2025 OSIM Bridge Inspections Report

Township of Amaranth
374028 6th Line
Amaranth, ON L9W 0M6

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374028 6th Line
Amaranth, ON L9W 0M6

R.J. Burnside & Associates Limited
15 Townline
Orangeville ON L9W 3R4 CANADA

October 2025
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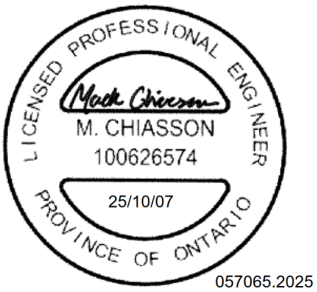
R.J. Burnside & Associates Limited

Report Prepared By:



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Executive Summary

R.J. Burnside & Associates Limited (Burnside) was engaged by the Township of Amaranth to undertake the inspection of 38 bridge and culvert structures in 2025. In 2023 it was noted the Township had a structure inventory of 43 bridges and culverts. Structure 15 is closed to through traffic and Structure 28 was never found. Structures 37, 39, and 40 all have spans less than 3.0 m. In 2025, the full OSIM inspection and calculation of the Bridge Condition Index (BCI) was completed for all the Township's structures with a span of 3.0 m or greater. 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, and one-time costs such as placing rip-rap in washouts on slopes adjacent to bridge wingwalls. The total estimated value of the work to be completed by the Township is **$44,750**. We recommend that the Township review the identified maintenance needs and consider including a general allowance in their annual maintenance budget for the recurring costs and complete the one-time maintenance needs as budget allows.

Additional studies, investigations and monitoring programs, as summarized in the report, are recommended to structures currently demonstrating severe material defects or performance deficiencies which may necessitate an inspector to require more detailed information. These investigations have been identified based on a "normal" or "urgent" priority.

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	$4,991,000.00
1 – 5 years	$1,691,000.00
6 – 10 years	$5,931,000.00
TOTAL	**$12,613,000.00**

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, three (3) structures have been identified for replacement. Within the next 1 to 5 years, two (2) structures have been identified as requiring rehabilitation and one (1) structure has been identified for replacement.

Current roadside safety needs include costs for new/replacement guide rail and/or end treatments at structure locations as required or an investigation where the need for a guide rail system was not evident based on high level review. The total estimated cost for current roadside safety needs is **$462,500.00**.

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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Disclaimer

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been engaged by the Township of Amaranth to undertake the inspection of 38 bridge and culvert structures over the span of 3.0 m. All of 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.

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.).

The inspections have been completed in accordance with the Ministry of Transportation - 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.

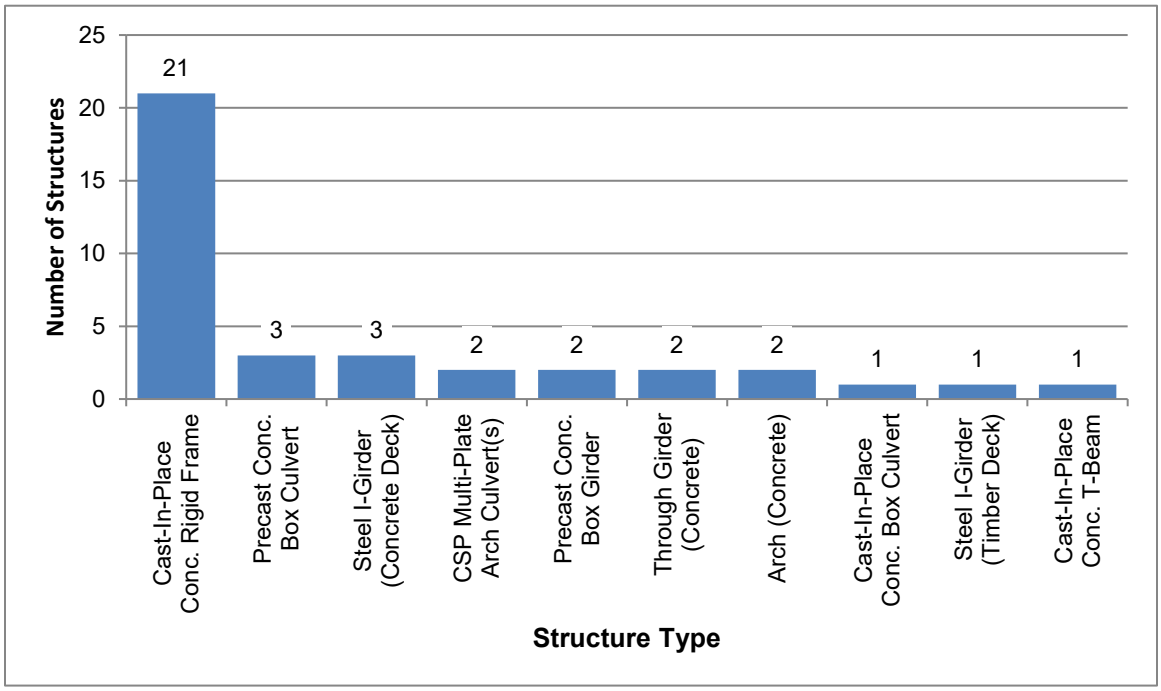
Burnside staff conducted a detailed element by element visual assessment of each bridge/culvert in order to identify any material defects, performance deficiencies and maintenance needs on a structure-by-structure basis. All data collected has been documented on the OSIM forms and provided in digital 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 the previous reports, have contributed to the recommendations provided.

The Township of Amaranth has an inventory of 38 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 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 minimize more serious issues.

The total estimated value of the work to be completed by the Township is approximately **$44,750.00**. 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 (OSIM Structures)

Structure No./Name	Additional Investigation	Reasoning	Estimated Cost
4	Monitoring of Deformations, Settlements and Movements	During Biennial Inspections – To determine if actively progressing	$0.00
10	Monitoring of Deformations, Detailed Deck Condition Survey	During Biennial Inspections – To determine if actively progressing. To determine load capacity of deck	$17,000.00
11	Monitoring of Deformations, Detailed Deck Condition Survey	During Biennial Inspections – To determine if actively progressing. To determine load capacity of deck	$17,000.00
13	Monitoring of Deformations, Settlements and Movements	During Biennial Inspections – To determine if actively progressing	$0.00
20	Monitoring of Deformations, Settlements and Movements	During Biennial Inspections – To determine if actively progressing	$0.00
		Total	**$34,000.00**

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 **$462,500.00**.

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 shall 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.

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 38 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	$4,991,000.00
1 – 5 years	$1,691,000.00
6 – 10 years	$5,931,000.00
TOTAL	**$12,613,000.00**

The total 10-year estimated capital costs, which include the above as well as all other associated costs including maintenance, additional investigations, and roadside protection costs, is $13,154,250.00. 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 load postings for the Township's inventory is provided in Table 3 below.

Table 3: Load Postings

Structure No.	Load Posting (tonnes)	Recommendations
10	16	Detailed Deck Condition Survey to determine load capacity of deck
11	12	Detailed Deck Condition Survey to determine load capacity of deck
12	12	No change
13	14	No change

In accordance with Section 123(2) of the Highway Traffic Act and Regulation 103/97 made under the Act, we recommend that the Township 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 (2) 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 Ministry of Transportation Ontario (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 where BCI information was available.

Figure 2: Bridge Condition Index Distribution (2025)

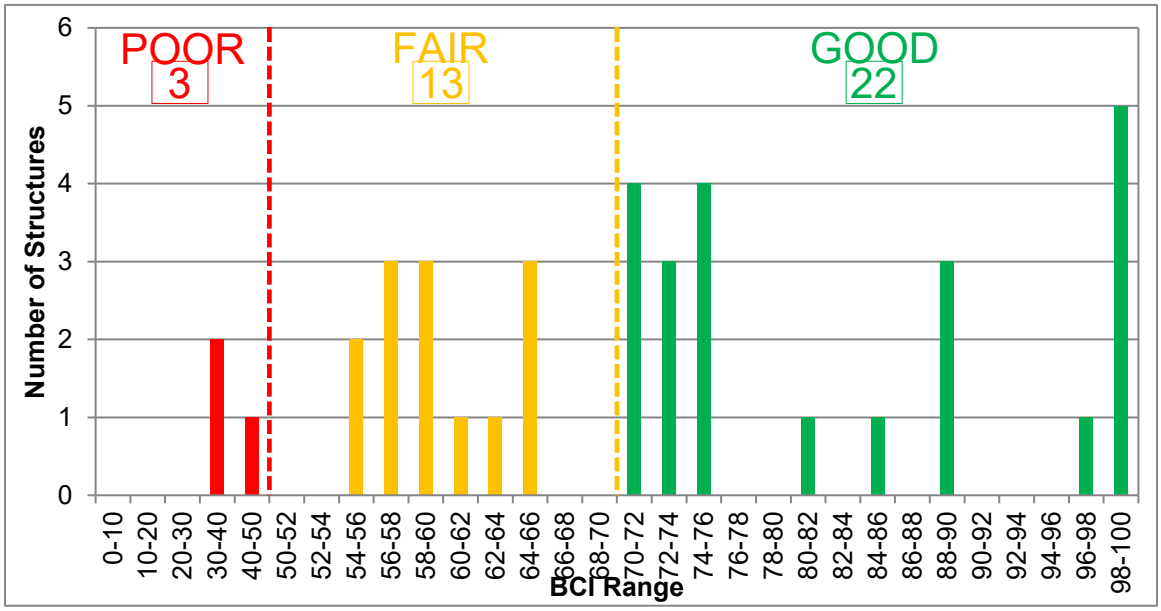
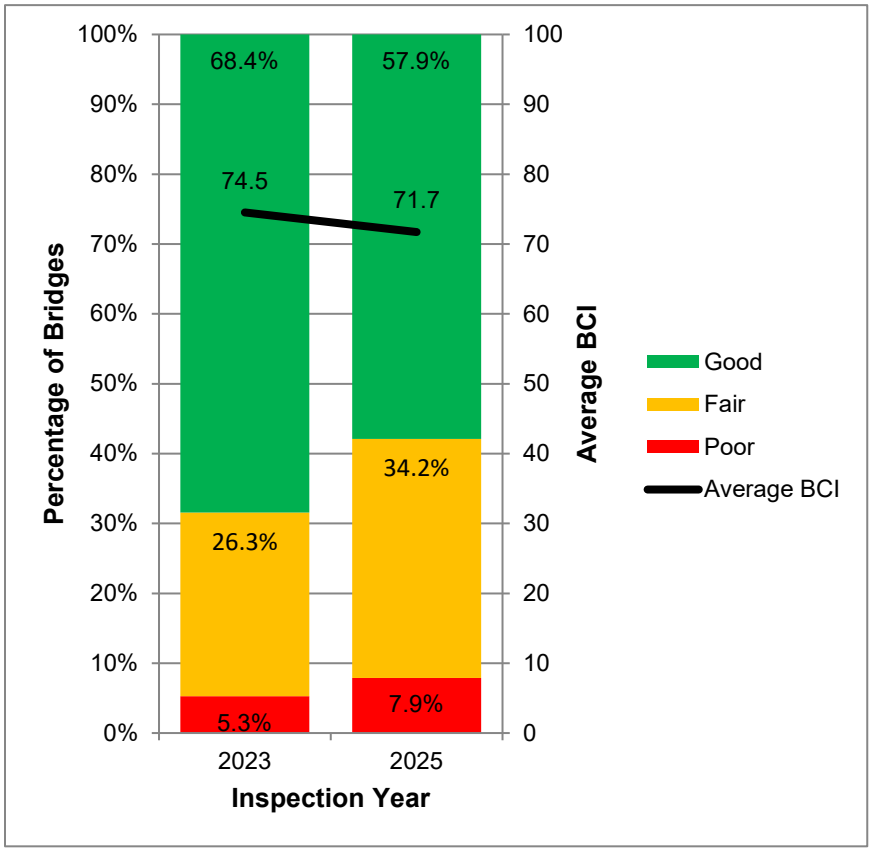


