BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

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Appendix A
A1 - Heritage Impact Assessment

Heritage Impact Assessment

Edgerton Road Bridge No. 11, Township of Scugog

PREPARED FOR:
Township of Scugog
c/o Tyler Dukovic
181 Perry St., PO Box 780
Port Perry ON L9L 1A7
tdukovic@scugog.ca

File no. 12142IE

1, October 2025

Your Vision

Designed | Planned | Realized

MHBC - MacNaughton Hermsen Britton Clarkson Planning Limited
200-540 Bingemans Centre Drive Kitchener, ON N2B 3X9
T: 519 576 3650
F: 519 576 0121
www.mhbcplan.com

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

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Project Personnel

Dan Currie, MA, MCIP, RPP, CAHP	*Managing Director of Cultural Heritage*	Senior Review
Christy Kirwan, BA, Dipl., CAHP-Intern	*Intermediate Heritage Planner*	Research, Author, Fieldwork

Acknowledgement of Indigenous Communities

This Cultural Heritage Impact Assessment acknowledges that the subject bridge located at Edgerton Road and East Cross Creek, approximately .2 kilometres west of Cartwright East Quarter Line in the Township of Scugog is situated within the traditional territory of the Anishinabewaki ᐊᓂᔑᓇᐯᒧᐊᑭ, Ho-de-no-sau-nee-ga (Haudenosaunee), Wendake-Nionwentsïo, and Mississauga peoples. These lands are acknowledged as being associated with the following treaties:

- Treaty 20 (Rice Lake Purchase), 1818

This document takes into consideration the cultural heritage of Indigenous Nations, including their oral traditions and history when available and related to the scope of work.

1.0 Introduction

1.1 Purpose

MHBC was retained by the Township of Scugog to prepare a Heritage Impact Assessment (HIA) report for Edgerton Road Bridge No. 11. The bridge, located along Edgerton Road approximately .2 kilometres west of Cartwright East Quarter Line in the Township of Scugog, is proposed for replacement. An Ontario Structure Inspection Manual (OSIM) Inspection conducted in 2023 identified the bridge as a high priority for rehabilitation or replacement on account of its deteriorated condition. The bridge currently includes a posted load restriction.

The existing Edgerton Road Bridge No. 11 was previously evaluated by MHBC through the work conducted as part of a Cultural Heritage Evaluation Report (CHER), which was completed in October of 2024. The Cultural Heritage Evaluation Report concluded that the bridge meets three of the nine criteria under Ontario Regulation 9/06 for identifying Cultural Heritage Value or Interest (CHVI). As such, it is worthy of designation under Part IV of the Ontario Heritage Act.

The previous CHER describes the policy context, existing conditions, and historical context of the bridge and is available in **Appendix A** of this report.

The purpose of this Heritage Impact Assessment is to provide a historical and planning context for the bridge structure, summarize the cultural heritage value of the structure, assess the potential for impacts which would result from its proposed replacement, and recommend mitigation measures as applicable.

This work has formed part of the Township of Scugog undertaking in accordance with the Municipal Class EA, which must consider a variety of issues including cultural environments. This HIA and the work conducted through the previous CHER have met the requirements to consider cultural heritage resources through the study process.

2.0 Summary of Cultural Heritage Value

2.1 Cultural Heritage Evaluation Report (MHBC, 2024)

The previous Cultural Heritage Evaluation Report (CHER) undertaken by MHBC included a comprehensive evaluation of potential built heritage resources for this project. The evaluation was conducted in accordance with guidance provided by Ontario Regulation 9/06 under the *Ontario Heritage Act*, guidelines presented in the Ontario Heritage Toolkit, and the Provincial Planning Statement (2024). The previous CHER determined that Edgerton Road No. 11 exhibits Cultural Heritage Value or Interest. Its Statement of Significance and associated Heritage Attributes can be found below.

2.2 Statement of Cultural Heritage Value or Interest

Edgerton Road Bridge No. 11 can be described as a single-span reinforced concrete solid slab bridge on solid wall abutments which the Township's records indicate was constructed in 1925. It is situated along Edgerton Road, approximately .2 kilometres west of the intersection of Edgerton Road and Cartwright East Quarter Line.

The bridge has design/physical value as it is a representative example of an early 20th century reinforced concrete solid slab bridge which was cast in place in a style which was common from the 1910s-1930s. Lines from the removable wood moulds can still be seen on the bridge's exterior which indicate its method of construction. Its design includes paneled parapet walls with simple decorative elements indicative of the art deco style including simple recessed rectangular panels and sharply curved parapet ends. Additionally, fully intact concrete slab bridges of this type built before 1955 are typically only found in rural areas where roads are not regularly salted, as is the case with Edgerton Road Bridge No. 11.

Edgerton Road Bridge No. 11 is important in supporting the rural character of the area. It is important in its physical and functional link to its surroundings. The existing bridge (as well as

its predecessors) provide a historic crossing over East Cross Creek along the old concession road between Concessions 4 and 5. A review of historical maps and plans identifies that a bridge was likely available in this location in 1857 or earlier. This physical and functional relationship remains today. The existing bridge was constructed in 1925 and its early 20th century features enhance the scenic quality of this rural settlement area.

Heritage Attributes:

- Location over East Cross Creek along Edgerton Road and east-west orientation;
- Narrow 2-lane solid slab construction;
- Concrete abutments;
- Paneled parapet walls with simple art deco elements; and,
- Structure surface texture indicative of the original concrete moulds indicating the bridge's cast-in-place construction.

3.0 Description of Proposed Development

3.1 Background

3.1.1 Ontario Structure Inspection Manual Inventory and Inspection (2023)

A bridge inventory and inspection conducted by the Township of Scugog in 2023 identified the subject bridge as a high priority for intervention based on a number of factors including structural integrity, surface condition, drainage and erosion requirements, and deck width deficiency. The report concluded that:

> *Bridge No. 11 is in poor condition and has safety concerns. This bridge was evaluated in 2021, and a load limitation sign is in place. This bridge should be prioritized for replacement/Rehabilitation.*

A copy of the full report is available in **Appendix C**.

3.1.2 Reconstruction Alternatives Memorandum (2025)

A technical memorandum was produced in August of 2025 by engineering firm R.J. Burnside & Associates Limited which evaluated options to remedy the issues noted in the 2023 OSIM Inventory and Inspection. Four potential options for the treatment of the bridge were evaluated in the course of the memo:

- Option 1: Do nothing;
- Option 2: Remove the structure (without replacement);
- Option 3: Rehabilitate the bridge; and
- Option 4: Replace the bridge.

The report conducted a detailed evaluation of the pros and cons of each option and ultimately produced the following recommendation:

After detailed review and consideration of the options above, Burnside would recommend proceeding with Option 4: Replace the Bridge. The preliminary evaluation considered a 23.0 m concrete slab, on pressed concrete box girder bridge.

3.2 Proposed Bridge Replacement

In order to remedy the deficiencies and safety concerns noted above in the 2023 OSIM Inventory and Inspection, and in accordance with the recommendation provided in the Reconstruction Alternatives Memorandum, the existing bridge is proposed for replacement with a 23-metre concrete slab on pressed concrete box girder bridge (see **Figure 31**).

The proposed bridge is designed to echo the Art Deco details of the existing bridge, while remaining clearly distinguishable through its wider deck, updated handrails, and the use of contemporary concrete and foundations.

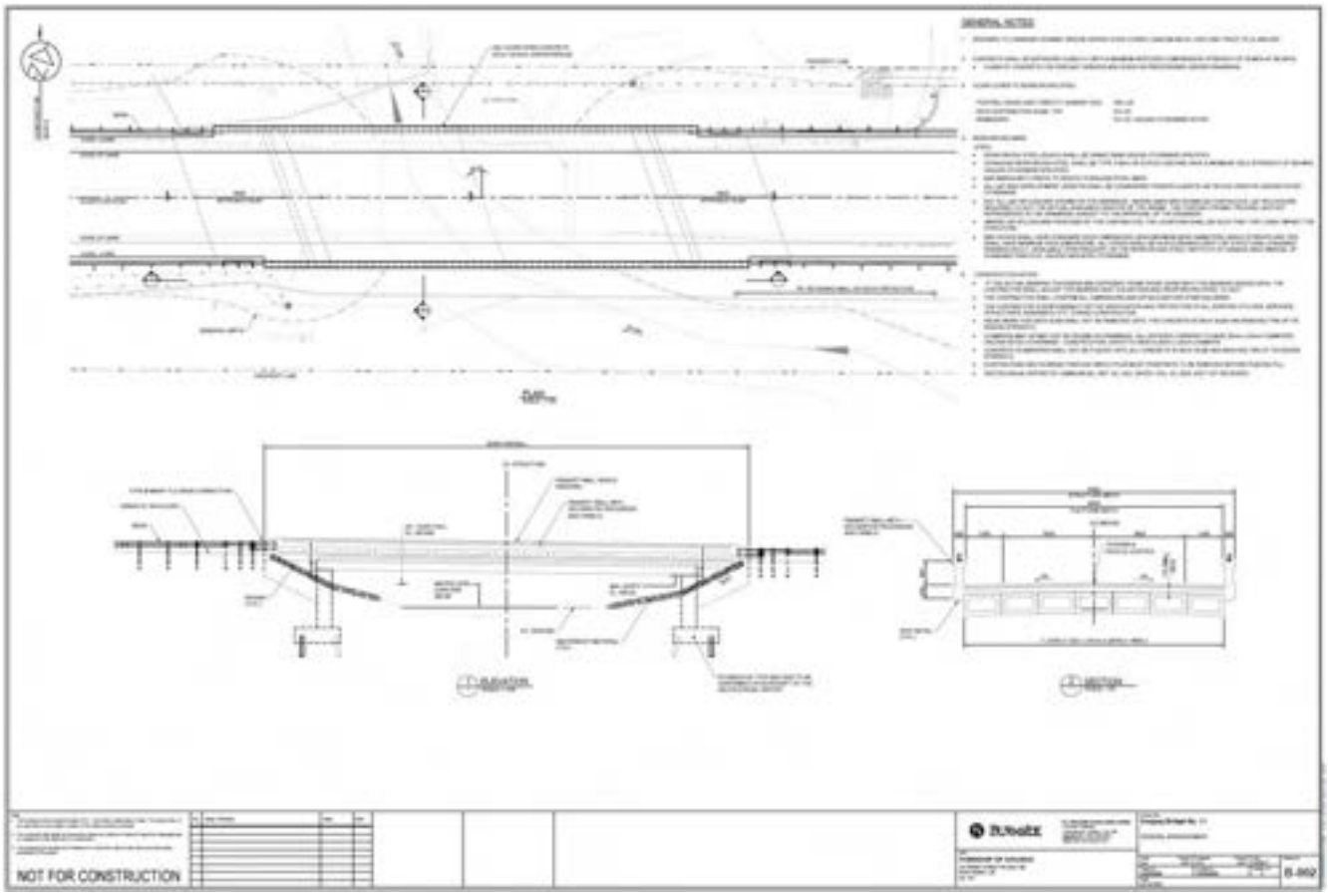


Figure 31: Plan and elevations of the proposed replacement bridge. (Source: R.J. Burnside & Associates Limited, 2025)

A full version of the proposed replacement bridge architectural drawings is available in **Appendix D.**

4.0 Impact Analysis

4.1 Impact Analysis Framework

Per industry best practice, potential adverse impacts to heritage resources may result from the following:

- **Destruction:** of any, or part of any *significant heritage attributes* or features;
- **Alteration:** that is not sympathetic, or is incompatible, with the historic fabric and appearance:
- **Shadows:** created that alter the appearance of a *heritage attribute* or change the viability of a natural feature or plantings, such as a garden;
- **Isolation:** of a *heritage attribute* from its surrounding environment, context or a significant relationship;
- **Direct or Indirect Obstruction**: of significant views or vistas within, from, or of built and natural features;
- **A change in land use**: such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces;
- **Land disturbances:** such as a change in grade that alters soils, and drainage patterns that adversely affect an archaeological resource.

Furthermore, this report utilizes guides published by the International Council on Monuments and Site (ICOMOS), Council of UNESCO, from the World Heritage Convention of January of 2011. The grading of impact is based on "Guide to Assessing Magnitude of Impact" as a framework for this report:

Table 3 - Grading of Impact for Built Heritage and Historic Landscapes (ICOMOS)

Impact Grading	**Description**
Major	Change to key historic building elements that contribute to the cultural heritage value or interest (CHVI) such that the resource is totally altered. Comprehensive changes to the setting.
Moderate	Change to many key historic building elements, such that the resource is significantly modified.

	Changes to the setting of an historic building, such that it is significantly modified.
Minor	Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that is it noticeably changed.
Negligible/ Potential	Slight changes to historic building elements or setting that hardly affect it.
No change	No change to fabric or setting.

The above noted impacts will be considered as they relate to the scope of this HIA.

4.2 Impact Analysis for Edgerton Road Bridge No. 11

Demolition

The proposal includes the removal of the existing bridge and all its features and attributes. Therefore, major adverse impacts to cultural heritage resources are anticipated as a result of the proposal.

Alteration

No impacts from alterations are anticipated as the heritage fabric of the bridge is proposed for removal.

Shadows

No impacts from shadows are anticipated as the bridge is proposed for removal.

Isolation

Should the bridge be removed and no replacement be constructed, there is the potential for isolation as it relates to the removal of a historic crossing and circulation route over East Cross Creek along the old concession road between Concessions 4 and 5. However, the bridge is currently proposed for replacement, therefore, no impacts from isolation are anticipated.

Obstruction

The existing bridge currently contributes to the rural character of the area. There is the potential for minor adverse impacts from obstruction to the rural character and streetscape at the crossing of East Cross Creek, should the replacement bridge be incompatible with the

identified rural setting. However, the proposed design of the replacement bridge (see **Section 3.2** of this report) includes low-profile parapet walls and is not anticipated to obstruct or overshadow existing views. Therefore, no impacts from obstruction are anticipated.

Land Use

The crossing has historically included a two-lane rural bridge and is proposed to continue to include a two-lane rural bridge. No change in land use is proposed.

Land Disturbances

As the existing bridge is proposed for removal, no impacts related to land disturbances are anticipated to heritage resources.

Impact Analysis Table for Edgerton Road Bridge No. 11

Impact	*Level of Impact (Potential, None, Negligible, Minor, Moderate or Major)*
Demolition of any, or part of any, heritage attributes or features;	Major.
Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance of a building;	None.
Shadows created that obscure heritage attributes or change the viability of the associated cultural heritage landscape;	None.
Isolation of a heritage resource or part thereof from its surrounding environment, context or a significant relationship;	None.
Obstruction of significant identified views or vistas of, within, or from individual cultural heritage resources;	None.
A change in land use where the change affects the property's cultural heritage value; and	None.
Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource.	None.

In conclusion, major adverse impacts are anticipated as a result of the removal of the existing bridge which has been determined to exhibit CHVI.

4.3 Compatibility of the Proposed Replacement Bridge with the Existing Context

The replacement bridge (see **Section 3.2**) is proposed to include low-profile parapet walls which are not anticipated to obstruct or overshadow the existing scenic rural viewscape. It is proposed to be constructed from concrete, which is the same material as the existing bridge and therefore is not proposed to include materials which are incompatible with setting. Additionally, the proposed bridge includes decorative recesses and panels which recreate the Art Deco design of the previous bridge, based on the original structural drawings (see **Appendix B**) while its increased deck width, handrails, and use of contemporary concrete, and contemporary foundation will ensure it remains distinguishable from the previous version in accordance with the recommendations of the *Standards & Guidelines for the Conservation of Historic Places in Canada*. For these reasons, the proposed bridge is considered appropriate to the setting and compatible with the existing context.

5.0 Alternative Development Options

As described in **Section 3.1.1** of this report, the existing bridge has been determined to be in poor condition, to include safety concerns, and to necessitate a load limitation sign. As described in **Section 3.1.2**, detailed exploration of alternatives was explored in the Reconstruction Alternatives Memorandum which weighed a variety of factors in selecting a preferred alternative. The alternatives are further described below.

Option 1: Do nothing

This option would result in the bridge living out its remaining service life and continuing to deteriorate. This option was not recommended by the Memorandum as the remaining service life of the bridge was estimated at five years.

This option is also not recommended from a cultural heritage perspective because it would result in the existing bridge continuing to deteriorate until such time as safety concerns would likely necessitate its removal.

Option 2: Remove the Structure

This option involved removing the bridge without providing a replacement, the naturalization of the East Cross Creek channel, the installations of turnarounds at either end to facilitate garbage collection and snow removal, and the installation of barriers at the former location of the bridge. This option was not recommended by the Memorandum.

It is also not recommended from a heritage perspective as it would result in the loss of both the historic fabric of the existing bridge as well as the contextual value of the bridge crossing being present at the current location over East Cross Creek along Edgerton Road with an east-west orientation, which is considered to be a heritage attribute.

Option 3: Rehabilitate the Bridge

While this option would result in the retention of the existing heritage attributes of the current bridge, it would not allow for the structural deficiencies to be corrected which currently necessitate the load limit, and it would not allow for the deck width to be widened to be brought into conformity with current requirements. For these reasons, rehabilitation was not recommended. While this option would preserve the historic fabric of the existing bridge, it is not feasible to rehabilitate the bridge to meet current requirements and conserve heritage attributes.

From a heritage perspective, this option is also not recommended. Structural repairs and upgrades to the bridge are required in order for the crossing to remain functional, and due to the bridge's solid slab cast-in-place construction, it is not possible to conduct the required repairs and upgrades while retaining the parapet walls and slab, as these components currently represent a single unit and cannot be disassembled. Without the ability to correct the identified safety concerns and structural deficiencies, this option ultimately results in the same outcome as **Option 1**, which is not considered a preferred outcome for cultural heritage resources.

Option 4: Replace the Bridge

While this option would result in the loss of the existing heritage fabric, it would allow improvements in weight capacity, deck width, and relief flow during flooding. This option also offers the longest anticipated service life. For these reasons, this alternative was recommended in the Reconstruction Alternatives Memorandum.

This option is also recommended from a cultural heritage perspective because while the existing heritage fabric would be lost, the cultural heritage attribute comprising a functional crossing at the location over East Cross Creek along Edgerton Road and east-west orientation will be preserved, which is considered a heritage attribute of the bridge, and the proposed replacement bridge has been determined to be compatible with the context (see **Section 4.3**).

6.0 Mitigation and Conservation Measures

In recreating the look of the parapet walls based on the original architectural drawings, the replacement bridge visually mitigates the loss of the original structure to the streetscape and scenic rural views.

The removal of the existing bridge still includes the loss of original heritage fabric, which is considered a major adverse impact from demolition. Therefore, the following mitigation and conservation measures are recommended:

- That the replacement bridge be constructed at the current location over East Cross Creek along Edgerton Road with an east-west orientation, which is considered to be a heritage attribute.
- That photographic documentation of all elevations of the existing bridge be conducted to supplement the historic record prior its removal.

7.0 Conclusions and Recommendations

This report has identified the potential for major adverse impacts from demolition related to the removal of the existing bridge which has been determined to exhibit Cultural Heritage Value or Interest.

The recreation of the look of the parapet walls based on the original architectural drawings is anticipated to visually mitigate the loss of the original structure to the streetscape and scenic rural views.

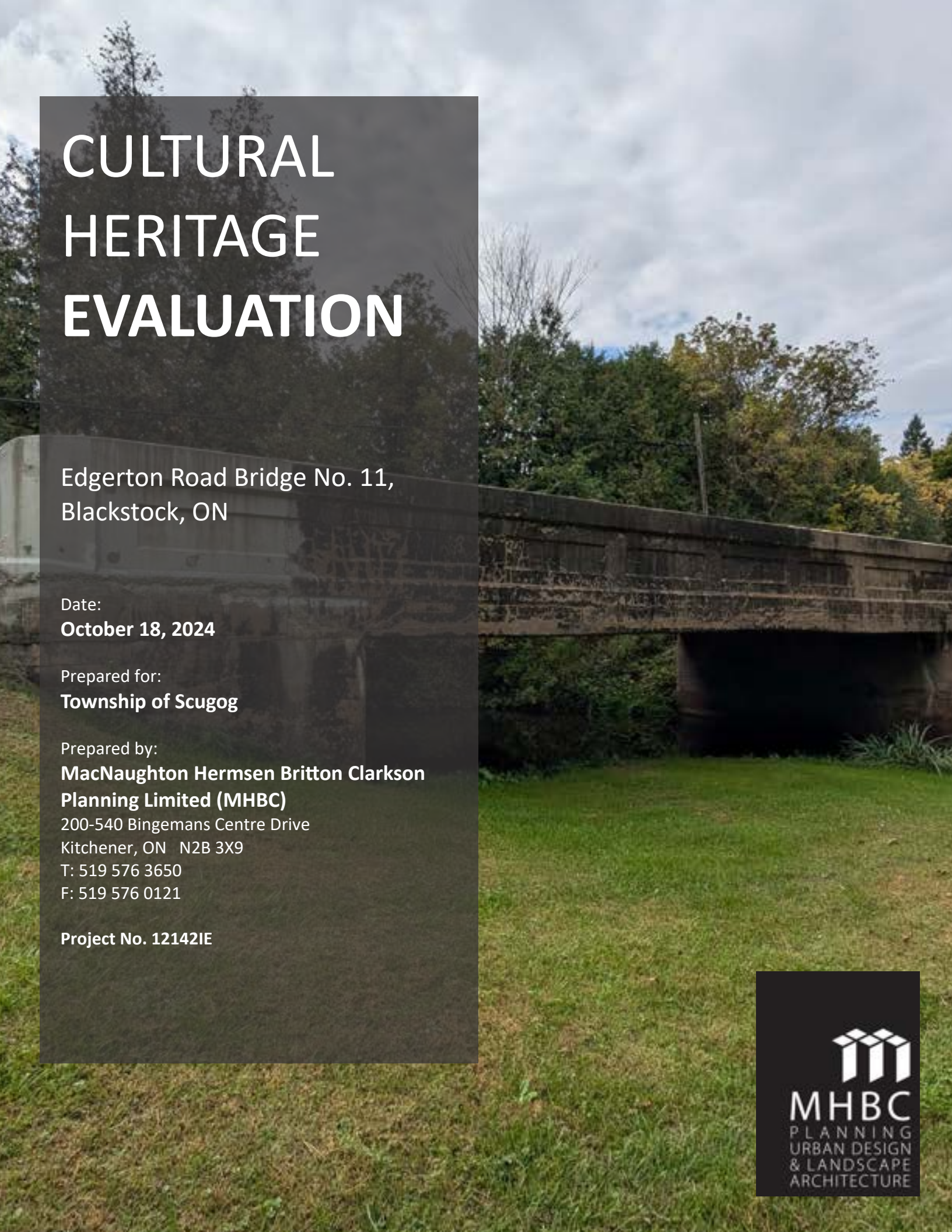
Additionally, the following mitigation measures are recommended to mitigate the loss of the original historic fabric of the existing bridge:

- That the replacement bridge be constructed at the current location over East Cross Creek along Edgerton Road with an east-west orientation, which is considered to be a heritage attribute.
- That photographic documentation of all elevations of the existing bridge be conducted to supplement the historic record prior its removal.

Additionally, this report has determined that the design, location, and materials of the proposed replacement bridge are compatible with the rural character and existing context of the area.

A

Appendix A: Cultural Heritage Evaluation Report (2024)



CULTURAL HERITAGE **EVALUATION**

Edgerton Road Bridge No. 11,
Blackstock, ON

Date:
October 18, 2024

Prepared for:
Township of Scugog

Prepared by:
MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC)
200-540 Bingemans Centre Drive
Kitchener, ON N2B 3X9
T: 519 576 3650
F: 519 576 0121

Project No. 12142IE

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ARCHITECTURE

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Acknowledgement of Indigenous Communities

This Cultural Heritage Impact Assessment acknowledges that the subject property located at Edgerton Road and East Cross Creek, approximately .2 kilometres west of Cartwright East Quarter Line in the Township of Scugog is situated within the traditional territory of the Anishinabewaki ᐊᓂᔑᓇᐯᒧᐊᑭ, Ho-de-no-sau-nee-ga (Haudenosaunee), Wendake-Nionwentsïo, and Mississauga peoples.

These lands are acknowledged as being associated with the following treaties:

- Treaty 20 (Rice Lake Purchase), 1818

This document takes into consideration the cultural heritage of Indigenous Nations, including their oral traditions and history when available and related to the scope of work.

Project Personnel

Dan Currie, MA, MCIP, RPP, CAHP	*Partner, Managing Director of Cultural Heritage*	Project Manager
Christy Kirwan, BA, Dipl.	*Heritage Planner*	Research, Author, Fieldwork

Glossary of Abbreviations

EA	*Environmental Assessment*
EAA	*Environmental Assessment Act*
CHL	*Cultural Heritage Landscape*
CHER	*Cultural Heritage Evaluation Report*
HIA	*Heritage Impact Assessment*
HCD	*Heritage Conservation District*
MHBC	*MacNaughton Hermsen Britton Clarkson Planning Limited*
MHSTCI	*Ministry of Heritage, Sport, Tourism and Culture Industries*
OHA	*Ontario Heritage Act*
OHBG	*Ontario Heritage Bridge Guidelines*
OHTK	*Ontario Heritage Toolkit*
O-REG 9/06	*Ontario Regulation 9/06 for determining cultural heritage significance*
PPS 2024	*Provincial Planning Statement (2024)*

1.0 Executive Summary

MHBC was retained by the Township of Scugog to prepare a Cultural Heritage Evaluation of the Edgerton Road Bridge No. 11 located on Edgerton Road approximately .2 kilometres west of Cartwright East Quarter Line.

The purpose of this report is to identify and evaluate the existing bridge to determine whether or not it exhibits cultural heritage value or interest.

This CHER has determined that the Edgerton Road Bridge No. 11 meets four of the nine criteria under *Ontario Regulation 9/06* for identifying cultural heritage value or interest. See **Appendix A** of this report for the full Statement of Cultural Heritage Value or Interest and associated Heritage Attributes.

As the Edgerton Road Bridge No. 11 meets the criteria for identifying Cultural Heritage Value or Interest under the *Ontario Heritage Act*, a Cultural Heritage Impact Assessment is recommended to evaluate any potential impacts with regard to the proposed replacement of the bridge.

