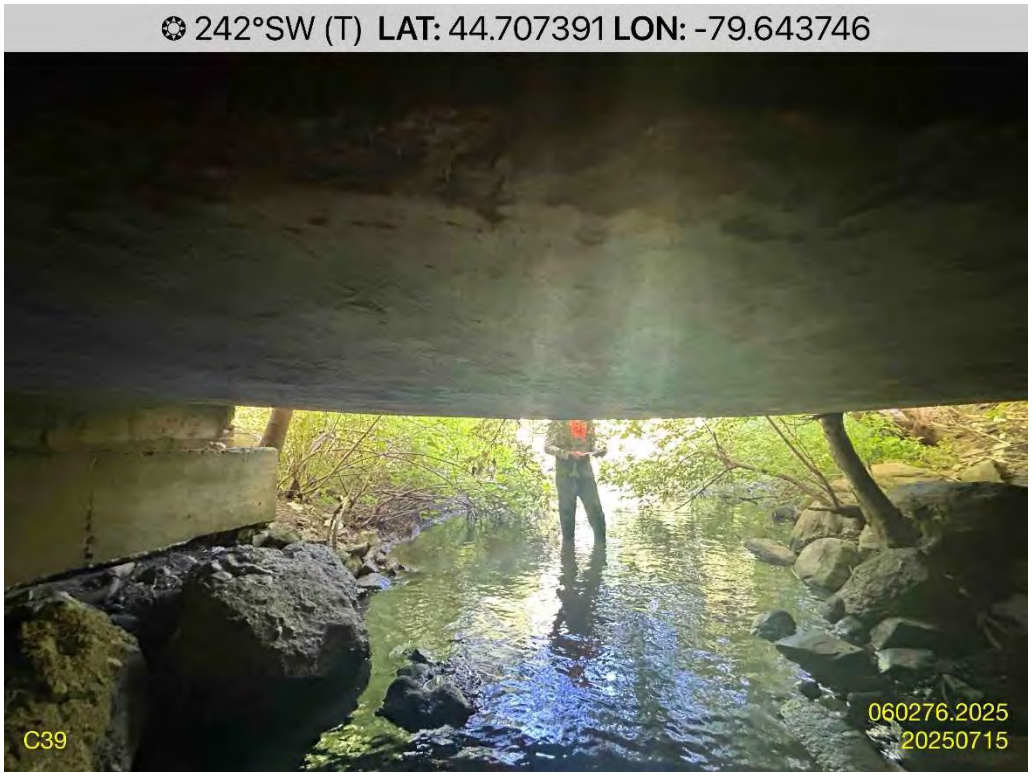
CULVERT BARREL - HONEYCOMBING

CULVERT BARREL – DELAMINATIONS, CRACKS, SPALLS, RUST STAINING

CULVERT BARREL EXTENSION

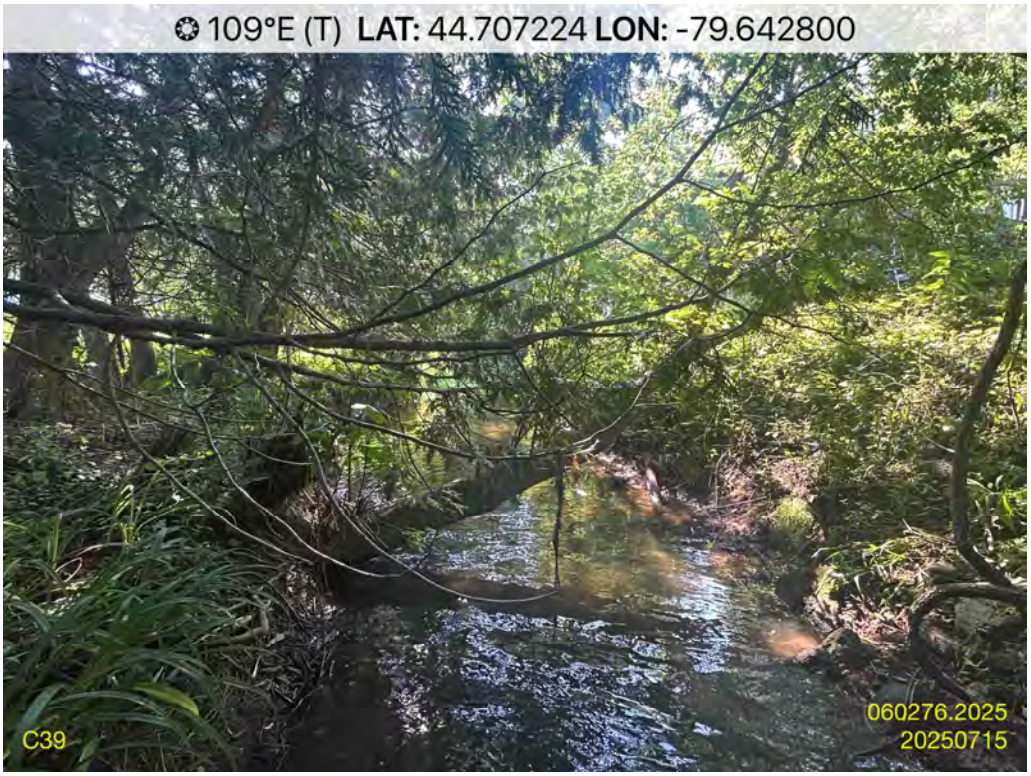
CULVERT OUTLET

CULVERT OUTLET – FAILING RETAINING WALL



CULVERT OUTLET – SAGGING OBVERT

CULVERT OUTLET – TOO BE MONITORED IN FUTURE INSPECTIONS



STREAM

Ontario Structure Inspection Manual - Inspection Form

Site Number: TR-BR-001
MTO Site Number: N/A

Inventory Data:

Structure Name	Trail Bridge 001										
Main Hwy/Road #	Uhthoff Trail	On	X	Crossing Type:	Navig. Water		Non-Navig.		X Ped.	X	
		Under			Rail		Road		Other		
Structure Location	1.2km North of Sturgeon Bay Rd. trail head										
Latitude	44.717	Longitude	-79.653								
Owners	Township of Severn	Heritage Designation		Not Consid:		Cons/not App.		List/n.d.			
				Desig./not list		Desig & List					
MTO region		Road Class:		Freeway		Arterial					
				Collector		Local					
MTO District		Posted Speed		No. of Lanes							
Old County		AADT		% Trucks							
Geographic Twp.		Inspection Route Sequence									
Structure Type	Steel I-Girder (Timber Deck)	Interchange Number									
Total Deck Length	8.1 m	Interchange Structure Number									
Overall Str. Width	3.3 m	Min. Vertical Clearance		m							
Total Deck Area	26.73 sq. m	Special Routes:	Transit		Truck						
			School		Bicycle						
Road Platform Width	3 m (btwn tops of slopes)										
Roadway Width	3 m (btwn edges of shoulders)	Detour Length Around Bridge		km							
Skew Angle	0 Degrees	Direction of Structure	E-W								
No. of Spans	1	Fill on Structure	0 m								
Span Lengths	7.9 m	Height (streambed to structure top)	3 m								

Historical Data:

Year Built	○ Known ○ Estimated ◉ Unknown	Last Evaluation	
Last Biennial Inspection	2021	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year	2023
Rehabilitation in 2023 (barrier, deck replaced).		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Hammer, Tape, Camera		
Weather:	Sunny		
Temperature:	26°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

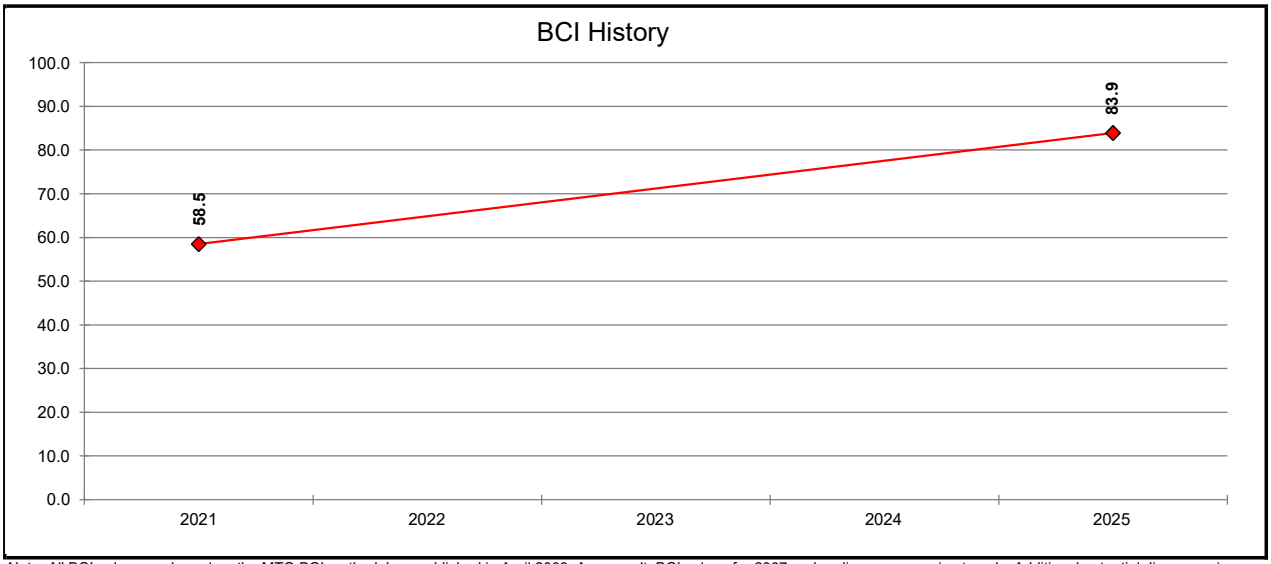
Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	83.9	T. Wright	Rehabilitation in 2023.
2021	58.5	Andrew Dawson, P.Eng.	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	3 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	26 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		26			Element BCI	75.0