Figure 3: Bridge Condition Index Historical Trend



Currently, only approximately 57.9% of the Municipality's structures are within the "good" range, with 34.2% of the structures classified as "fair" and 7.9% 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 established goal.

The average BCI declined from 2023 to 2025, despite the several capital works projects the Township has recently completed. This is due to the new structures that were added to the Township's inventory in 2025. The recently completed and upcoming capital works projects help to improve the overall BCI of the Township's inventory, which include the following:

- Structure 21 – 9th Line Culvert Replacement (2025)
- Structure 22 – 2nd Line Culvert Replacement (2025)
- Structure 23 – 2nd Line Culvert Replacement (2025)
- Structure 36 – 30th Sideroad Culvert Replacement (2025)

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 10 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 Condition Rating (BCI) (Within 5 Years)

Structure No.	Road Name	Recommended Work	Estimated Cost	Years to Rehabilitation / Replacement
42	30th Sideroad	Replace	$713,000.00	0
10	7th Line	Replace	$2,245,000.00	0
11	15th Sideroad	Replace	$2,033,000.00	0
38	25th Sideroad	Replace	$590,000.00	2
3	8th Line	Rehabilitate	$522,500.00	3
12	6th Line	Rehabilitate	$578,500.00	4
		Total	**$6,682,000.00**	

The structures in the 10-year Capital Plan shown below Table 5, have been ordered for rehabilitation or replacement based on their condition during the latest completed inspection, but also take into account additional factors through recent discussions with Township staff, such as low traffic volume roads, schedule reconstruction projects, close proximity of priority structures, etc. and the Township's estimated **$500,000 - $700,000** annual capital works budget for bridges and culverts. This does not account for any funding assistance the Township is able to secure for these projects.

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

Table 5: 10-Year Capital Plan

Structure No./Name	Road Name	Recommended Work	Estimated Cost
2026			
0010 0011	7th Line 15th Sideroad	Engineering – Detailed Deck Condition Survey	$34,000
0042	30th Sideroad	Engineering – Design (Replacement)	$85,000
2027			
0039*	8th Line	Engineering – Design (Replacement)	$35,000
0040*	9th Line	Engineering – Design (Replacement)	$35,000
0042	30th Sideroad	Construction – Replacement	$630,000
2028			
0010	7th Line	Engineering – Finalize Design/Tender (Replacement)	$15,000
0039*	8th Line	Construction – Replacement	$350,000
0040*	9th Line	Construction – Replacement	$350,000
2029			
0038	Sideroad 25	Engineering – Design (Replacement)	$75,000
0010	7th Line	Construction – Replacement	$2,025,000
2030			
0038	Sideroad 25	Construction – Replacement	$515,000
2031			
0011	15th Sideroad	Engineering – Design (Replacement)	$210,000

Structure No./Name	Road Name	Recommended Work	Estimated Cost
2032			
0012	6th Line	Engineering – Design (Rehabilitation)	$45,000
0003	8th Line	Engineering – Design (Rehabilitation)	$40,000
0011	15th Sideroad	Construction – Replacement	$1,820,000
2033			
0012	6th Line	Construction – Rehabilitation	$500,000
0003	8th Line	Construction – Rehabilitation	$450,000
2034			
0037*	Sideroad 30	Engineering – Design (Replacement)	$25,000
2035			
0037*	Sideroad 30	Construction – Replacement	$200,000
		Total	**$7,439,000**

* Not included in Township's OSIM inventory. Costs taken from 2023 inspection.

Note: The Township has requested that Structure 0015 be omitted from the 10-year Capital Plan for the time being as they are currently closed to through traffic.

Structures 0010 and 0011 replacement may need to be moved up the 10-year priority depending on the results of the detailed deck condition surveys.

The cost estimates above do not include utility relocation work or property acquisition.

6.0 Summary

The 2025 OSIM inspections were carried out by Burnside on behalf of the Township of Amaranth 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

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Appendix A

Summary Reports

1.1 Structure No. 1

Structure Name:	Structure 1	**2025 BCI =89.06**	
Road Name:	6th Line		
Location:	Concessions 5 & 6, Lot 1		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	1	Span Lengths:	12.4 m
Overall Structure Width:	9.95 m	Roadway Width:	7 m
Year of Construction:	2007	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	28.1	38.1

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

Justification:
Structure 01 is generally in excellent condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 1 (Continued)	2025 BCI = 89.06

Maintenance Need	Element and Comments	Estimated Cost
Handrail Maintenance	Replace missing end cap SE	$250.00
		$0.00
		$0.00
		$0.00
	Maintenance Needs Total	**$250.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Install proper end treatments	$40,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and pave	N/A	$25,000.00
Replace deck end joints	N/A	$100,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$25,000.00
	Rehabilitation Cost Subtotal	**$150,000.00**

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:	$165,000.00	$1,315,000.00
Roadside Protection:	$40,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$21,000.00	$121,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$121,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$66,000.00
Total Capital Work Cost	**$268,500.00**	**$1,758,000.00**

1.2 Structure No. 2

Structure Name:	Structure 2	**2025 BCI =100**	
Road Name:	7th Line		
Location:	Concession 6 & 7, Lot 3		
Structure Type:	Steel I-Girder (Timber Deck)		
Number of Spans:	1	Span Lengths:	16.4 m
Overall Structure Width:	8 m	Roadway Width:	8 m
Year of Construction:	2022	Current Load Limit:	N/A

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

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

Justification:
Structure 02 was replaced in 2022 and is in excellent condition.

Structure No. 2 (Continued)	2025 BCI = 100

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

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

1.3 Structure No. 3

Structure Name:	Structure 3	**2025 BCI =63.03**	
Road Name:	8th Line		
Location:	Concessions 7 & 8, Lot 3		
Structure Type:	Cast-In-Place Concrete T-Beam		
Number of Spans:	1	Span Lengths:	9.25 m
Overall Structure Width:	7 m	Roadway Width:	6 m
Year of Construction:	1920 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	3.0	13.0

Recommendation:	**Major Rehabilitation is recommended within 3 years.**

Justification:
Structure 03 is generally in fair condition with some moderate spalling and disintegration of concrete throughout.

Structure No. 3 (Continued)	2025 BCI = 63.03

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Install rock protection along north abutment and wingwalls	$2,500.00
	Maintenance Needs Total	**$2,500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during rehabilitation/replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top,	1 to 5 years	$20,000.00
Type B concrete repairs to Girders, soffit,	1 to 5 years	$30,000.00
Type C concrete repairs to abutment walls, wingwalls,	1 to 5 years	$5,000.00
Widen deck platform (cantilever)	1 to 5 years	$60,000.00
Install side mounted barrier and approach guide rail	1 to 5 years	$95,000.00
Waterproof and pave	1 to 5 years	$35,000.00
Add slope stabilization	1 to 5 years	$5,000.00
General Items - Insurance, Mobilization, Access etc.	1 to 5 years	$140,000.00
	Rehabilitation Cost Subtotal	**$390,000.00**

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 -	$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:	$405,000.00	$1,115,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$41,000.00	$111,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$41,000.00	$111,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$33,000.00	$56,000.00
Total Capital Work Cost	**$522,500.00**	**$1,528,000.00**

1.4 Structure No. 4

Structure Name:	Structure 4	**2025 BCI =71**	
Road Name:	9th Line		
Location:	Concessions 8 & 9, Lot 3		
Structure Type:	CSP Multi-Plate Arch Culvert(s)		
Number of Spans:	1	Span Lengths:	10.5 m
Overall Structure Width:	19 m	Roadway Width:	7 m
Year of Construction:	1995	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	15.6

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

Justification:
Structure 04 is generally in good to fair condition with only minor defects noted.