2.0 Introduction

2.1 Location of Edgerton Road Bridge No. 11

The Edgerton Road Bridge No. 11 is located in the community of Cadmus, which is located within the hamlet of Blackstock in the Township of Scugog. It is situated along Edgerton Road, approximately .2 kilometres west of the intersection of Edgerton Road and Cartwright East Quarter Line (see **Figure 1**).

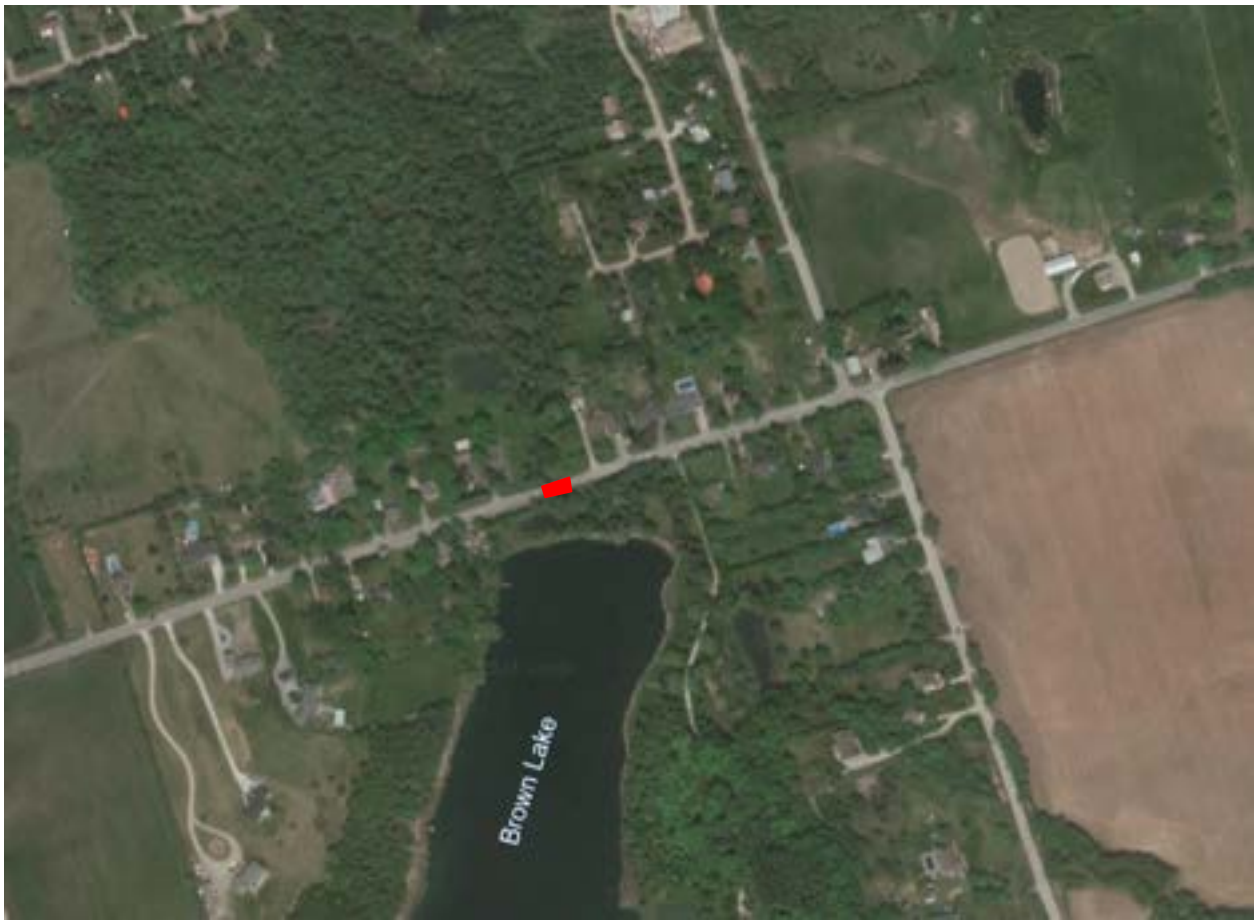


Figure 1: Excerpt of a satellite image with Edgerton Bridge No. 11 noted in red. (Source: Google Earth, 2021)

The bridge resides within the broader context of the Regional Municipality of Durham, and the surrounding area primarily includes rural and agricultural and residential uses with some small hamlets. The bridge provides access over a branch of East Cross Creek between Fallis Pond and Brown Lake.

East Cross Creek is a tributary of Scugog River and part of the East Cross Creek Watershed, which is under the jurisdiction of the Kawartha Region Conservation Authority. The topography of the area includes gently rolling hills and valley lands.

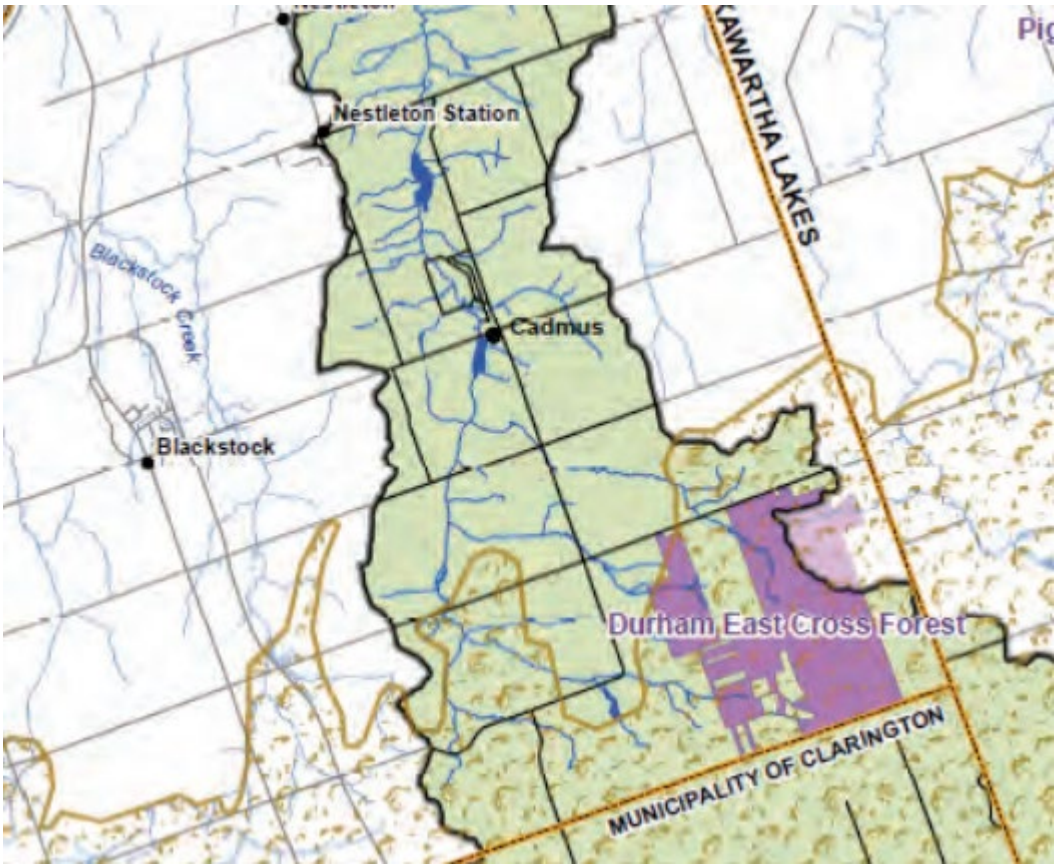


***Figure 2**: Excerpt of the East Cross Creek Subwatershed map. The approximate location of the bridge is noted as the settlement of Cadmus on the map. (Source: Kawartha Region Conservation Authority East Cross Creek Subwatershed Management Plan, 2012)*

2.1.1 Description of Edgerton Road Bridge No. 11

Edgerton Road Bridge No. 11 is a two-lane, single span, reinforced concrete solid slab bridge on solid wall abutments. The bridge has a deck area of 89.80m^2. The bridge is 6.70

metres wide and 13.40 metres in length. The bridge is owned and maintained by the Township of Scugog.

According to the Township's records, the bridge was constructed in 1925. The concrete that forms the bridge's structure was cast in place; lines from the removable wood moulds can still be seen on the bridge's exterior which indicate its method of construction. Its design includes paneled parapet walls with simple decorative elements indicative of the art deco style including simple recessed rectangular panels and sharply curved parapet ends.

A site visit was undertaken on October 1, 2024 (see **Figures 3-5**).



Figure 3: View of the north side of Edgerton Road Bridge looking south. (MHBC, 2024)



Figure 4: View of the south side of the bridge looking north-east. (MHBC, 2024)



Figure 5: View of the underside of the bridge and west abutment. (MHBC, 2024)

2.2 Heritage Status

Edgerton Road Bridge No. 11 is not designated or listed under the *Ontario Heritage Act* as per a review of the Township of Scugog Heritage Register. The bridge is not identified as being included within, nor being located adjacent to a Cultural Heritage Landscape. It is not located within a Heritage Conservation District, nor is it located along a Canadian Heritage River System.

2.3 Adjacent Cultural Heritage Resources

The Township of Scugog Official Plan does not define "adjacent" as it relates to cultural heritage resources. Therefore, the definition of adjacent is referred to PPS 2024 as follows,

> ***Adjacent lands:*** *means*
>
> *d) for the purposes of policy 4.6.3, those lands contiguous to a protected heritage property or as otherwise defined in the municipal official plan.*

The bridge is not located adjacent (contiguous) to any designated or listed properties which are considered to be of cultural heritage value or interest.

3.0 Policy Context

3.1 Planning Act and Provincial Planning Statement 2024

The *Planning Act* makes a number of provisions respecting cultural heritage, either directly in Section 2 of the Act or Section 3 respecting policy statements and provincial plans. In Section 2, the *Planning Act* outlines 18 spheres of provincial interest that must be considered by appropriate authorities in the planning process. One of the intentions of *The Planning Act* is to "encourage the co-operation and co-ordination among the various interests". Regarding cultural heritage, Subsection 2(d) of the Act provides that:

> *The Minister, the council of a municipality, a local board, a planning board and the Municipal Board, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as, …*
>
> *(d) the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest;*

The *Planning Act* therefore provides for the overall broad consideration of cultural heritage resources through the land use planning process.

In support of the provincial interest identified in Subsection 2 (d) of the *Planning Act*, and as provided for in Section 3, the Province has refined policy guidance for land use planning and development matters in the *Provincial Planning Statement, 2024* (PPS). The PPS "provides policy direction on matters of provincial interest related to land use planning and development." When addressing cultural heritage planning, the PPS provides for the following:

> ***4.6.1 Protected heritage property, which may contain built heritage resources or cultural heritage landscapes, shall be conserved.***
>
> ***Protected Heritage Property*:** *Protected heritage property: means property designated under Part IV or VI of the Ontario Heritage Act; property included in an area designated as a heritage conservation district under Part V of the Ontario Heritage Act; property subject to a heritage conservation easement or covenant*

under Part II or IV of the Ontario Heritage Act; property identified by a provincial ministry or a prescribed public body as a property having cultural heritage value or

interest under the Standards and Guidelines for the Conservation of Provincial Heritage Properties; property protected under federal heritage legislation; and UNESCO World Heritage Sites.

Built Heritage Resource: *means a building, structure, monument, installation or any manufactured or constructed part or remnant that contributes to a property's cultural heritage value or interest as identified by a community, including an Indigenous community.*

Cultural Heritage Landscape: *means a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association.*

Conserved: *means the identification, protection, management and use of built heritage resources, cultural heritage landscapes and archaeological resources in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision-maker. Mitigative measures and/or alternative development approaches should be included in these plans and assessments.*

3.3 Ontario Heritage Act, R.S.O. 1990, c. O.18

The *Ontario Heritage Act*, R.S.O, 1990, c.0.18 remains the guiding legislation for the conservation of significant cultural heritage resources in Ontario. This Cultural Heritage Evaluation Report (CHER) has been guided using the criteria provided in *Regulation 9/06* of the *Ontario Heritage Act* which outlines the mechanism for determining cultural heritage value or interest. The regulation sets forth categories of criteria and several sub-criteria.

3.4 Regional Municipality of Durham Official Plan

The Durham Regional Official Plan includes guidance related to the management of cultural heritage resources in Section 2.3.49. The following includes policies related to the scope of this CHER:

> *BUILT AND CULTURAL HERITAGE RESOURCES*
>
> *2.3.49 Regional Council shall encourage Councils of the area municipalities to utilize the Ontario Heritage Act to conserve, protect and enhance the built and cultural heritage resources of the municipality, to establish Municipal Heritage Committees to consult regarding matters relating to built and cultural heritage resources planning and, the designation of heritage conservation districts and properties as provided for in the Ontario Heritage Act.*

The Durham Regional Official Plan does not include policies which are specific to the identification and evaluation of significant bridges.

3.5 Township of Scugog Official Plan

Section 1.3 of the Township of Scugog Official Plan identifies the preservation of cultural heritage as one of the Plan's objectives:

> *Preserve the rural character of the landscape, settlement areas and cultural heritage of the Township*

Additionally, Section 3.5 provides further guidance including policies for the management of cultural heritage resources which include public works such as bridges:

> *Any public work shall have regard to the retention and protection of significant cultural heritage resources in accordance with the goals and objectives of this Plan. Pursuant to the Ontario Heritage Act, all public works within Heritage Conservation Districts shall conform to the applicable Heritage Conservation District Plan.*

Therefore, this CHER has been prepared in order to determine whether the site includes potential cultural heritage resources.

4.0 Background Research and Historical Context

4.1 Indigenous Communities and Pre-Contact History

The pre-contact period of history in Ontario specifically refers to the period of time prior to the arrival of Europeans in North America. The Pre-Contact settlement of the province can be divided into 4 main time periods including Paleolithic, Archaic, Woodland, and Historic. As the environment of Southern Ontario warmed, the ability to harvest, form transport networks and develop tools increased. As mobility increased via land and water, the intermingling of peoples improved, giving way to larger communal sites and villages (Williamson, 1990, p. 317). Between the 1400s and the 1600s, groups began migrating northwards into what is now the Township of Scugog.

It was during this time that the Iroquoia nations came to the area and began increasing in size. The Iroquoian peoples are comprised of several descendants of the Proto-Iroqoian people and language, however, some of the Iroquoian nations were competitors (Daeg de Mott, 2009). The Huron-Wendat Nation, descendants of the Iroquoian people, are believed to have populated the region in the 14th century and they began building a confederacy during the 15th century. The area known today as the Township of Scugog was inhabited by the ancestral Huron-Wendat. It is also the traditional territory of the Anishinabewaki ᐊᓂᔑᓇᐯᒧᐎᓐ, Ho-de-no-sau-nee-ga (Haudenosaunee), Wendake-Nionwentsïo, and Mississauga peoples.

4.2 Township History

Edgerton Road Bridge No. 11 is located between Lot 18 Concessions 4 and 5 of the historic Township of Cartwright. First surveyed in 1816, the Township of Cartwright was named after the Hon. Richard Cartwright (Van Camp, p. 28). Born in Albany, New York, Cartwright immigrated to Canada during the American Revolution. He was a prominent scholar, businessman, and politician, and author (Rawlyk). Cartwright's earliest permanent Euro-Canadian settlers arrived in the 1830s, predominantly from Ireland (Van Camp, p. 28).

In the early 1830s, William Purdy built a dam at the location of present-day Lindsay for the operation of a sawmill and grist mill (Van Camp, p. 30). Prior to the construction of the dam, the Scugog River traversed a region of marshes and forest south of Lindsay. Once built, the dam transformed the landscape and resulted in the formation of Lake Scugog (Jones).

Early commercial enterprises in the Township were predominantly comprised of farming and the raising of livestock. There was also a prominent cheese factory, founded in the 1850s; the Cartwright Creamery (Van Camp, p. 60).

By 1850, Cartwright Township had a population of 1,558, and by 1861 the population had risen to 2,727 (The Early Settlement and Pioneers of Cartwright Township).



Figure 6: Excerpt from an 1861 map showing Cartwright Township. The settlement of Williamsburg (now Blackstock) is noted in black. (Source: Tremaine's Map of the County of Durham, Upper Canada, 1861)

It wasn't until the 1880s when the Township received a railway station; Burketon Station was built in 1884 as part of the Canadian Pacific Railway (Burketon Station). However, it didn't contribute to the Township's economic growth as much as expected (Blackstock Village History).

King's Highway 7A was constructed in 1938. And it was at this point that the region received an arterial roadway (The King's Highway 7A).

Local municipal restructuring occurred in 1974 and the Townships of Scugog, Reach and Cartwright, along with the Town of Port Perry amalgamated to form the present day Township of Scugog.

4.3 History of Blackstock

Blackstock originally began as a crossroad settlement in the early 19th century and was known as Tooley's Corners after John Tooley, the area's first Euro-Canadian settler (Heritage Driving Tours: Blackstock and Area). It was renamed in 1857 to Williamsburg (Scugog Experience). Blackstock was home to the Township's first post office which was known as the Cartwright Post Office (Blackstock Village History).

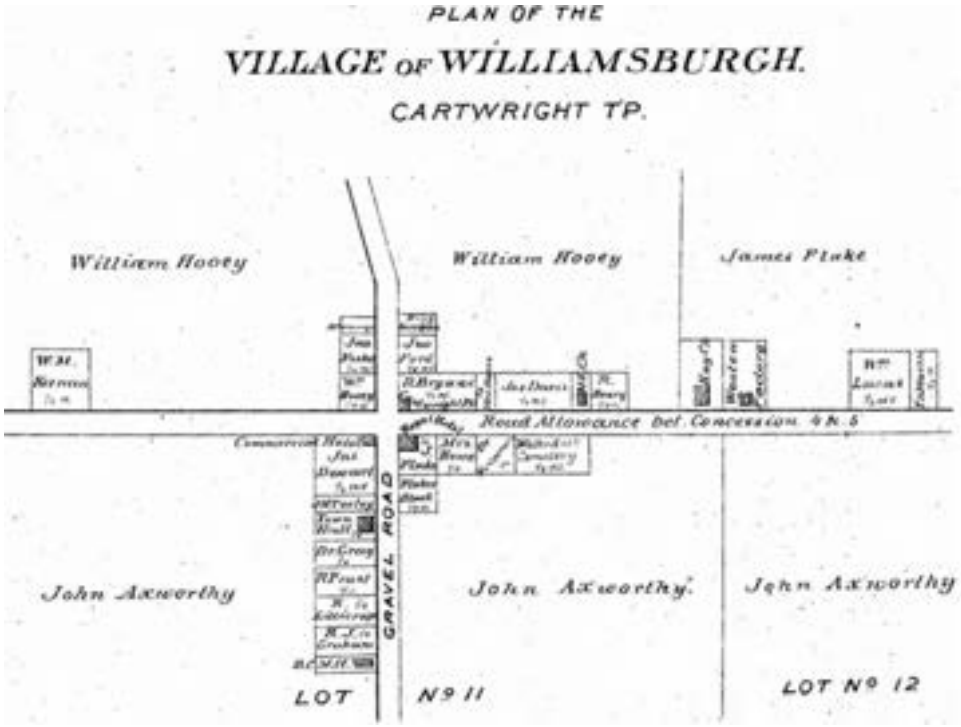


Figure 7: Excerpt from an 1877 Plan of Williamsburg (now Blackstock) showing the layout of the original crossroad settlement (Source: Plan of the Village of Williamsburgh Cartwright TP, 1877)

At the time of the above plan, the settlement boasted 3 hotels, a town hall, several churches, and a textile factory. Starting in the 1860s, the Agricultural Society was founded and the Town began to host an annual agricultural fair, the Blackstock Fair, which continues to this day (Van Camp, p. 79).

In 1887 the Town was officially renamed to Blackstock (Scugog Experience). It took its new name from George Tate Blackstock, a prominent lawyer (Blackstock Village History).



Figure 8: A 1921 photograph of George Tate Blackstock; the man after whom Blackstock was renamed in 1887 (Source: The Globe, 28 December 1921)

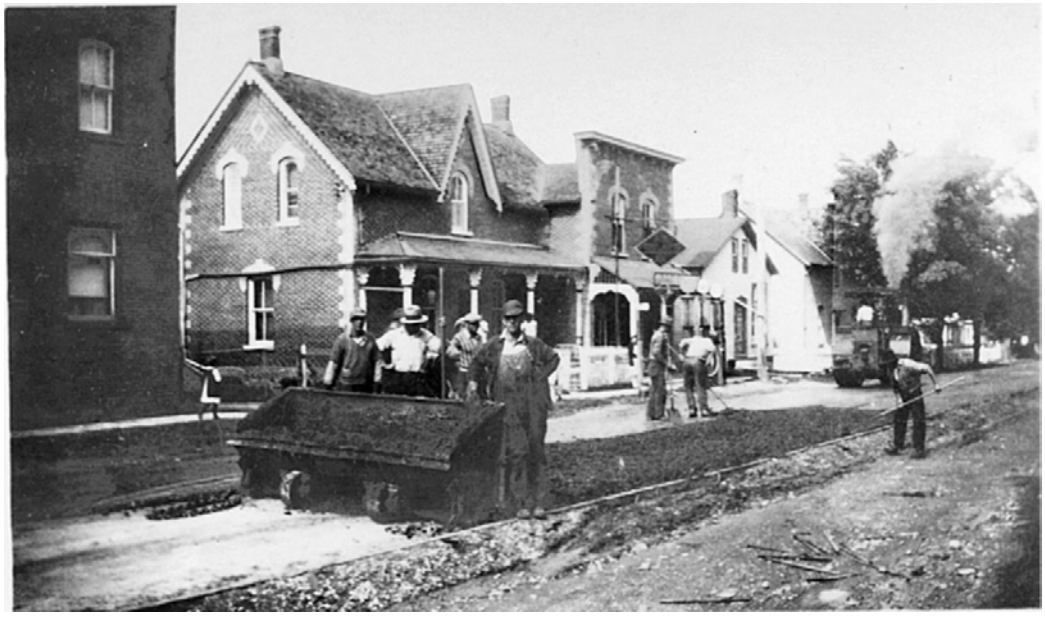


Figure 9: A historic photograph showing the first paving of Scugog Street North in Blackstock, circa 1910s. (Source: courtesy of Scugog Heritage Gallery)

Today the Town encompasses the original crossroad settlement as well as much of the surrounding area, including the village of Cadmus, where Edgerton Road Bridge No. 11 is located.

4.4 History of Cadmus

Cadmus is a small hamlet crossroad settlement located within Blackstock and to the east of Blackstock's main crossroad settlement area. The area's first Euro-Canadian settler was John Brown who settled in the area in 1837 and built a carding mill. A grist mill and sawmill were established soon after. The first post office was opened in 1871 and the settlement was called Ambuay at the time. It was soon renamed to Cadmus in 1873 (Scugog Experience). Beloved local schoolteacher John Hughes renamed it after the Greek mythological founder and first king of Thebes (Lake Scugog Historical Society Newsletter: Winter 2020 Edition, p. 13). By the late 19th century, Cadmus included a butcher shop, blacksmith shop, post office, and a general store (Heritage Driving Tours).



Figure 10: Photograph from the early 1900s showing the Cadmus general store and post office. (Source: courtesy of Scugog Heritage Gallery)

From an early period, Cadmus has catered to cottagers and summer tourists; today it still welcomes tourists attracted by nearby Lake Scugog to the north and Oak Ridges Moraine conservation areas to the south.

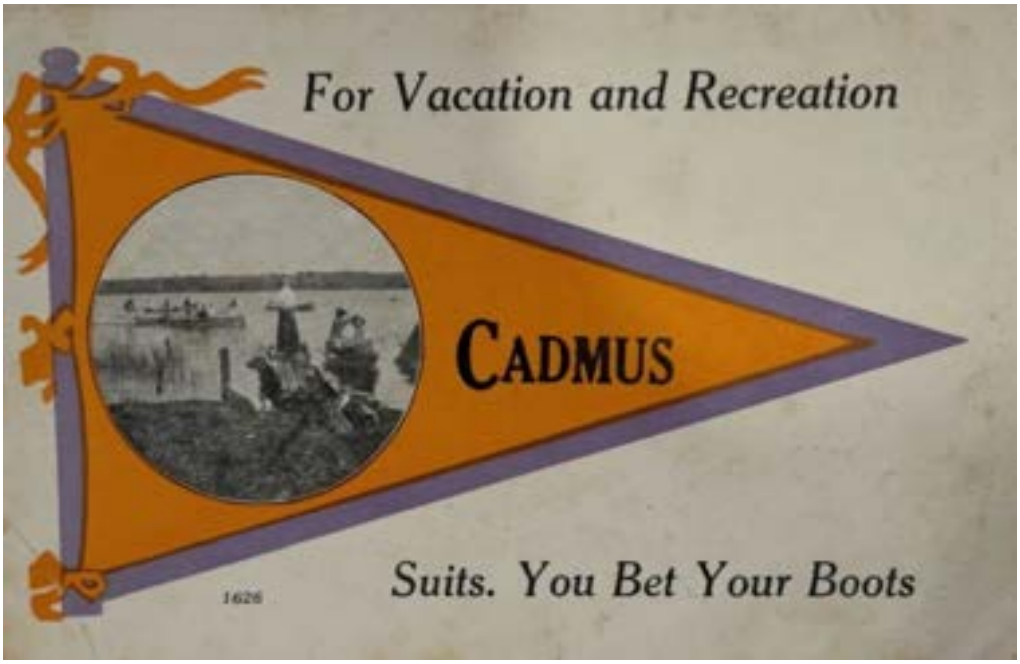


Figure 11: Cadmus postcard advertising its recreational charms, c. early 20th century. (Source: courtesy of Scugog Heritage Gallery)

4.5 Edgerton Bridge No. 11 and East Cross Creek

Edgerton Bridge No. 11 is located along a concession road (now Edgerton Road) in the Township of Scugog within the Regional Municipality of Durham. It sits at the edge of Brown Lake where the lake empties northwards into East Cross Creek. It is located at Lot 18 between Concessions 4 and 5 of the historic Township of Cartwright. Concession roads were originally laid out in the early 19th century in order to provide access to newly surveyed lots for settlement and clearing. Edgerton Road provided Cadmus with access to Blackstock to the west and Burton to the east from an early period. The 1857 map below does not indicate the presence of a bridge structure, but it can be assumed that one was present at this location, as it would have been necessary to traverse the creek that crossed the concession road (see **Figure 12**).