Comments: Well graded and compact. There is a small step up onto timber deck

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Barriers		Length:	13.86 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	1.37 m			
Material:	Wood		Count:				
Element Type:	Wood Rail on Wood Post		Total Quantity:	13.86 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	13.86				Element BCI	100.0

Comments: Installed in 2023.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	8.22 m			
Element Name:	Deck Top		Width:	4.88 m			
Location:			Height:	m			
Material:	Wood		Count:	1			
Element Type:	Wood Planks		Total Quantity:	40.11 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	40.11				Element BCI	100.0

Comments: Replaced in 2023.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Remove tracked gravel from timber deck.		Maintenance Needs: Bridge Cleaning	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	6.1 m			
Element Name:	Girders - Middle		Width:	0.424 m			
Location:			Height:	0.61 m			
Material:	Steel		Count:	4			
Element Type:	Other		Total Quantity:	86.03 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		86.03			Element BCI	75.0

Comments: Built up beam using web plate and 200x150 (Long Leg Horiz.) angles on flanges with riveted connections. 9 Stiffeners per girder per side. Steel plate repairs during 2023 rehab.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.424 m			
Location:			Height:	0.61 m			
Material:	Steel		Count:	8			
Element Type:	Other		Total Quantity:	28.21 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		28.21			Element BCI	75.0

Comments: Steel plate repairs during 2023 rehab.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Decks		Length:	m			
Element Name:	Soffit - Thin Slab - Int		Width:	4 m			
Location:			Height:	m			
Material:			Count:	23			
Element Type:			Total Quantity:	23 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	23				Element BCI	100.0

Comments: Transverse timber decking. Installed in 2023. Bird nests noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Streams and Waterways		Width:		m		
Location:			Height:		m		
Material:			Count:				
Element Type:			Total Quantity:	1	All		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0
Comments:	Stagnant and swampy						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:		m		
Element Name:	Diaphragms - End		Width:		m		
Location:			Height:		m		
Material:	Steel		Count:	6			
Element Type:			Total Quantity:	6	Each		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	4		Element BCI	51.7
Comments:	Riveted connections. Medium to severe surface rust.						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☑		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Retaining Walls		Length:	3.66	m		
Element Name:	Wall		Width:		m		
Location:	All Four Quadrants		Height:	Varies	m		
Material:	Masonry		Count:	4			
Element Type:	Retaining Wall		Total Quantity:	4	Sq.m		
Environment:			Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	4				Element BCI	100.0
Comments:	Armour stone retaining wall. Installed in 2023.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	4.4 m			
Element Name:	Abutment Walls		Width:	0.3 m			
Location:	North & South		Height:	0.6 m			
Material:	Wood		Count:	2			
Element Type:			Total Quantity:	5.28 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	5.28				Element BCI	100.0

Comments: Replaced in 2023.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	4.4 m			
Element Name:	Ballast Walls		Width:	m			
Location:	North & West		Height:	0.61 m			
Material:	Steel		Count:				
Element Type:	Other		Total Quantity:	2.684 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	2.684				Element BCI	100.0

Comments: Replaced in 2023.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments: Rip rap.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-001
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove gravel tracked onto timber deck.	$500.00
	Total Maintenance Needs Costs	**$500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$400,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$5,000.00
Utilities			
Right of Way			
Environmental	Bird nesting mitigation (activity noted)		$15,000.00
Other			
	Total Associated Work Costs	**$0.00**	**$20,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$420,000.00
Roadside Protection:		N/A	$20,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$44,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$43,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$21,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$583,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	N/A	36.8

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

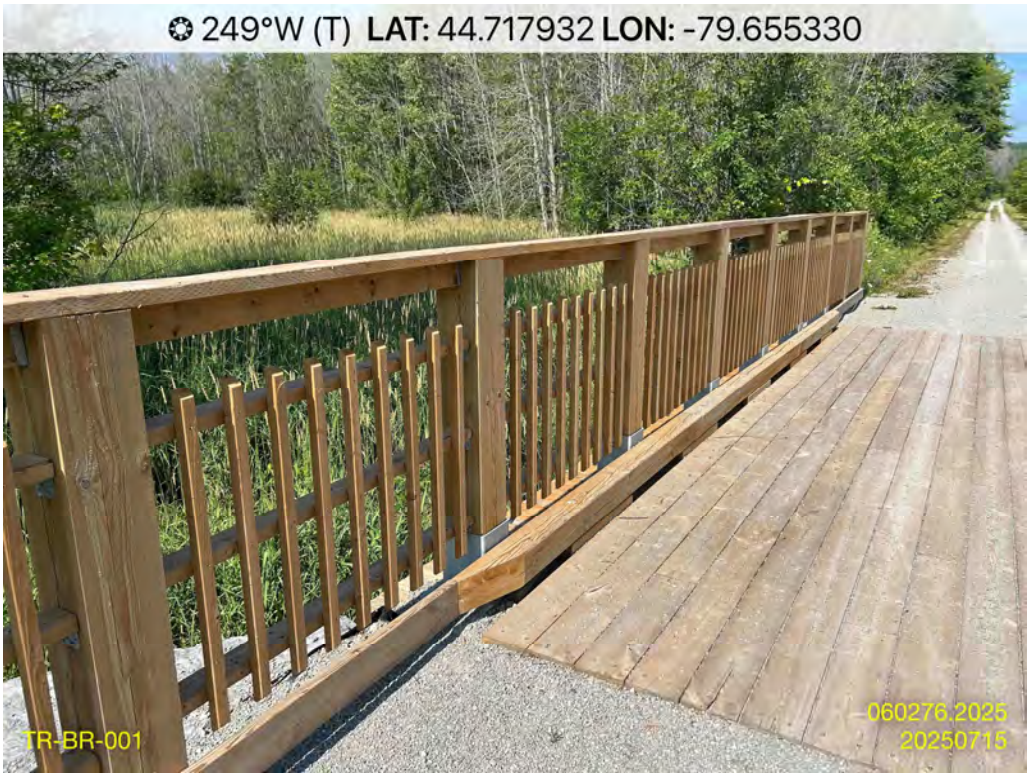
Justification:	**Current BCI**	**83.9**
Trail Bridge 001 (Mile 5.8 Bridge), is generally in good condition following a rehabilitation in 2023 to replace the timber deck, barrier system and ballast walls.		

205°SW (T) LAT: 44.717995 LON: -79.655360
TR-BR-001
060276.2025
20250715

ELEVATION

APPROACH WEARING SURFACE

DECK TOP



BARRIER

BALLAST WALL

GIRDERS

ABUTMENT WALL

GIRDERS & DIAPHRAGMS – LIGHT CORROSION

Ontario Structure Inspection Manual - Inspection Form

Site Number: TR-BR-002
MTO Site Number: N/A

Inventory Data:

Structure Name	Uhthoff Trail Bridge 002										
Main Hwy/Road #	Uhthoff Trail System (The Great Trail)	On	X	Crossing Type:	Navig. Water		Non-Navig.		Ped.	X	
		Under			Rail		Road		Other		
Structure Location	Uhthoff Trail Mile 13.76 (Access via Wainmain Line, North of Foxmead - Head West)										
Latitude	44.70830106			Longitude	-79.56943292						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central Region			Posted Speed			No. of Lanes				
Old County	Simcoe			AADT			% Trucks				
Geographic Twp.	Township of Severn			Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	3.8 m			Interchange Structure Number							
Overall Str. Width	6.1 m			Min. Vertical Clearance		m					
Total Deck Area	23.18 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	3 m (btwn tops of slopes)										
Roadway Width	2.8 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0.4 m						
Span Lengths	3 m			Height (streambed to structure top)	1.2 m						

Historical Data:

Year Built	○ Known ○ Estimated ◉ Unknown	Last Evaluation	
Last Biennial Inspection	2019	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-002
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Tape Measure, Hammer		
Weather:	Sunny		
Temperature:	25°C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:		X		$0.00
Monitoring Crack Widths:		X		$0.00
Investigation Notes: Monitoring during future biennial inspections is recommended to track the progression of structural concrete deterioration and assess any acceleration.				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☐ Minor Rehab.	☐ Major Rehab.	☑ Replace
Timing of Recommended Work:	☑ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Structure replacement is recommended as soon as possible. Maintenance and Roadside Safety work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