Structure No. 4 (Continued)	2025 BCI = 71

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

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

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

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$1,100,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$110,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$110,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$55,000.00
Total Capital Work Cost	**N/A**	**$1,510,000.00**

1.5 Structure No. 5

Structure Name:	Structure 5	**2025 BCI =74.4**	
Road Name:	10th Line		
Location:	Concession 9 & 10, Lot 4		
Structure Type:	Precast Concrete Box Girder		
Number of Spans:	2	Span Lengths:	20.8, 20.8 m
Overall Structure Width:	10.8 m	Roadway Width:	8 m
Year of Construction:	1980	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 05 is generally in good condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 5 (Continued)	2025 BCI = 74.4

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Flush joints and remove vegetation in close proximity to structure	$2,500.00
Handrail Maintenance	Replace missing end caps	$250.00
	Maintenance Needs Total	**$2,750.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate Need for Replacing with Longer Guide Rail	$500.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and pave	N/A	$55,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$15,000.00
Modify/Replace Expansion Joint	N/A	$100,000.00
	Rehabilitation Cost Subtotal	**$170,000.00**

Estimate Value of Replacement Structure	$3,100,000.00

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:	$170,000.00	$3,100,000.00
Roadside Protection:	$500.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$18,000.00	$210,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$210,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$155,000.00
Total Capital Work Cost	**$231,000.00**	**$3,810,000.00**

1.6 Structure No. 6

Structure Name:	Structure 6	**2025 BCI =74.83**	
Road Name:	10th Line		
Location:	Concessions 9 & 10, Lot 4		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	3	Span Lengths:	20.5, 28.1, 20.5 m
Overall Structure Width:	10.6 m	Roadway Width:	7 m
Year of Construction:	1968	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	9.3	19.4

Recommendation:	**Minor Rehabilitation is recommended within 9 years.**

Justification:
Structure 06 is generally in good condition with only minor defects noted.

Structure No. 6 (Continued)	2025 BCI = 74.83

Maintenance Need	Element and Comments	Estimated Cost
Other	Tighten loose end treatment cables	$250.00
	Maintenance Needs Total	**$250.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

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

Estimate Value of Replacement Structure	$5,100,000.00

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	$5,100,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$310,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$300,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$255,000.00
Total Capital Work Cost	**N/A**	**$6,100,000.00**

1.7 Structure No. 7

Structure Name:	Structure 7	**2025 BCI =74.48**	
Road Name:	5th Sideroad		
Location:	Concession 9, Lots 5 & 6		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	19.5 m
Overall Structure Width:	9.4 m	Roadway Width:	7 m
Year of Construction:	1991	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	14.5	24.5

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

Justification:
Structure 07 is generally in good condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 7 (Continued)	2025 BCI = 74.48

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top	$1,000.00
Other	Replace joint sealant in parapet walls	$1,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Install proper guide rail end treatments	$40,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and pave	N/A	$30,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$15,000.00
	Rehabilitation Cost Subtotal	**$45,000.00**

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 -	$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:	$45,000.00	$1,500,000.00
Roadside Protection:	$40,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$9,000.00	$130,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$130,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$75,000.00
Total Capital Work Cost	**$136,500.00**	**$1,970,000.00**

1.8 Structure No. 8

Structure Name:	Structure 8	**2025 BCI =73.92**	
Road Name:	9th Line		
Location:	Concessions 8 & 9, Lot 6		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	18 m
Overall Structure Width:	9.35 m	Roadway Width:	7 m
Year of Construction:	1993	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	13.9	23.9

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

Justification:

Structure 08 is generally in good condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 8 (Continued)	2025 BCI = 73.92

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top,	$1,000.00
Other	Replace joint sealant in parapet walls	$1,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Install proper guide rail end treatment and structure connections	$60,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and pave	N/A	$30,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$15,000.00
	Rehabilitation Cost Subtotal	**$45,000.00**

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 -	$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:	$60,000.00	$1,815,000.00
Roadside Protection:	$60,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$12,000.00	$146,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$146,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$91,000.00
Total Capital Work Cost	**$174,500.00**	**$2,333,000.00**

1.9 Structure No. 9

Structure Name:	Structure 9	**2025 BCI =89.54**	
Road Name:	County Road 10		
Location:	Concessions 7 & 8, Lot 11		
Structure Type:	Steel I-Girder (Concrete Deck)		
Number of Spans:	1	Span Lengths:	26 m
Overall Structure Width:	9.95 m	Roadway Width:	7 m
Year of Construction:	2008	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	28.0	38.0

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

Justification:

Structure 09 is generally in excellent condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 9 (Continued)	2025 BCI = 89.54

Maintenance Need	Element and Comments	Estimated Cost
Other	Replace joint sealant in parapet walls	$1,000.00
Other	Place utility in conduit	$1,500.00
	Maintenance Needs Total	**$2,500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Install proper guide rail end treatment	$40,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and Pave	N/A	$40,000.00
Modify Deck End Joint	N/A	$100,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$40,000.00
	Rehabilitation Cost Subtotal	**$180,000.00**

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:	$195,000.00	$2,215,000.00
Roadside Protection:	$40,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$24,000.00	$166,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$22,000.00	$166,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$111,000.00
Total Capital Work Cost	**$303,500.00**	**$2,793,000.00**

1.10 Structure No. 10

Structure Name:	Structure 10	**2025 BCI =35.23**	
Road Name:	7th Line		
Location:	Concessions 6 & 7, Lot 14		
Structure Type:	Through Girder (Concrete)		
Number of Spans:	1	Span Lengths:	15.2 m
Overall Structure Width:	6.4 m	Roadway Width:	6 m
Year of Construction:	1900 (Estimated)	Current Load Limit:	16 tonnes

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

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

Justification:

Structure 10 is generally in poor condition with severe defects noted to key structural elements. The 2024 monitoring program confirmed the south abutment is not actively rotating. Replacement of this structure is currently in design phase with an unknown year of construction.

Structure No. 10 (Continued)	2025 BCI = 35.23

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
Detailed Deck Condition Survey; Monitoring of Deformations, Settlements and Movements;	$17,000.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

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

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 -	$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	$1,700,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$140,000.00
Environmental Assessment:	N/A	$60,000.00
Engineering Design:	N/A	$140,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$85,000.00
Total Capital Work Cost	**N/A**	**$2,245,000.00**

1.11 Structure No. 11

Structure Name:	Structure 11	**2025 BCI =56.95**	
Road Name:	15th Sideroad		
Location:	Concession 6, Lot 15		
Structure Type:	Through Girder (Concrete)		
Number of Spans:	1	Span Lengths:	15.2 m
Overall Structure Width:	6.2 m	Roadway Width:	4.6 m
Year of Construction:	1900 (Estimated)	Current Load Limit:	12 tonnes

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

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

Justification:

Structure 11 is generally in poor to fair condition with severe defects noted to key structural elements. The 2024 monitoring program confirmed the NE and NW wingwalls are not actively rotating. Due to the separation of the wingwalls the replacement timeline should be expedited.

Structure No. 11 (Continued)	2025 BCI = 56.95

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top,	$1,000.00
Hazard Signs	Raise hazard warning signs at structure, install narrow structure signs on both approaches	$750.00
	Maintenance Needs Total	**$1,750.00**

Additional Investigations	Estimated Cost
Detailed Deck Condition Survey; Monitoring of Deformations, Settlements and Movements;	$17,000.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

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 -	$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	$1,515,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$131,000.00
Environmental Assessment:	N/A	$60,000.00
Engineering Design:	N/A	$131,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$76,000.00
Total Capital Work Cost	**N/A**	**$2,033,000.00**

1.12 Structure No. 12

Structure Name:	Structure 12	**2025 BCI =65.24**	
Road Name:	6th Line		
Location:	Concessions 5 & 6, Lot 15		
Structure Type:	Arch (Concrete)		
Number of Spans:	1	Span Lengths:	15.2 m
Overall Structure Width:	6.63 m	Roadway Width:	5.5 m
Year of Construction:	1910 (Estimated)	Current Load Limit:	12 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	4.8	15.2

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

Justification:
Structure 12 is generally in fair condition with severe defects noted to key structural elements.

Structure No. 12 (Continued)	2025 BCI = 65.24

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top, Deck Drainage,	$1,000.00
Hazard Signs	Install narrow structure signs on both approaches	$500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Type A concrete repairs to end post, posts, deck top, curbs,	1 to 5 years	$20,000.00
Type B concrete repairs to floor beams, soffit,	1 to 5 years	$150,000.00
Type C concrete repairs to abutment walls, wingwalls, bottom chords, top chords, verticals / diagonals,	1 to 5 years	$75,000.00
Waterproof and pave	1 to 5 years	$30,000.00
Add slope stabilization	1 to 5 years	$10,000.00
General Items - Insurance, Mobilization, Access etc.	1 to 5 years	$150,000.00
	Rehabilitation Cost Subtotal	**$435,000.00**

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:	$450,000.00	$1,515,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$45,000.00	$131,000.00
Environmental Assessment:	$2,500.00	$60,000.00
Engineering Design:	$45,000.00	$131,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$36,000.00	$76,000.00
Total Capital Work Cost	**$578,500.00**	**$2,033,000.00**

1.13 Structure No. 13

Structure Name:	Structure 13	**2025 BCI =58.9**	
Road Name:	6th Line		
Location:	Concession 5 & 6, Lot 16		
Structure Type:	Arch (Concrete)		
Number of Spans:	1	Span Lengths:	15.2 m
Overall Structure Width:	5.02 m	Roadway Width:	5 m
Year of Construction:	1910 (Estimated)	Current Load Limit:	14 tonnes

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	0.0	9.5

Recommendation:	**Forgo rehabilitation and replace structure within 9 years.**

Justification:

Structure 13 is generally in poor to fair condition with severe defects noted to key structural elements. The 2024 monitoring program confirmed the north and south abutments are not actively rotating.