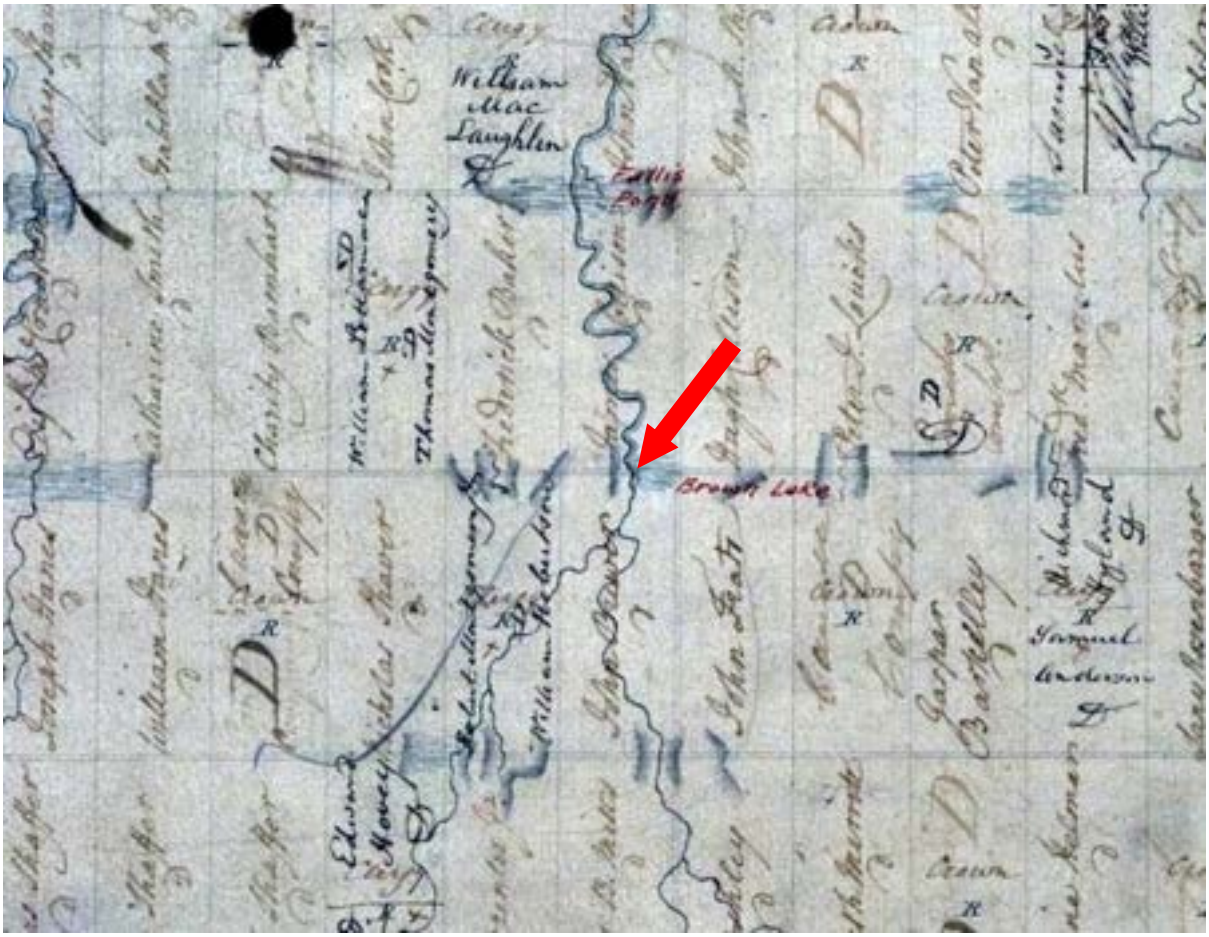


Figure 12: Excerpt from an 1857 map of Cartwright with the approximate location of the crossing noted with a red arrow. (Source: Courtesy of Scugog Heritage Gallery)

According to the 1861 map below, a mill was located directly to the south, at the mouth of Brown Lake (see **Figure 13**). At this time, the map notes that the crossing was located adjacent to lands owned by R. Lawson to the north and John McNaughton to the south.

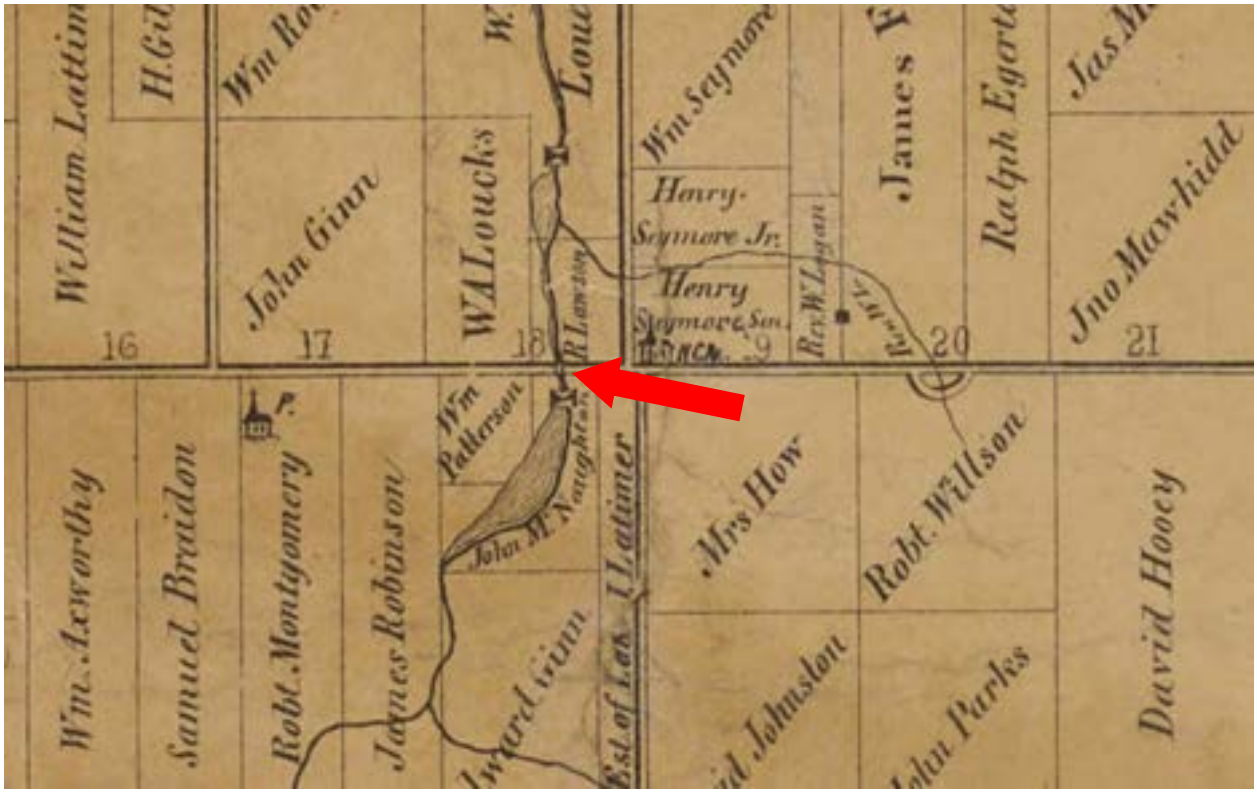


Figure 13: Excerpt from an 1861 map with the approximate location of the present-day Edgerton Road Bridge No. 11 indicated with a red arrow. (Source: Tremaine's Map of the County of Durham, Upper Canada, 1861)

Likewise, the below map from 1878 indicates a mill in the same location, and the Cadmus Post Office can now be seen located close by (see **Figure 14**). At this time, the crossing would have been located between lands owned by J. Fluke to the north and south. J. Fluke refers to Captain James Fluke, Captain of the 3rd Company of the Cartwright Volunteers in the 1860s. Captain Fluke was one of Blackstock's first settlers. He ran the settlement's first general store and was the proprietor of its first hotel. He was known to have purchased land in Cadmus to run a grist mill there (Arculus). This likely refers to the mill noted on the map on the lands adjacent to the Edgerton Road crossing.

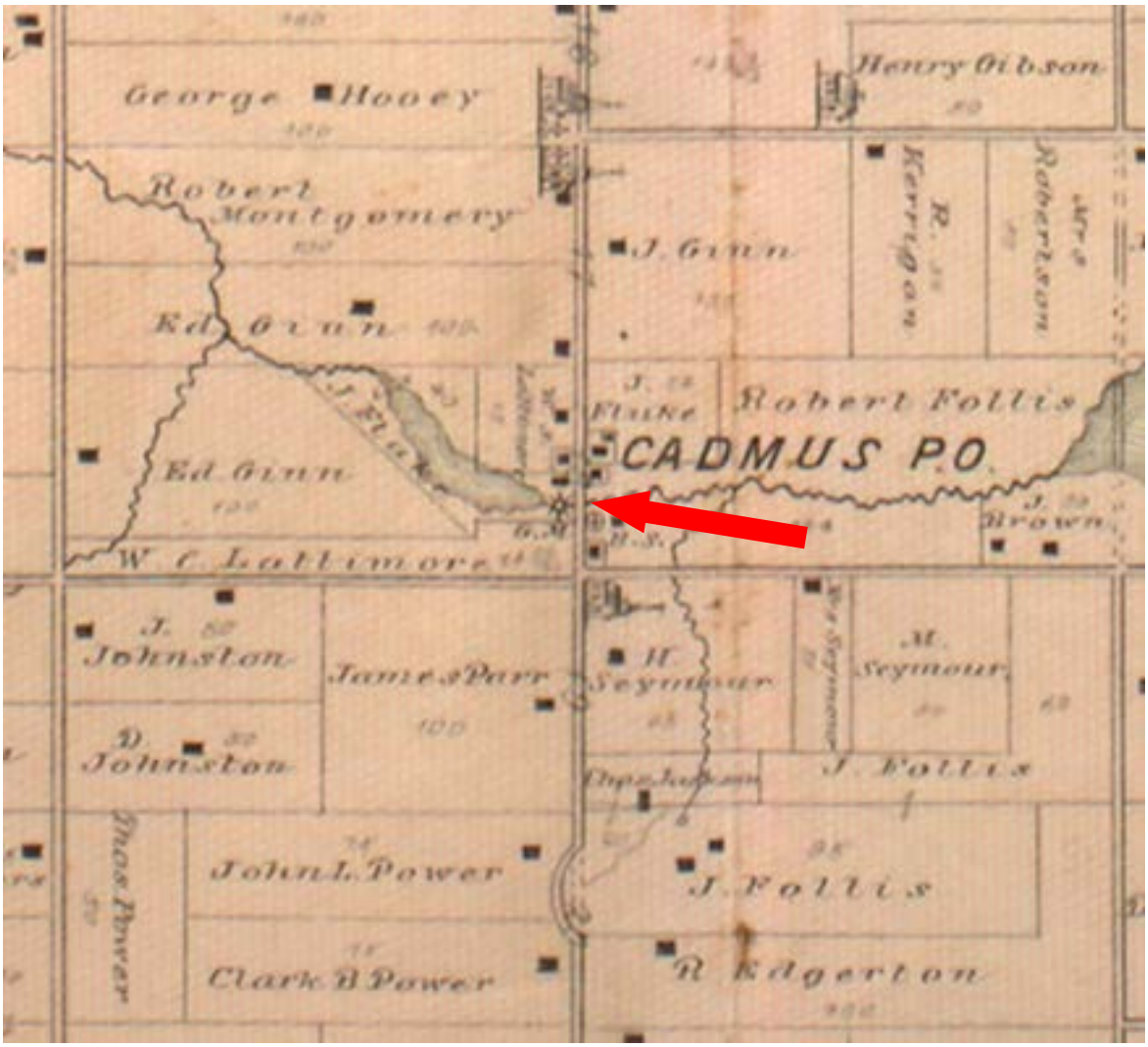
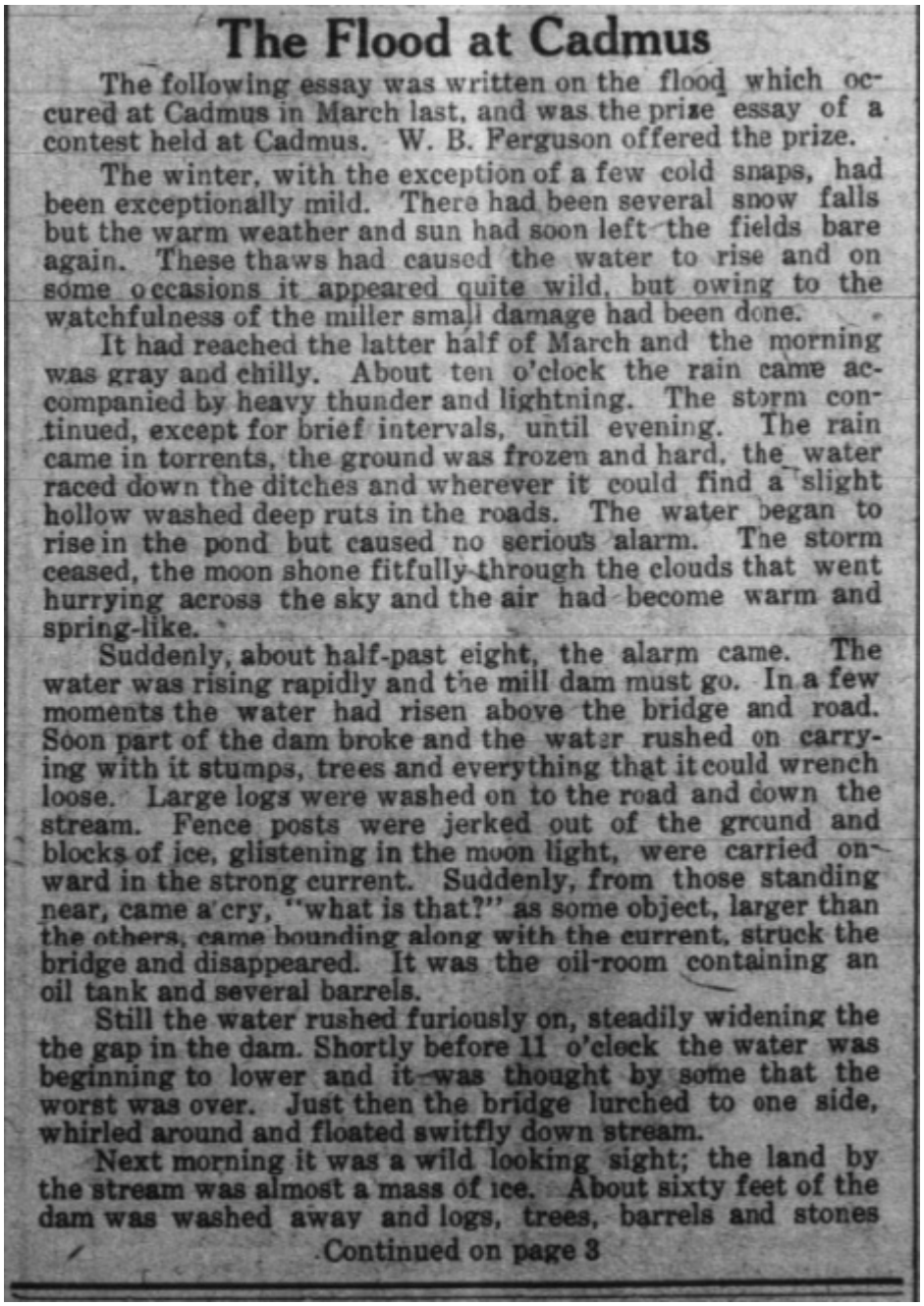


Figure 14: Excerpt from an 1878 map indicating the settlement of Cadmus. The approximate location of Edgerton Road Bridge No. 11 is noted with a red arrow. (Source: H. Belden & Co., Illustrated historical atlas of the counties of Northumberland and Durham, Ont., 1878)

Grist mills were the centre of early settler life; they were limited in location by the necessity for constantly running water, and settlements often formed based on ease of access to the mill (Importance of Mills). Based on the location of Edgerton Road Bridge No. 11 along a concession road adjacent to a grist mill within the heart of the original crossroad settlement of Cadmus (present day Edgerton Road and Cartwright East Quarter Line), it can be assumed that this location was a high traffic area within the settlement. A permanent bridge was present from an early period, and a substantial enough bridge to accommodate pack animals, carts, and other traffic associated with the operation of a grist mill and post office.

An account from a 1921 issue of the Port Perry Star describes a dramatic flood in Cadmus the previous spring which caused extensive damages to the mill and dam, and during which a wood bridge was carried away (see **Figures 15 & 16**).



The Flood at Cadmus

The following essay was written on the flood which occured at Cadmus in March last, and was the prize essay of a contest held at Cadmus. W. B. Ferguson offered the prize.

The winter, with the exception of a few cold snaps, had been exceptionally mild. There had been several snow falls but the warm weather and sun had soon left the fields bare again. These thaws had caused the water to rise and on some occasions it appeared quite wild, but owing to the watchfulness of the miller small damage had been done.

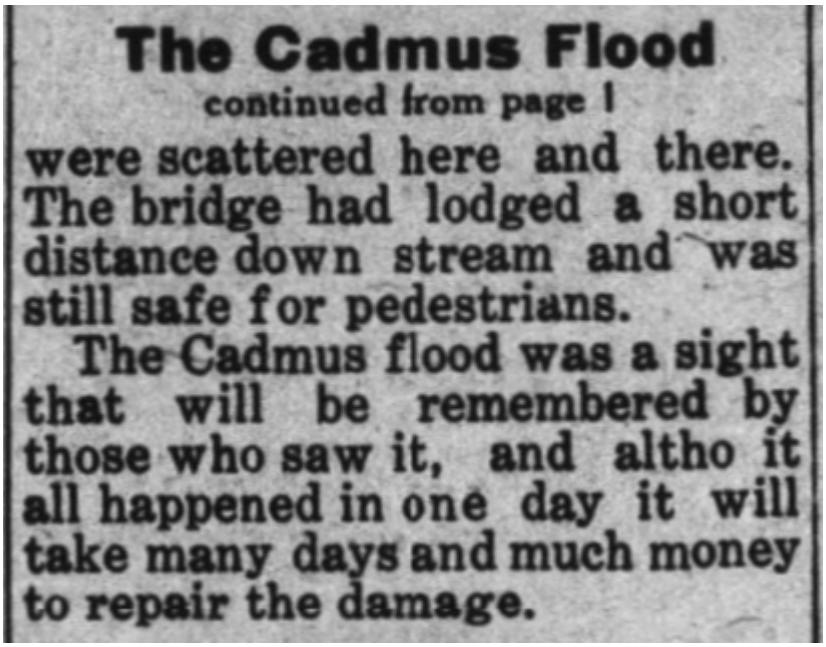
It had reached the latter half of March and the morning was gray and chilly. About ten o'clock the rain came accompanied by heavy thunder and lightning. The storm continued, except for brief intervals, until evening. The rain came in torrents, the ground was frozen and hard, the water raced down the ditches and wherever it could find a slight hollow washed deep ruts in the roads. The water began to rise in the pond but caused no serious alarm. The storm ceased, the moon shone fitfully through the clouds that went hurrying across the sky and the air had become warm and spring-like.

Suddenly, about half-past eight, the alarm came. The water was rising rapidly and the mill dam must go. In a few moments the water had risen above the bridge and road. Soon part of the dam broke and the water rushed on carrying with it stumps, trees and everything that it could wrench loose. Large logs were washed on to the road and down the stream. Fence posts were jerked out of the ground and blocks of ice, glistening in the moon light, were carried onward in the strong current. Suddenly, from those standing near, came a cry, "what is that?" as some object, larger than the others, came bounding along with the current, struck the bridge and disappeared. It was the oil-room containing an oil tank and several barrels.

Still the water rushed furiously on, steadily widening the the gap in the dam. Shortly before 11 o'clock the water was beginning to lower and it was thought by some that the worst was over. Just then the bridge lurched to one side, whirled around and floated swiftly down stream.

Next morning it was a wild looking sight; the land by the stream was almost a mass of ice. About sixty feet of the dam was washed away and logs, trees, barrels and stones

Continued on page 3



The Cadmus Flood

continued from page 1

were scattered here and there. The bridge had lodged a short distance down stream and was still safe for pedestrians.

The Cadmus flood was a sight that will be remembered by those who saw it, and altho it all happened in one day it will take many days and much money to repair the damage.

Figures 15&16: Excerpts from a 1921 issue of the Port Perry Star describing a dramatic flood in Cadmus and the damage it caused to the bridge, dam, and mill. (Source: Port Perry Star, April 8, 1921, p. 1 & 3)

This account likely refers to a wood bridge that predated the current concrete bridge, which the Township's records indicate was constructed in 1925.

Its construction came at a time of increased infrastructure spending in the region, particularly on roads, bridges, and culverts. In June of 1920, County Council voted to expand funding for bridges and culverts in the region from 10,000 to 25,000 (Port Perry Star, June 17, 1920, p. 1), and by February of 1925, the Port Perry Star includes robust debate on the merits of cutting back on bridge and culvert expenditures on the front page, citing an overdraft of $11,000 on bridges and culverts by the end of 1923 (Port Perry Star, February 12, 1925, p. 1).

This flurry of bridge expenditures was likely spurred by the pressures of increased automobile and machinery traffic, as well as a desire to provide more permanent solutions to the frequent damage caused by flooding in the area. Canada was a major automobile supplier of the British Empire throughout the 1920s, and this period saw a massive boom in auto manufacturing in the country (The Auto Boom). Concrete was seen as the solution to frequent and costly maintenance. "It looks as though the slogan 'Concrete for Permanence' can be readily supported by facts and figures." extolls another front page article from 1920 on the ability of concrete construction to withstand the wear of increased automobile traffic (Port Perry Star, March 18, 1920, p. 1).

The current bridge is constructed in the style of a reinforced concrete slab bridge, a style which was common in the 1910s-30s. Such bridges are typically cast-in-place and often include paneled parapets, as is the case with Edgerton Road Bridge No. 11 (History and Significance of Bridge Building Technology in Pennsylvania from the Earliest Days Until 1956). Fully intact concrete slab bridges of this type built before 1955 are typically found only in rural areas where roads are not regularly salted (Brinckerhoff).

At the time of the 1927 aerial photograph below, the current bridge would have been recently constructed. While the details are not clear, the bridge can be seen at the northernmost edge of Brown Lake (see **Figure 17**).



Figure 17: Excerpt from a 1927 aerial photograph of bridge (noted with a red arrow) and surrounding area. (Source: courtesy of the National Air Photo Library)

The 1930 topographic map below indicates the location of the bridge and notes it with the letter "M" as a masonry bridge (see **Figure 18**).



Figure 18: Excerpt from a 1930 topographic map with the bridge indicated as being of masonry construction with a letter M. (Source: Scugog, Ontario Topographic Map, 1:63,360. Map Sheet 031D02, ed. 1, 1930)

According to the 1940 topographic map, a few more dwellings are present in the surrounding area, particularly along Edgerton Road, but the area appears otherwise unchanged (see **Figure 19**).



Figure 19: Excerpt from a 1940 topographic map with the bridge indicated with a red arrow. (Source: Scugog, Ontario. 1:63,360. Map Sheet 031D02, ed. 3, 1940)

The 1960 aerial photograph below depicts the Edgerton Road Bridge No. 11 and the surrounding area. Edgerton Road retains its original orientation of a rural concession road at this time, and little development has taken place since the time of the 1940 topographic map (see **Figure 20**).



Figure 20: Excerpt from a 1960 aerial photograph with the approximate location of the bridge noted with a red arrow. (Source: courtesy of the National Air Photo Library)

Likewise, according to the 1969 aerial photograph below, little has changed in the surrounding area (see **Figure 21**).



Figure 21: Excerpt from a 1969 aerial photograph with the approximate location of the bridge noted with a red arrow. (Source: courtesy of the National Air Photo Library)

According to the 1976 and 1981 aerial photographs below, the area retains its rural character at this time (see **Figures 22-23**).



Figure 22: Excerpt from a 1976 aerial photograph with the approximate location of the bridge noted with a red arrow. (Source: courtesy of the National Air Photo Library)



Figure 23: Excerpt from a 1981 aerial photograph with the approximate location of the bridge noted with a red arrow. (Source: courtesy of the National Air Photo Library)

The 2005 satellite image below provides the first clearly visible view of the bridge structure (see **Figure 24**).



Figure 24: Excerpt of a 2005 satellite image with the bridge structure clearly visible. (Source: Google Earth Pro, 2005)

According to the 2011 Google Streetview excerpt below, the bridge appeared largely intact at the time, though some cracking and spalling were evident, particularly at the parapet ends on either side (see **Figures 25-26**).





Figures 25-26: Views from 2011 showing the intact bridge with some localized damage at the parapet ends. (Source: Google Maps, 2011)

According to the 2017 OSIM Inspection, the bridge was still intact, and according to the 2019 OSIM Inspection, one of the parapet wall ends had been recast by tha time (see **Figures 27** and **28**).



Figure 27: View of the Edgerton Road Bridge No. 11 as it looked at the time of the 2017 OSIM Inspection. (Source: Township of Scugog, 2017)



Figure 28: View of the Edgerton Road Bridge No. 11 as it looked at the time of the 2019 OSIM Inspection. (Source: Township of Scugog, 2019)

According to the 2021 satellite view of the property below, the bridge looked much as it does today (see **Figure 29**).



Figure 29: Excerpt from a satellite view of the site with the Edgerton Road Bridge No. 11 clearly visible. (Source: Google Earth, 2021)

5.0 Cultural Heritage Evaluation

5.1 Methodology

The bridge, along with its broader context were evaluated through a review of historic maps, plans, documentation, and aerial photographs in order to trace the development of the area over time. A field investigation was also undertaken October of 2024 in order to document the site through photographs and identify potential cultural heritage resources.

The following evaluation of potential Built Heritage for this project is conducted in accordance with *Ontario Regulation 9/06* under the *Ontario Heritage Act*, and the guidelines presented in MTSC's *Ontario Heritage Tool Kit*.