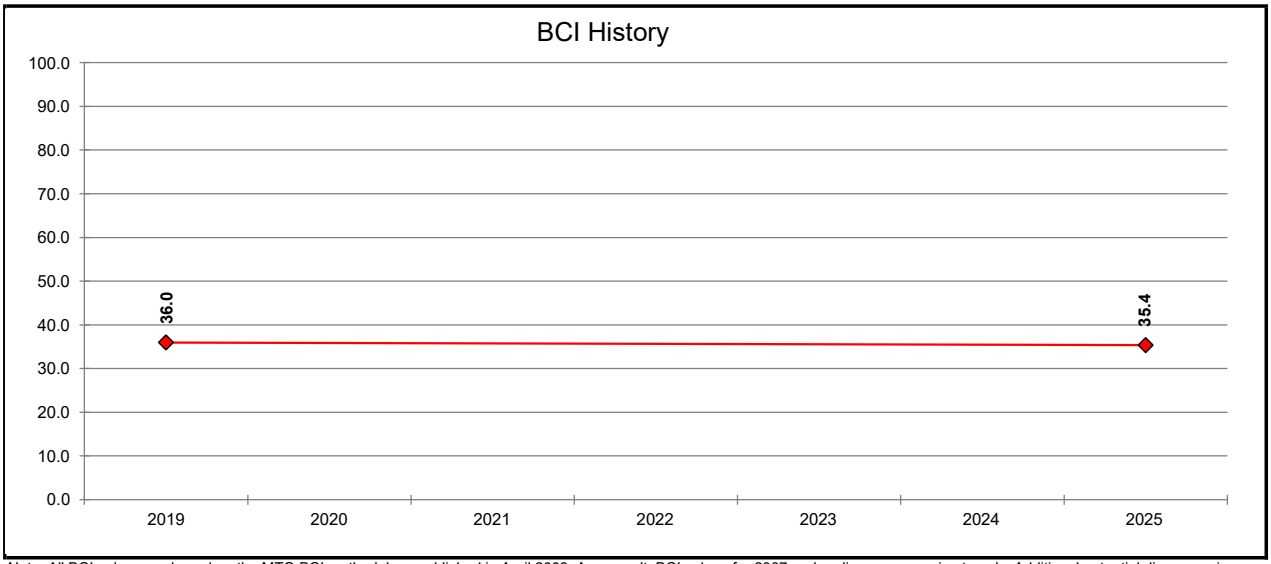
Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-002
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	35.4	T. Wright	
2019	36.0	A. Dawson, P.Eng.	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-002
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	2.8 m			
Location:	6 m each approach		Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	33.6 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			33.6		Element BCI	40.0

Comments: Overgrown with grass/vegetation outside of travelled "lanes". Medium rutting.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	3.8 m			
Element Name:	Deck Wearing Surface		Width:	2.8 m			
Location:	Trail Over Structure		Height:	m			
Material:	Gravel		Count:	1			
Element Type:			Total Quantity:	10.64 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m			10.64		Element BCI	40.0

Comments: Overgrown with grass/vegetation outside of travelled "lanes". Medium rutting. Uneven (bump) over structure

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	3.8 m			
Element Name:	Deck Top		Width:	6.1 m			
Location:	Beneath Granular		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Solid Slab		Total Quantity:	23.18 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		7.98	7.6	7.6	Element BCI	38.9

Comments: Limited Inspection - covered with fill. Condition assumed based on soffit condition

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Construct strucutural slab over existing deck		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-002
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	1.3 m			
Element Name:	Wingwalls		Width:	0.5 m			
Location:	4 Corners		Height:	0.975 m			
Material:			Count:	4			
Element Type:			Total Quantity:	8.32 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		4.84	1.2	2.28	Element BCI	49.4

Comments: Delamination on top portion of all walls, medium scaling, hairline to narrow cracks with efflorescence. Medium wide cracks in SE and NW walls. Large spall and delamination on NW. Wall seperating above construction joint.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Concrete Repairs / Replace		Performance Deficiencies: None	

Element Group:	Decks		Length:	3 m			
Element Name:	Soffit - Thick Slab - Ext		Width:	1 m			
Location:	Fascia, Headwall and 1 m of soffit		Height:	0.85 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Solid Slab		Total Quantity:	11.1 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.5	4.8	4.8	Element BCI	27.4

Comments: Qty includes outside face of of headwalls; Vert. face of inlet fully delaminated; narrow to wide cracking and efflorescence; End of soffits previously patched; Efllorescence / stalactite at joints of patch; Spalling around deck drain holes; med - wide vert cracks in vert face at outlet.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	3 m			
Element Name:	Soffit - Thick Slab - Int		Width:	4.1 m			
Location:	Soffit, excluding 1 m at each end		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Solid Slab		Total Quantity:	12.3 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		1.2	8.1	3	Element BCI	33.7

Comments: Medium to wide cracks. 4 full width wide cracks. Moderate to severe scaling throughout. Efflorescence and stalactite near ends

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-002
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:		m		
Element Name:	Abutment Walls		Width:	6.1	m		
Location:	Both Sides		Height:	0.95	m		
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Rigid Frame, Vertical Legs		Total Quantity:	11.59	Sq.m		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.02	6.07	3.5	Element BCI	34.0

Comments: Severe scaling; full length wide crack at construction joint. 2 swallows nests noted during inspection; wide vertical cracks; moderate to severe spalls. Efflorescence stained cracks and delaminations.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Repair Concrete / Replace structure		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	6.1	m		
Element Name:	Streams and Waterways		Width:	3.2	m		
Location:	Invert Slab through structure		Height:		m		
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Concrete		Total Quantity:	19.52	All		
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		18.22	1.2	0.1	Element BCI	72.5

Comments: Full width construction joints (2); light scaling / abrasion; small delamination; Trees growing at each corner on or directly adjacent to slab. Slight scour below slab invert (0.1 m) at inlet

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	18
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Remove vegetation growing at inlet/outlet		Maintenance Needs: Other Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	4 corners		Height:		m		
Material:	Other		Count:				
Element Type:	Vegetation		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Well vegetated, appears stable

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-002
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Other	Remove trees growing in close proximity to the structure.	$2,000.00
	Total Maintenance Needs Costs	**$2,000.00**

Additional Investigations:	Monitoring of Deformations, Settlements and Movements; Monitoring Crack Widths;	**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Install Guide Rail, end treatments	**$100,000.00**

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to deck top,					$20,000.00
Type B concrete repairs to soffit,					$35,000.00
Type C concrete repairs to abutment walls,					$40,000.00
Waterproof and pave.					$20,000.00
Add slope stabilization					$6,000.00
General Items - Insurance, Mobilization, Access etc.					$50,000.00
			Rehabilitation Cost Subtotal		**$171,000.00**

Estimated Value of Replacement Structure	**$350,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control		$5,000.00	$5,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$5,000.00**	**$5,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		$176,000.00	$355,000.00
Roadside Protection:		$20,000.00	$20,000.00
Staging Costs:		N/A	$100,000.00
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$20,000.00	$48,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$20,000.00	$42,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$20,000.00	$20,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$258,500.00**	**$620,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR	Bridge with span less than 4.5m and replacement planned	N/A	0.0

Recommendation:	Structure replacement is recommended as soon as possible.

Justification:	**Current BCI**	**35.4**
Trail Bridge 002 is generally in poor condition, with severe scaling and delaminations throughout. Moisture penetration is evident, as indicated by stalactites at concrete repair joints. The condition should be monitored during biennial inspections until such time as the structure can be replaced.		

ELEVATION

APPROACH/DECK WEARING SURFACE

SOFFIT EXTERIOR – DISINTEGRATION, DELAMINATION, EFFLORESCENCE

WINGWALL – HAIRLINE TO NARROW CRACKS, EFFLORESCENCE

ABUTMENT WALL – SEVERE SCALING, EFFLORESCENCE

SOFFIT INTERIOR – STALACITES & EFFLORESCENCE

SOFFIT INTERIOR – SEVERE SCALING

ABUTMENT WALL - WIDE VERTICAL CRACK

WINGWALL – WIDE CRACK, MEDIUM SCALING, STAINING

Ontario Structure Inspection Manual - Inspection Form

Site Number: TR-BR-003
MTO Site Number: N/A

Inventory Data:

Structure Name	Uhthoff Trail Bridge No. 3										
Main Hwy/Road #	Trans Canada / Uhthoff Trail	On	X	Crossing Type:	Navig. Water		Non-Navig.		Ped.	X	
		Under			Rail		Road		Other		
Structure Location	Trans Canada / Uhthoff Trail, 1.3 km W of Uhthoff trail access										
Latitude	44.69989558	Longitude	-79.53116336								
Owners	Township of Severn	Heritage Designation	Not Consid:		Cons/not App.		List/n.d.				
			Desig./not list		Desig & List						
MTO region	Central	Road Class:	Freeway		Arterial						
			Collector		Local						
MTO District	Central region	Posted Speed		No. of Lanes							
Old County	Simcoe	AADT		% Trucks							
Geographic Twp.	Township of Severn	Inspection Route Sequence									
Structure Type	Cast-In-Place Conc. Box Culvert	Interchange Number									
Total Deck Length	6 m	Interchange Structure Number									
Overall Str. Width	11.5 m	Min. Vertical Clearance	m								
Total Deck Area	69 sq. m	Special Routes:	Transit		Truck						
			School		Bicycle						
Road Platform Width	3.7 m (btwn tops of slopes)										
Roadway Width	3.7 m (btwn edges of shoulders)	Detour Length Around Bridge	km								
Skew Angle	0 Degrees	Direction of Structure	N-S								
No. of Spans	1	Fill on Structure	0.15 m								
Span Lengths	6 m	Height (streambed to structure top)	m								

Historical Data:

Year Built (◉ Known ○ Estimated ○ Unknown)	2019	Last Evaluation	
Last Biennial Inspection	2018	Current Load Limit	tonnes
Last Bridge Master Inspection		Load Limit By-Law #	
Last Condition Survey		By-Law Expiry Date	
Last Underwater Inspection			

Rehab History: (Date / Description)	Rehab Year		
Structure replaced in 2019.			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 15, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Hammer, Measuring Tape		
Weather:	Sunny		
Temperature:	30 deg C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