Structure No. 13 (Continued)	2025 BCI = 58.9

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top, Deck Drainage,	$1,000.00
Hazard Signs	Install narrow structure signs on both approaches	$500.00
	Maintenance Needs Total	**$1,500.00**

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

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Type A concrete repairs to deck top, curbs,	N/A	$15,000.00
Type B concrete repairs to floor beams, soffit,	N/A	$100,000.00
Type C concrete repairs to abutment walls, wingwalls, bottom chords, top chords, verticals / diagonals,	N/A	$100,000.00
Waterproof and pave	N/A	$30,000.00
Slope stabilization	N/A	$10,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$150,000.00
Rehabilitation Cost Subtotal		**$405,000.00**

Estimate Value of Replacement Structure	$1,600,000.00

Associated Work	Rehabilitation	Replacement
Approaches -	$0.00	$0.00
Detours -	$0.00	$0.00
Traffic Control -	$15,000.00	$15,000.00
Utilities -	$0.00	$0.00
Right of Way -	$0.00	$0.00
Environmental - Bird Nests noted during inspection	$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:	$420,000.00	$1,615,000.00
Roadside Protection:	$0.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$42,000.00	$136,000.00
Environmental Assessment:	$2,500.00	$60,000.00
Engineering Design:	$42,000.00	$136,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$34,000.00	$81,000.00
Total Capital Work Cost	**$540,500.00**	**$2,148,000.00**

1.14 Structure No. 14

Structure Name:	Structure 14	**2025 BCI =80.66**	
Road Name:	6th Line		
Location:	Concessions 5 & 6, Lot 17		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	14 m
Overall Structure Width:	10 m	Roadway Width:	6 m
Year of Construction:	2000	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	20.7	30.7

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

Justification:

Structure 18 is generally in excellent condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 14 (Continued)	2025 BCI = 80.66

Maintenance Need	Element and Comments	Estimated Cost
Other	Replace joint sealant in parapet walls	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
	$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
Waterproof and pave	N/A	$30,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$15,000.00
	Rehabilitation Cost Subtotal	**$45,000.00**

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:	$60,000.00	$1,515,000.00
Roadside Protection:	$100,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$16,000.00	$131,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$131,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$76,000.00
Total Capital Work Cost	**$218,500.00**	**$1,988,000.00**

1.15 Structure No. 16

Structure Name:	Structure 16	**2025 BCI =73.9**	
Road Name:	7th Line		
Location:	Concessions 6 & 7, Lot 20		
Structure Type:	Cast-In-Place Conc. Box Culvert		
Number of Spans:	2	Span Lengths:	8.0, 8.0 m
Overall Structure Width:	14.6 m	Roadway Width:	3 m
Year of Construction:	1988	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	13.9	23.9

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

Justification:
Structure 16 is generally in good condition and only minor maintenance recommended at this time.

Structure No. 16 (Continued)	2025 BCI = 73.9

Maintenance Need	Element and Comments	Estimated Cost
Hazard Signs	Replace hazard warning signs at structure	$1,000.00
Other	Replace missing bolts in guide rail	$500.00
	Maintenance Needs Total	**$1,500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$615,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$72,000.00
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	$31,000.00
Total Capital Work Cost	**N/A**	**$920,000.00**

1.16 Structure No. 17

Structure Name:	Structure 17	**2025 BCI =96.27**	
Road Name:	20th Sideroad		
Location:	Concession 6, Lots 20 & 21		
Structure Type:	Precast Concrete Box Girder		
Number of Spans:	1	Span Lengths:	23.2 m
Overall Structure Width:	9.9 m	Roadway Width:	7 m
Year of Construction:	2018	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	31.3	41.3

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

Justification:
Structure 17 is generally in excellent condition however the bearing pads are already showing signs of bulging.

Maintenance Need	Element and Comments	Estimated Cost
Other	Replace missing bolt in hand railing	$250.00
	Maintenance Needs Total	**$250.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

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

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 -	$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	$1,800,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$145,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$145,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$90,000.00
Total Capital Work Cost	**N/A**	**$2,315,000.00**

1.17 Structure No. 18

Structure Name:	Structure 18	**2025 BCI =88.62**	
Road Name:	25th Sideroad		
Location:	Concession 6, Lot 25		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	12 m
Overall Structure Width:	9.95 m	Roadway Width:	7 m
Year of Construction:	2007	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	27.6	37.6

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

Justification:

Structure 18 is generally in excellent condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 18 (Continued)	2025 BCI = 88.62

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top	$2,500.00
Other	Replace joint sealant in parapet walls	$1,000.00
	Maintenance Needs Total	**$3,500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Install proper guide rail end treatments	$40,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and pave	N/A	$30,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$15,000.00
	Rehabilitation Cost Subtotal	**$45,000.00**

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 -	$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:	$45,000.00	$1,200,000.00
Roadside Protection:	$40,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$9,000.00	$115,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$115,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$60,000.00
Total Capital Work Cost	**$136,500.00**	**$1,625,000.00**

1.18 Structure No. 19

Structure Name:	Structure 19	**2025 BCI =85.93**	
Road Name:	6th Line		
Location:	Concessions 5 & 6, Lot 27		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	8 m
Overall Structure Width:	9.95 m	Roadway Width:	6 m
Year of Construction:	2002	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	25.9	35.9

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

Justification:

Structure 19 is generally excellent condition with only minor defects noted. The costs for waterproofing and paving the exposed deck can be reduced if grouped with other bridges.

Structure No. 19 (Continued)	2025 BCI = 85.93

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Deck Top	$1,000.00
Hazard Signs	Replace west hazard warning signs at structure	$500.00
Other	Replace joint sealant in parapet walls	$1,000.00
	Maintenance Needs Total	**$2,500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Install proper guide rail end treatments	$40,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
Waterproof and pave	N/A	$30,000.00
General Items - Insurance, Mobilization, Access etc.	N/A	$15,000.00
	Rehabilitation Cost Subtotal	**$45,000.00**

Estimate Value of Replacement Structure	$950,000.00

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:	$60,000.00	$965,000.00
Roadside Protection:	$40,000.00	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	$10,000.00	$104,000.00
Environmental Assessment:	$2,500.00	$15,000.00
Engineering Design:	$20,000.00	$102,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	$20,000.00	$49,000.00
Total Capital Work Cost	**$152,500.00**	**$1,355,000.00**

1.19 Structure No. 20

Structure Name:	Bridge 20	**2025 BCI =64.07**	
Road Name:	4th Line		
Location:	Concessions 3 & 4, Lot 14		
Structure Type:	CSP Multi-Plate Arch Culvert(s)		
Number of Spans:		Span Lengths:	3.8, 3.8 m
Overall Structure Width:	13.5 m	Roadway Width:	6 m
Year of Construction:	2018 (Estimated)	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	12.0

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

Justification:

Structure 20 is generally in fair condition with cusping/deformations along the midspans of the culverts due to poor joint placement and low cover.

Structure No. 20 (Continued)	2025 BCI = 64.07

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

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

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

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

Estimate Value of Replacement Structure	$850,000.00

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	$850,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$95,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$90,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$43,000.00
Total Capital Work Cost	**N/A**	**$1,213,000.00**

1.20 Structure No. 21

Structure Name:	Structure 21	**2025 BCI =100**	
Road Name:	9th Line		
Location:	9th Line, 1.1 km north of Sideroad 25		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	4.5 m
Overall Structure Width:	20 m	Roadway Width:	8 m
Year of Construction:	2025	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	35.0	45.0

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

Justification:
Structure 21 was replaced in 2025 and is in excellent condition.

Structure No. 21 (Continued)	2025 BCI = 100

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$550,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$65,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$60,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$28,000.00
Total Capital Work Cost	**N/A**	**$838,000.00**

1.21 Structure No. 22

Structure Name:	Structure 22	**2025 BCI =100**	
Road Name:	2nd Line		
Location:	1.1 km from Sideroad 10		
Structure Type:	Precast Concrete Box Culvert		
Number of Spans:	1	Span Lengths:	4.8 m
Overall Structure Width:	29.855 m	Roadway Width:	9 m
Year of Construction:	2025	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	35.0	45.0

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

Justification:
Structure 22 was replaced in 2025 and is in excellent condition.

Structure No. 22 (Continued)	2025 BCI = 100

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

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

1.22 Structure No. 23

Structure Name:	Structure 23	**2025 BCI =100**	
Road Name:	2nd Line		
Location:	300m from Sideroad 10		
Structure Type:	Precast Concrete Box Culvert		
Number of Spans:	1	Span Lengths:	4.8 m
Overall Structure Width:	17.1 m	Roadway Width:	9 m
Year of Construction:	2025	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	35.0	45.0

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

Justification:
Structure 23 was replaced in 2025 and is in excellent condition.

Structure No. 23 (Continued)	2025 BCI = 100

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$450,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$55,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$50,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$23,000.00
Total Capital Work Cost	**N/A**	**$713,000.00**

1.23 Structure No. 24

Structure Name:	Structure 24	**2025 BCI =55.62**	
Road Name:	Mono-Amaranth Towline		
Location:	Mono-Amaranth Towline, 1.2 km north of Sideroad 20		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	7 m	Roadway Width:	6 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	7.8

Recommendation:	**Structure replacement is recommended within 8 years.**

Justification:
Structure 24 is generally in fair to poor condition with severe defects noted throughout.