Ontario Regulation 9/06 states the criteria for determining cultural heritage value or interest under the *OHA*. The regulation states that a property must meet two or more of the following criteria to be considered of cultural heritage value or interest:

> *1. The property has design value or physical value because it is a rare, unique, representative or early example of a style, type, expression, material or construction method.*
>
> *2. The property has design value or physical value because it displays a high degree of craftsmanship or artistic merit.*
>
> *3. The property has design value or physical value because it demonstrates a high degree of technical or scientific achievement.*
>
> *4. The property has historical value or associative value because it has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community.*
>
> *5. The property has historical value or associative value because it yields, or has the potential to yield, information that contributes to an understanding of a community or culture.*

6. The property has historical value or associative value because it demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.

7. The property has contextual value because it is important in defining, maintaining or supporting the character of an area.

8. The property has contextual value because it is physically, functionally, visually or historically linked to its surroundings.

9. The property has contextual value because it is a landmark.

5.2 Evaluation of Edgerton Road Bridge No. 11

5.2.1 Design/Physical Value

Edgerton Road Bridge No. 11 can be described as a single-span reinforced concrete solid slab bridge on solid wall abutments which the Township's records indicate was constructed in 1925. The bridge has design/physical value as it is a representative example of an early 20th century reinforced concrete solid slab bridge which was cast in place in a style which was common from the 1910s-1930s. Lines from the removable wood moulds can still be seen on the bridge's exterior which indicate its method of construction. Its design includes paneled parapet walls with simple decorative elements indicative of the art deco style including simple recessed rectangular panels and sharply curved parapet ends. Additionally, fully intact concrete slab bridges of this type built before 1955 are typically found in rural areas where roads are not regularly salted, as is the case with Edgerton Road Bridge No. 11; this particular bridge is the last remaining reinforced concrete bridge dating to the 1920s within the Township of Scugog, making it a rare surviving example within the region.

5.2.2 Historical/Associative Value

Edgerton Road Bridge No. 11 was constructed in the 1920s during a period of increased municipal infrastructure spending in the region, particularly on bridges and culverts in order to accommodate the demands of increasing auto traffic and to better withstand the spring floods like as the one that swept away the previous bridge in the same location. As such, it has direct associations with the automobile manufacturing boom and with the rise of car culture in Canada.

5.2.3 Contextual Value

Edgerton Road Bridge No. 11 is important in supporting the rural character of the area. It is important in its physical and functional link to its surroundings. The existing bridge (as well as its predecessors) provide a historic crossing over East Cross Creek along the old concession road between Concessions 4 and 5. A review of historical maps and plans identifies that a bridge was likely available in this location in 1857 or earlier. This physical and functional relationship remains today. The existing bridge was constructed in 1925 and its early 20th century features enhance the scenic quality of this rural settlement area.

5.2.4 Heritage Attributes

The following provides a list of the heritage attributes of Edgerton Road Bridge No. 11:

- Location over East Cross Creek along Edgerton Road and east-west orientation;
- Narrow 2-lane solid slab construction;
- Concrete abutments;
- Paneled parapet walls with simple art deco elements; and,
- Structure surface texture indicative of the original concrete moulds indicating the bridge's cast-in-place construction.

5.3 Evaluation Table

The following provides a summary of the evaluation of Edgerton Road Bridge No. 11 as per *Ontario Regulation 9/06*.

Design/Physical Value	
Is a rare, unique, representative or early example of a style, type, expression, and material or construction method.	Yes. Edgerton Road Bridge No. 11 is a representative example of an early 20th century reinforced concrete solid slab bridge which was cast in place and includes some simple art deco elements. It was constructed in a style which was common from the 1910s-1930s. It is the last remaining reinforced concrete bridge dating to the 1920s within the Township of Scugog, making it a rare surviving example within the region.
Displays a high degree of craftsmanship or artistic merit.	No. Edgerton Road Bridge No. 11 does not display a high degree of craftsmanship beyond normal construction practices.

Demonstrates a high degree of technical or scientific achievement.	No. Edgerton Road Bridge No. 11 does not display a high degree of scientific or technical achievement as it was constructed using methods and materials which were commonplace at the time.
Historical/Associative Value	
Has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community.	Yes. Edgerton Road Bridge No. 11 is directly associated with the auto and infrastructure boom of the 1920s and the rise of car culture in Canada.
Yields, or has the potential to yield, information that contributes to an understanding of a community or culture.	No. Edgerton Road Bridge No. 11 is not likely to yield further information that would contribute to the understanding of the community.
Demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.	No. As the Township does not keep records dating back to the 1920s, the builder and architect are not known. However, if that information should become available in the future, it could be added to the historic record.
Contextual Value	
Is important in defining, maintaining or supporting the character of an area.	Yes. Edgerton Road Bridge No. 11 is important in supporting the rural character of the area. The existing bridge was constructed in 1925 and its early 20th century features enhance the scenic quality of this rural settlement area.
Is physically, functionally, visually or historically linked to its surroundings.	Yes. The bridge is important in its physical and functional link to its surroundings. The existing bridge (as well as its predecessors) provide a crossing over East Cross Creek along the old concession road between Concessions 4 and 5. Historically, a bridge in this location would have provided access to the grist mill at the heart of the crossroad settlement of Cadmus. A review of historical maps and plans identifies that a bridge was likely available in this location in 1857 or earlier. This physical and functional relationship remains today.
Is a landmark.	No. Edgerton Road Bridge No. 11 has not been identified as a cultural heritage feature or landmark of the local community.

Edgerton Road Bridge No. 11 was determined to meet four of the nine requirements per *Ontario Regulation 9/06,* indicating that the structure demonstrates Cultural Heritage Value or Interest. Therefore, a Heritage Impact Assessment is recommended in order to determine the potential for adverse impacts to cultural heritage resources as a result of the proposed course of action.

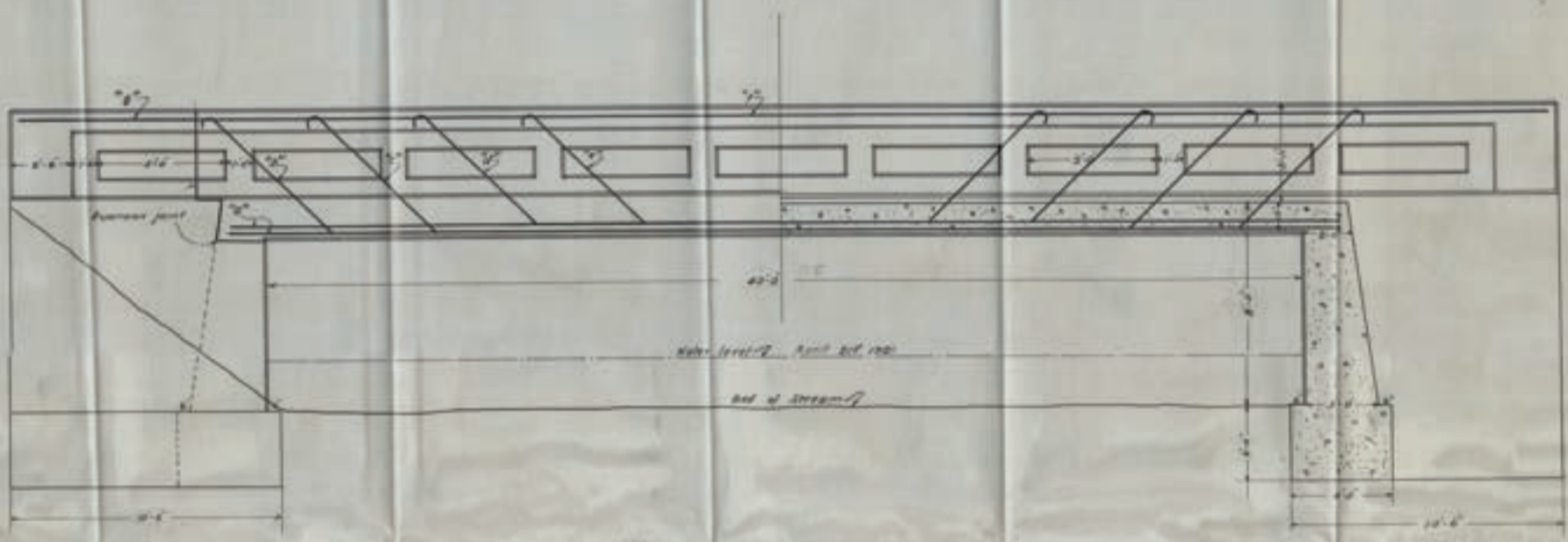
6.0 Conclusion and Recommendations

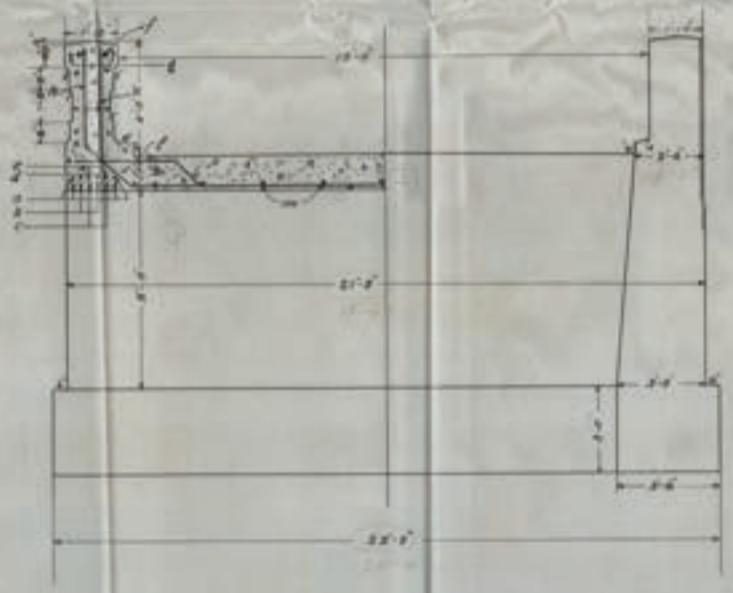
This Cultural Heritage Evaluation Report has determined that Edgerton Road Bridge No. 11 meets four of the nine criteria under *Ontario Regulation 9/06* for identifying cultural heritage value or interest. The Statement of CHVI and associated Heritage Attributes can be reviewed in **Appendix A** of this report.

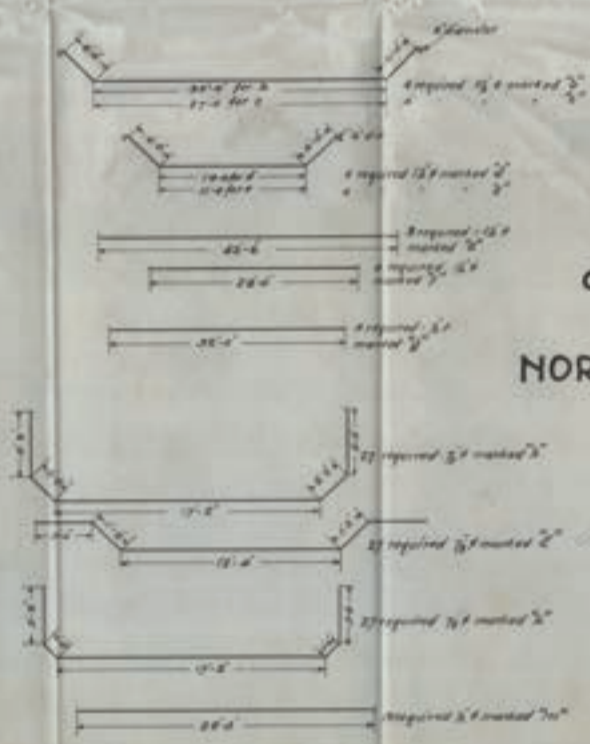
As Edgerton Road Bridge No. 11 has been found to exhibit Cultural Heritage Value or Interest and warrants designation under the *Ontario Heritage Act*, a Heritage Impact Assessment is recommended to evaluate the potential impacts of the proposed replacement of the bridge.

B

Appendix B: Edgerton Road Bridge No. 11 Original Architectural Drawings







CADMUS BRIDGE

Lot 18, Con. V.

CARTWRIGHT TOWNSHIP

NORTHUMBERLAND and DURHAM.

SCALE - 1/8 INCH = 1 FOOT

DEPARTMENT OF PUBLIC HIGHWAYS

Bridge Engineer

Engineer of County Roads

841

21-20

C

Appendix C: Ontario Structure Inspection Manual Inventory and Inspection

PLANMAC ENGINEERING INC.

Township of Scugog

2023 Ontario Structure Inspection Manual Inventory and Inspection

Summary Report



September 2023

PLANMAC ENGINEERING INC.

September 20th,2023 Planmac Project Number:2328

Township of Scugog
181 Perry Street
Port Perry, ON
L9L 1A7

Attn: Kevin Arsenault,
Capital Project Technologist, Public Works, Park, and Recreation.

Re: 2023 Municipal Structure Inventory and Inspection Final Summary Report

Dear Kevin:

Please find enclosed the 2023 Municipal Structure Inventory and Inspection Final Summary Report, which provides the results of our field investigation and recommendations for the Township's bridge and culvert structures.

We have completed detailed visual inspections and documentation for 24 structures consisting of bridges and culverts including Bridge 12 which is currently under tender to be replaced and has been removed from the Maintenance Needs of the Structures list (Table1) and Structures that Have Highest Repair Priority list (Table2). These structures were inspected in 2023.

If you have any questions regarding the Summary Report, please contact the undersigned to discuss.

Yours truly,

PLANMAC ENGINEERING INC.



Mike Neumann, P. Eng.

President / Project Manager

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2.0 Routine Bridge Maintenance Requirements

3.0 Structure Rehabilitation Program

4.0 Recommendation for Replacement

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Appendix B - Bridge and Culvert Inventory Map

Appendix C
- Complete List of Required Maintenance Needs
- Overall List of Bridge and Culvert Priority Rankings
- Bridge and Culvert Replacement Needs
- Complete List of Rehabilitation Needs

Appendix D
-List of Abbreviations

Appendix E
- Bridge Inspection Forms
- Culvert Inspection Forms

1.0 Introduction

Planmac Engineering Inc. ("Planmac") was retained by the Township of Scugog ("the Township") to complete detailed visual inspections of its bridge and culvert inventory in accordance with the Public Transportation and Improvement Act. Specifically, Ontario Regulation 104/97 'Standards for Bridges' made under the Act requires that:

> "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 …"

Planmac completed the detailed visual inspections of twenty-four (24) roadway structures on behalf of the Township in June 2023, in accordance with the Ontario Structure Inspection Manual (OSIM) -2008. An inventory of all bridges and culverts inspected is provided in Appendix A.

1.1 Structure Appraisals

The structures were inspected in accordance with the current version of the OSIM. The condition rating systems defined in former versions of the OSIM were used to assess the structures inspected. Each component of the structure is assigned a number from 1 to 6, with 6 indicating the best quality, of its material and performance condition. A rating of 0 indicates that the component does not exist. The Material Condition Rating system assesses the condition of a component based on the severity of the material defects, the proportion of the component affected, and the classification (primary, secondary, and tertiary) of a component within the structure. Figure 1 illustrates the guideline of the Material Condition Rating system.

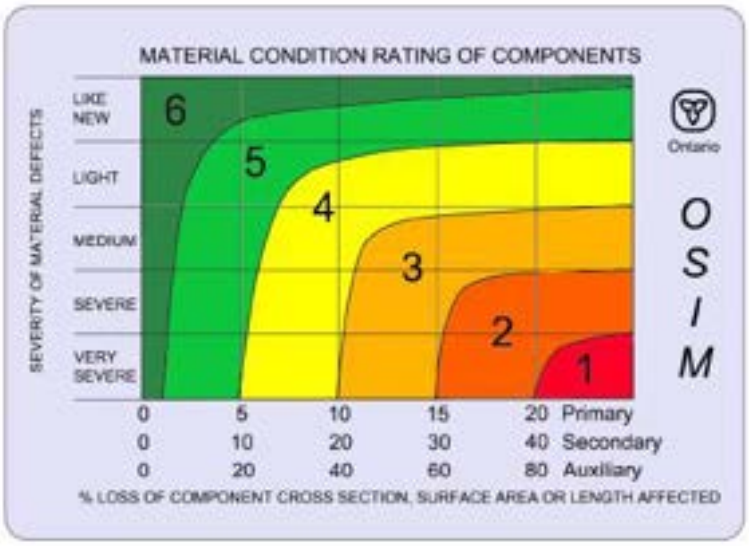


Figure .1 – Material Condition Rating of Components (OSIM)

The performance rating system assesses the ability of a component to perform its intended function within the structure based on the percentage reduction of the performance capacity of the component and the classification of the component within the structure. Although material defects often lead to performance defects, it is possible to have different ratings for the material and performance condition of a component.

All data collected throughout the inspection process was entered into the Excel spreadsheets provided by the Township. In the preparation of the Bridge and Culvert Appraisal Sheets, the following definitions were used:

> ***Bridge*** – A structure that provides a roadway or walkway for the passage of vehicles, pedestrians, or cyclists across an obstruction, gap, or facility and is greater than or equal to a 3m span. Live loads are usually transferred through a superstructure to a substructure and foundations.
>
> ***Culvert*** – A structure that forms an opening through soil that has a span of 3m or more for single-cell culverts or the sum of spans for multiple-cell culverts is 3m or more, including the span(s) of the soil between the cells if applicable. Live loads are usually transferred through the fill.

Open concrete box-type structures with a backfill cover less than 600 mm are appraised as bridges, however, if the cover is greater than 600 mm these structures are appraised as culverts.

2.0 Routine Bridge Maintenance Requirements

Table 1 identifies the maintenance needs, grouped by category, for the bridge and culvert inventory. The list is not a priority since it is assumed that the Township's Public Works staff will perform all necessary maintenance on an intermittent basis, as resources are available. The maintenance needs are a checklist of works that should be completed and monitored by the Township's staff on a regular basis. The Township should strive to ensure that all maintenance items are addressed within one year.

Table 1 – Maintenance Needs of the Structures

Maintenance Activity	Location
Bridge Deck Cleaning (Debris Removal)	001- Malion Bridge
	002 – Blue Mountain Road Bridge
	003 – Swanick Bridge (0.1 km W. of Marsh Hill Road)
	007 – Clements Bridge (1.5 km W. of Regional Road 2)
	008 – Fishers Bridge (0.15 km S. of Scugog Line 10)
	013 – Malcolm Road Bridge (1.6 km E. of Nestleton Road)
	014 – Cedardale Road Bridge
	017– McKee Road Bridge
Repair of Structural Concrete / Steel / Wood	
	002 – Blue Mountain Road Bridge
	003 – Swanick Bridge (0.1 km W. of Marsh Hill Road)
	004 – Brock Concession Road 1 Bridge
	008 – Fishers Bridge (0.15 km S. of Scugog Line 10)
	013 – Malcomb Road Bridge (1.6 km E. of Nestleton Road)
	201 – Scugog Line No. 2 Culvert
	301 – Scugog Line No.14 Culvert
Scaling (Loose Concrete or ACR Steel)	010 – Edgerton Road Bridge (0.35 km E. of Regional Road 57)
	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter Line)
Bridge Surface Repair (Potholes & Patches)	
	002 – Blue Mountain Road Bridge
	003 – Swanick Bridge (0.1 km W. of Marsh Hill Road)
	007 – Clements Bridge (1.5 km W. of Regional Road 2)
	008 – Fishers Bridge (0.15 km S. of Scugog Line 10)

	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter Line)
	014 – Cedardale Road Bridge
	202 – Marsh Hill Road Culvert (0.70 km S. of Scugog Line No.21),
Single Surface Treatment and/or Slurry Seal	010 – Edgerton Road Bridge (0.35 km E. of Regional Road 57)
Watercourse Debris Removal	003 – Swanick Bridge (0.10 km W. of Marsh Hill Road),
	004 – Brock Concession Road 1 Bridge
	009 – Scugog Line No. 8 Bridge (1.7 km E. of Highway 7/12)
	014 – Cedardale Road Bridge
	018 – King Street Bridge
	201 – Scugog Line No. 2 Culvert
	202 – Marsh Hill Road Culvert (0.7 km S. of Scugog Line No.21)
	203 – Marsh Hill Road Culvert (1.15 km S. of Scugog Line No. 6)
	205 – Old Simcoe Road Culvert (0.65 km S. of Scugog Line 8)
	301 – Scugog Line No.14 Culvert
Erosion Control at Bridges and Culverts	004 – Brock Concession Road 1 Bridge
	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter line)
	017 – McKee Road Bridge
	018 – King Street Bridge
	202 – Marsh Hill Road Culvert (0.7 km S. of Scugog Line No.21)
	204 – Scugog Line No.6 Culvert
	206 – Old Simcoe Road Culvert (0.60 km N. of Scugog Line 13)
Install, Repair, or Replace Signs	004 – Brock Concession Road 1 Bridge
	010 – Edgerton Road Bridge (0.35 km E. of Regional Road 57)
	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter Line)
	016 – Concession Road 6 Bridge (0.20 km E. of Regional Road 57)
	018 – King Street Bridge
	201 – Scugog Line No. 2 Culvert
	203 – Marsh Hill Road Culvert (1.15 km S. of Scugog Line No. 6)
	204 – Scugog Line No.6 Culvert
	205 – Old Simcoe Road Culvert (0.65 km S. of Scugog Line 8)
	206 – Old Simcoe Road Culvert (0.60 km N. of Scugog Line 13)
	207 – Old Simcoe Road Culvert (1.05 km N. of Scugog Line 13)
	301 – Scugog Line No.14 Culvert

The maintenance activities can be easily grouped into work order tasks for completion and assigned to the Township's work crews accordingly. If internal resources are not available to complete the maintenance activities, the Township should consider contracting the necessary labor, equipment, and materials to complete the work.
As maintenance activities are completed or additional maintenance needs are identified, the Maintenance Needs lists should be kept up to date such that management staff can direct work accordingly. The full listing of maintenance needs is provided in Appendix C.

3.0 Structure Rehabilitation Program

Of the twenty-four structures inspected, twenty-one (21) structures require some form of repair, rehabilitation, and/or replacement. The urgency of rehabilitation varies based on the condition of individual bridge/culvert elements, and therefore priority should be given to the rehabilitation of structures that exhibit advanced states of deterioration or have sustained serious structural damage.

Work that is deemed urgent (i.e., time of need is "now") has been recommended for completion in 2024. The recommended timing for all other work follows the capital program schedule. The total estimated cost for this work is $6,942,740. The Township of Scugog and Brock share ownership of Bridge 000004, therefore the repair/rehabilitation costs for the bridge are shared at 50%, where the Township would carry the cost of $94,874.

The ten structures with the highest repair/replacement priority are listed in Table 2. The calculation of the condition rating for each structure is based on a combination of the Material Condition Rating (MCR) and Performance Condition Rating (PCR) of various components of the structures, and the estimated Annual Average Daily Traffic (AADT) volume for that section of road. Each component has a weighting associated with it based on its classification (primary, secondary, tertiary).

The rehabilitation needs for the Structure Rehabilitation Program are higher priority needs and are short-listed from all the current structure needs. Lower priority needs should be monitored throughout future inspection periods and their priority adjusted as necessary, however, addressing these needs for the lower priority structures is not critical at this time.

Table 2 – Structures that Have Highest Repair Priority

Ranking	Structure No. - Name	Condition Rating	Estimated Costs
1	009 – Scugog Line No. 8 Bridge (1.7 km E. of Highway 7/12)	25.1	$1,792,772
2	011– Edgerton Road Bridge (0.20 km W. of Cartwright East Quarter Line)	39.4	$1,499,906
3	206 – Old Simcoe Road Culvert (0.60 km N. of Scugog Line 13)	39.8	$1,216,482
4	207 – Old Simcoe Road Culvert (1.05 km N. of Scugog Line 13)	51.7	$1,162,350
5	204 – Scugog Line No. 6 Culvert	68.53	$211,670
6	201 – Scugog Line No. 2 Culvert	70.8	$230,345
7	010 - Edgerton Road Bridge (0.35 km E. of Regional Road 57)	71.65	$159,597
8	002 – Blue Mountain Road Bridge	72.2	$291,871
Total Cost estimates			$6,564,993

Bridge 12 is currently under tender to be replaced and has been removed from Tables 1 & 2.

4.0 Recommendations for Replacement/Rehabilitation

Bridge No. 11 is in poor condition and has safety concerns. This bridge was evaluated in 2021, and a load limitation sign is in place. This bridge should be prioritized for replacement/Rehabilitation.

- Bridge No. 11 Edgerton Road Bridge

MUNICIPAL BRIDGE APPRAISAL

A. IDENTIFICATION

Bridge Name:	LOT 18, CONC 4/5			Bridge No.:	000011
Road Name:	EDGERTON ROAD			Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE			MTO Site No.:	021 - 0020 -
Roadside Env.:	R	Posting Sign:	t t t	Crossing Type:	O-WAT
Posting:	t t t	Low Clearance Sign:		Federal Navigable Waterway:	No
Bylaw No.:		Narrow Structure Sign:	NS	Bridge Value:	$635,000
Bylaw Expiry Date:	y m	Easting: 17 678364	Northing: 4887468	Old ID:	505000

B. RAILWAY OVERPASS / UNDERPASS

Railway Level Crossing Number:		Original Board Number:	
Railway Company:		Date: y m d	
Railway Subdivision:		Current Board Order Number:	
Subdivision Mileage:	mi	Date: y m d	
Transport Canada Crossing No.:		Seniority:	
Number of Tracks:	0		

C. JURISDICTION

Owner:	10602	Special Designation:	NSD	**Local / Area Municipality (Upper Tier Only)**	
Owner Share:	100.00 %	Designation:	2	MunicA:	00000
[N] Shared?		Adjacent Bridge No.:		MunicB:	00000
Shared With:				Patrol:	
Heritage Status:	R				

D. EXISTING CONDITIONS

Substructure Yr.:	1925	Span Length:	12.20 m	Longitudinal Joint:	0
Superstructure Yr.:	1925	Deck Type:	CC	Transverse Joints:	0
Bridge Type:	C - HB - F	Deck Length:	13.40 m	Number of Bearings:	0
Crossing Skew:	- 0 °	Deck Width:	6.70 m	Soil Condition:	U
Number of Spans:	1	Deck Area:	89.80 m^2	Abutment and Foundation:	C - UN

ROAD OVER BRIDGE

Existing Road Class:	400	No. of Lanes:	1	Barrier Walls / Railings:	CP
Operational Status:	2W - OAT	Median Type / Width:	0.00 m	Min. Vertical Clearance:	m
Wearing Surface:	A	Safety Curb/	(A) N / N 0.2 m		
Travel Deck Width:	5.10 m	Sidewalk and Curb	(B) N / S 0.2 m		

ROAD UNDER BRIDGE

Existing Road Class:		No. of Lanes:		Traffic Barrier:	
Operational Status:	-	Median Type / Width:	m	Min. Vertical Clearance:	m
Wearing Surface:		Safety Curb/	(A) m		
Travel Deck Width:		Sidewalk and Curb	(B) m		

E. TRAFFIC DATA

Legal Speed Limit: 50

Route Designations

[ ] Bus [ ] Truck Route

[X] School [ ] Bike Route

Source: Bridge 000011 Asset Master

Traffic Count		10 Year Traffic Forecast	
Year:	A - 2017 - C	Year:	2027
AADT:	898	AADT:	1,347
DHV Factor:	%	DHV Factor:	%
DHV:	vph	DHV:	vph
Trucks:	5.00 %	Trucks:	5.00 %
Peak Directional Split:	%	Capacity:	0 vph
10 Year Growth Factor:	1.50	20 Year AADT:	2021

F. INSPECTIONS

Date: 04/07/2021

Inspected By: K.Shirani, P.Eng.