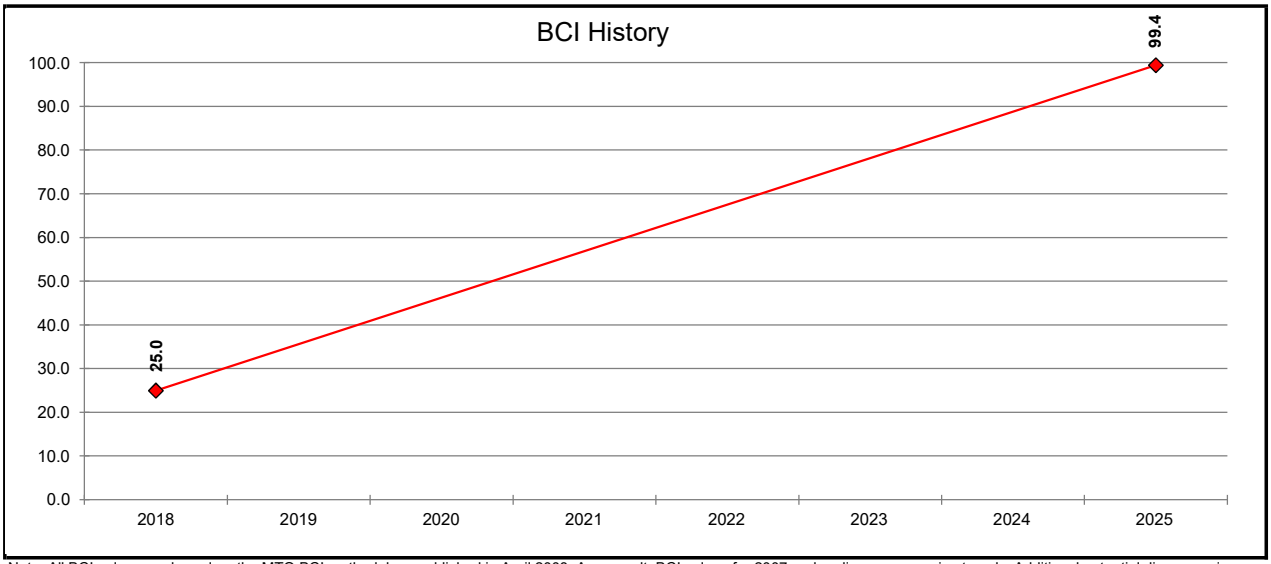
Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	99.4	T. Wright	Replaced in 2019.
2018	25.0	A. Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	3.7 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	44.4 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		44.4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Decks		Length:	6.8 m			
Element Name:	Deck Wearing Surface		Width:	4.3 m			
Location:			Height:	m			
Material:	Gravel		Count:	1			
Element Type:			Total Quantity:	29.24 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		29.24			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Barriers		Length:	17.2 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	1.37 m			
Material:			Count:	2			
Element Type:			Total Quantity:	34.4 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	30.96	3.44			Element BCI	97.5

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

Element Data

Element Group:	Culvert		Length:	6.8 m			
Element Name:	Inlet		Width:	m			
Location:	South		Height:	4.5 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.58 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	8.58				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	6.8 m			
Element Name:	Outlet		Width:	m			
Location:	North		Height:	4.5 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	8.58 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	8.18	0.4			Element BCI	98.8

Comments: Small Spalls

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Culvert		Length:	11.5 m			
Element Name:	Barrels		Width:	6 m			
Location:			Height:	3.7 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	154.1 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	154.1				Element BCI	100.0

Comments: Bugholes

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	6.8 m			
Element Name:	Deck Top		Width:	11.5 m			
Location:	Under wearing surface		Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	78.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	78.2				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Slope Protection		Width:	m			
Location:			Height:	m			
Material:			Count:	4			
Element Type:	Hand Laid Rip Rap		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All Four Quadrants		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments: Hogweed present.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	1				Element BCI	100.0

Comments: Beaverdam present at inlet.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Remove beaver dam obstruction.		Performance Deficiencies: None	

Element Group:	Accessories		Length:	m			
Element Name:	Signs		Width:	m			
Location:	On barrier ends		Height:	m			
Material:			Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-003
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove beaver dam at inlet.	$2,000.00
	Total Maintenance Needs Costs	**$2,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
				Rehabilitation Cost Subtotal	**$0.00**

Estimated Value of Replacement Structure	**$350,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$5,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$0.00**	**$5,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$355,000.00
Roadside Protection:		N/A	$0.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$36,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$36,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$20,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$482,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR	Bridge with span less than 4.5m and replacement planned	N/A	44.4

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**99.4**
The Uhtoff Trail Bridge No. 3 is generally in excellent condition following replacement in 2019.		

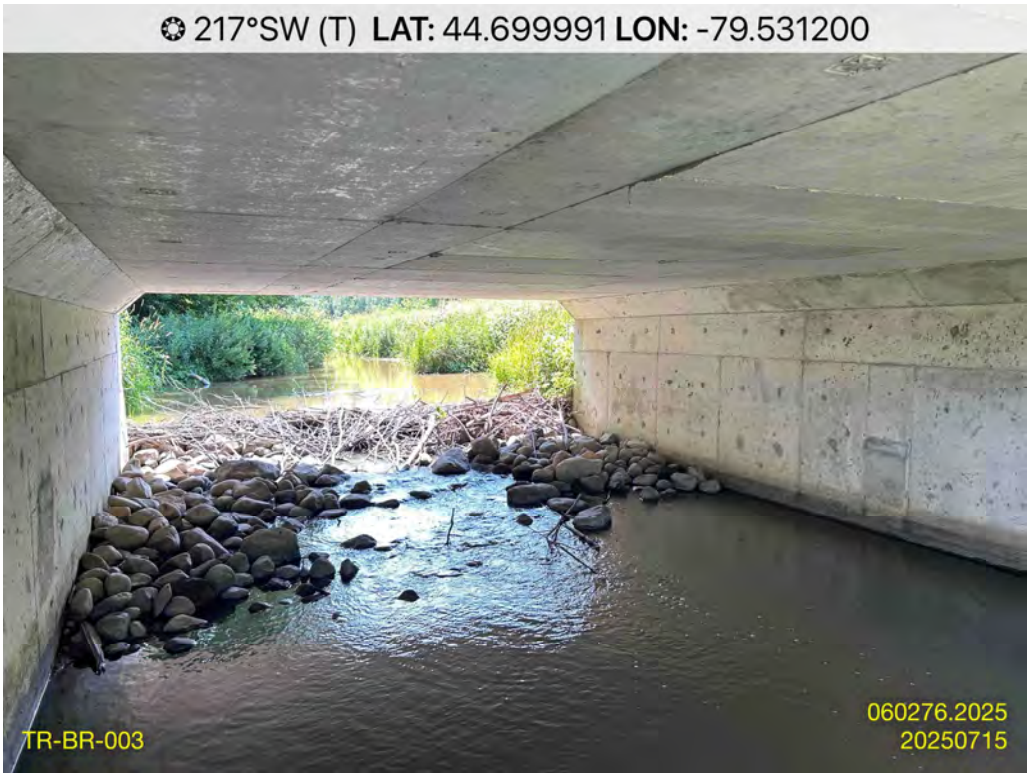
ELEVATION – CULVERT INLET

APPROACH WEARING SURFACE

DECK WEARING SURFACE

BARRIER

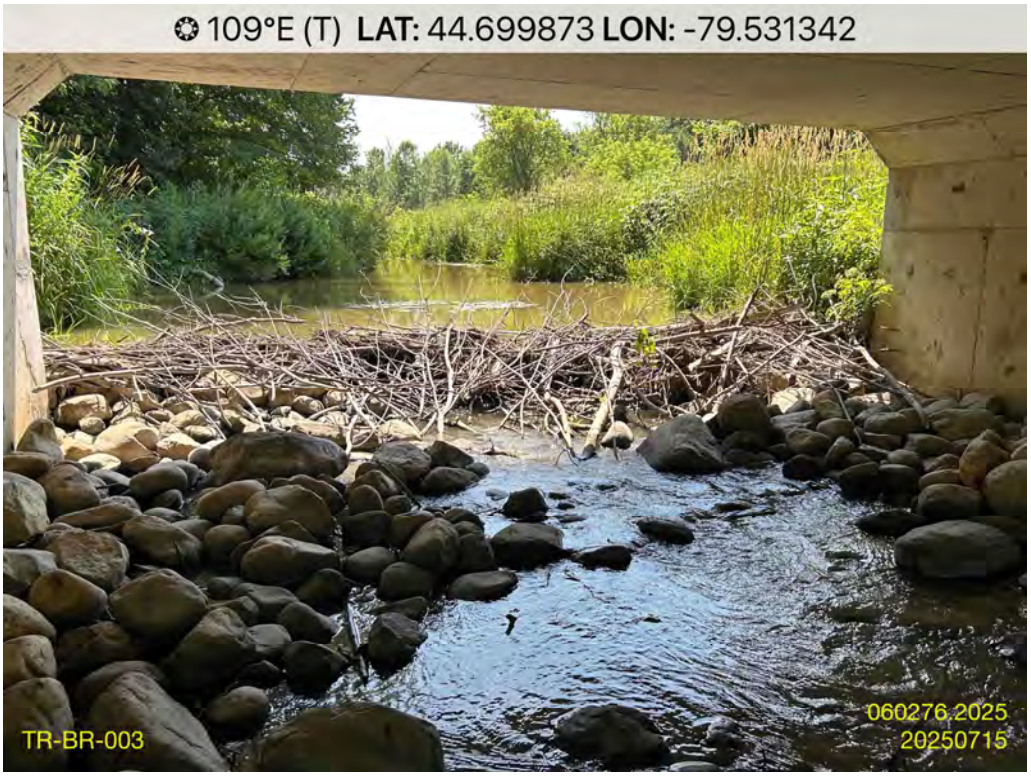
DECK TOP



CULVERT BARREL

CULVERT BARREL - BUGHOLES

CULVERT OUTLET



STREAM – BEAVER DAM AT INLET

Ontario Structure Inspection Manual - Inspection Form

Site Number: TR-BR-004
MTO Site Number: N/A

Inventory Data:

Structure Name	Uhthoff Trail Bridge 004 (North River Bridge)										
Main Hwy/Road #	Uhthoff Trail System (The Great Trail)	On	X	Crossing Type:	Navig. Water		Non-Navig.		Ped.	X	
		Under			Rail		Road		Other		
Structure Location	Uhthoff Trail Mile 22.12 (Access via Burnside Line, South of Cambrian Rd. - Head South 1.8km)										
Latitude	44.68028146			Longitude	-79.47426868						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central Region			Posted Speed			No. of Lanes				
Old County	Simcoe			AADT			% Trucks				
Geographic Twp.	Township of Severn			Inspection Route Sequence							
Structure Type	Steel I-Girder (Concrete Deck)			Interchange Number							
Total Deck Length	13.1 m			Interchange Structure Number							
Overall Str. Width	4 m			Min. Vertical Clearance		m					
Total Deck Area	52.4 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	4 m (btwn tops of slopes)										
Roadway Width	3.2 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure							
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	12.5 m			Height (streambed to structure top)	4 m						

Historical Data:

Year Built	○ Known ◉ Estimated ○ Unknown	1910	Last Evaluation	
Last Biennial Inspection		2019	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
Converted to Trail Bridge in 1994			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	T. Wright		
Others in Party:	N. Op't Hoog		
Equipment Used:	Camera, Tape Measure, Hammer		
Weather:	Sunny		
Temperature:	25C		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☑ 1 to 5 years	☐ 6 to 10 years	☐ >10 years
Overall Comments:	Minor Rehabilitation is recommended within 5 years. Maintenance work recommended.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

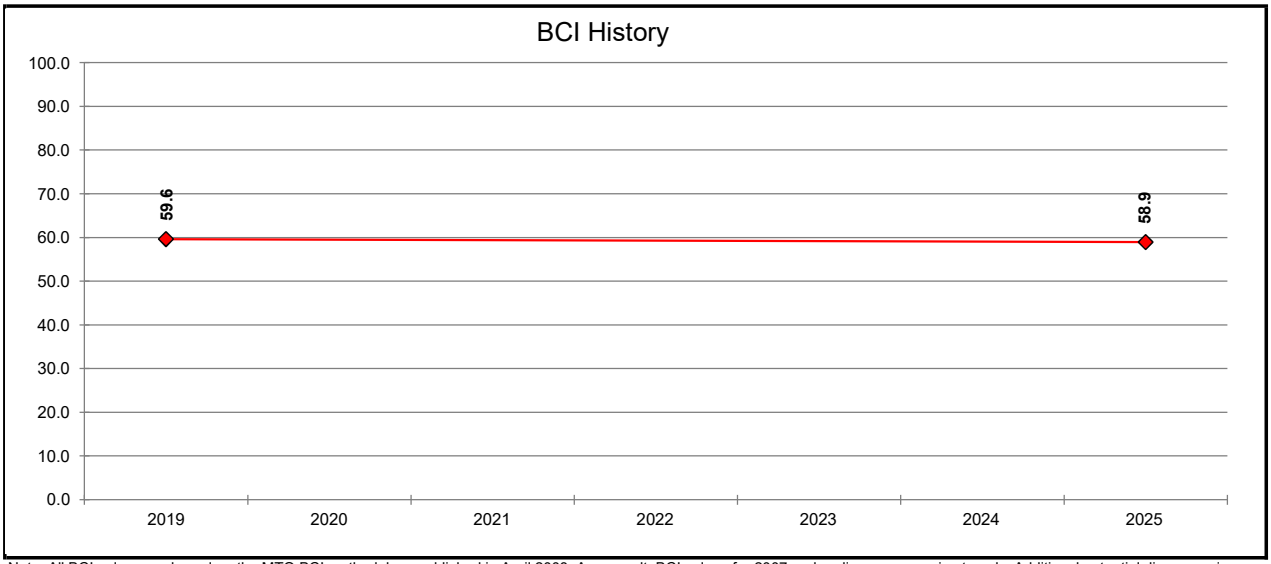
Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	58.9	T. Wright	
2019	59.6	A. Dawson, P.Eng.	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	1.8 m			
Element Name:	Approach Slabs		Width:	4 m			
Location:	Each End		Height:	m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	14.4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		13.4	0.5	0.5	Element BCI	71.2
Comments:	Light scaling / abrasion. Narrow to medium cracking; Disintegration of concrete at corners adjacent to joint.						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Decks		Length:	13.1 m			
Element Name:	Deck Top		Width:	4 m			
Location:	Between Deck End Joints		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	CIP Concrete on Supports		Total Quantity:	52.4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		26.2	13.1	13.1	Element BCI	47.5
Comments:	0.5 m wide strip along each side of the deck is fully deteriorated, likely due to granular buildup and vegetation retaining moisture. Light to medium abrasion along center						
Recommended Work:	Rehab ☐ Replace ☑		**Maintenance Needs:**			02	
	1-5 Years ☑ 6-10 Years ☐		☐ Urgent ☑ 1 Year ☐ 2 Year				
Remove debris and vegetation growning on deck.			Maintenance Needs: Bridge Cleaning				
			Performance Deficiencies: None				

Element Group:	Barriers		Length:	18.7 m			
Element Name:	Railing System		Width:	m			
Location:	Both sides, includes approaches		Height:	1.05 m			
Material:	Wood		Count:	2			
Element Type:	Wood Rails on Steel Posts		Total Quantity:	37.4 m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		34.5	2.9		Element BCI	72.3
Comments:	Moderate weathering of railings; light to moderate splits and checks in railings						
Recommended Work:	Rehab ☑ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Joints		Length:	4 m			
Element Name:	Armouring/Retaining Device		Width:	m			
Location:	Deck Ends		Height:	m			
Material:	Steel		Count:	2			
Element Type:	Other		Total Quantity:	8 m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		6	2		Element BCI	66.3

Comments: Steel plate armouring on deck side only. Light surface corrosion and abrasion over 1m wide section near centreline (due to snowmobiles)

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clear debris accumulating in joint.		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Element Group:	Abutments		Length:	2.4 m			
Element Name:	Wingwalls		Width:	m			
Location:	4 Corners		Height:	2.55 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:	Reinforced Concrete		Total Quantity:	24.48 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9.31	8	7.17	Element BCI	41.6

Comments: Severe spalling and delamination; construction joints; severe disintegration / spalling / delamination on NW; Medium to wide cracking.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
Concrete repairs		Maintenance Needs: None Performance Deficiencies: None	

Element Group:	Abutments		Length:	4.9 m			
Element Name:	Abutment Walls		Width:	0.75 m			
Location:	South Abutment		Height:	1.55 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Gravity Wall		Total Quantity:	11.27 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		2.67	5.05	3.55	Element BCI	44.1

Comments: Severe spalling and delamination on SW corner. 2 m wide crack with delamination adjacent; Delamination at base of wall (3 m x 0.3m); Debris buildup on bearing seat. Pattern cracking with efflorescence staining.

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
Clean debris from bearing seats; Concrete repairs		Maintenance Needs: Bridge Cleaning Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	4.9 m			
Element Name:	Ballast Walls		Width:	m			
Location:	South		Height:	1.5 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Other		Total Quantity:	7.35 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.65	1.5	0.2	Element BCI	57.1

Comments: Narrow to medium cracks with efflorescence stains. Small spalls

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	4.9 m			
Element Name:	Abutment Walls		Width:	0.75 m			
Location:	North Wall		Height:	2.8 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Gravity Wall		Total Quantity:	17.4 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		9.9	3	4.5	Element BCI	44.1

Comments: Spall and delamination on NW; Narrow to wide cracks with efflorescence staining; Spall below girders; spall/delamination on NE corner; Wall disintegrating adjacent to NW wingwall; Debris on bearing seat

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	02
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Concrete repairs; Clean debris from bearing seat		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	4.9 m			
Location:	North		Height:	1.5 m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:	Other		Total Quantity:	7.35 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		3.95	1.5	1.9	Element BCI	57.1

Comments: Narrow to wide cracking with moisture staining; Delamination / seperation on NW

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:	Both Ends		Height:	m			
Material:	Steel		Count:				
Element Type:	Plate		Total Quantity:	4 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Girder sits on doubled up steel bearing plates. No elastomers visible. South end is fixed. Lack of elastomer may restrict expansion/contraction.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	13.1 m			
Element Name:	Soffit - Thin Slab - Int		Width:	2.75 m			
Location:	Entire Length, Between girders		Height:	m			
Material:	Corrugated Steel		Count:	1			
Element Type:	Orthotropic Concrete Deck System		Total Quantity:	36.03 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		29.53	6.5		Element BCI	68.7

Comments: Quantity includes portion between girders only, not cantilever; Efflorescence and stalactite between panel joints. Light to moderate surface corrosion with no section loss at panel joints.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	13.1 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	0.6 m			
Location:	Entire Length, cantilevers & fascia		Height:	0.1 m			
Material:	Corrugated Steel		Count:	2			
Element Type:	Orthotropic Concrete Deck System		Total Quantity:	18.34 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		18.14	0.1	0.1	Element BCI	74.4

Comments: Steel deck pan panels on soffit beyond exterior girders and steel angle fascia; mositure penetration through soffit/fascia joint; Crack in weld and seperation on NW