Structure No. 24 (Continued)	2025 BCI = 55.62

Maintenance Need	Element and Comments	Estimated Cost
Other	Replace missing section of utility conduit	$500.00
		$0.00
		$0.00
	Maintenance Needs Total	**$500.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.24 Structure No. 25

Structure Name:	Structure 25	**2025 BCI =73.6**	
Road Name:	Amaranth East Luther Townline		
Location:	750 m from 30th side road		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	7 m	Roadway Width:	5 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	23.6

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

Justification:
Structure 25 is generally in good condition; however, the footings are exposed and the south footing is severely eroded.

Structure No. 25 (Continued)	2025 BCI = 73.6

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Place rock protection on south embankments and footing	$3,000.00
Hazard Signs	Install NW hazard warning signs at structure	$250.00
	Maintenance Needs Total	**$3,250.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.25 Structure No. 26

Structure Name:	Structure 26	**2025 BCI =56.58**	
Road Name:	10th Line		
Location:	10th Line, 900 m south of Side Road 20		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3.8 m
Overall Structure Width:	7.4 m	Roadway Width:	6 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	8.3

Recommendation:	**Structure replacement is recommended within 8 years.**

Justification:
Structure 26 is generally in poor to fair condition with severe defects noted throughout.

Structure No. 26 (Continued)	2025 BCI = 56.58

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$400,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$50,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$45,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$650,000.00**

1.26 Structure No. 27

Structure Name:	Structure 27	**2025 BCI =59.59**	
Road Name:	25 Sideroad and 9th Line		
Location:	Intersection of 25 Sideroad and 9th Line		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3.1 m
Overall Structure Width:	6.2 m	Roadway Width:	5.4 m
Year of Construction:		Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	9.8

Recommendation:	**Structure replacement is recommended within 10 years.**

Justification:
Structure 27 is generally in fair condition with severe defects noted throughout.

Structure No. 27 (Continued)	2025 BCI = 59.59

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.27 Structure No. 29

Structure Name:	Structure 29	**2025 BCI =64.76**	
Road Name:	8th Line		
Location:	8th Line, 550 m north of Sideroad 5		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	5.5 m
Overall Structure Width:	6.2 m	Roadway Width:	7 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	12.4

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

Justification:
Structure 29 is generally in fair to good condition with some severe defects noted.

Structure No. 29 (Continued)	2025 BCI = 64.76

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Place rock protection on SW and SE embankments	$2,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.28 Structure No. 30

Structure Name:	Structure 30	**2025 BCI =74.26**	
Road Name:	8th Line		
Location:	1 km South of 20th Sideroad, Lot 19		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3.7 m
Overall Structure Width:	7 m	Roadway Width:	5 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	24.3

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

Justification:
Structure 30 is generally in good condition with only minor defects noted.

Structure No. 30 (Continued)	2025 BCI = 74.26

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Remove hogweed and vegetation in close proximity to structure	$1,000.00
	Maintenance Needs Total	**$1,000.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.29 Structure No. 31

Structure Name:	Structure 31	**2025 BCI =70.53**	
Road Name:	8th Line		
Location:	8th Line, 1 km south of Sideroad 25		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	7 m	Roadway Width:	6 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	20.5

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

Justification:
Structure 31 is generally in good condition; however, the footings are exposed and severely eroded.

Structure No. 31 (Continued)	2025 BCI = 70.53

Maintenance Need	Element and Comments	Estimated Cost
Hazard Signs	Reinstate NE sign	$250.00
Erosion Control	Place stone protection along footings	$2,000.00
	Maintenance Needs Total	**$2,250.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.30 Structure No. 32

Structure Name:	Structure 32	**2025 BCI =54.85**	
Road Name:	7 Line		
Location:	850 m North of Dufferin Road 109		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3.6 m
Overall Structure Width:	7 m	Roadway Width:	6 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	7.4

Recommendation:	**Structure replacement is recommended within 7 years.**

Justification:
Structure 32 is generally in poor to fair condition with severe disintegration of the inlet and outlet.

Structure No. 32 (Continued)	2025 BCI = 54.85

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$450,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$55,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$50,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$23,000.00
Total Capital Work Cost	**N/A**	**$713,000.00**

1.31 Structure No. 33

Structure Name:	Structure 33	**2025 BCI =61.89**	
Road Name:	7 Line		
Location:	400 m North of Sideroad 5, Lot 6		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3.9 m
Overall Structure Width:	7 m	Roadway Width:	6 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	11.9

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

Justification:
Structure 33 is generally in fair condition with severe defects noted throughout.

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Place stone protection along footings	$2,000.00
	Maintenance Needs Total	**$2,000.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$400,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$50,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$45,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$650,000.00**

1.32 Structure No. 34

Structure Name:	Structure 34	**2025 BCI =59.07**	
Road Name:	6th Line		
Location:	6th Line, 300 m north of Sideroad 20		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	4 m
Overall Structure Width:	6.5 m	Roadway Width:	5 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	9.5

Recommendation:	**Structure replacement is recommended within 10 years.**

Justification:
Structure 34 is generally in fair condition with severe defects noted throughout.

Structure No. 34 (Continued)	2025 BCI = 59.07

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$400,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$50,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$45,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$20,000.00
Total Capital Work Cost	**N/A**	**$650,000.00**

1.33 Structure No. 35

Structure Name:	Structure 35	**2025 BCI =56.13**	
Road Name:	Sideroad 15		
Location:	Sideroad 15, 600 m west of 10th Line		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	6 m	Roadway Width:	5 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	8.1

Recommendation:	**Structure replacement is recommended within 8 years.**

Justification:
Structure 35 is generally in fair condition with severe disintegration of the outlet.

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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. 36

Structure Name:	Structure 36	**2025 BCI =100**	
Road Name:	30 Sideroad		
Location:	600 m from 9th Line		
Structure Type:	Precast Concrete Box Culvert		
Number of Spans:	1	Span Lengths:	6.5 m
Overall Structure Width:	21.575 m	Roadway Width:	8.5 m
Year of Construction:	2025	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	35.0	45.0

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

Justification:
Structure 36 was replaced in 2025 and is in excellent condition.

Structure No. 36 (Continued)	2025 BCI = 100

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$550,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$65,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$60,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$28,000.00
Total Capital Work Cost	**N/A**	**$838,000.00**

1.35 Structure No. 38

Structure Name:	Structure 38	**2025 BCI =46.37**	
Road Name:	Sideroad 25		
Location:	Sideroad 25, 120 m west of 8th Line		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3 m
Overall Structure Width:	7 m	Roadway Width:	5 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	2.0

Recommendation:	**Structure replacement is recommended within 2 years.**

Justification:
Structure 38 is generally in poor condition with severe defects noted to key structural elements.

Structure No. 38 (Continued)	2025 BCI = 46.37

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

1.36 Structure No. 41

Structure Name:	Structure 41	**2025 BCI =71.07**	
Road Name:	10th Line		
Location:	10th Line, 450 m north of Sideroad 25		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	4 m
Overall Structure Width:	8 m	Roadway Width:	5 m
Year of Construction:		Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	21.1

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

Justification:
Structure 41 is generally in good condition with only minor defects noted.

Structure No. 41 (Continued)	2025 BCI = 71.07

Maintenance Need	Element and Comments	Estimated Cost
Erosion Control	Place stone protection all quadrants and along footings	$5,000.00
	Maintenance Needs Total	**$5,000.00**

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Investigate need for guide rail	$1,000.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$415,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$52,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$47,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$21,000.00
Total Capital Work Cost	**N/A**	**$670,000.00**

1.37 Structure No. 42

Structure Name:	Structure 42	**2025 BCI =33.01**	
Road Name:	30th Side Road		
Location:	400 m West of country road 12		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	m
Overall Structure Width:	7 m	Roadway Width:	5 m
Year of Construction:		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:

Structure 42 is in poor condition with severely eroded footings. Temporary struts have been installed to help stabilize the structure until it can be replaced.

Structure No. 42 (Continued)	2025 BCI = 33.01

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

Additional Investigations	Estimated Cost
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

Rehabilitation/Repair Required	Priority	Estimated Cost
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
	N/A	$0.00
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	$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	$450,000.00
Roadside Protection:	N/A	$100,000.00
Staging Costs:	N/A	N/A
Construction Contingencies:	N/A	$55,000.00
Environmental Assessment:	N/A	$15,000.00
Engineering Design:	N/A	$50,000.00
Geotechnical Investigation:	N/A	$20,000.00
Contract Administration:	N/A	$23,000.00
Total Capital Work Cost	**N/A**	**$713,000.00**

1.38 Structure No. 43

Structure Name:	Structure 43	**2025 BCI =71.83**	
Road Name:	25th Side Road		
Location:	On 25th side road, 350 m from 10th line		
Structure Type:	Cast-In-Place Conc. Rigid Frame		
Number of Spans:	1	Span Lengths:	3.6 m
Overall Structure Width:	7 m	Roadway Width:	5 m
Year of Construction:	Unknown	Current Load Limit:	N/A

	Rehabilitation	Replacement
Estimated Capital Works Timelines (Years):	N/A	21.8

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

Justification:
Structure 43 is generally in good condition with only minor defects noted.