Company: Planmac Engineering Inc.

Approved By: J.Huang, P.Eng.

MUNICIPAL BRIDGE APPRAISAL

G. BRIDGE NEEDS

Field	MCR	PCR	TON	Comments
Superstructure	3	4	1-5	
Wearing Surface	4	4	1-5	
Deck Condition	4	5	1-5	
Expansion Joints	0	0	ADEQ	
Railings	3	4	1-5	
Substructure	4	4	1-5	
Coating	0	0	ADEQ	
Streams / Waterways	5	5	ADEQ	
Curb/Sidewalk	5	5	ADEQ	

H. FUNCTIONAL NEEDS

Field	Existing	Min. Tolerable	Time of Need	Comments
Road Over Bridge				
RO - Trav. Deck Width	5.10 m	7.00 m	NOW	
RO - Level of Service	A	E	ADEQ	
RO - Min. Vertical Clearance	m	4.50 m	ADEQ	No value for min. vertical clearance
RO - Sidewalks	N	N	ADEQ	
Road Under Bridge				
RU - Trav. Deck Width				
RU - Level of Service				
RU - Min. Vertical Clearance				
RU - Sidewalks				

Recommended Needs

Impr. Class	Improvement	Description	Time of Need	Year	Base / Const. Cost	Eng/Cont.	Total
Maintenance	OTHm	Mainenance Improvement	1-5	0	$0	$0	$0
			Maintenance Subtotal:		$0	$0	$0
Rehab	CDS	Concrete Deck Soffit Repairs	1-5	0	$46,046	$10,626	$56,672
Rehab	OWP	Overlay, Waterproof, Pavement	1-5	0	$67,753	$22,269	$90,022
Rehab	RIR	Railing Improvement/Replacement	1-5	0	$59,225	$3,790	$63,015
Rehab	RSB	Rehabilitate Substructure	1-5	0	$776,250	$218,500	$994,750
			Rehab Subtotal:		$949,274	$255,185	$1,204,459
Rehab Extra	brWPTF	Work Platform	1-5	0	$124,373	$37,904	$162,277
Rehab Extra	brDET	Detours	1-5	0	$8,050	$3,450	$11,500
Rehab Extra	brMB	Mobilization	1-5	0	$65,148	$5,923	$71,070
Rehab Extra	brTCP	Traffic Control/Protection	1-5	0	$40,250	$10,350	$50,600
			Rehab Extra Subtotal:		$237,820	$57,627	$295,447

I. ENGINEERING RECOMMENDATIONS

Bridge Drawings:			
Estimated Posting:	t		
Evaluated Posting:	t	t	t
Closure Date:	y	m	d
Closure Type:			
Monitoring Interval:		m	
Monitoring Component:			

J. DESIGN PARAMETERS

Design Class:	RCHU
Operational Status:	2W - OAT
Abutment Type:	C
Design Deck Width:	10.00
Design Deck Length:	14.00

K. IMPROVEMENT COSTS

Total Construction/Rehab:		$1,499,906
Total Inspection:		$0
TOTAL:		$1,499,906
10602	share @ 100%	$1,499,906

L. HISTORY

Engineering Investigations

Type	Year

Construction Improvements

Type	Year

M. REMARKS **Bridge No.: 000011**

Bridge No. 000011, MTO Site No. 21-20, Edgerton Road, 0.2 km West of East Quarter line, Lot 18. Concessions IV and V, Township of Scugog:

- Structure is posted with a load limit.
- 12.2 m+\-single span concrete bridge with a solid deck slab and an asphalt wearing surface.
- Asphalt wearing surface is in fair to good condition with potholes and settlement towards the curbs (2.0m^2, poor). Moderate settlement is occurring at the northwest quadrant. Asphalt wearing surface does not extend the full width of the deck. There is a buildup of sand along both curbs.
- Concrete curbs are in generally good condition with light to medium scaling and localized cracking.
- Concrete deck fascias are in fair to good condition with narrow stained cracks.
- Concrete deck soffit is in poor condition with spalling, delaminations, localized wide cracking, narrow stained cracking with effloresence and wet areas (14.0 m^2, Poor / 12.0 m^2, Fair).
- Concrete abutments are in generally good condition with light scaling and a wide stained vertical crack in the west abutment face. Localized spalling and delamination was noted. Portions of the west and east abutment footings are spalled and scoured (3.5 m^2, Poor / 1.2 m^2, Fair).
- Concrete wingwalls are in generally good condition with localized wide cracking, light scaling, rust and efflorescence stains (1.5m^2, poor). There is a wide crack seperating the barrier wall and wingwall on the northeast qudrant resulting in the barrer wall rotating inward.
- Concrete parapet walls are in fair to good condition with localized spalling and narrow stained map cracking. A wide horizontal crack was noted on the north parapet wall for the entire length of the wall (3.3m^2, Poor). A portion of the barrier wall is rotating inward in the northeast quadrant.
- Deck drainage is accomodated by 4-100 mm dia. core drilled holes. Medium scaling is occurring around deck drain locations. Deck Drain in the northwest quadrant is clogged.
- Asphalt paved approach roads are in generally good condition with minor localized settlements, water ponding and potholes (1.1m^2, poor).
- New steel beam guide rails on the bridge approaches are attached to concrete parapet walls on structure.
- Hazard markers are provided in NW, SE and SW quadrants. Hazard signs on east side are settling.
- Roadway embankments are in good condition.
- Watercourse is unobstructed with no evidence of scour.
- Severe erosion of footing at southeast quadrant.
- No serious evidence of structural distress.
- Structural rehabilitation/replacement should be prioritized for less than 2 years.
- Should replace existing structure to eliminate deck width deficiency.
- Should remove sand from deck wearing surface and perform small repairs as part of regular structure maintenance.
- To maintain the existing structure, should overlay, waterproof and pave bridge deck.
- Should repair potholes and patches in asphalt wearing surface.
- Should provide erosion control at footing in southest quadrant.
- Should repair settled hazard markers at east side.

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Looking West at Bridge

Date: 2023-07-06



Description: Debonded Mortar Patches on Barrier Wall

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Deep Cracks on Parapet Wall (Typical) Date: 2023-07-06



Description: Wearing Surface (Typical) Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Looking West at West Approach

Date: 2023-07-06



Description: Approach

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Deck Drain (Typical)

Date: 2023-07-06



Description: Guardrail Condition

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description:Guardrail Condition

Date: 2023-07-06



Description: Spalls with Exposed Corroded Rebars in Soffit

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Spalls with Exposed Corroded Rebars in Soffit

Date: 2023-07-06



Description: Wide Crack with Efforesence in West Abutment

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: East Abutment

Date: 2023-07-06



Description: Soffit

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Soffit Condition

Date: 2023-07-06



Description: Wide Crack Extends to Northwest Wingwall

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Severe Erosion of Footing in Southeast Quadrant

Date: 2023-07-06



Description: Disintegration at Joint Between Parapet Wall & Wingwall

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Looking Downstream (North)

Date: 2023-07-06



Description:Rip-Rap Condition

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -

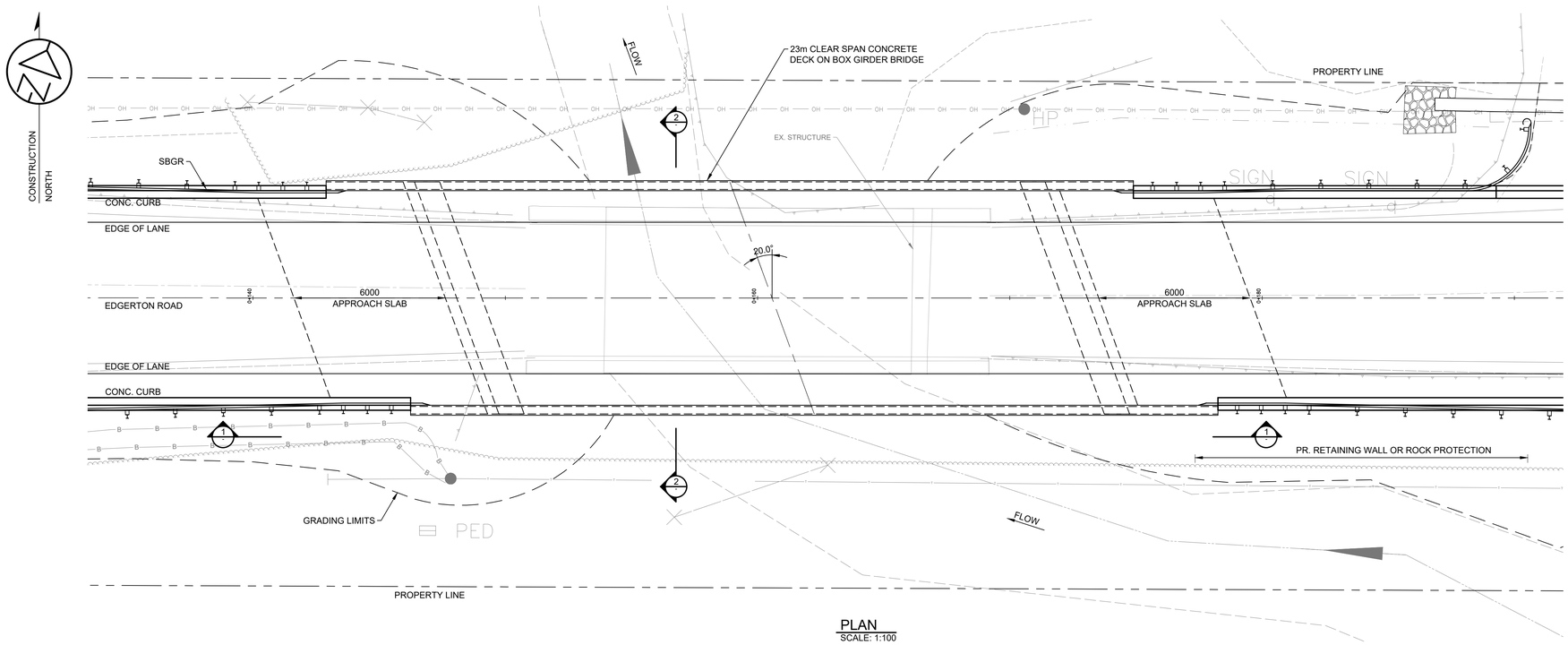


Description: Elevation view

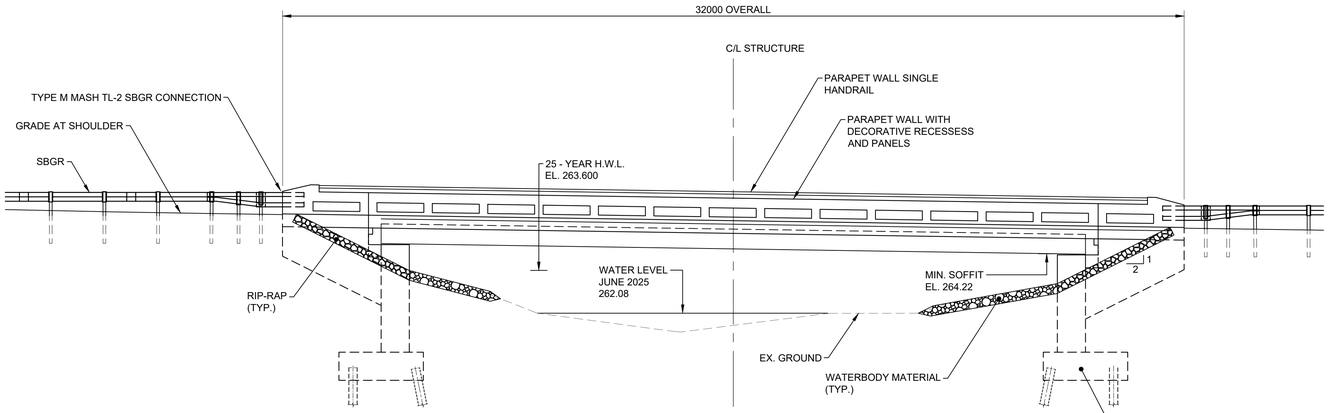
Date: 2023-07-06

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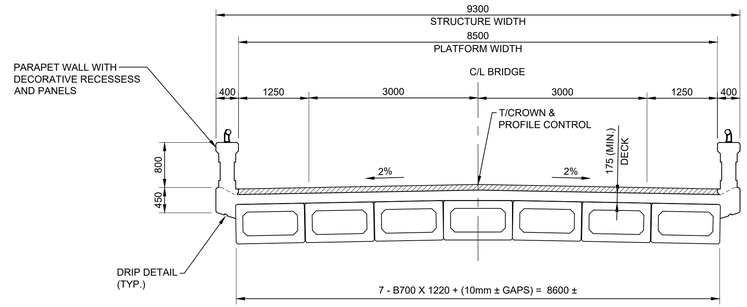
Appendix D: Proposed Plan & Elevations



PLAN
SCALE: 1:100



1 ELEVATION
SCALE: 1:100



2 SECTION
SCALE: 1:50

GENERAL NOTES:

1. DESIGNED TO CANADIAN HIGHWAY BRIDGE DESIGN CODE (CHBDC) CAN/CSA-S6-19, LIVE LOAD TRUCK TO CL-625-ONT.

2. CONCRETE SHALL BE EXPOSURE CLASS C-1 WITH A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 35 MPA AT 56 DAYS.
   - CLASS OF CONCRETE FOR PRECAST GIRDERS ARE GIVEN ON PRESTRESSED GIRDER DRAWINGS..

3. CLEAR COVER TO REINFORCING STEEL

FOOTING, FACES CAST DIRECTLY AGAINST SOIL	100 ± 25
DECK (DISTRIBUTION SLAB), TOP	70 ± 20
REMAINDER	70 ± 20 UNLESS OTHERWISE NOTED

4. REINFORCING BARS:
   STEEL:
   - REINFORCING STEEL (BLACK) SHALL BE GRADE 500W UNLESS OTHERWISE SPECIFIED.
   - STAINLESS REINFORCING STEEL SHALL BE TYPE 316LN OR DUPLEX 2205 AND HAVE A MINIMUM YIELD STRENGTH OF 500 MPA, UNLESS OTHERWISE SPECIFIED.
   - BAR MARKS WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS.
   - ALL LAP AND DEVELOPMENT LENGTHS SHALL BE CONSIDERED TENSION CLASS 'B' LAP SPLICE LENGTHS UNLESS NOTED OTHERWISE.
   - NOT ALL LAP SPLICES ARE SHOWN ON THE DRAWINGS. WHERE BARS ARE SHOWN AS CONTINUOUS, LAP SPLICES ARE REQUIRED TO SUIT THE ACTUAL AVAILABLE LENGTHS OF THE REBAR. THE CONTRACTOR MAY PROVIDE LAPS NOT REPRESENTED IN THE DRAWINGS, SUBJECT TO THE APPROVAL OF THE ENGINEER.
   - WHERE LAP SPLICES ARE PROPOSED BY THE CONTRACTOR, THE LOCATIONS SHALL BE SUCH THAT THEY LEAST IMPACT THE STRUCTURE.
   - BAR HOOKS SHALL HAVE STANDARD HOOK DIMENSIONS USING MINIMUM BEND DIAMETERS, WHILE STIRRUPS AND TIES SHALL HAVE MINIMUM HOOK DIMENSIONS. ALL HOOKS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL STANDARD DRAWING SS12-1, (AVAILABLE UPON REQUEST) OR THE REINFORCING STEEL INSTITUTE OF CANADA (RSIC) MANUAL OF STANDARD PRACTICE, UNLESS INDICATED OTHERWISE.

6. CONSTRUCTION NOTES
   - IF THE ACTUAL BEARING THICKNESS ARE DIFFERENT FROM THOSE GIVEN WITH THE BEARING DESIGN DATA, THE CONTRACTOR SHALL ADJUST THE BEARING SEAT ELEVATIONS AND REINFORCING STEEL TO SUIT.
   - THE CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND DETAILS BEFORE STARTING WORK.
   - THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION AND PROTECTION OF ALL EXISTING UTILITIES, SERVICES, STRUCTURES, ROADWAYS, ETC. DURING CONSTRUCTION.
   - FALSE WORK FOR DECK SLAB SHALL NOT BE REMOVED UNTIL THE CONCRETE IN DECK SLAB HAS REACHED 75% OF ITS DESIGN STRENGTH.
   - CHAMFERS MAY OR MAY NOT BE SHOWN ON DRAWINGS. ALL EXPOSED CORNERS TO HAVE 25mm x 25mm CHAMFERS UNLESS NOTED OTHERWISE. CONSTRUCTION JOINTS TO HAVE A 20mm x 20mm CHAMFER.
   - CONCRETE IN BARRIERS SHALL NOT BE PLACED UNTIL ALL CONCRETE IN DECK SLAB HAS REACHED 75% OF ITS DESIGN STRENGTH.
   - EXISTING ROAD BED IN AREAS THROUGH WHICH PILES MUST PENETRATE TO BE REMOVED BEFORE PLACING FILL.
   - GEOTECHNICAL REPORT BY CAMBIUM INC. REF. No. XXX, DATED: XXX. XX, 2025. (NOT YET RECEIVED)

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2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

NOT FOR CONSTRUCTION

No.	Issue / Revision	Date	Auth.

BURNSIDE
R.J. Burnside & Associates Limited
3 Ronell Crescent,
Collingwood, Ontario, L9Y 4J6
telephone 1-800-265-9662
web www.rjburnside.com

Client
TOWNSHIP OF SCUGOG
181 PERRY STREET PO BOX 780
PORT PERRY, ON
L9L 1A7

Drawing Title
Scugog Bridge No. 11
GENERAL ARRANGEMENT

Drawn	Checked	Designed	Checked	Date
A.A	M.B.	A.A	M.B.	25/06/11

Project No.	Contract No.	Revision No.
300059896	300059896	0

Scale: AS NOTED

Drawing No. **B-002**

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Appendix E: CVs

Education

University of Waterloo
Masters of Arts (Planning)

University of Waterloo
Bachelor of Environmental Studies

University of Saskatchewan
Bachelor of Arts (Art History)

Professional Associations

Registered Professional Planner

Full Member, Canadian Institute of Planners (CIP)

Full Member, Ontario Professional Planners Institute (OPPI)

Professional Member, Canadian Association of Heritage Professionals

Contact

200-540 Bingemans Centre Drive
Kitchener, ON
N2B 3X9

T: 519 576 3650 x744
C: 519 404 6894
dcurrie@mhbcplan.com
www.mhbcplan.com

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

Dan Currie

BA, BES, MA, MCIP, RPP, CAHP

Dan Currie, a Partner and Managing Director of MHBC's Cultural Heritage Division, joined MHBC Planning in 2009, after having worked in various positions in the public sector since 1997. Dan provides a variety of planning services for public and private sector clients including a wide range of cultural heritage policy and planning work including strategic planning, heritage policy, heritage conservation district studies and plans, heritage master plans, cultural heritage evaluations, heritage impact assessments and cultural heritage landscape studies.

Selected Project Experience

Heritage Conservation District Studies and Plans

- Streetsville Heritage Conservation District Study (underway)
- Amherstburg Heritage Conservation District Study (underway)
- Melville Street Heritage Conservation District Study (underway)
- Stouffville Heritage Conservation District Study (2022)
- Alton Heritage Conservation District Study, Caledon (2021)
- Port Stanley Heritage Conservation District Plan (2021)
- Port Credit Heritage Conservation District Plan, Mississauga (2018)
- Town of Cobourg Heritage Conservation District Plan updates (2016)
- Rondeau Heritage Conservation District Plan, Chatham Kent (2016)
- Barriefield Heritage Conservation District Plan Update, Kingston (2015)
- Victoria Square Heritage Conservation District Study, Markham (2015)
- Bala Heritage Conservation District Study and Plan, Township of Muskoka Lakes (2015)
- Downtown Meaford Heritage Conservation District Study and Plan (2013)
- Brooklyn and College Hill Heritage Conservation District Plan, Guelph (2014)
- Garden District Heritage Conservation District Study and Plan, Toronto (2014)

Heritage Master Plans and Management Plans

- City of Guelph Cultural Heritage Action Plan (2020)
- Town of Cobourg Heritage Master Plan (2016)
- Burlington Heights Heritage Lands Management Plan (2016)
- City of London Western Counties Cultural Heritage Plan (2014)

Cultural Heritage Evaluations

- Aurora Heritage Register Review (2022)
- MacDonald Mowatt House, University of Toronto (2020)
- City of Kitchener Heritage Property Inventory Update (2016)
- Niagara Parks Commission Queen Victoria Park Cultural Heritage Evaluation (2016)
- Designation of Main Street Presbyterian Church, Town of Erin (2019)
- Designation of St. Johns Anglican Church, Norwich (2019)
- Cultural Heritage Landscape evaluation, former Burlingham Farmstead, Prince Edward County (2018)

Heritage Impact Assessments

- Heritage Impact Assessment for Pier 8, Hamilton (2015)
- Homer Watson House Heritage Impact Assessment, Kitchener (2016)
- Expansion of Schneider Haus National Historic Site, Kitchener (2016)
- Redevelopment of former industrial facility, 57 Lakeport Road, Port Dalhousie (2018)
- Redevelopment of former amusement park, Boblo Island (2022)
- Redevelopment of historic Waterloo Post Office (2019)
- Redevelopment of former Brick Brewery, Waterloo (2016)
- Redevelopment of former American Standard factory, Cambridge (2014)
- Redevelopment of former Goldie and McCullough factory, Cambridge (2019)
- Mount Pleasant Islamic Centre, Brampton (2020)
- Demolition of former farmhouse at 10536 McCowan Road, Markham (2020)

Heritage Assessments for Infrastructure Projects and Environmental Assessments

- Heritage Assessment of 10 Bridges within Rockcliffe Special Policy Area, Toronto (2019)
- Blenheim Road Realignment Collector Road EA, Cambridge (2014)
- Badley Bridge EA, Elora (2014)
- Black Bridge Road EA, Cambridge (2013)
- Heritage and Cultural Heritage Landscape Assessment of Twenty Mile Creek Arch Bridge, Town of Lincoln (2021)
- Heritage Evaluation of Deer River, Burnt Dam and MacIntosh Bridges, Peterborough County (2021)

Conservation Plans

- Black Bridge Strategic Conservation Plan, Cambridge (2013)
- Conservation Plan for Log house, Burgetz Ave., Kitchener (2020)
- Conservation and Construction Protection Plan - 54 Margaret Avenue, Kitchener (2019)

Tribunal Hearings:

- Redevelopment 292 Main Street, Grimbsy (OLT) (2023)
- Redevelopment 1919 to 1949 Devonshire Court, Windsor (OLT) (2023)
- Redevelopment 9 Dee Road, Queenston (OLT) (2023)
- Redevelopment 18314 Hurontario Street, Caledon Village (OLT) (2023)
- Redevelopment 217 King Street S, Waterloo (OLT) (2022)
- Redevelopment 147 Main Street, Grimsby (OLT) (2022)
- Redevelopment of 12 Pearl Street, Burlington (OLT) (2021)
- Designation of 30 Ontario Street, St. Catharines (CRB) (2021)
- Designation of 27 Prideaux Street, Niagara on the Lake (CRB) (2021)
- Redevelopment of Langmaids Island, Lake of Bays (LPAT) (2021)
- Redevelopment of property at 64 Grand Ave., Cambridge (LPAT) (2019)

- Youngblood subdivision, Elora (LPAT) (2019)
- Demolition 174 St. Paul Street (Collingwood Heritage District) (LPAT) (2019)
- Port Credit Heritage Conservation District (LPAT) (2018)
- Brooklyn and College Hill HCD Plan (OMB) (2015)
- Rondeau HCD Plan (LPAT) (2015)
- Designation of 108 Moore Street, Bradford (CRB) (2015)
- Downtown Meaford HCD Plan (OMB) (2014)

Master Plans, Growth Management Strategies and Policy Studies

- Township of West Lincoln East Smithville Secondary Plan (2022)
- Town of Frontenac Islands Maryville Secondary Plan (2021)
- Niagara-on-the-Lake Corridor Design Guidelines (2016)
- Cambridge West Master Environmental Servicing Plan (2013)
- Ministry of Infrastructure Review of Performance Indicators for the
- Growth Plan (2011)
- Township of Tiny Residential Land Use Study (2012)
- Port Severn Settlement Area Boundary Review (2012)
- Township of West Lincoln Intensification Study and Employment
- Land Strategy (2011)
- Ministry of the Environment Review of the D-Series Land Use
- Guidelines (2012)
- Meadowlands Conservation Area Management Plan (2013)
- City of Kawartha Lakes Growth Management Strategy (2010)

Development Planning

Provide consulting services for municipal and private sector clients for:

- Secondary Plans
- Draft plans of subdivision
- Consent
- Official Plan Amendment
- Zoning By-law Amendment
- Minor Variance
- Site Plan

Education

Willowbank School of Restoration Arts
Diploma in Heritage Conservation
2024

Messors Field School
Art Conservation and Cultural Heritage Landscapes Workshop Completed
2023

University of California: Santa Cruz
Bachelor of Arts in History
2010

Professional Associations

Student Member,
Canadian Association of Heritage Professionals (CAHP)

Executive Committee Member and Education Committee Member,
Architectural Conservancy of Ontario (ACO)

Member,
Canadian Association for Conservation of Cultural Property (CAC)

Contact

540 Bingemans Centre Drive
Kitchener, ON N2B 3X9

T: 519 576 3650

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

Christy Kirwan

BA, Dipl.