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	4.3 m			
Element Name:	Floor Beams		Width:	0.05 m			
Location:	Transverse Back to Back Channels		Height:	0.15 m			
Material:	Steel		Count:	18			
Element Type:	Channel		Total Quantity:	34.83 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:	Hot Dip Galvanizing					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		34.83			Element BCI	75.0
Comments:	Interior portions in good to excellent condition; Moderate surface corrosion on exterior portions, but no section loss identified						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	13 m			
Element Name:	Girders - Middle		Width:	0.38 m			
Location:	Entire Length		Height:	1.49 m			
Material:	Steel		Count:	2			
Element Type:	I-Beam or Girders		Total Quantity:	107.12 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		107.12			Element BCI	75.0
Comments:	Riveted construction; All coating has disintegrated, but no section loss identified; Severe surface rusting						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Girders		Length:	m			
Element Name:	Diaphragms - Middle		Width:	m			
Location:	All Diaphragms, including ends		Height:	m			
Material:	Steel		Count:	5			
Element Type:	Other		Total Quantity:	5 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		5			Element BCI	75.0
Comments:	X-bracing; All coating disintegrated; Severe surface corrosion but no section loss identified						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Coating		Length:	13 m			
Element Name:	Coat - Structural Steel - Total		Width:	0.38 m			
Location:	Girders		Height:	1.48 m			
Material:	Other		Count:	2			
Element Type:	Red Lead Primer/Alkyd		Total Quantity:	107.12 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m				107.12	Element BCI	0.0

Comments: All coating fully disintegrated exposing steel; severe surface rusting

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Re-coat girders		Performance Deficiencies: None	

Element Group:	Bracing		Length:	m			
Element Name:	Bracings		Width:	m			
Location:	Lateral Bracing		Height:	m			
Material:	Steel		Count:	4			
Element Type:	Other		Total Quantity:	4 Each			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Diagonal lateral bracing of bottom flanges; No more coating; Severe surface corrosion but no section loss identified

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	4 corners		Height:	m			
Material:			Count:	4			
Element Type:	Vegetation		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments: Steep but well vegetated and appears stable

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments: Flows west to east

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-BR-004
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove all vegetation and debirs from deck, joint, abutment walls.	$1,500.00
	Total Maintenance Needs Costs	**$1,500.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Type A concrete repairs to approach slabs, deck top,		x			$18,000.00
Type C concrete repairs to abutment walls, ballast walls, wingwalls,		x			$65,000.00
Waterproof and pave.		x			$25,000.00
General Items - Insurance, Mobilization, Access etc.		x			$150,000.00
				Rehabilitation Cost Subtotal	**$258,000.00**

Estimated Value of Replacement Structure	**$600,000.00**

Associated Work:	**Comments**	**Rehabilitation:**	**Replacement:**
Approaches			
Detours			
Traffic Control		$5,000.00	$5,000.00
Utilities			
Right of Way			
Environmental			
Other			
	Total Associated Work Costs	**$5,000.00**	**$5,000.00**

Capital Works Costs:	Notes:	**Rehabilitation:**	**Replacement:**
Rehab / Replacement Works:		$263,000.00	$605,000.00
Roadside Protection:		$0.00	$0.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	$27,000.00	$61,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	$2,500.00	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	$27,000.00	$61,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	$22,000.00	$31,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**$341,500.00**	**$793,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		**Years to**	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	5.0	9.5

Recommendation:	Minor Rehabilitation is recommended within 5 years.

Justification:	**Current BCI**	**58.9**
Trail Bridge 004 is generally in fair condition, with concrete deterioration noted on the deck top and substructure, while the structural steel members remain in good condition. A rehabilitation is recommended within 5 years to address the deck and abutments.		

208°SW (T) LAT: 44.680376 LON: -79.474215
TR-BR-004
060276.2025
20250716

ELEVATION

DECK TOP – GRAVEL BUILD UP

BARRIER

APPROACH WEARING SURFACE

DECK JOINT

GIRDERS

GIRDERS

GIRDERS & DIAPHRAGMS & BRACING – LIGHT CORROSION

BEARING PLATES

ABUTMENT WALL

WINGWALL – EFFLORESCENCE & WIDE CRACK

Ontario Structure Inspection Manual - Inspection Form

Site Number: TR-CULV-001
MTO Site Number: N/A

Inventory Data:

Structure Name	Uhthoff Trail Culvert 001										
Main Hwy/Road #	Trans Canada / Uhthoff Trail	On	X	Crossing Type:	Navig. Water		Non-Navig.		Ped.	X	
		Under			Rail		Road		Other		
Structure Location	Trans Canada / Uhthoff Trail, 2.5 km NW of Division Road E trail access										
Latitude	44.66795021			Longitude	-79.45667813						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed			No. of Lanes				
Old County	Simcoe			AADT			% Trucks				
Geographic Twp.	Township of Severn			Inspection Route Sequence							
Structure Type	Steel I-Girder (Timber Deck)			Interchange Number							
Total Deck Length	16.8 m			Interchange Structure Number							
Overall Str. Width	4.5 m			Min. Vertical Clearance		m					
Total Deck Area	75.6 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	4 m (btwn tops of slopes)										
Roadway Width	3.75 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	16.5 m			Height (streambed to structure top)	4.5 m						

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	2019	Last Evaluation	
Last Biennial Inspection		2018	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year	2019
Structure replacement in 2019		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	Tanner Wright		
Others in Party:	Noah Opt'Hoog		
Equipment Used:	Digital camera, measure, hammer.		
Weather:	Sunny		
Temperature:	31 deg		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:				
Recommended Work on Structure:	☐ None	☑ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ Within 1 year	☐ 1 to 5 years	☐ 6 to 10 years	☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.			
Current Load Limit Posting:	N/A			
Recommended Load Limit Posting:	N/A			
Date of Next Inspection:	2027			

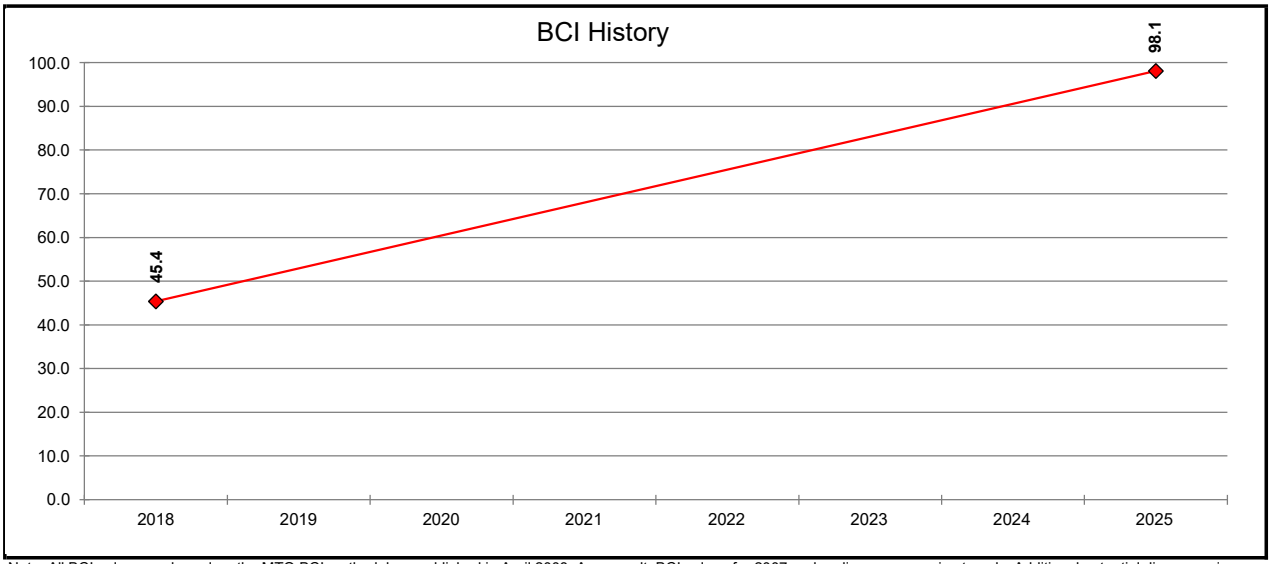
Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	98.1	Tanner Wright	Structure replaced in 2019.
2018	45.4	A. Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	3.75 m			
Location:			Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	45 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Decks		Length:	6 m			
Element Name:	Deck Wearing Surface		Width:	3.75 m			
Location:			Height:	m			
Material:	Wood		Count:	1			
Element Type:	Laminated Wood Decking - Longitud		Total Quantity:	45 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	36	9			Element BCI	95.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Element Group:	Barriers		Length:	22.5 m			
Element Name:	Hand Railings		Width:	m			
Location:	North and South		Height:	1.37 m			
Material:	Aluminum		Count:	2			
Element Type:			Total Quantity:	45 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	36	9			Element BCI	95.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year
		Maintenance Needs: None
		Performance Deficiencies: None

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	22.86 m			
Element Name:	Railing System		Width:	m			
Location:	North and South		Height:	m			
Material:			Count:	2			
Element Type:	Thrie Beam on Steel Post		Total Quantity:	45.72 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	36.576	9.144			Element BCI	95.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	16.8 m			
Element Name:	Deck Top		Width:	4.5 m			
Location:			Height:	m			
Material:	Wood		Count:	1			
Element Type:	Laminated Wood Decking - Transve		Total Quantity:	75.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	60.48	15.12			Element BCI	95.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	3 m			
Element Name:	Wingwalls		Width:	m			
Location:	All Four Quadrants		Height:	0.5 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	6				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	4.5 m			
Location:	North and South		Height:	0.915 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	8.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	8.2				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	4.8 m			
Location:	North and South		Height:	0.8 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	7.5 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	7.5				Element BCI	100.0

Comments: Verify quantity in future biennial inspection (Noted 2025).