Structure No. 43 (Continued)	2025 BCI = 71.83

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
	$0.00

Current Roadside Protection Needs	Estimated Cost
Narrow structure - Install guide rail if structure widened during replacement	$0.00

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

BURNSIDE

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Appendix B

Structure Inventory and Cost Summaries

TOWNSHIP OF AMARANTH - STRUCTURE INVENTORY

Structure No.	Structure Name	Road Name	Location	Structure Type	Span(s) (m)	Width (m)	Deck Area (m2)	Deterioration Curve	BCI
1	Structure 1	6th Line	Concessions 5 & 6, Lot 1	Steel I-Girder (Concrete Deck)	12.4	9.95	122.4	BR-1	89.06
2	Structure 2	7th Line	Concession 6 & 7, Lot 3	Steel I-Girder (Timber Deck)	16.4	8	149.2	BR-1	100.00
3	Structure 3	8th Line	Concessions 7 & 8, Lot 3	Cast-In-Place Concrete T-Beam	9.25	7	70	BR-1	63.03
4	Structure 4	9th Line	Concessions 8 & 9, Lot 3	CSP Multi-Plate Arch Culvert(s)	10.5	19	199.5	CS	71.00
5	Structure 5	10th Line	Concession 9 & 10, Lot 4	Precast Concrete Box Girder	20.8, 20.8	10.8	337	BR-2	74.40
6	Structure 6	10th Line	Concessions 9 & 10, Lot 4	Steel I-Girder (Concrete Deck)	20.5, 28.1, 20.5	10.6	732.46	BR-2	74.83
7	Structure 7	5th Sideroad	Concession 9, Lots 5 & 6	Cast-In-Place Conc. Rigid Frame	19.5	9.4	183.3	BR-1	74.48
8	Structure 8	9th Line	Concessions 8 & 9, Lot 6	Cast-In-Place Conc. Rigid Frame	18	9.35	87	BR-1	73.92
9	Structure 9	County Road 10	Concessions 7 & 8, Lot 11	Steel I-Girder (Concrete Deck)	26	9.95	237.2	BR-2	89.54
10	Structure 10	7th Line	Concessions 6 & 7, Lot 14	Through Girder (Concrete)	15.2	6.4	80	BR-1	35.23
11	Structure 11	15th Sideroad	Concession 6, Lot 15	Through Girder (Concrete)	15.2	6.2	78.1	BR-1	56.95
12	Structure 12	6th Line	Concessions 5 & 6, Lot 15	Arch (Concrete)	15.2	6.63	90.9	BR-1	65.24
13	Structure 13	6th Line	Concession 5 & 6, Lot 16	Arch (Concrete)	15.2	5.02	66.3	BR-1	58.90
14	Structure 14	6th Line	Concessions 5 & 6, Lot 17	Cast-In-Place Conc. Rigid Frame	14	10	158	BR-1	80.66
16	Structure 16	7th Line	Concessions 6 & 7, Lot 20	Cast-In-Place Conc. Box Culvert	8.0, 8.0	14.6	242.4	BR-1	73.90
17	Structure 17	20th Sideroad	Concession 6, Lots 20 & 21	Precast Concrete Box Girder	23.2	9.9	246.5	BR-2	96.27
18	Structure 18	25th Sideroad	Concession 6, Lot 25	Cast-In-Place Conc. Rigid Frame	12	9.95	135.32	BR-1	88.62
19	Structure 19	6th Line	Concessions 5 & 6, Lot 27	Cast-In-Place Conc. Rigid Frame	8	9.95	91.54	BR-1	85.93
20	Structure 20	4th Line	Concessions 3 & 4, Lot 14	CSP Multi-Plate Arch Culvert(s)	3.8, 3.8	13.5	124.2	CS	64.07
21	Structure 21	9th Line	9th Line, 1.1 km north of Sideroad 25	Cast-In-Place Conc. Rigid Frame	4.5	20	104	BR-1	100.00
22	Structure 22	2nd Line	1.1 km from Side road 10	Precast Concrete Box Culvert	4.8	29.855	161.52	BR-1	100.00
23	Structure 23	2nd Line	300m from Side road 10	Precast Concrete Box Culvert	4.8	17.1	92.511	BR-1	100.00
24	Structure 24	Mono-Amaranth Towline	Mono-Amaranth Towline, 1.2 km north of Sideroad 20	Cast-In-Place Conc. Rigid Frame	3	7	25.2	BR	55.62
25	Structure 25	Amaranth East Luther Townline	750m from 30th side road	Cast-In-Place Conc. Rigid Frame	3	7	35	BR	73.60
26	Structure 26	10th Line	10th Line, 900m south of Side Road 20	Cast-In-Place Conc. Rigid Frame	3.8	7.4	32.56	BR	56.58
27	Structure 27	25th Sideroad and 9th Line	Intersection of 25 Sideroad and 9th Line	Cast-In-Place Conc. Rigid Frame	3.1	6.2	22.32	BR	59.59
29	Structure 29	8th Line	8th Line, 550m north of Sideroad 5	Cast-In-Place Conc. Rigid Frame	5.5	6.2	24.8	CC	64.76
30	Structure 30	8th Line	1km South of 20th Sideroad, Lot 19	Cast-In-Place Conc. Rigid Frame	3.7	7	30.1	BR	74.26
31	Structure 31	8th Line	8th Line, 1km south of Sideroad 25	Cast-In-Place Conc. Rigid Frame	3	7	24.5	BR	70.53
32	Structure 32	7th Line	850m North of Dufferin Road 109	Cast-In-Place Conc. Rigid Frame	3.6	7	29.4	BR	54.85
33	Structure 33	7th Line	400m North of Sideroad 5, Lot 6	Cast-In-Place Conc. Rigid Frame	3.9	7	31.5	BR	61.89
34	Structure 34	6th Line	6th Line, 300m north of Sideroad 20	Cast-In-Place Conc. Rigid Frame	4	6.5	29.9	BR	59.07
35	Structure 35	15th Sideroad	Sideroad 15, 600m west of 10th Line	Cast-In-Place Conc. Rigid Frame	3	6	19.8	BR	56.13
36	Structure 36	30th Sideroad	600m from 9th Line	Precast Concrete Box Culvert	6.5	21.575	155.34	BR-1	100.00
38	Structure 38	25th Sideroad	Sideroad 25, 120m west of 8th Line	Cast-In-Place Conc. Rigid Frame	3	7	24.5	BR	46.37
41	Structure 41	10th Line	10th Line, 450m north of Sideroad 25	Cast-In-Place Conc. Rigid Frame	4	8	36.8	BR	71.07
42	Structure 42	30th Sideroad	400m West of country road 12	Cast-In-Place Conc. Rigid Frame	3.6	7	28	BR	33.01
43	Structure 43	25th Sideroad	25th side road, 350m from 10th line	Cast-In-Place Conc. Rigid Frame	3.6	7	28	BR	71.83

TOWNSHIP OF AMARANTH - CAPITAL WORKS BY BCI

Structure No.	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	Capital Works Within 1 year	Capital Works 1 - 5 Years	Capital Works 6 - 10 Years	10-Year Capital Works Cost
42	30th Sideroad	BR	33.01	N/A	0.00	N/A	$ 713,000.00	Replace	$ -	$ -	$ -	$ 713,000.00	$ -	$ -	$ 713,000.00
10	7th Line	BR-1	35.23	0.00	0.00	N/A	$ 2,245,000.00	Replace	$ 1,000.00	$ 17,000.00	$ -	$ 2,245,000.00	$ -	$ -	$ 2,245,000.00
38	25th Sideroad	BR	46.37	N/A	2.00	N/A	$ 590,000.00	Replace	$ -	$ -	$ -	$ -	$ 590,000.00	$ -	$ 590,000.00
32	7th Line	BR	54.85	N/A	7.42	N/A	$ 713,000.00	Replace	$ -	$ -	$ -	$ -	$ -	$ 713,000.00	$ 713,000.00
24	Mono-Amaranth Towline	BR	55.62	N/A	7.81	N/A	$ 590,000.00	Replace	$ 500.00	$ -	$ -	$ -	$ -	$ 590,000.00	$ 590,000.00
35	15th Sideroad	BR	56.13	N/A	8.06	N/A	$ 590,000.00	Replace	$ 1,000.00	$ -	$ -	$ -	$ -	$ 590,000.00	$ 590,000.00
26	10th Line	BR	56.58	N/A	8.29	N/A	$ 650,000.00	Replace	$ -	$ -	$ -	$ -	$ -	$ 650,000.00	$ 650,000.00
11	15th Sideroad	BR-1	56.95	0.00	0.00	N/A	$ 2,033,000.00	Replace	$ 1,750.00	$ 17,000.00	$ -	$ 2,033,000.00	$ -	$ -	$ 2,033,000.00
13	6th Line	BR-1	58.90	0.00	9.45	$ 540,500.00	$ 2,148,000.00	Replace	$ 1,500.00	$ -	$ -	$ -	$ -	$ 2,148,000.00	$ 2,148,000.00
34	6th Line	BR	59.07	N/A	9.54	N/A	$ 650,000.00	Replace	$ -	$ -	$ -	$ -	$ -	$ 650,000.00	$ 650,000.00
27	25th Sideroad and 9th Line	BR	59.59	N/A	9.80	N/A	$ 590,000.00	Replace	$ -	$ -	$ -	$ -	$ -	$ 590,000.00	$ 590,000.00
33	7th Line	BR	61.89	N/A	11.89	N/A	$ 650,000.00	Replace	$ 2,000.00	$ -	$ -	$ -	$ -	$ -	$ -
3	8th Line	BR-1	63.03	3.03	13.03	$ 522,500.00	$ 1,528,000.00	Rehabilitate	$ 2,500.00	$ -	$ -	$ -	$ 522,500.00	$ -	$ 522,500.00
20	4th Line	CS	64.07	N/A	12.03	N/A	$ 1,213,000.00	Replace	$ -	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
29	8th Line	CC	64.76	N/A	12.38	N/A	$ 590,000.00	Replace	$ 2,000.00	$ -	$ -	$ -	$ -	$ -	$ -
12	6th Line	BR-1	65.24	4.80	15.24	$ 578,500.00	$ 2,033,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ -	$ 578,500.00	$ -	$ 578,500.00
31	8th Line	BR	70.53	N/A	20.53	N/A	$ 590,000.00	Replace	$ 2,250.00	$ -	$ -	$ -	$ -	$ -	$ -
4	9th Line	CS	71.00	N/A	15.55	N/A	$ 1,510,000.00	Replace	$ -	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
41	10th Line	BR	71.07	N/A	21.07	N/A	$ 670,000.00	Replace	$ 5,000.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ -
43	25th Sideroad	BR	71.83	N/A	21.83	N/A	$ 590,000.00	Replace	$ 1,000.00	$ -	$ -	$ -	$ -	$ -	$ -
25	Amaranth East Luther Townline	BR	73.60	N/A	23.60	N/A	$ 590,000.00	Replace	$ 3,250.00	$ -	$ -	$ -	$ -	$ -	$ -
16	7th Line	BR-1	73.90	13.90	23.90	N/A	$ 920,000.00	Rehabilitate	$ 1,500.00	$ -	$ -	$ -	$ -	$ -	$ -
8	9th Line	BR-1	73.92	13.92	23.92	$ 174,500.00	$ 2,333,000.00	Rehabilitate	$ 2,000.00	$ -	$ 60,000.00	$ -	$ -	$ -	$ -
30	8th Line	BR	74.26	N/A	24.26	N/A	$ 590,000.00	Replace	$ 1,000.00	$ -	$ -	$ -	$ -	$ -	$ -
5	10th Line	BR-2	74.40	14.40	24.40	$ 231,000.00	$ 3,810,000.00	Rehabilitate	$ 2,750.00	$ -	$ 500.00	$ -	$ -	$ -	$ -
7	5th Sideroad	BR-1	74.48	14.48	24.48	$ 136,500.00	$ 1,970,000.00	Rehabilitate	$ 2,000.00	$ -	$ 40,000.00	$ -	$ -	$ -	$ -
6	10th Line	BR-2	74.83	9.27	19.42	N/A	$ 6,100,000.00	Rehabilitate	$ 250.00	$ -	$ -	$ -	$ -	$ -	$ -
14	6th Line	BR-1	80.66	20.66	30.66	$ 218,500.00	$ 1,988,000.00	Rehabilitate	$ 1,000.00	$ -	$ 100,000.00	$ -	$ -	$ -	$ -
19	6th Line	BR-1	85.93	25.93	35.93	$ 152,500.00	$ 1,355,000.00	Rehabilitate	$ 2,500.00	$ -	$ 40,000.00	$ -	$ -	$ -	$ -
18	25th Sideroad	BR-1	88.62	27.62	37.62	$ 136,500.00	$ 1,625,000.00	Rehabilitate	$ 3,500.00	$ -	$ 40,000.00	$ -	$ -	$ -	$ -
1	6th Line	BR-1	89.06	28.06	38.06	$ 268,500.00	$ 1,758,000.00	Rehabilitate	$ 250.00	$ -	$ 40,000.00	$ -	$ -	$ -	$ -
9	County Road 10	BR-2	89.54	28.04	38.04	$ 303,500.00	$ 2,793,000.00	Rehabilitate	$ 2,500.00	$ -	$ 40,000.00	$ -	$ -	$ -	$ -
17	20th Sideroad	BR-2	96.27	31.27	41.27	N/A	$ 2,315,000.00	Rehabilitate	$ 250.00	$ -	$ -	$ -	$ -	$ -	$ -
2	7th Line	BR-1	100.00	N/A	0.00	N/A	$ 1,855,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21	9th Line	BR-1	100.00	35.00	45.00	N/A	$ 838,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2nd Line	BR-1	100.00	35.00	45.00	N/A	$ 1,088,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	2nd Line	BR-1	100.00	35.00	45.00	N/A	$ 713,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	30th Sideroad	BR-1	100.00	35.00	45.00	N/A	$ 838,000.00	Rehabilitate	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub Totals									**$ 44,750.00**	**$ 34,000.00**	**$ 462,500.00**	**$ 4,991,000.00**	**$ 1,691,000.00**	**$ 5,931,000.00**	**$ 12,613,000.00**