Christy is a Heritage Planner with MHBC and joined the firm in 2023. She holds a Diploma in Heritage Conservation from the Willowbank School of Restoration Arts and a Bachelor's Degree in History from the University of California: Santa Cruz where she graduated cum laude with Department Honours and College Honours. Christy has experience in research and report writing for both public and private sector clients. She has completed historical research, inventory work, and evaluation on a variety of projects, including cultural heritage evaluation reports and cultural heritage impact assessments.

Prior to joining MHBC, Christy gained experience as a Heritage Intern for the Town of Grimsby. She has also received hands-on training from the Messors Field School in art and monument restoration and previously worked in the skilled trades restoring heritage buildings and fine furniture.

Professional History

Heritage Planner, MacNaughton Hermsen Britton Clarkson Planning Limited
(2023 – Present)

Heritage Carpentry Apprentice, Bruce Chambers Period Furniture Ltd.
(2023)

Heritage Intern, Town of Grimsby
(2023)

Heritage Contractor, DJ McRae Heritage Restoration
(2022)

Project Experience

Cultural Heritage Landscapes

- Doctor's Lane, King City and Old King Road, Nobleton, Township of King

Municipal Heritage Inventories

- Township of Tiny, 31 properties
- City of Barrie, 13 properties

Cultural Heritage Impact Assessments

- 43 Mill Street West, Elora
- 7631 Creditview Road, Brampton
- 473 Ontario Street, Cobourg
- 230 North Centre Road, London
- 3563 Bostwick Road, London
- 1930-1934 Sideroad 5, Bradford West Gwillimbury
- 260 Main Street West, Grimsby
- 185 Third Street, Collingwood
- 228 McNeilly Road, Hamilton
- 1069 Highway 8, Hamilton
- 119 Sideroad 19, Fergus
- Mount Zion United Church, 473 Ridgewood Crescent, London
- 66 Banfield Street, Paris

Cultural Heritage Evaluation Reports

- 8 St Andrews Avenue, Grimsby
- 12 St Andrews Avenue, Grimsby
- 934322 Airport Road, Mono

Conservation Plans

- 18 Portland Street, Toronto

Documentation & Salvage Plans

- 3078 Regional Road 56, Binbrook, Hamilton
- 5515 Garrard Road, Whitby

Heritage Permit Applications

- 43 Mill Street West, Elora
- 7631 Creditview Road, Brampton

Hands-On Restoration Projects

- St. Paul's Anglican Church, Coulson's Hill, Bradford West Gwillimbury, Ontario
  - Restoration and painting of 1887 Gothic doors
- Byzantine Rupestrian Cave Frescoes, Alta Murgia, Italy
  - Mechanical frescoe cleaning
  - Cellulose poultice frescoe cleaning
  - Plaster infilling and consolidation
- Burwash Hall, University of Toronto, Toronto, Ontario
  - Stone masonry conservation
  - Window installation

- Cathedral of St. Alban the Martyr, Toronto, Ontario
    - Cathedral window woodwork restoration
- 16 Elm Avenue, Branksome Hall, Toronto, Ontario
    - Brick masonry restoration
- Bishop Strachan School, Toronto, Ontario
    - Window restoration and reglazing
- St. Mark's Cemetery, Niagara-on-the-Lake, Ontario
    - Headstone monument conservation
- Willowbank National Historic Site, Queenston, Ontario
    - Decorative plaster repair
    - Wood window restoration
    - Historic flooring restoration
    - Stonework crack repair
    - Historic painting

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ARCHITECTURE

Appendix A
A2 - Stage 1 Archaeological Assessment

Stage 1 Archaeological Assessment for the Replacement of the Edgerton Road Bridge (No. 11), Between Lots 18, Concession 4 and 5, in the Geographic Township of Cartwright, now the Township of Scugog, Regional Municipality of Durham, Ontario

Project Number: 2025-0036	**PIF: P1153-0187-2025**
Report Type: Original	**Report Date:** January 27, 2026

Licensee: Mr. Adam Long, M.Sc. (P1153)

Parslow Heritage Consultancy Inc. 883 St. Clair Ave. West, Toronto, ON, M6C 1C4	**RJ Burnside & Associates Ltd.** 17345 Leslie Street, Suite 303, Newmarket, Ontario L3Y 0A4

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Executive Summary

Parslow Heritage Consultancy Inc. (PHC) was retained by R.J. Burnside & Associates Limited to conduct a Stage 1 archaeological assessment for the Township of Scugog's Edgerton Road Bridge (No.11) (the study area) replacement, located over a tributary of Brown Lake, located approximately 0.2 km west of Cartwright East Quarter Line, between Lots 18, Concession 4 and 5, in the Geographic Township of Cartwright, now the Township of Scugog, Regional Municipality of Durham, Ontario (Map 1, Map 2). It is understood that this Stage 1 Archaeological Assessment is required as part of a Municipal Class Environmental Assessment (MCEA) under the *Planning Act* (1990).

The objectives of the Stage 1 archaeological assessment are defined in the Ministry of Citizenship and Multiculturalism's (MCM) *Standards and Guidelines for Consultant Archaeologists* (2011). A Stage 1 archaeological assessment provides compiled information about the study area's geography, history, current land conditions as well as any previous archaeological research and listed archaeological sites on or within the vicinity, as well as specific direction for the protection, management and/or recovery of these resources. Methods to achieve these objectives include:

- Review of relevant historic and environmental literature pertaining to the study area;
- Review of an updated listing of archaeological sites within 1 km from the MCM Ontario Archaeological Sites Database (OASD);
- Review of Archaeological Assessments within 50 m of the study area;
- Consultation with individuals knowledgeable about the study area; and,
- Review of historic maps and aerial imagery of the study area.
- A property inspection to photo document site conditions

The study area is located within the municipally owned road right-of-way (ROW) of Edgerton Road. Edgerton Road Bridge No. 11 is a single span, reinforced concrete solid slab bridge on solid wall abutments, and was built in 1925. The study area consists of the municipal ROW, which includes paved road with steep slopes, steep ditches, and overgrown shorelines. The study area consists of measures 20 m extending from the centre point of the bridge for a total of 40 metres (m) in length by 15 m area in width (0.065 ha). A negative indicator of archaeological potential is extensive, below-grade land disturbance. Disturbance associated with soil manipulation and grading of soils were encountered in association with the construction of the bridge and paved road within the study area.

The Stage 1 property inspection was conducted by Sarah News (R485) on June 16, 2025, under favourable weather conditions. At no time was the weather or lighting detrimental to the recovery or identification of archaeological resources. The property inspection determined the bridge to be extensively disturbed and, therefore, does not require Stage 2 archaeological assessment.

PHC determined that the watercourse (0.01 ha; 100 m^2), as illustrated on Map 8, is permanently low and wet and as per Section 1.2, Standard 5 and Section 2.1, Standard 2.a.i., of the *Standards and Guidelines for Consultant Archaeologists* (2011), therefore terrestrial survey is not required. As such, the watercourse has been removed from the study area, as it is not being impacted by development, and was not assessed.

Based on the findings of the Stage 1 archaeological assessment the following recommendations are provided:

- The entirety of the study area was determined to have low archaeological potential comprising slopes, watercourse, and previous disturbance; these areas were photo documented, and no further assessment is recommended (Map 8).

It is requested that this report be entered into the Ontario Public Register of Archaeological Reports, as provided for in Section 65.1 of the *Ontario Heritage Act* (1990, as amended in 2023).

Project Personnel

Project Manager	Sarah News, B.A. (R485)
Licensee	Adam Long, MSc (P1153)
Field Director	Sarah News
Report Preparation	Hannah Curtis, B.A. Hon. (R1296), Adelaide Sale
Graphics	Gabriel Dunk-Gifford, B.A.
Review	Adam Long, MSc (P1153), Sarah News

Acknowledgements

Andrew Dawson	R.J. Burnside & Associates Limited
Matt Brooks	R.J. Burnside & Associates Limited

Project Context

This section of the report provides the context for the archaeological assessment and covers three areas: development context, historical context, and archaeological context.

Development Context

Parslow Heritage Consultancy Inc. (PHC) was retained by R.J. Burnside & Associates Limited to conduct a Stage 1 archaeological assessment for the Township of Scugog's Edgerton Road Bridge (No.11) (the study area) replacement, located over a tributary of Brown Lake, located approximately 0.2 km west of Cartwright East Quarter Line, between Lots 18, Concession 4 and 5, in the Geographic Township of Cartwright, now the Township of Scugog, Regional Municipality of Durham, Ontario (Map 1, Map 2). It is understood that this Stage 1 archaeological assessment is required as part of a Municipal Class Environmental Assessment (MCEA) under the *Planning Act* (1990).

The objectives of the Stage 1 archaeological assessment are defined in the Ministry of Citizenship and Multiculturalism's (MCM) *Standards and Guidelines for Consultant Archaeologists* (2011). A Stage 1 archaeological assessment provides compiled information about the study area's geography, history, current land conditions as well as any previous archaeological research and listed archaeological sites on or within the vicinity, as well as specific direction for the protection, management and/or recovery of these resources. Methods to achieve these objectives include:

- Review of relevant historic and environmental literature pertaining to the study area;
- Review of an updated listing of archaeological sites within 1 km from the MCM Ontario Archaeological Sites Database (OASD);
- Review of Archaeological Assessments within 50 m of the study area;
- Consultation with individuals knowledgeable about the study area; and,
- Review of historic maps and aerial imagery of the study area.
- A property inspection to photo document site conditions

The study area is located within the municipally owned road right-of-way (ROW) of Edgerton Road. Edgerton Road Bridge No. 11 is a single span, reinforced concrete solid slab bridge on solid wall abutments, and was built in 1925. The study area consists of the municipal ROW, which includes paved road with steep slopes, steep ditches, and overgrown shorelines. The study area consists of measures 20 m extending from the centre point of the bridge for a total of 40 metres (m) in length by 15 m area in width (0.6 ha). A negative indicator of archaeological potential is extensive, below-grade land disturbance. Disturbance associated with soil manipulation and grading of soils were encountered in association with the construction of the bridge and paved road within the study area.

Permission to enter the property to carry out the activities necessary for the completion of the Stage 1 archaeological assessment was granted by R.J. Burnside & Associates Limited.

All archaeological work documented in this report was completed in accordance with the *Ontario Heritage Act* (1990, as amended in 2023) and the 2011 *Standards and Guidelines for Consultant Archaeologists*, currently administered by the Ministry of Citizenship and Multiculturalism (MCM).

Historical Context

This section describes the past and present land use and settlement history of the property, and any other relevant historical information gathered through the background research (MCM 2011 Section 7.5.7 Standard 1).

Indigenous History

Indigenous peoples of southern Ontario have left behind archaeologically significant resources throughout the province that show continuity with past peoples even if they were not recorded in historic Euro-Canadian documents. Table 1Table 1 illustrates this continuity and demonstrates over 11,000 years of Indigenous occupation of southern Ontario (Ellis & Ferris, 1990).

Table 1: Overview of the Cultural Chronology of Southern Ontario

Period	Characteristics	Time	Comments
Early Paleo	Fluted Points	9,000 – 8,400 BC	Caribou hunters
Late Paleo	Hi-Lo Points	8,400 – 8,000 BC	Smaller but more numerous sites
Early Archaic	Kirk, Nettling, and Bifurcate Base Points	8,000 – 6,000 BC	Slow population growth
Middle Archaic I	Stanley/Neville, Stemmed Points	6,000 – 4,000 BC	Environment similar to present
Middle Archaic II	Thebes, Otter Creek Points	4,000 – 3,000 BC	
Middle Archaic III	Brewerton Side and Corner Notched Points	3,000 – 2,000 BC	
Late Archaic I	Narrow Point (Lamoka, Normanskill)	2,000 – 1,800 BC	Increasing site size

Period	Characteristics	Time	Comments
	Broad Point (Genesee, Adder Orchard)	1,800 – 1,500 BC	Large chipped lithic tools
	Small Point (Crawford Knoll, Innes, Ace-of-Spades)	1,500 – 1,100 BC	Introduction of bow hunting
Terminal Archaic	Hind Points	1,100 – 950 BC	Emergence of true cemeteries
Early Woodland	Meadowood Points	950 – 400 BC	Introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 BC – AD 500	Increased sedentism
	Princess Point	AD 550 – 900	Introduction of corn
Late Woodland	Early Late Woodland	AD 900 – 1,300	Emergence of agricultural villages, widespread adoption of ceramic technologies
	Middle Late Woodland	AD 1,300 – 1,400	Large longhouses (100m+)
	Late Late Woodland	AD 1,400 – 1,650	Tribal warfare and displacement, intensive agricultural practices, increased social complexities
Contact	Various Algonkian and Iroquoian Groups	AD 1,700 – 1,875	Early written records and treaties

Paleo and Archaic Time Periods

The first human settlement in south-central Ontario can be traced back 11,000 years, just after the end of the Wisconsin Glacial Period, when this area was settled by Indigenous groups that had been living south of the Great Lakes. The period of these

first inhabitants is known as the Paleo (Ellis et al., 1990), a time in which bands of small hunter gatherer, consisting of probably no more than 25-35 individuals, followed a pattern of seasonal mobility extending across wide-ranging territories shaped extensively by the ebb and flow of glaciers.

The Paleo period was a time of rapid environmental change. As the glaciers retreated sparse tundra and evergreen forests gave way to extensive deciduous forests and water levels in the Great Lakes rose dramatically (Ellis et al., 1990, p. 69). By the end of this period (8000 BC), many of the large game species that Paleo hunters had relied upon either moved further north, or as in the case of the mastodons and mammoths, become extinct. Thus, the end of the Late Paleo Period was heralded by numerous technological and cultural innovations, likely as responses to the dynamic nature of the post-glacial environment and region-wide population increases. These innovations continue to be found in sites belonging to the direct descendants of the Paleo, groups of people known by archaeologists as “Archaic.”

The term “Archaic” designates preagricultural sites lacking in pottery and other specific artefact forms (Ellis et al., 1990, p. 65) and are primarily distinguished from Paleo sites by a significantly greater degree of artefact diversity and regional variety. Archaic people began to make stone tools out of coarser raw material by laboriously grinding the rock into the desired shape. The introduction of ground stone tools such as celts and axes, suggests the beginnings of a simple woodworking industry and an increased use of localized stone sources indicates that Archaic populations may have been less nomadic than their Paleo ancestors (Munson & Jamison, 2013, p. 41). It is likely that gradual infilling of the landscape resulting from rising water levels and population growth necessitated the development of strategies to support more people from smaller areas of liveable land.

During the Late Archaic Period (2,500-950 BC) the trends towards decreased territory size, a broadening subsistence base, population growth and increasing sedentism continued and it is during this period that the first true cemeteries appeared. During the Late Archaic Period, if an individual died while his or her group happened to be at some distance from their group cemetery, the bones would be kept until they could be placed in the cemetery, suggesting that people returned with greater frequency to the same areas. These first cemeteries may have served as visible reminders of a group’s cultural history and demarcated their rights to an area. Living in a time before farming or pottery, early hunter gatherers hunted, fished, and travelled in a land that was dynamic, ever-changing, and far removed from modern or historic ways of life.

Woodland Time Period

The Early Woodland Period (950 to 400 BC) is distinguished from the Late Archaic Period primarily by the gradual adoption of ceramic technology. However, in many ways the life ways of people in this period show a high degree of continuity with the preceding Late Archaic and it is not until the Middle Woodland (300 BC to AD 500) that there is an evident shift in settlement and subsistence patterns towards a sedentary way of life.

Middle Woodland peoples relied much more extensively on ceramic technology and vessels were often heavily decorated with hastily impressed designs covering the entire exterior surface and upper portion of the vessel interior. The Middle Woodland provides a major point of departure from the Archaic and Early Woodland; fish was becoming an increasingly important part of diets and sites along the margins of major lakes and rivers appear to have functioned as base camps instead of seasonally utilized locations, indicating a greater degree of sedentism and reliance on fishing technology.

The Transitional Woodland Period (AD 500-1000) is widely accepted as the beginning of a truly agricultural way of life in south-central Ontario. Researchers have suggested that a warming trend during this period may have encouraged the spread of maize into southern Ontario by providing a greater number of frost-free days (Stothers & Yarnell, 1977). The presence of carbonized corn kernels and cob fragments recovered from sub-floor storage pits indicates that agriculture was becoming a vital part of the Late Woodland Period economy.

The Middle Late Woodland Period (AD 1300-1400) witnessed several interesting developments in terms of settlement patterns and artefact assemblages. The size of villages and houses increased dramatically, with house lengths almost doubling to an average of 30m. Possible explanations for these shifts involve changes in economic and socio-political organization (C.F. Dodd et al., 1990, p. 357); small villages may have amalgamated to form larger communities for mutual defence (C.F. Dodd et al., 1990, p. 357). These large villages were often heavily defended with numerous rows of wooden palisades, suggesting that defence may have been one of the rationales for smaller groups banding together.

By the late 1400's, some Late Late Woodland Period communities in Ontario occupied large, permanently settled villages covering up to 4–5 hectares and accommodating populations numbering in the thousands (Birch, 2015; C.F Dodd et al., 1990). These villages typically consisted of dense clusters of longhouses arranged in planned layouts, often with evidence for defensive features such as palisades, indicating increased aggregation, long-term occupation, and coordinated community planning (Ellis & Ferris, 1990; Wright, 2004).

Changes in longhouse orientation, settlement layout, and village organization observed during the Late Late Woodland period suggest evolving social structures and regional interaction networks, rather than the expression of a single cultural or ethnic identity (Birch & Williamson, 2013; C.F Dodd et al., 1990). Archaeological evidence from this period reflects the coexistence of multiple Indigenous populations occupying shared and adjacent landscapes, with settlement, subsistence, and material practices shaped by local environmental conditions, long-standing traditions, and inter-community relationships (Williamson, 2014).

After approximately AD 1450, domestic architecture in Southern Ontario generally trend toward decreasing structure length, with houses dating between AD 1500-1580 averaging approximately 30 m in length (Lennox & Fitzgerald, 1990, pp. 405, 410). Even shorter structures documented on early Historic-Period sites have been associated with broader demographic and social disruptions linked to early European contact, including

the introduction of epidemic diseases such as smallpox, which contributed to significant population decline during the seventeenth century (Lennox & Fitzgerald, 1990).

Archaeological evidence from the Late Late Woodland Period documents changes in settlement organization, community size, and built environments, reflecting shifting social, environmental, and historical conditions (Ellis & Ferris, 1990; Williamson, 2013). Archaeology provides an important means of examining these long-term patterns through material evidence of settlement distribution, land use, and interaction across the landscape, offering insight into pre-European and early contact-period histories spanning approximately 13,000 years (Ellis & Ferris, 1990).

Oral History of the Michi Saagiig Peoples

This oral history was provided by Gitiga Migizi, respected Elder and Knowledge Keeper of the Michi Saagiig Nation (Gitiga Migizi & Kapyrka, 2015).

The traditional homelands of the Michi Saagiig (Mississauga Anishinaabeg) encompass a vast area of what is now known as southern Ontario. The Michi Saagiig occupied and fished the north shore of Lake Ontario where the various tributaries emptied into the lake. Their territories extended north into and beyond the Kawarthas as winter hunting grounds on which they would break off into smaller social groups for the season, hunting and trapping on these lands, then returning to the lakeshore in spring for the summer months.

The Michi Saagiig were a highly mobile people, travelling vast distances to procure subsistence for their people. They were also known as the “Peacekeepers” among Indigenous nations. The Michi Saagiig homelands were located directly between two very powerful Confederacies: The Three Fires Confederacy to the north and the Haudenosaunee Confederacy to the south. The Michi Saagiig were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations.

Michi Saagiig oral histories speak to their people being in this area of Ontario for thousands of years. These stories recount the “Old Ones” who spoke an ancient Algonquian dialect. The histories explain that the current Ojibwa phonology is the 5th transformation of this language, demonstrating a linguistic connection that spans back into deep time. The Michi Saagiig of today are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo periods. They are the original inhabitants of southern Ontario, and they are still here today.

The traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands. This also includes all the tributaries that flow from the height of land north of Toronto like the Oak Ridges Moraine, and all of the rivers that flow into Lake Ontario (the Rideau, the Salmon, the Ganaraska, the Moira, the Trent, the Don, the Rouge, the Etobicoke, the Humber, and the Credit, as well as Wilmot and 16 Mile Creeks) through Burlington Bay and the Niagara region including the Welland and Niagara Rivers, and beyond. The western side of the Michi Saagiig

Nation was located around the Grand River which was used as a portage route as the Niagara portage was too dangerous. The Michi Saagiig would portage from present-day Burlington to the Grand River and travel south to the open water on Lake Erie.

Michi Saagiig oral histories also speak to the occurrence of people coming into their territories sometime between 500-1000 A.D. seeking to establish villages and a corn growing economy – these newcomers included peoples that would later be known as the Huron-Wendat, Neutral, Petun/Tobacco Nations. The Michi Saagiig made Treaties with these newcomers and granted them permission to stay with the understanding that they were visitors in these lands. Wampum was made to record these contracts, ceremonies would have bound each nation to their respective responsibilities within the political relationship, and these contracts would have been renewed annually (see Gitiga Migizi and Kapyrka 2015). These visitors were extremely successful as their corn economy grew as well as their populations. However, it was understood by all nations involved that this area of Ontario were the homeland territories of the Michi Saagiig

The Odawa Nation worked with the Michi Saagiig to meet with the Huron-Wendat, the Petun, and Neutral Nations to continue the amicable political and economic relationship that existed – a symbiotic relationship that was mainly policed and enforced by the Odawa people. Problems arose for the Michi Saagiig in the 1600s when the European way of life was introduced into southern Ontario. Also, around the same time, the Haudenosaunee were given firearms by the colonial governments in New York and Albany which ultimately made an expansion possible for them into Michi Saagiig territories. There began skirmishes with the various nations living in Ontario at the time. The Haudenosaunee engaged in fighting with the Huron-Wendat and between that and the onslaught of European diseases, the Iroquoian speaking peoples in Ontario were decimated. The onset of colonial settlement and missionary involvement severely disrupted the original relationships between these Indigenous nations. Disease and warfare had a devastating impact upon the Indigenous peoples of Ontario, especially the large sedentary villages, which mostly included Iroquoian speaking peoples. The Michi Saagiig were largely able to avoid the devastation caused by these processes by retreating to their wintering grounds to the north, essentially waiting for the smoke to clear.

Michi Saagiig Elder Gitiga Migizi (2017) recounts:

> *“We weren’t affected as much as the larger villages because we learned to paddle away for several years until everything settled down. And we came back and tried to bury the bones of the Huron but it was overwhelming, it was all over, there were bones all over – that is our story.*
>
> *There is a misnomer here, that this area of Ontario is not our traditional territory and that we came in here after the Huron-Wendat left or were defeated, but that is not true. That is a big misconception of our history that needs to be corrected. We are the traditional people, we are the ones that signed treaties with the Crown. We are recognized as the ones who signed these treaties and we are the ones to be dealt with officially in any matters concerning territory in southern Ontario.*

> *We had peacemakers go to the Haudenosaunee and live amongst them in order to change their ways. We had also diplomatically dealt with some of the strong chiefs to the north and tried to make peace as much as possible. So we are very important in terms of keeping the balance of relationships in harmony.*
>
> *Some of the old leaders recognized that it became increasingly difficult to keep the peace after the Europeans introduced guns. But we still continued to meet, and we still continued to have some wampum, which doesn't mean we negated our territory or gave up our territory – we did not do that. We still consider ourselves a sovereign nation despite legal challenges against that. We still view ourselves as a nation and the government must negotiate from that basis."*

Often times, southern Ontario is described as being "vacant" after the dispersal of the Huron-Wendat peoples in 1649 (who fled east to Quebec and south to the United States). This is misleading as these territories remained the homelands of the Michi Saagiig Nation.

The Michi Saagiig participated in eighteen treaties from 1781 to 1923 to allow the growing number of European settlers to establish in Ontario. Pressures from increased settlement forced the Michi Saagiig to slowly move into small family groups around the present-day communities: Curve Lake First Nation, Hiawatha First Nation, Alderville First Nation, Scugog Island First Nation, New Credit First Nation, and Mississauga First Nation.

Colonial History

Colonialism in Canada

The Canada we see today is one that was built on the principles of *Settler Colonialism.* This is a specific kind of colonialism whereby the purpose or goal is to replace an indigenous population with an invasive settler population that over time will develop its own identity and sovereignty (Ansari, 2023; Shah, n.d.). It is important to understand that there are three main features of settler colonialism that had a profound impact on the Indigenous population of Canada.

The first feature is that settler colonizers, unlike other forms of colonization, intend to permanently occupy and assert control over Indigenous lands. Second, settler colonialism is a structure, not an event and continues to the present day in Canada. Third, settler colonialism "seeks its own end" in that the goal is to form a homogenous society that is over-arching and unchallenged (Barker & Lowman, 2018).

Initial attempts at settlement and colonization occurred in 1534 with Jacques Cartier, who traveled across the Atlantic Ocean, entered the Gulf of the St. Lawrence, and landed on the shores of what is now Gaspe, Quebec (Hele, 2023). However, Cartier's attempts to establish a permanent settlement failed and it was not until 1603, with Samuel de Champlain, did settler colonialism start in Canada with the establishment of New France.

The French and British colonizers, who encountered indigenous populations, thought them to be inferior to themselves and saw the indigenous populations as a source of

cheap labour for the fur trade, soldiers for the battlefield, or even household slaves. When Indigenous populations resisted, the Europeans would often wage war against them. As the European powers sought to secure greater control over North America, threats of violence were used to force Indigenous leaders to sign treaties that surrendered political control of their land in exchange for meager financial compensation or dubious promises of protection and safety.

At the time of first contact with the French, in 1615 AD, the traditional territory of the Huron-Wendat, known as Wendake, roughly stretched between the Canadian Shield, Lake Ontario and the Niagara Escarpment; it has been suggested the Huron-Wendat population at this time was approximately 30,000 individuals (Heidenreich, 1978; Warrick, 2008).