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:	North and South		Height:	m			
Material:	Neoprene		Count:				
Element Type:			Total Quantity:	4 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	16.8 m			
Element Name:	Stringers		Width:	5.8 m			
Location:			Height:	m			
Material:	Wood		Count:	448			
Element Type:			Total Quantity:	448 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	448				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.23 m			
Location:	North and South		Height:	0.617 m			
Material:	Steel		Count:	4			
Element Type:	I-Beam or Girders		Total Quantity:	7.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	7.6				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	14.5 m			
Element Name:	Girders - Middle		Width:	0.23 m			
Location:	East and West		Height:	0.617 m			
Material:	Steel		Count:	2			
Element Type:	I-Beam or Girders		Total Quantity:	55.1 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	55.1				Element BCI	100.0

Comments: Bird nests noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:		m		
Element Name:	Diaphragms - End		Width:		m		
Location:			Height:		m		
Material:	Steel		Count:				
Element Type:	Channel		Total Quantity:	7	Each		
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	7				Element BCI	100.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Foundations		Length:		m		
Element Name:	Foundation (below ground level) - Al		Width:		m		
Location:			Height:		m		
Material:			Count:	2			
Element Type:			Total Quantity:	2	All		
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All	2				Element BCI	100.0
Comments:	Based on performance.						
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Element Group:	Embankment and Stream		Length:		m		
Element Name:	Embankments		Width:		m		
Location:	All Quadrants		Height:		m		
Material:			Count:				
Element Type:	Rock Protection		Total Quantity:	4	Each		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0
Comments:							
Recommended Work:	Rehab ☐ Replace ☐		**Maintenance Needs:**				
	1-5 Years ☐ 6-10 Years ☐		☐ Urgent ☐ 1 Year ☐ 2 Year				
			Maintenance Needs: None				
			Performance Deficiencies: None				

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Element Data

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Bracing		Length:	m			
Element Name:	Bracings		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:				
Element Type:	Channel		Total Quantity:	6 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	6				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:			Length:	m			
Element Name:			Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	#N/A			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	#N/A					Element BCI	#N/A

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-001
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
	Total Maintenance Needs Costs	**$0.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
Rehabilitation Cost Subtotal					**$0.00**

Estimated Value of Replacement Structure	**$600,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$5,000.00
Utilities			
Right of Way			
Environmental	Bird nest mitigation (activity observed)		$10,000.00
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$615,000.00
Roadside Protection:		N/A	$0.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$62,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$62,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$31,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$805,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR	Bridge with span less than 4.5m and replacement planned	N/A	40.4

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**98.1**
Uhthoff Trail Culvert 001 was replaced with a Steel I-Girder Timber Deck Bridge in 2019 and is generrally in excellent condition.		

226°SW (T) LAT: 44.668029 LON: -79.456533
TR-CULV-001
060276.2025
20250716

ELEVATION

DECK TOP – GRAVEL TRACKED ON DECK

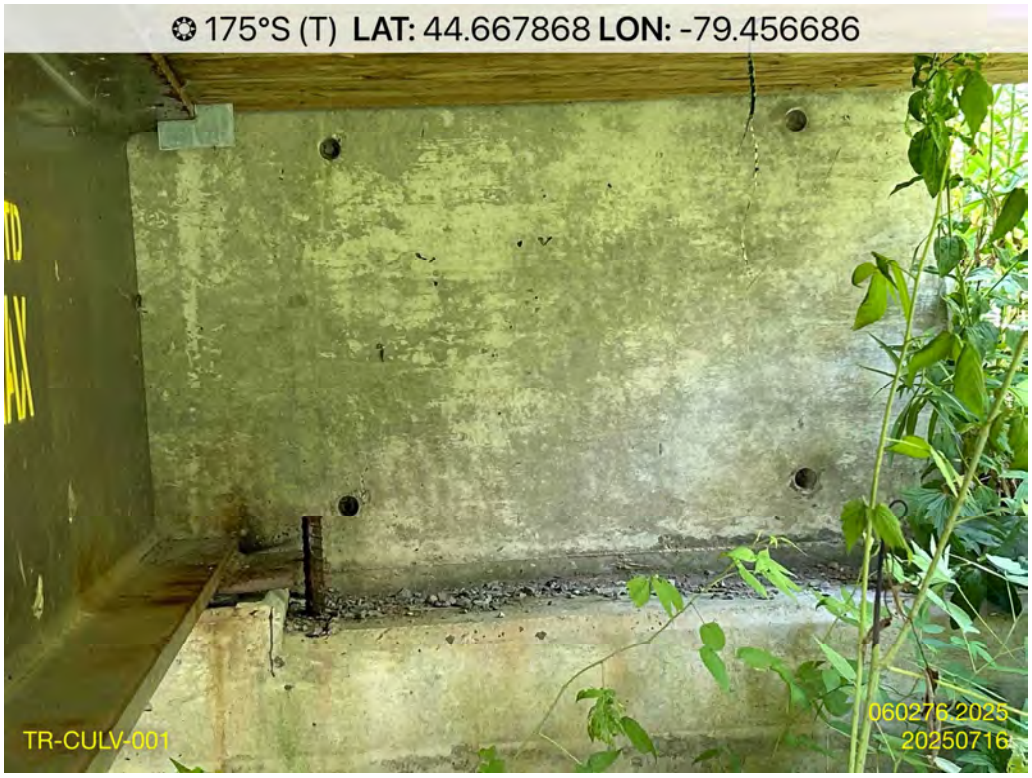
DECK TOP – TRIPPING HAZARD

BARRIER

GIRDERS

DIAPHRAGMS & BRACING

SOFFIT INTERIOR



BALLAST WALL

ABUTMENT WALL

Ontario Structure Inspection Manual - Inspection Form

Site Number: TR-CULV-002
MTO Site Number: N/A

Inventory Data:

Structure Name	Uhthoff Trail Culvert No. 2										
Main Hwy/Road #	Trans Canada / Uhthoff Trail	On	X	Crossing Type:	Navig. Water		Non-Navig.		Ped.	X	
		Under			Rail		Road		Other		
Structure Location	Trans Canada / Uhthoff Trail, 1.1 km NW of Division Road E trail access										
Latitude	44.65886025			Longitude	-79.44506539						
Owners	Township of Severn			Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list		Desig & List				
MTO region	Central			Road Class:	Freeway		Arterial				
					Collector		Local				
MTO District	Central region			Posted Speed			No. of Lanes				
Old County	Simcoe			AADT			% Trucks				
Geographic Twp.	Township of Severn			Inspection Route Sequence							
Structure Type	Steel I-Girder (Timber Deck)			Interchange Number							
Total Deck Length	18.3 m			Interchange Structure Number							
Overall Str. Width	4.5 m			Min. Vertical Clearance		m					
Total Deck Area	82.35 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	4 m (btwn tops of slopes)										
Roadway Width	3.75 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	E-W						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	18 m			Height (streambed to structure top)	5.5 m						

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	2019	Last Evaluation	
Last Biennial Inspection		2018	Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
Structure replaced in 2019.			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Field Inspection Information:			
Date of Inspection:	July 16, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	Tanner Wright		
Others in Party:	Noah Opt'Hoog		
Equipment Used:	Measure, digital camera, hammer.		
Weather:	Sunny		
Temperature:	31 deg		

Additional Investigations Required:	Priority			Estimated Cost
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			$0.00
Non-destructive Delamination Survey of Covered Deck:	X			$0.00
Concrete Substructure Condition Survey:	X			$0.00
Detailed Coating Condition Survey:	X			$0.00
Detailed Timber Investigation:	X			$0.00
Post-Tensioned Strand Investigation:	X			$0.00
Underwater Investigation:	X			$0.00
Fatigue Inspection:	X			$0.00
Enhanced OSIM Inspection:	X			$0.00
Structure Evaluation:	X			$0.00
Other:				
Monitoring of Deformations, Settlements and Movements:	X			$0.00
Monitoring Crack Widths:	X			$0.00
Investigation Notes:				

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☑ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ Within 1 year ☐ 1 to 5 years ☐ 6 to 10 years ☑ >10 years
Overall Comments:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered. Maintenance work recommended.
Current Load Limit Posting:	N/A
Recommended Load Limit Posting:	N/A
Date of Next Inspection:	2027