TOWNSHIP OF AMARANTH - REHABILITATION CAPITAL WORKS

Structure No.	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
3	8th Line	63.03	3.03	13.03	Rehabilitate	$405,000.00	$ 41,000.00	$ 2,500.00	$ 41,000.00	$ -	$ 33,000.00	$ -	$ 522,500.00	$ -	$ 522,500.00
12	6th Line	65.24	4.80	15.24	Rehabilitate	$450,000.00	$ 45,000.00	$ 2,500.00	$ 45,000.00	$ -	$ 36,000.00	$ -	$ 578,500.00	$ -	$ 578,500.00
6	10th Line	74.83	9.27	19.42	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	7th Line	73.90	13.90	23.90	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	9th Line	73.92	13.92	23.92	Rehabilitate	$120,000.00	$ 12,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
5	10th Line	74.40	14.40	24.40	Rehabilitate	$170,500.00	$ 18,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
7	5th Sideroad	74.48	14.48	24.48	Rehabilitate	$85,000.00	$ 9,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
14	6th Line	80.66	20.66	30.66	Rehabilitate	$160,000.00	$ 16,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
19	6th Line	85.93	25.93	35.93	Rehabilitate	$100,000.00	$ 10,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
18	25th Sideroad	88.62	27.62	37.62	Rehabilitate	$85,000.00	$ 9,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
9	County Road 10	89.54	28.04	38.04	Rehabilitate	$235,000.00	$ 24,000.00	$ 2,500.00	$ 22,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
1	6th Line	89.06	28.06	38.06	Rehabilitate	$205,000.00	$ 21,000.00	$ 2,500.00	$ 20,000.00	$ -	$ 20,000.00	$ -	$ -	$ -	$ -
17	20th Sideroad	96.27	31.27	41.27	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21	9th Line	100.00	35.00	45.00	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2nd Line	100.00	35.00	45.00	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	2nd Line	100.00	35.00	45.00	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	30th Sideroad	100.00	35.00	45.00	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	7th Line	100.00	N/A	0.00	Rehabilitate	$0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub Totals						**$ 2,015,500.00**	**$ 205,000.00**	**$ 25,000.00**	**$ 248,000.00**	**$ -**	**$ 229,000.00**	**$ -**	**$ 1,101,000.00**	**$ -**	**$ 1,101,000.00**

(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 AMARANTH - REPLACEMENT CAPITAL WORKS

Structure No.	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
42	30th Sideroad	33.01	N/A	0.00	Replace	$ 550,000.00	$ 55,000.00	$ 15,000.00	$ 50,000.00	$ 20,000.00	$ 23,000.00	$ 713,000.00	$ -	$ -	$ 713,000.00
10	7th Line	35.23	0.00	0.00	Replace	$ 1,800,000.00	$ 140,000.00	$ 60,000.00	$ 140,000.00	$ 20,000.00	$ 85,000.00	$ 2,245,000.00	$ -	$ -	$ 2,245,000.00
11	15th Sideroad	56.95	0.00	0.00	Replace	$ 1,615,000.00	$ 131,000.00	$ 60,000.00	$ 131,000.00	$ 20,000.00	$ 76,000.00	$ 2,033,000.00	$ -	$ -	$ 2,033,000.00
38	25th Sideroad	46.37	N/A	2.00	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ 590,000.00	$ -	$ 590,000.00
32	7th Line	54.85	N/A	7.42	Replace	$ 550,000.00	$ 55,000.00	$ 15,000.00	$ 50,000.00	$ 20,000.00	$ 23,000.00	$ -	$ -	$ 713,000.00	$ 713,000.00
24	Mono-Amaranth Towline	55.62	N/A	7.81	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ 590,000.00	$ 590,000.00
35	15th Sideroad	56.13	N/A	8.06	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ 590,000.00	$ 590,000.00
26	10th Line	56.58	N/A	8.29	Replace	$ 500,000.00	$ 50,000.00	$ 15,000.00	$ 45,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ 650,000.00	$ 650,000.00
13	6th Line	58.90	0.00	9.45	Replace	$ 1,715,000.00	$ 136,000.00	$ 60,000.00	$ 136,000.00	$ 20,000.00	$ 81,000.00	$ -	$ -	$ 2,148,000.00	$ 2,148,000.00
34	6th Line	59.07	N/A	9.54	Replace	$ 500,000.00	$ 50,000.00	$ 15,000.00	$ 45,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ 650,000.00	$ 650,000.00
27	25th Sideroad and 9th Line	59.59	N/A	9.80	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ 590,000.00	$ 590,000.00
33	7th Line	61.89	N/A	11.89	Replace	$ 500,000.00	$ 50,000.00	$ 15,000.00	$ 45,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
20	4th Line	64.07	N/A	12.03	Replace	$ 950,000.00	$ 95,000.00	$ 15,000.00	$ 90,000.00	$ 20,000.00	$ 43,000.00	$ -	$ -	$ -	$ -
29	8th Line	64.76	N/A	12.38	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
4	9th Line	71.00	N/A	15.55	Replace	$ 1,200,000.00	$ 110,000.00	$ 15,000.00	$ 110,000.00	$ 20,000.00	$ 55,000.00	$ -	$ -	$ -	$ -
31	8th Line	70.53	N/A	20.53	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
41	10th Line	71.07	N/A	21.07	Replace	$ 515,000.00	$ 52,000.00	$ 15,000.00	$ 47,000.00	$ 20,000.00	$ 21,000.00	$ -	$ -	$ -	$ -
43	25th Sideroad	71.83	N/A	21.83	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
25	Amaranth East Luther Townline	73.60	N/A	23.60	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
30	8th Line	74.26	N/A	24.26	Replace	$ 450,000.00	$ 45,000.00	$ 15,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ -	$ -	$ -	$ -
Sub Totals						**$ 14,445,000.00**	**$ 1,329,000.00**	**$ 435,000.00**	**$ 1,249,000.00**	**$ 400,000.00**	**$ 647,000.00**	**$ 4,991,000.00**	**$ 590,000.00**	**$ 5,931,000.00**	**$ 11,512,000.00**

(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 AMARANTH - MAINTENANCE NEEDS