Over the 17th century, political and territorial dynamics shifted, with multiple Indigenous First Nations maintaining use and connection to Southern Ontario. The Huron-Wendat eventually dispersed from the greater Toronto area to settle in their historical homeland of Wendake, which included territory in present-day Simcoe and Grey Counties. This coalescence and subsequent movement northward were thought to result from several socio-political factors, including increased conflict with the Haudenosaunee from the south, political reorganization, strengthened trade relations with northern Anishnaabe groups, and interactions with early European traders (Birch, 2012; Ferris & Spence, 1995; Ramsden, 1990).

These large-scale population dispersals enabled the Haudenosaunee to move north in the 1640s from their traditional territories in present-day New York state and to formally inhabit the lands north of Lake Ontario, where they settled primarily along inland trade routes. These settlements included the villages of Ganatsekwyagon on the Rouge River and Teiaiagon on the Humber River at the head of the well-travelled Toronto Carrying Place Trail (Ramsden, 1990). Due to various factors, including increased military pressure from the French in the late 1600s and the southward migration of the Anishinaabe Nations (i.e., Ojibwa, Odawa, and Potawatomi) from the north, direct settlement was no longer sustainable, and the Haudenosaunee eventually left these villages along the northern shores of Lake Ontario (Gibson, 2006; Johnston, 2006).

As Haudenosaunee communities gradually withdrew from villages along the northern shores of Lake Ontario in the late 17th century, Anishinaabeg peoples re-established and maintained use of these areas as part of their longstanding traditional territories. By the late 17th and early 18th centuries, Anishinaabeg land use and settlement patterns were, again, dominant along the north shore of Lake Ontario, reflecting continuity of territorial relationships rather than new occupation (Schmalz, 1991; Gibson, 2006; Warrick, 2008; Williamson, 2013). They later participated in a significant number of treaty agreements with the British Crown as British Loyalists, often referred to as “United Empire Loyalists,” migrated north after being displaced by the American Revolutionary War, thereby creating increased pressure for settler occupation of Southern Ontario (Ferris & Spence, 1995).

European Treaties and Deeds

The study area is located within Treaty 20, also known as the Rice Lake Purchase, and within the traditional territory of the Michi Saagiig and Chippewa Nations, collectively known as the Williams Treaties First Nations. The Williams Treaty First Nations include Mississauga of Alderville First Nation, Curve Lake First Nation, Hiawatha First Nation, Scugog Island First Nation, The Chippewas of Beausoleil First nation, Georgina Island First Nation, and the Rama First Nation (Government of Canada, 2018; Wallace, 2018) (Map 3). Treaty 20 is described as follows:

> *"…between the Honourable William Claus, Super-intendent-General of Indian Affairs, in behalf of his Majesty of the one part and the Principal Men of the Chippiwa Nation of Indians, claiming the back parts of the Newcastle District, whereas the said Indians were to receive 740 pounds, yearly for a tract of land, situate between the western boundary of the Home District, and extending northerly to a Bay at the northern entrance of Lake Simcoe in the Home District:*
>
> *"Commencing on the Western Division Line of the Midland District at the north west angle of the Township of Tawdon; then north 16 degrees west, 33 miles or until it strikes the line forty-five; then along said line to a Bay at the northern entrance of Lake Simcoe; then southerly along the waters edge to the entrance of Talbot River; thence up Talbot River to the eastern boundary of the Home District; thence along said boundary line south 16 degrees east to the south west angle of the Township of Darlington; then along the northern boundary line of the Townships of Darlington, Clarke, Hope an Hamilton to the Rice Lake; then along the southern shore of said lake and of the River Trent to the Western Division Line of the Midland District; then north 16 degrees west to the place of the beginning"*
>
> Morris, 1943, p. 24

To rectify Treaty ambiguities and in a response to petitions from First Nations regarding settlers on the northern part of their traditional lands interfering with traditional land uses, representatives of the Crown chaired by A.S. Williams signed the Williams Treaties on October 31 and November 15, 1923, with seven Anishinaabe First Nations, including Mississauga of Alderville First Nation, Curve Lake First Nation, Hiawatha First Nation, Scugog Island First Nation, The Chippewas of Beausoleil First nation, Georgina Island First Nation, and the Rama First Nations, to formally settle outstanding land claims (Wallace, 2018).

The Williams Treaties covered an area of approximately 52,000 km², spanning from the northern shore of Lake Ontario to Lake Nipissing. The treaty reads in part as follows:

> *NOW THEREFORE THIS TREATY WITNESSETH that the said tribe and the Indians composing the same, occupying as members of bands the said reserves, by their chiefs and headmen, duly authorized thereunto as aforesaid, do hereby cede, release, surrender and yield up to the Government of the Dominion of Canada for His Majesty the King and His Successors forever, all their right, title, interest, claim, demand and privileges whatsoever, in, to, upon, or in respect of the lands and premises described as follows, that is to say:*

> *FIRSTLY: All that parcel of land situate in the Province of Ontario and described as commencing on the northeasterly shore of Georgian Bay at that mouth of the French River… (Treaty goes on to describe lands)*
>
> *SECONDLY: All that parcel of land situate in the Province of Ontario and described as parts of the Counties of Northumberland, Durham, Ontario and York… (Treaty goes on to describe the lands)*
>
> *AND ALSO all the right, title, interest, claim, demand and privileges whatsoever of the said Indians, in, to, upon or in respect of all other lands situate in the Province of Ontario to which they ever had, now have, or now claim to have any right, title, interest, claim, demand or privileges, except such reserves as have heretofore been set apart for them by His Majesty the King.*
>
> Cloutier, 1957

In 1992, the seven Williams Treaties First Nations commenced litigation (the Alderville litigation) against the Government of Canada, seeking financial compensation and clarification for their treaty rights (Wallace, 2018). The litigation raised concerns about how the 1923 agreements had affected the ability of First Nations members to exercise their harvesting rights. Through the course of this litigation and related negotiations, Canada and Ontario acknowledged that harvesting rights had not been validly extinguished by the 1923 treaties, and that limited, non-exclusive off-reserve harvesting rights continued to exist within defined Williams Treaties territories, including areas associated with certain pre-Confederation treaties, not only within Treaty 20, but within Treaties No.5, 16, 18, and 27-271/4 (Anishinabek News, 2018; Government of Canada, 2018).

Through 2016 and 2017, the parties agreed to a negotiated resolution, and in September 2018 the litigation was discontinued when the Williams Treaties First Nations, the Government of Canada, and the Government of Ontario reached a negotiated settlement agreement (Government of Canada, 2018). Under the Williams Treaties Settlement Agreement 2018, the settlement included financial compensation, formal recognition of treaty harvesting rights, a commitment from the federal and provincial governments to provide and oral and written statement of apology for the negative impacts of the Williams Treaties on First Nations, and provisions allowing each First Nation to acquire up to 4,452 hectares (11,000 acres) of land through the Additions to Reserve process (Anishinabek News, 2018; Government of Canada, 2018).

Euro-Canadian Settler History

Following The Clergy Endowments (Canada) Act of 1791, what was then the Province of Quebec (including the study area) was divided into four political districts within the Province of Upper Canada; the four political districts were renamed Eastern, Midland, Home, and Western, after previously being called Lunenburg, Mechlenburg, Nassau, and Hesse (Hall, 2022). The study area fell within the former Nassau District and later the Home District.

The Home District, which originally included all lands between an arbitrary line on the west running from Long Point on Lake Erie to Georgian bay, and a line on the east running north from Presqu'ile Point on Lake Ontario to the Ottawa River. In 1792, John Graves Simcoe, the first Lieutenant Governor of Upper Canada then further subdivided each district into counties and townships (Hunter, 1909).

Durham County

The former County of Durham was named after Durham, England and formed in 1792 by Lieutenant Governor Simcoe. At the time it was bound to the east by the County of Northumberland, to the west reserve land of the Mississauga, and Lake Ontario to the south (Thomson & MacFarlane, 1831). In 1798 the Parliament of Upper Canada passed a statute redefining the boundaries of Durham County to now include the townships of Hope, Clarke and Darlington (Stanton, 1843). The townships of Verulam, Fenelon and Eldon were later added to Durham County in 1834.

In 1850 the County of Durham was merged with Northumberland to form the United Counties of Northumberland and Durham, which remained in existence until the county was dissolved on January 1, 1974, and replaced by the Regional Municipality of Durham.

Cartwright Township

Established in the early 19th century, the Township of Cartwright was part of Durham County, in Upper Canada, and was located along the eastern coast of Lake Scugog. The Township was originally named after Hon. Richard Cartwright, who was a member of the first Legislative Council of Upper Canada, in the year following his death (Middleton, 1927; Van Camp, 1973). Although surveyed in the early 19th century, Cartwright's landscape, which was characterized by marshland and a muddy lake, delayed substantial settlement (Van Camp, 1973).

The earliest recorded land purchase was made by John Hoople in 1816, but his log cabin was only briefly occupied (United Counties Centennial Book Committee, 1967; Van Camp, 1973). In the early 1830s, a few settlers came from the neighbouring Cavan and Haldimand townships. The Hall family built a home in 1833 and were joined by the Muirhead and Caesar families in 1836. The majority of the population, however, moved to the Cartwright Township in the 1850s and was largely comprised of Irish immigrants (Middleton, 1927; Toronto Reference Library, 1852). In 1850, the United Counties of Northumberland and Durham were established, with Cartwright becoming one of its 15 townships.

Many of Cartwright's earliest residents were farmers who benefitted from the area's rich clay loam, which is ideal for agriculture (Middleton, 1927; Toronto Reference Library, 1852). In 1861, the township reached its peak in population of 2,727 residents, and although many jobs were still related to farming, there was a wider array of occupations listed on the census that year including: school teachers; tradespeople making wagons, barrels, and watches; tailors, surgeons and doctors, and a bailiff (Toronto Reference Library, 1861).

The lumber industry was also important in that period, and the depletion of the forests led to a decrease in population—exacerbated by the economic conditions of the 1930s—until after the Second World War when an influx in immigrants and the growth of the lakefront resort industry grew (United Counties Centennial Book Committee, 1967; Van Camp, 1973). Transportation improvements, including the later construction of the Whitby–Port Perry railway, spurred economic development. Cartwright's residents prioritized education and community life, with one-room schoolhouses and regular agricultural fairs.

As early as 1889, the Cartwright Creamery was in possession of 100 cows and selling milk and cheese. Cattle continued to be an important sector of the agricultural output of Cartwright, and in 1967, the township was described as having some of the "finest" Holstein and Guernsey dairy cows in Canada (United Counties Centennial Book Committee, 1967, p. 19).

In 1974, Cartwright became a ward of the Township of Scugog in the newly separated Durham Region (Van Camp, 1973). The original townships of Scugog, Reach, and Cartwright were amalgamated with the Town of Port Perry. Some of the notable regions of the Township of Cartwright, Blackstock and Caesara, are now communities included in the Township of Scugog municipality.

Hamlet of Cadmus

The Hamlet of Cadmus, originally named Ambuay, was a small milling community located in Cartwright Township. In 1871 a post office was founded in the community, followed by a church and a school (Pegg, 2023). By the late 19th century, the community also had a blacksmith shop and a butcher shop. The study area is located within this small community.

Past and Current Uses of Part Lots 18, between Concession 4 and 5

To understand the specific land use history of Euro-Canadian settlement in the study area, land registry information from the Archives of Ontario and historical mapping were consulted.

The earliest mapping of Lots 18, Concessions 4 and 5 that could be found is the Tremaine's 1861 *Map of Durham County* (Shier, 1861) and the 1878 *Illustrated Historical Atlas of the Counties of Northumberland and Durham* (H. Belden & Co, 1878) (Maps 4 and 5).

The 1861 *Map of Durham County* illustrates Lot 18, Concession 4, as divided into four irregular shaped parcels. The study area is located within an L-shaped parcel, fronting the concession road, present-day Edgerton Road, and is identified as being owned by John McNaughton. The map illustrates the lake to the south of the road with a mill positioned at the north end, outside of the study area, and a creek crossing the road to the north.

Lot 18, Concession 5, is divided into three asymmetrical parcels. The study area is located within the smallest parcel, situated in the southeast corner of the lot, and is identified as the property of R. Lawson. A creek is illustrated as flowing north–south

through the lot, with a mill depicted in the central parcel owned by W.A. Loucks. (Map 4).

The 1877 *Illustrated Historical Atlas* depicts Lot 18, Concession 4, in a revised configuration from the 1861 Tremaine's Map. The property encompassing the lake and the creek adjacent to the study area is identified as belonging to J. Flake. A grist mill is shown at the north end of the lake, in the same location as previously mapped. Four structures are illustrated fronting the south side of the road: one on the property of W.S. Lattimore, one on a small unnamed parcel, one on the property of J. Flake, and one on the property of W.C. Lattimore (listed west to east).

Lot 18, Concession 5, is illustrated as divided among three owners: the majority of the lot belonging to Robert Follis, the southwest corner to J. Flake, and the northeast corner to J. Brown. Six structures are depicted along the north side of the road within smaller unnamed parcels, including the Cadmus Post Office and a mill. A church is shown on the adjacent Lot 19, Concession 5, situated in the southwest corner at the east side of the intersection of the concession roads corresponding to present-day Edgerton Road and Cartwright East Quarter Line (Map 5).

A photograph of Cadmus from the early 1900s further depicts the post office and general store, likely located along Edgerton Road (Scugog Heritage Gallery, n.d.) (Image 8).

A Cultural Heritage Evaluation Report (CHER) was conducted on Edgerton Road Bridge No. 11, to evaluate its built heritage, cultural value and interest. This report identified that though no bridge is illustrated on the historic mapping it can be assumed one was present as this crossing was a central thoroughfare at the center of Cadmus. In 1921 a newspaper article details a large flood that washed away the wooden bridge structure that stood there, as well as causing largescale damage to neighbouring mills and dams. The extant bridge was built following this flood in 1925 (MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC), 2024).

Historical aerial imagery from 1954 (Hunting Survey Corporation Limited, 1954) shows a cluster of residential buildings labeled Cadmus shown along both sides of Edgerton Road (Map 6).

A review of available Google satellite imagery since 2004 shows the study area has remained relatively unchanged.

Archaeological Context

Archaeological Sites and Previous Assessments

The registered archaeological site records kept by the Ministry of Citizenship and Multiculturalism (MCM) were consulted so that an inventory of archaeological resources could be compiled. In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database maintained by the MCM. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden block is approximately 13km east to west and approximately 18.5km north to

south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The study area is located within Borden block *BaGq*.

According to Section 7.5.8, Standard 1 of the *Standards and Guidelines,* all registered or known archaeological sites within a minimum one-kilometre distance from the study area must be listed. No archaeological sites were found in the OASD within one kilometre of the study area.

Previous Assessments Within 50 Metres of the Study Area

Per Section 7.5.8., Standard 4 of the *Standards and Guidelines for Consultant Archaeologists* (2011), a review of the previous archaeological assessments undertaken within the limits, or within 50 m of the study area was completed. To the best of our knowledge, no archaeological assessments have been completed within the property limits or within 50m of the study area.

The Natural and Physical Environment

The MCM *Standards and Guidelines for Consultant Archaeologists* (2011) Section 1.3.1 indicates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.),features indicating past water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Additional geographic features stipulated by MCM *Standards and Guidelines* Section 1.3.1 as indicators of archaeological potential include elevated topography (eskers, drumlins, large knolls, and plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings, and resource areas, including food or medicinal plants and scarce raw materials.

The study area is situated within the Drumlinized Till Plains of the Peterborough Drumlin Field physiographic region (Map 7), which is described as:

> *…rolling till plain with an area of about 1750 square miles. Extending from Hastings County in the east to Simcoe County in the west, and including the drumlins south of the moraine in Northumberland County, this belt contains approximately 3000 good drumlins in addition to many other drumlinoid hills and surface flutings of the till sheet. For the most part the rock underlying this region is limestone of the Lindsay and Verulam Formations which are somewhat softer and less massive formations than the Gull River Formation. They are also highly fossiliferous and disintegrate easily. The drumlins throughout are composed of highly calcerous till but there are local differences.*

Chapman & Putnam, 1984, p. 170

The soil survey for Durham County illustrates the study area is located within the Bondhead Fine Sandy Loam soil series. This soil is described as a gray-brown podzolic soil, with drumlins and long gentle slopes, and good drainage. Prior to the expansion of the cities, the area was well-suited to and widely used for agricultural purposes, specifically for cereal grains and forage crops. characterized as (Webber et al., 1946). (see Map 7).

Examination of topographic mapping and aerial photography indicates the presence of a seasonal tributary of Brown Lake running through the study area, as well as two small ponds and a wetland in proximity to it. This further emphasizes the potential for Pre-Contact archaeological resources to be found nearby.

Field Methods

The Stage 1 background assessment and property survey were conducted under archaeological consulting license P1153 issued to Mr. Adam Long by the MCM (P1153-0187-2025). Field director duties were delegated to PHC archaeologist Sarah News, B.A. (R485). The field director was delegated the responsibility of undertaking the archaeological fieldwork at the study area as per Section 12 of the MCM 2013 *Terms and Conditions for Archaeological Licences*, issued in accordance with clause 48(4)(d) of the *Ontario Heritage Act* (1990, as amended in 2023).

The Stage 1 property assessment was conducted on June 16, 2025. In accordance with Section 2.1 Standard 3 of the *Standards and Guidelines for Consultant Archaeologists* (Ministry of Citizenship and Multiculturalism, 2011). The survey was conducted when conditions were excellent and at no time were the field, weather, or lighting conditions detrimental to this survey or the recovery of archaeological materials. The weather was sunny with an average temperature of 18°C.

The study area consists of municipal owned rights-of-way (ROW), which includes a paved road with ditches, overgrown shorelines, and manicured lawn. Edgerton Road Bridge No. 11 is a single span, reinforced concrete solid slab bridge on solid wall abutments. A negative indicator of archaeological potential is extensive, below-grade land disturbance. Disturbance associated with soil manipulation, grading, and stockpiling of soils were encountered in association with the construction of the bridges and gravel roads within the study area.

During the property inspection, it was observed that the entirety of the bridge location within the current road's ROW and the surrounding areas have undergone extensive disturbance due to infrastructure development, which include gravel roads with steep slopes, steep ditches, and overgrown shorelines.

Areas of Low Archaeological Potential

Approximately 84.4% of the study area (0.0422 ha, 422 m^2) consisted of paved Edgerton Road, roadside ditches and embankments, as well as cement bridge structure and bridge footings (Image 1, Image 2, Image 6, Image 7). These areas were determined to be permanently disturbed and retain low archeological potential and were not subject to test pit surveys per MCM *Standards and Guidelines for Consultant Archaeologists* (2011) Section 2.1 Standard 2b.

Approximately 25.6% of the study area (0.0128 ha; 128 m^2) consisted of steeply sloped river banks (greater that 20 degrees) (Image 3-Image 5). These areas were determined to retain low archeological potential and was not subject to test pit survey per MCM *Standards and Guidelines* Section 2.1 Standard 2a.iii.

PHC determined that the watercourse (0.01 ha; 100 m^2), as illustrated on Map 8, is permanently low and wet and as per Section 1.2, Standard 5 and Section 2.1, Standard 2.a.i., of the *Standards and Guidelines for Consultant Archaeologists* (2011), therefore terrestrial survey is not required. As such, the watercourse has been removed from the study area, as it is not being impacted by development, and was not assessed.

Record of Documentation

An inventory of the documented record generated from the assessment is provided in Table 2.

Table 2: Record of Documentation

Document Type	Location of Document	Additional Comments	Quantity
Field Notes	PHC Office	1 lined sheet stored in project file	1 page
Maps Provided by Client	PHC Office	In project file (Site Map)	1 map
Digital Photographs	PHC Office	Stored digitally in project file	38 photographs

Analysis and Conclusion

Archaeological Potential

Archaeological Potential for the Study Area

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. In accordance with the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists* the following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites;
- Water sources:

1. Primary water sources (lakes, rivers, streams, creeks);
2. Secondary water sources (intermittent streams and creeks; springs; marshes; swamps);
3. Features indicating past water sources (e.g. glacial lake shorelines indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
4. Accessible or inaccessible shoreline (e.g. high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh);

- Elevated topography (eskers, drumlins, large knolls, plateaux);
- Pockets of well drained sandy soil, especially near areas of heavy soil or rocky ground; Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);
- Resource areas including:

1. Food or medicinal plants;
2. Scarce raw minerals (e.g. quartz, copper, ochre or outcrops of chert);
3. Early Euro-Canadian industry (fur trade, mining, logging);
4. Areas of Euro-Canadian settlement; and,
5. Early historical transportation routes.

In recommending a Stage 2 property survey based on determining archaeological potential for a study area, MCM stipulates the following:

- No areas within 300 metres of a previously identified site; water sources; areas of early Euro-Canadian Settlement; or locations identified through local knowledge, or informants can be recommended for exemption from further assessment;

- No areas within 100 metres of early transportation routes can be recommended for exemption from further assessment; and,
- No areas within the property containing an elevated topography; pockets of well-drained sandy soil; distinctive land formations; or resource areas can be recommended for exemption from further assessment.

Archaeological Integrity

A negative indicator of archaeological potential is extensive land disturbance. This includes widespread earth movement activities that would have eradicated or relocated any cultural material to such a degree that the information potential and cultural heritage value or interest has been lost.

Section 1.3.2 of the MCM 2011 *Standards and Guidelines for Consultant Archaeologists* states that:

> *Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources*
>
> *MCM 2011, p. 18*

Activities that are recognized to cause sufficient disturbance to remove archaeological potential include but are not restricted to: major landscaping involving grading below topsoil, building footprints, and infrastructure development. Activities including agricultural cultivation, gardening, minor grading, and minor landscaping do not necessarily remove archaeological potential (MCM 2011, p. 18). Identified areas of disturbance within the study area include the paved road flanked by ditches.

Potential Archaeological Resources

Following the criteria outlined above to determine archaeological potential, the study area is considered to exhibit archaeological potential for the following reasons:

- The tributary of Brown Lake is located within the study area.
- The soils of the study area would have been suitable for Indigenous and Euro-Canadian agricultural practices.
- 19th century mapping indicates one structure adjacent to the study area and within the lot.
- 19th century mapping indicates the presence of a historical transportation route, Edgerton Road.

Conclusion

Parslow Heritage Consultancy Inc. (PHC) was retained by R.J. Burnside & Associates Limited to conduct a Stage 1 archaeological assessment for the Township of Scugog's Edgerton Road Bridge (No.11) (the study area) replacement, located over a tributary of Brown Lake, located approximately 0.2 km west of Cartwright East Quarter Line, between Lots 18, Concession 4 and 5, in the Geographic Township of Cartwright, now the Township of Scugog, Regional Municipality of Durham, Ontario (Map 1, Map 2). It is understood that this Stage 1 archaeological assessment is required as part of a Municipal Class Environmental Assessment (MCEA) under the *Planning Act* (1990).

The study area is located within the municipally owned road right-of-way (ROW) of Edgerton Road. Edgerton Road Bridge No. 11 is a single span, reinforced concrete solid slab bridge on solid wall abutments, and was built in 1925. The study area consists of the municipal ROW, which includes paved road with steep slopes, steep ditches, and overgrown shorelines. The study area consists of measures 20 m extending from the centre point of the bridge for a total of 40 metres (m) in length by 15 m area in width (0.6 ha). A negative indicator of archaeological potential is extensive, below-grade land disturbance. Disturbance associated with soil manipulation and grading of soils were encountered in association with the construction of the bridge and paved road within the study area.

The Stage 1 property inspection was conducted by Sarah News (R485) on June 16, 2025, under favourable weather conditions. At no time was the weather or lighting detrimental to the recovery or identification of archaeological resources. The property inspection determined the bridge to be extensively disturbed and, therefore, does not require Stage 2 archaeological assessment.

Approximately 84.4% of the study area (0.0422 ha, 422 m^2) consisted of paved Edgerton Road, roadside ditches and embankments, as well as cement bridge structure and bridge footings (Image 1, Image 2, Image 6, Image 7). These areas were determined to be permanently disturbed and retain low archeological potential and were not subject to test pit surveys per MCM *Standards and Guidelines for Consultant Archaeologists* (2011) Section 2.1 Standard 2b.

Approximately 25.6% of the study area (0.0128 ha; 128 m^2) consisted of steeply sloped river banks (greater that 20 degrees) (Image 3-Image 5). These areas were determined to retain low archeological potential and were not subject to test pit survey per MCM *Standards and Guidelines for Consultant Archaeologists* (2011) Section 2.1 Standard 2a.iii.

PHC determined that the watercourse (0.01 ha; 100 m^2), as illustrated on Map 8, is permanently low and wet and as per Section 1.2, Standard 5 and Section 2.1, Standard 2.a.i., of the *Standards and Guidelines for Consultant Archaeologists* (2011), therefore terrestrial survey is not required. As such, the watercourse has been removed from the study area, as it is not being impacted by development, and was not assessed.

Recommendations

Based on the findings of the Stage 1 archaeological assessment the following recommendations are provided:

- The entirety of the study area was determined to have low archaeological potential comprising slopes, watercourse, and previous disturbance; these areas were photo documented, and no further assessment is recommended (Map 8).

It is requested that this report be entered into the Ontario Public Register of Archaeological Reports, as provided for in Section 65.1 of the *Ontario Heritage Act*.

Advice on Compliance with Legislation

Advice on the compliance with legislation is not part of the archaeological record. However, for the benefit of the proponent and approval authority in the land use planning and development process, the report must include the following standard statements (MCM 2011, Section 7.5.9 Standard 1):

- This report is submitted to the Minister of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection, and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of TCitizenship and Multiculturalism, a letter will be issue by the ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the Ontario Heritage Act.
- Should previously undocumented archaeological resources be discovered, they may be representative of a new archaeological site or sites and therefore subject to Section 48(1) of the Ontario Heritage Act. The proponent or person discovering archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the Ontario Heritage Act.
- The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

As per MCM *Standards and Guidelines* (MCM 2011, Section 7.5.9 Standard 2):

- Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

Closure and Study Limitations

This report was prepared by Parslow Heritage Consultancy Inc. (PHC) for the exclusive use of R.J. Burnside & Associates Limited as a Stage 1 archaeological assessment of the study area between Lots 18, Concession 4 and 5, in the Geographic Township of Cartwright, now the Township of Scugog, Regional Municipality of Durham, Ontario (Map 1, Map 2).

All information, recommendations and opinions provided in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without the Client's or PHC's express written consent. Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study, if any, comply with those identified in the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists*.