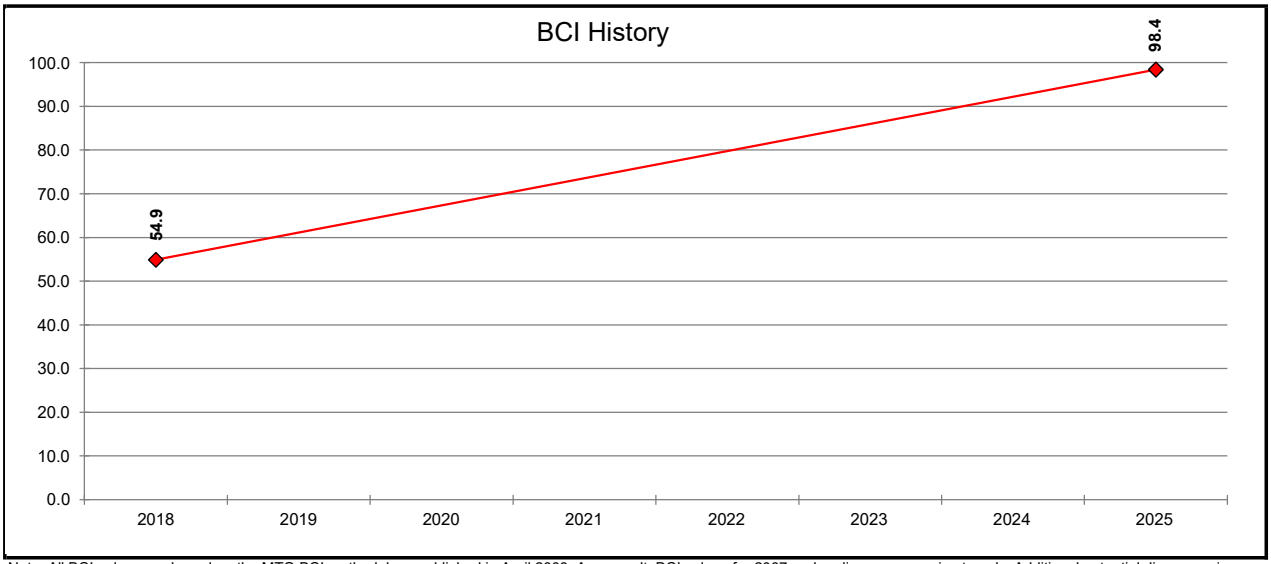
Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	98.4	Tanner Wright	Replaced in 2019
2018	54.9	A. Dawson	

Note: When no justification is given for BCI change above, the change is a result of typical ongoing deterioration with time, load cycles and exposure to the elements



Note: All BCI values are based on the MTO BCI methodology published in April 2008. As a result, BCI values for 2007 and earlier are approximate only. Additional potential discrepancies may also exist as a result from changes over time in the way the quantities for certain elements are calculated.

Standard Codes

Suspected Performance Deficiencies

01 Load Carrying Capacity
02 Excessive Deformations (deflections/rotations)
03 Continuing Settlement
04 Continuing Movements
05 Seized Bearings
06 Bearing not Uniformly Loaded/Unstable
07 Jammed Expansion Joint
08 Pedestrian/Vehicular Hazard
09 Rough Riding Surface
10 Surface Ponding
11 Deck Drainage
12 Slippery Surfaces
13 Flooding/Channel Blockage
14 Undermining of Foundation
15 Unstable Embankments
16 Other

Maintenance Needs

01 Lift and Swing Bridge Maintenance
02 Bridge Cleaning
03 Bridge Handrail Maintenance
04 Painting Steel Bridge Structures
05 Bridge Deck Joint Repair
06 Bridge Bearing Maintenance
07 Repair to Structural Steel
08 Repair to Bridge Concrete
09 Repair of Bridge Timber
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15 Rout and Seal
16 Bridge Deck Drainage
17 Hazard Warning Signs
18 Other

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Element Data

Element Group:	Approach		Length:	6 m			
Element Name:	Approach Wearing Surface		Width:	3.75 m			
Location:	North and South		Height:	m			
Material:	Gravel		Count:	2			
Element Type:			Total Quantity:	45 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		45			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	18.3 m			
Element Name:	Deck Wearing Surface		Width:	3.75 m			
Location:			Height:	m			
Material:	Wood		Count:	1			
Element Type:			Total Quantity:	68.6 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	54.88	13.72			Element BCI	95.0

Comments: Gravel tracked onto deck.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	02	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year		
Remove tracked gravel from timber deck.		Maintenance Needs: Bridge Cleaning		
		Performance Deficiencies: None		

Element Group:	Barriers		Length:	24 m			
Element Name:	Hand Railings		Width:	m			
Location:	North and South		Height:	1.37 m			
Material:	Steel		Count:	2			
Element Type:	Single Railing		Total Quantity:	48 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	38.4	9.6			Element BCI	95.0

Comments: Missing nuts from endposts at abutment.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	18	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year		
Add missing nuts to secture posts.		Maintenance Needs: Other		
		Performance Deficiencies: None		

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Element Data

Element Group:	Barriers		Length:	22.9 m			
Element Name:	Railing System		Width:	m			
Location:			Height:	m			
Material:	Steel		Count:	2			
Element Type:	Thrie Beam on Steel Post		Total Quantity:	45.8 m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m	36.64	9.16			Element BCI	95.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	18.3 m			
Element Name:	Stringers		Width:	4.5 m			
Location:	Under wearing surface		Height:	m			
Material:	Wood		Count:	488			
Element Type:	Laminated Wood Decking - Transve		Total Quantity:	488 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	390	98			Element BCI	95.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	3 m			
Element Name:	Wingwalls		Width:	m			
Location:	All Four Quadrants		Height:	0.5 m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	6				Element BCI	100.0

Comments: Verify measurements in future biennial inspection (noted 2025).

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Element Data

Element Group:	Abutments		Length:	m			
Element Name:	Abutment Walls		Width:	4.8 m			
Location:	North and South		Height:	0.8 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	7.68 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	7.68				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	Ballast Walls		Width:	4.5 m			
Location:	North and South		Height:	0.915 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	8.2 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	8.2				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Abutments		Length:	m			
Element Name:	A. Bearings		Width:	m			
Location:	North and South		Height:	m			
Material:	Neoprene		Count:				
Element Type:			Total Quantity:	4 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	4				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Element Data

Element Group:	Girders		Length:	1 m			
Element Name:	Girders - Ends		Width:	0.23 m			
Location:	East and West		Height:	0.617 m			
Material:	Steel		Count:	4			
Element Type:	I-Beam or Girders		Total Quantity:	7.6 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	7.6				Element BCI	100.0

Comments: Qty does not include SA of top flange.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	16 m			
Element Name:	Girders - Middle		Width:	0.23 m			
Location:	East and West		Height:	0.617 m			
Material:			Count:	2			
Element Type:			Total Quantity:	61 Sq.m			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	61				Element BCI	100.0

Comments: Qty does not include SA of top flange. Bird nests noted.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Girders		Length:	2.1 m			
Element Name:	Diaphragms - End		Width:	0.06 m			
Location:	North and South		Height:	0.2 m			
Material:	Steel		Count:	7			
Element Type:	Channel		Total Quantity:	7 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	7				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Element Data

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Abut		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All					Element BCI	

Comments:

Recommended Work:	Rehab ☐ Replace ☑	**Maintenance Needs:**	
	1-5 Years ☑ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Embankments		Width:	m			
Location:	All Quadrants		Height:	m			
Material:			Count:				
Element Type:	Rock Protection		Total Quantity:	4 Each			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		4			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:	1			
Element Type:			Total Quantity:	1 All			
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1			Element BCI	75.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Element Data

Element Group:	Decks		Length:	18.3 m			
Element Name:	Soffit - Thin Slab - Int		Width:	2.1 m			
Location:			Height:	m			
Material:	Wood		Count:	1			
Element Type:	Laminated Wood Decking - Transverse		Total Quantity:	38.4 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	38.4				Element BCI	100.0

Comments: Qty of transverse decking between girders only

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Decks		Length:	18.3 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	1.07 m			
Location:			Height:	0.184 m			
Material:			Count:	2			
Element Type:			Total Quantity:	45.9 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m	45.9				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Element Group:	Bracing		Length:	m			
Element Name:	Bracings		Width:	m			
Location:	Angle Brace		Height:	m			
Material:	Steel		Count:				
Element Type:	Channel		Total Quantity:	6 Each			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	6				Element BCI	100.0

Comments:

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	TR-CULV-002
MTO Site Number:	N/A

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove gravel tracked onto Timber deck.	$500.00
Other	Add missing hardware to barrier posts.	$500.00
	Total Maintenance Needs Costs	**$1,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:		

The above are the current roadside protection needs at the time of inspection; however, the recommended work at the time of future capital works (Rehab / Replacement) may differ than the current needs

Repair and Rehabilitation Required: Element-Repair and Rehabilitation Required	6 to 10 years	1 to 5 years	Within 1 year	Urgent	Estimated Construction Cost
			Rehabilitation Cost Subtotal		**$0.00**

Estimated Value of Replacement Structure	**$650,000.00**

Associated Work:	Comments	Rehabilitation:	Replacement:
Approaches			
Detours			
Traffic Control			$5,000.00
Utilities			
Right of Way			
Environmental	Bird nest mitigaton (activity observed).		$10,000.00
Other			
	Total Associated Work Costs	**$0.00**	**$15,000.00**

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$665,000.00
Roadside Protection:		N/A	$0.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$67,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$67,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$34,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$868,000.00**

NOTE 1: Engineering Design Costs calculated using [(Rehab / Replacement Works) x (10% of first $1M + 5% of cost above $1M)] + [(Roadside Protection + Staging Costs) x 5%]

NOTE 2: Costs shown do not include property acquisition or roadwork beyond the end of the bridge.

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	33.4	43.4

Recommendation:	No Capital Works estimated to be required within 10 years. Future structure rehabilitation should be considered.

Justification:	**Current BCI**	**98.4**
Uhthoff Trail Culvert No. 2 was replaced with a Steel I-Girder Timber Deck Bridge in 2019 and is generally in excellent condition.		

48°NE (T) LAT: 44.658850 LON: -79.445087
TR-CULV-002
060276.2025
20250716

ELEVATION

APPROACH WEARING SURFACE

DECK TOP

DECK TOP – TRIPPING HAZARD FROM DECK BOARD

BARRIER

BARRIER – MISSING NUT ON BASE PLATE

WINGWALL

BALLAST WALL

GIRDERS

DIAPHRAGMS

BRACING

SOFFIT INTERIOR

STREAM

R.J. Burnside & Associates Limited