Structure Name	Road Name	Maintenance Need	Estimated Maintenance Costs
1	6th Line	Replace missing end cap SE	$250.00
3	8th Line	Install rock protection along north abutment and wingwalls	$2,500.00
5	10th Line	Flush joints and remove vegetation in close proximity to structure; Replace missing end caps	$2,750.00
6	10th Line	Tighten loose end treatment cables	$250.00
7	5th Sideroad	Clean Deck Top; Replace joint sealant in parapet walls	$2,000.00
8	9th Line	Clean Deck Top; Replace joint sealant in parapet walls	$2,000.00
9	County Road 10	Replace joint sealant in parapet walls; Place utility in conduit	$2,500.00
10	7th Line	Clean Deck Top	$1,000.00
11	15th Sideroad	Clean Deck Top; Raise hazard warning signs at structure, install narrow structure signs on both approaches	$1,750.00
12	6th Line	Clean Deck Top, Deck Drainage; Install narrow structure signs on both approaches	$1,500.00
13	6th Line	Clean Deck Top, Deck Drainage; Install narrow structure signs on both approaches	$1,500.00
14	6th Line	Replace joint sealant in parapet walls	$1,000.00
16	7th Line	Replace hazard warning signs at structure; Replace missing bolts in guide rail	$1,500.00
17	20th Sideroad	Replace missing bolt in hand railing	$250.00
18	25th Sideroad	Clean Deck Top; Replace joint sealant in parapet walls	$3,500.00
19	6th Line	Clean Deck Top; Replace west hazard warning signs at structure; Replace joint sealant in parapet walls	$2,500.00
24	Mono-Amaranth Towline	Replace missing section of utility conduit	$500.00
25	Amaranth East Luther Townline	Place rock protection on south embankments and footing; Install NW hazard warning signs at structure	$3,250.00
29	8th Line	Place rock protection on SW and SE embankments	$2,000.00
30	8th Line	Remove hogweed and vegetation in close proximity to structure	$1,000.00
31	8th Line	Reinstate NE sign; Place stone protection along footings	$2,250.00
33	7th Line	Place stone protection along footings	$2,000.00
35	15th Sideroad	Raise hazard warning signs at structure	$1,000.00
41	10th Line	Place stone protection all quadrants and along footings	$5,000.00
43	25th Sideroad	Clean Deck Top	$1,000.00

Total	$44,750.00

TOWNSHIP OF AMARANTH - ADDITIONAL INVESTIGATIONS REQUIRED

Priority	Structure Name	Road Name	Additional Investigations Required	Estimated Cost
Normal	4	9th Line	Monitoring of Deformations, Settlements and Movements;	$0
Normal	10	7th Line	Detailed Deck Condition Survey; Monitoring of Deformations, S	$17,000
Normal	11	15th Sideroad	Detailed Deck Condition Survey; Monitoring of Deformations, S	$17,000
Normal	13	6th Line	Monitoring of Deformations, Settlements and Movements;	$0
Normal	20	4th Line	Monitoring of Deformations, Settlements and Movements;	$0

Total	**$34,000.00**

TOWNSHIP OF AMARANTH - CURRENT ROADSIDE SAFETY NEEDS

Structure Name	Road Name	CURRENT Roadside Safety Need	Estimated Cost
1	6th Line	Install proper end treatments	$40,000.00
3	8th Line	Narrow structure - Install guide rail if structure widened during rehabilitation/replacement	$0.00
4	9th Line	Replace Guide Rail, end treatments	$100,000.00
5	10th Line	Investigate Need for Replacing with Longer Guide Rail	$500.00
7	5th Sideroad	Install proper guide rail end treatments	$40,000.00
8	9th Line	Install proper guide rail end treatment and structure connections	$60,000.00
9	County Road 10	Install proper guide rail end treatment	$40,000.00
11	15th Sideroad	Narrow structure - Install guide rail if structure widened during replacement	$0.00
12	6th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
13	6th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
14	6th Line	Install Guide Rail, end treatments and structure connections	$100,000.00
18	25th Sideroad	Install proper guide rail end treatments	$40,000.00
19	6th Line	Install proper guide rail end treatments	$40,000.00
20	4th Line	Investigate need for Guide Rail	$1,000.00
24	Mono-Amaranth Towline	Narrow structure - Install guide rail if structure widened during replacement	$0.00
25	Amaranth East Luther Townline	Narrow structure - Install guide rail if structure widened during replacement	$0.00
26	10th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
27	25th Sideroad and 9th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
29	8th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
30	8th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
31	8th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
32	7th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
33	7th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
34	6th Line	Narrow structure - Install guide rail if structure widened during replacement	$0.00
35	15th Sideroad	Narrow structure - Install guide rail if structure widened during replacement	$0.00
38	25th Sideroad	Narrow structure - Install guide rail if structure widened during replacement	$0.00
41	10th Line	Investigate need for guide rail	$1,000.00
42	30th Sideroad	Narrow structure - Install guide rail if structure widened during replacement	$0.00
43	25th Sideroad	Narrow structure - Install guide rail if structure widened during replacement	$0.00

Total	$462,500.00

TOWNSHIP OF AMARANTH - STRUCTURE LOAD LIMITS

Structure Name	Year Inspected	Road Name	Existing Load Limit (Tonnes)	Recommendation
10	2025	7th Line	16	Detailed Deck Condition Survey to determine load capacity of deck
11	2025	15th Sideroad	12	Detailed Deck Condition Survey to determine load capacity of deck
12	2025	6th Line	12	No Change
13	2025	6th Line	14	No Change

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Appendix C

Structure Location Map

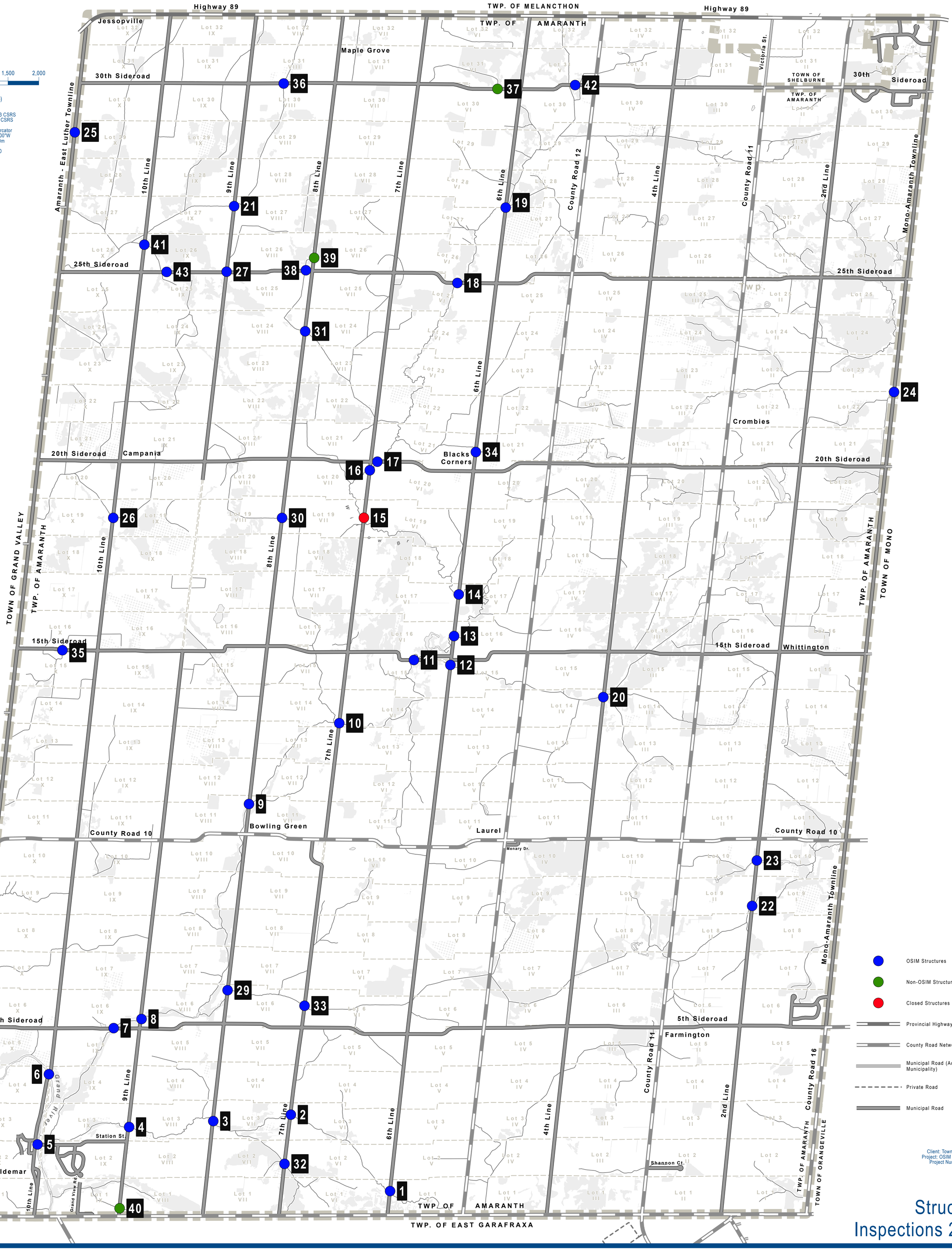
Township of Amaranth
OSIM Inspections 2025

16.5°E°

0 500 1,000 1,500 2,000
Metres

1:30,000 (Main 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
Scale Factor: 0.99960



Client: Township of Amaranth
Project: OSIM Inspections 2025
Project Number: 300057065
Date: 2025/09/10

Structure Inspections 2025

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Figure 1

File Path: \\elmo\GIS\Project\Bridge Inspections\OSIM Inspection Master.aprx Print Date: 2025/09/10 Time: 12:13 PM

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Appendix D

Photo Summary Pages

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Appendix E

OSIM Forms and Photos

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R.J. Burnside & Associates Limited