Prepared by:



Hannah Curtis, B.A. Hons.
Archaeological Report Writer

Reviewed by:



Adam Long, M.Sc (P1153)

Senior Archaeologist



Sarah News, B.A (R485)

Project Manager

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Images



Image 1: Cement bridge structure along Edgerton Road. Facing Northeast.



Image 2: Disturbance due to ditching along the side of Edgerton Road leading up to the bridge. Facing Northwest.



Image 3: Steeply sloped banks beside cement bridge. Facing Northeast.



Image 4: Steeply sloped banks beside cement bridge. Facing Southwest.



Image 5: Steep slope along the south side of Edgerton Road. Facing Southwest.



Image 6: Disturbance due to artificial road embankment on the north side of Edgerton Road. Facing Southwest.



Image 7: Disturbance due to artificial road embankment on the north side of Edgerton Road. Facing Northeast.



Image 8: Village of Cadmus with the general store and post office to the right early 1900s (Scugog Heritage Gallery, n.d.)

Maps

ALL MAPS ON PROCEEDING PAGES

Map 1: Location of Study Area on Topographic Map

Map 2: Location of Study Area on Modern Aerial Imagery

Map 3: Location of Study Area on Treaties Map

Map 4: Location of Study area on 1861 Tremaine Map

Map 5: Location of Study Area on 1878 Illustrated Historical Atlas

Map 6: Location of Study Area on 1954 Aerial Imagery

Map 6: Location of Study Area on Physiographic Map

Map 7: Stage 1 Archaeological Assessment – Results, Photo Locations and Directions

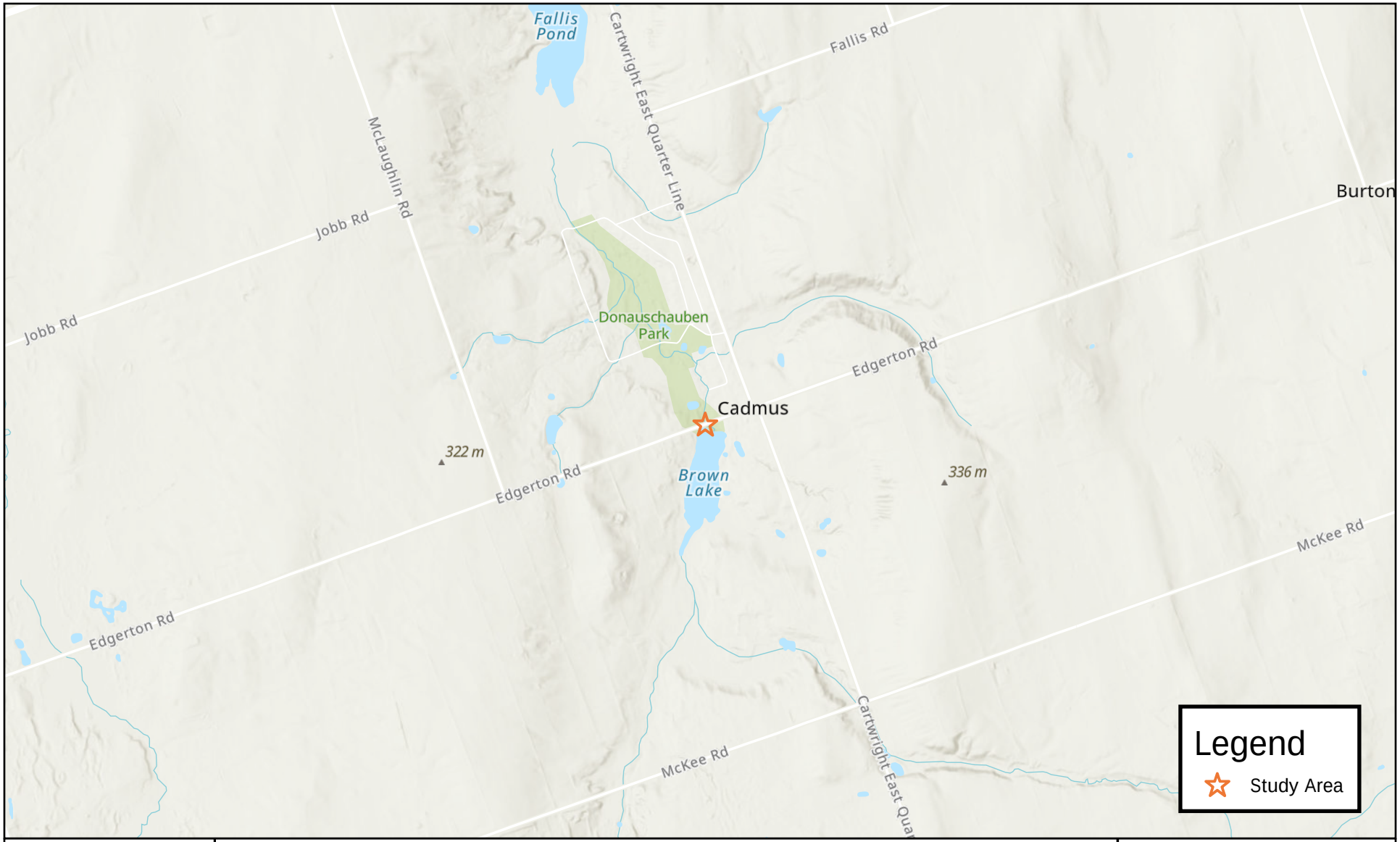
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883 St. Clair Avenue West, Rear, Toronto, ON, M6C 1C4

Telephone: 647-348-4887

Email: admin@phcgroup.ca

Website: www.phcgroup.ca



Stage 1 Archaeological Assessment

Map 1: Study Area on Topographic Map

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:25,000

0 340 680 Meters

0 0.47 0.95 Km



Stage 1 Archaeological Assessment

Map 2: Study Area on Modern Aerial Image

First Base Solutions Inc., Maxar, Microsoft

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:500

0 5 10 Meters

0 0.01 0.01 Km



Stage 1 Archaeological Assessment

Map 3: Study Area on Treaties Map

Earthstar Geographics

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:100,000

0 1,350 2,700 Meters

0 1.75 3.5 Km



PARSLOW HERITAGE CONSULTANCY INC.

Stage 1 Archaeological Assessment

Map 4: Study Area on 1861 Tremaine Map of Durham County

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:10,000

0 135 270 Meters

0 0.17 0.35 Km



Stage 1 Archaeological Assessment

Map 5: Study Area on 1878 Illustrated Historical Atlas of Durham County

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:10,000

0 135 270 Meters

0 0.17 0.35 Km



Stage 1 Archaeological Assessment

Map 6: Study Area on 1954 Aerial Image

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

N

Scale: 1:10,000

0 135 270 Meters

0 0.17 0.35 Km

Coordinate System: NAD 1983 UTM Zone 17N



Stage 1 Archaeological Assessment

Map 7: Study Area on Physiographic Map

Maxar

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:50,000

0 650 1,300 Meters

0 0.75 1.5 Km



Stage 1 Archaeological Assessment

Map 8: Stage 1 Archaeological Assessment Results, Photo Locations and Directions

First Base Solutions Inc., Maxar, Microsoft

Coordinate System: NAD 1983 UTM Zone 17N

N

Scale: 1:500

0 5 10 Meters

0 0.01 0.01 Km

Appendix A
A3 - Existing Geometry and Physical Conditions

R.J. Burnside & Associates Limited 292 Speedvale Avenue West Unit 20 Guelph ON N1H 1C4 CANADA
telephone (519) 823-4995 **fax** (226) 526-9660 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

Technical Memorandum – Existing Geometry and Physical Conditions

Date: August 7, 2025 **Project No.:** 300059896.0000

Project Name: Edgerton Bridge Replacement

Client Name: Township of Scugog

Submitted To: Project File Report

Submitted By: Andreas Abrahams, P.Eng.

Reviewed By: Matthew Brooks, P.Eng.

1.0 Project Overview

R.J. Burnside and Associates Limited (Burnside) has been retained by the Township of Scugog (Township) to complete a Municipal Class Environmental Assessment (MCEA) for Bridge No. 11 (Edgerton Bridge), located on Edgerton Road, in the Village of Cadmus. As part of this study, Burnside has reviewed relevant background information and conducted field investigations to assess the existing conditions of the bridge, for consideration when analyzing the potential alternatives for reconstructing the bridge.

The Problem / Opportunity statement to be addressed during the Environmental Assessment is as follows:

The Township of Scugog has identified the need to consider options for improvements to the Edgerton Road Bridge to address operational issues including its deteriorating condition and load restrictions.

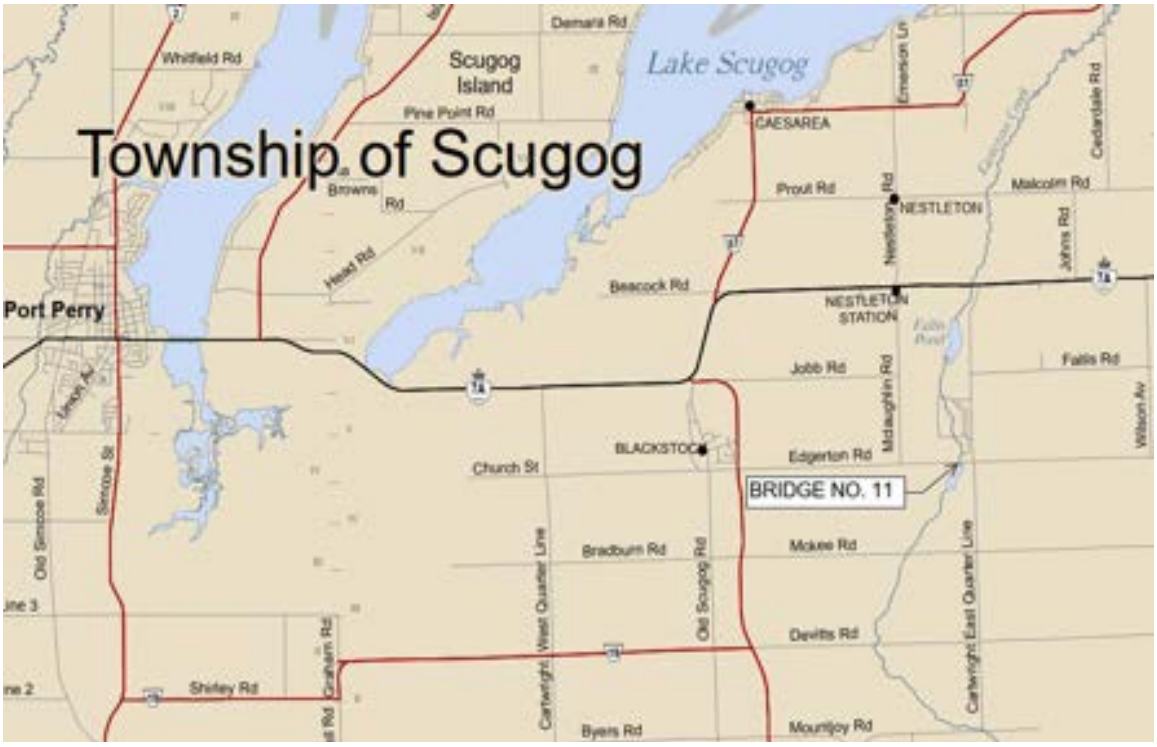
This Technical Memorandum provides a summary of the physical environment as it relates to the Edgerton Bridge.

2.0 Background

The Edgerton Bridge was constructed in 1925, as noted in the Cultural Heritage Evaluation Report (CHER) by MHBC Limited. The Township's background information identified the Edgerton Bridge as a solid slab concrete bridge; however, Burnside received a copy of the original drawings from the Ministry of Transportation (MTO) Archives, and the structure is a Concrete Through-Girder Bridge. A copy of the original drawings is enclosed in Appendix A.

The bridge conveys flows of the East Cross Creek and is located immediately downstream (north) of Brown Lake. The bridge is located in the community of Cadmus, on Edgerton Road, approximately 0.2 km west of Cartwright East Quarter Line. A map of the study area has been provided in Figure 1 below.

Figure 1: Bridge Location



The existing bridge has an approximate span of 12.2 m and an overall structure width of 6.7 m. The bridge provides a narrow, 5.7 m wide driving platform between concrete barriers.

A recent Bridge Inspection Report completed in September 2023, provided by the Township, recommends Bridge No. 11 to be prioritized for replacement or rehabilitation. Based on the condition and safety concerns, the Township would like to identify the preferred replacement or rehabilitation options for the Bridge.

2.1 Heritage Value

As previously indicated, a CHER was completed by MHBC Limited in October 2024, where the Edgerton Road Bridge was found to exhibit Cultural Heritage Value or Interest and warrants designation under the Ontario Heritage Act. A Heritage Impact Assessment is recommended to evaluate the potential impacts of the proposed replacement of the bridge.

The following provides a list of the heritage attributes of the Edgerton Road Bridge:

- Location over East Cross Creek along Edgerton Road and east-west orientation; Narrow two-lane solid slab construction.
- Concrete abutments.
- Paneled parapet walls with simple art deco elements.
- Structure surface texture is indicative of the original concrete moulds, indicating the bridge's cast-in-place construction.

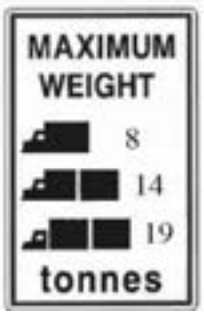
3.0 Physical Condition and Load Limitations

Burnside has completed a review of the current physical condition of the structure based on site visits and background information provided by the Township, including the 2023 Ontario Structure Inspection Manual (OSIM) inspection report (Appendix B) and the 2021 Load Evaluation Report (Appendix C). Burnside also completed our own OSIM inspection of the bridge on May 12, 2025 (Appendix D).

3.1 Load Limitation

The Edgerton Bridge was analyzed and evaluated in 2021 by Planmac Engineering Inc., which determined that based on the current degree of deterioration, the bridge warranted load limitation of the structure to vehicular traffic based on the current state of deterioration. The current load posting is provided in Figure 3 below.

Figure 3: Current Load Limitation



Level 3 (Single Unit): 8 Tonnes

Level 2 (One Trailer or Semi Trailer): 14 Tonnes

Level 1 (more than one trailer): 19 Tonnes

It should also be noted that the age of the structure indicated it would not have been originally designed to carry the live loads associated with the vehicular loads of current standards. The required live load (truck / vehicle loading) capacities have increased since the time of the original design of the structure.

Burnside believes the existing structure to be a Concrete Through-Girder Bridge. For this type of bridge, the deck spans transversely between the larger 'barrier' elements, which are the 'through-girders' and act as the main load-carrying elements of the Bridge. A review of the existing structure identified the bottom layer of exposed reinforcing steel running transversely, indicating that the principal load path of the deck is to carry loads transversely. This was also confirmed in a review of the original drawings. Accordingly, Burnside believes the previous load evaluation has considered an incorrect load path and therefore, may not be an actual representation of the structure's load carrying capacity.

If the existing structure is to remain and be rehabilitated, a new structural evaluation would be required to confirm the potential capacity of the rehabilitated bridge based on current design standards.

3.2 Physical Condition

The Edgerton Bridge is a 12.2 m clear-span concrete through girder bridge, built in 1925. The concrete barriers visible along the exterior edges of this bridge act as the main load-carrying element for this bridge.

The overall bridge width is 6.7 m and provides a 5.7 m wide driving platform between the barriers. There is steel beam guide rail present on the approaches to the bridge.

The Township completed minor rehabilitation work in 2007 to rebuild the ends of the north concrete barrier walls, install a concrete overlay on the deck, complete concrete patch repairs, and install structure connections for the steel beam guide rail at the bridge approaches.

The 2023 OSIM inspection of Bridge No. 11 calculated a Bridge Condition Index (BCI) of 39.4. A BCI rating of less than 50 is generally considered poor with lower numbers representing structures nearing the end of their service life. Some bridge elements were found to be generally in fair to good condition, including the asphalt wearing surface, guide rail, concrete curbs, wingwalls, deck fascia, and embankments slopes. The main concerns were deterioration of structural elements including the following:

- Concrete deck soffit is in poor condition with severe spalling and exposed corroded reinforcing steel. This indicates that the embedded reinforcing steel has a high probability of corrosion, reducing the load-carrying capacity of the deck as well.
- Wide crack in the west abutment wall and extending into the northwest wingwall was also noted during the site review. This indicates potential movement of the substructure, which could lead to additional stresses being induced on the bridge structure.
- North concrete barrier wall (through-girder) has a wide horizontal crack along its entire length. The northeast quadrant of the barrier wall appears to be rotating inwards.

A copy of the most recent (2023) OSIM report is provided in Appendix B.

Burnside's visual inspection and OSIM for the structure verified the defects noted in the previous bridge inspection report. The governing member of the bridge, based on its current condition, was the interior soffit and had an element BCI of 43.4. Based on the condition of the soffit and type of structure (through girder bridge), Burnside would recommend that the bridge be replaced in less than five years.

4.0 Approach Roadway Geometry

4.1 Driving Platform Width

Edgerton Road has an asphalt wearing surface and a posted speed limit of 40 km/h at the project location. The existing bridge has a narrow driving platform width of 5.7 m between barriers, while the approach roadway consists of two 3.3 m lanes and 0.8 m granular / vegetated shoulders for a total platform width of 8.2 m between the top of slope.

The Township classifies Edgerton Road as a local road with an Average Annual Daily Traffic (AADT) volume of 983 vehicles per day, measured in 2022. As such, the existing driving platform width of the bridge and approach roadway does not meet the minimum requirements of the MTO Design Supplement to TAC.

The MTO Design Supplement to TAC requires a minimum cross section consisting of 3.0 m lanes with 1.0 m shoulders for the approach roadway, and 3.0 m lanes with 1.25 m side clearance at the bridge (8.5 m total width between barriers).

Based on the structure type, the existing structure cannot be widened, given that the through-girder barriers on the exterior edge of the bridge are the main load carrying elements of the structure. To achieve the minimum cross section width based on the MTO Design Supplement to TAC, structure replacement would be required.

4.2 Vertical Road Profile and Design Speed

A topographic survey of the road was completed to determine the design speed of the existing road profile. The structure was observed to be located near the low point of a vertical sag curve with a rate of vertical curvature (K-value) of approximately 6. This rate of curvature indicates a design speed of approximately 30 km/h as per TAC Manual, Table 3.3.4: K Factors to Provide Minimum Stopping Sight Distance on Sag Vertical Curves.

For operational and safety considerations as per the MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads – April 2020, the design speed of a road should desirably be 20 km/h greater than the posted speed limit. For Secondary Highways (local roads), however, it may be acceptable for the design speed to equal the maximum posted speed limit, where warranted based on traffic volumes, rugged terrain, site restrictions and economic constraints.

As previously mentioned, Edgerton Road has been classified by the Township as a local road with an AADT volume of less than 1,000 and a posted speed limit of 40 km/h. Therefore, the MTO established practice is currently not met. To achieve a minimum design speed of 40 km/h (equal to the posted speed) for a non-illuminated roadway, a K-value of 9 is required for vertical sag.

4.3 Hydraulic Capacity

Burnside contacted Kawartha Conservation to determine if they had any pre-existing hydraulic modelling for the East Cross Creek and the Edgerton Road Bridge. Kawartha Conservation did not have a pre-existing model, and Burnside was required to complete a hydrologic analysis for the East Cross Creek.

Peak flows for the hydraulic analysis are based on flows calculated in Visual Otthymo (VO) and the Unified Ontario Flood Method (UOFM).

Key hydrologic parameters calculated in ArcHydro include drainage areas, catchment lengths, catchment slope, soils and land use. The remaining hydrologic parameters, including CN, I_a have been calculated by Burnside and outlined in Table 1 below.

Table 1: Hydrology Parameters

Catchment ID	Catchment Area (ha)	Runoff Coefficient	Time of Concentration (hr)	I_a (mm)	CN (II)
1	324.76	0.32	1.43	7.7	75
2	286.35	0.25	2.23	7.8	66
3	523.43	0.27	2.18	8.1	68
4	665.08	0.13	3.09	9.0	43
5	896.36	0.19	2.84	8.1	56
6	327.92	0.11	2.59	9.5	36
7	974.53	0.11	3.85	9.3	39

The 24-hour SCS Type-II rainfall distribution was used for the 1:2, 1:5, 1:10, 1:25, 1:50, and 1:100-year Storm Event calculations. The Regional Storm Event was based on the Timmins storm. The SCS storm distributions were based on the MTO IDF curve tool.

Table 2: Summarized VO Peak Flows

50% AEP / 2-year (m^3/s)	20% AEP / 5-year (m^3/s)	10% AEP / 10-year (m^3/s)	4% AEP / 25-year (m^3/s)	2% AEP / 50-year (m^3/s)	1% AEP / 100-year (m^3/s)	Regional (m^3/s)
7.71	13.70	18.02	23.69	28.77	34.13	308.76

As per the MTO Highway Drainage Design Standards manual, dated March 2024, the Unified Ontario Flood Method (UOFM) shall be used in the design of water crossing infrastructure when accurate flow data is not available.

The UOFM shall be applied as follows:

- If the flow value from the UOFM is higher than that from any other applicable method, the UOFM mean quantile values shall be used as Design Flows.
- If the flow value from the UOFM is lower than that from any other applicable method, the value at the upper limit of the range shall be applied in design.

Table 3: Summarized UOFM Flows

AEP / Return Period	Lower Limit (m^3/s)	Mean Values (m^3/s)	Upper Limit (m^3/s)
50% / 2-year	8.70	12.25	17.15
10% / 10-year	15.61	22.95	33.51
4% / 25-year	19.06	28.45	42.67
2% / 50-year	21.14	32.52	49.76
1% / 100-year	23.49	36.71	57.64

Since the UOFM flows are higher than the VO flows noted above, the UOFM mean quantile flows will be used for the 2 – 100-year storms, and the VO Regional flow will be used in the analysis of the Edgerton Road Bridge. A summary of the flows used in the hydraulic modelling are provided below in Table 4.

Table 4: Summarized Peak Flows

50% AEP / 2-year (m^3/s)	10% AEP / 10-year (m^3/s)	4% AEP / 25-year (m^3/s)	2% AEP / 50-year (m^3/s)	1% AEP / 100-year (m^3/s)	Regional (m^3/s)
12.25	22.95	28.45	32.52	36.71	308.76

HEC-RAS computer modelling was used to analyze the hydraulic performance of the existing structure. Detailed site dimensions and elevations were obtained through a topographic survey. The existing structure geometry was input as per Table 5 below.

Table 5: Existing Structure Geometry

Structure ID	Span	Upstream Soffit (m)	Downstream Soffit (m)	Min. Centreline of Road
Edgerton Bridge	12.2	264.22	264.26	264.95

A summary of the hydraulic performance of the existing structure is provided in Table 6.

Table 6: Hydraulic Performance – Existing Bridge

Design Event	Design Flow (m^3/s)	Existing Headwater Elevation (m)	Soffit Clearance (264.22) (m)	Freeboard to EOTL (264.84) (m)
50% / 2-year	12.25	263.12	1.10	1.72
10% / 10-year	22.95	263.55	0.67	1.29
4% / 25-year	28.45	263.74	0.48	1.10
2% / 50-year	32.52	263.86	0.36	0.98
1% / 100-year	36.71	264.00	0.22	0.84
Regional	308.76	266.61	-2.39	-1.77

As shown in the table above, the existing bridge is shown to convey the 100-year Storm, and the 25-year Design Storm provides 0.48 m of clearance to the soffit and 1.10 m freeboard, which exceeds the minimum desired clearance for a bridge with a span > 6.0 m on a local roadway.

The minimum design criteria for a bridge with a span greater than 6.0 m, as per the MTO Highway Drainage Design Standards - WC 2 Freeboard and Clearance and Bridge Crossings, shall be:

- Freeboard > 0.3 m
- Clearance > 0.3 m

It is also best practice to design a replacement structure to maintain or improve the hydraulic performance of the structure during all design flood events.

In the case of the Edgerton Road Bridge, the Regional Storm is shown to overtop the roadway in the Hydraulic Model by 1.66 m. Increases to the road profile may require a larger span bridge to increase the conveyance through the structure to maintain the existing backwater flood elevation during the Regional Storm.

4.4 Utilities

Gas: No gas utilities were observed in the project area.

Hydro: Overhead Hydro is present on the north side of Edgerton Road. Any reconstruction requiring the installation of girders or precast section will require the hydro lines to be temporarily de-energized. Buried Hydro was observed crossing Edgerton Road approximately 80 m west of the bridge, in front of property No. 4154. The hydro duct is partially exposed within the existing roadside ditch / swale. Any proposed drainage works within this area will be in conflict and require the utility to be lowered.

Telecommunications: Overhead telecommunications utility lines are present on the south side of the road and are not anticipated to be in conflict with the reconstruction works. Buried telecommunications utility lines were observed on the south side of Edgerton Road, west of the bridge. The services may be in conflict with proposed driveway culverts and roadside ditches. The services may need to be daylighted and protected during these works.

5.0 Summary

Overall, the existing bridge is generally in poor condition and is at the end of its service life at 100 years old. There are significant defects which impact the bridge's load-carrying capacity. Bridge No. 11 remains open to traffic but is load-limited to 8/14/19 tonnes. The bridge is located within a vertical sag curve of the road, with a substandard rate of curvature that does not meet the posted speed limit or current MTO guidelines.

While rehabilitation efforts may technically be possible, the current state of deterioration and the consideration that the bridge was not designed for current vehicular loads would limit the effectiveness of the rehabilitation. If rehabilitation were to be considered, additional load evaluations would have to be completed to determine the achievable load capacity of the repaired bridge.

Additionally, the bridge is generally substandard in width based on current standards and may give the illusion of being a two-lane bridge platform, while only being able to accommodate one vehicle crossing at a time. Given the structure type, the existing structure cannot be widened during any rehabilitation efforts.

In general, the state of the bridge indicates that the structure has passed a state that would be considered economically repairable. Burnside recommends replacing the existing bridge with a new structure having a minimum driving platform width of 8.5 m. Burnside also recommends improving the road approach profile to meet a design speed equal to or greater than the posted speed of 40 km/h.

R.J. Burnside & Associates Limited



Andreas Abrahams, P.Eng.
Project Engineer
AA/MOB:tc



Matthew Brooks
Sector Leader, Bridges and Culverts

Enclosure(s)
Appendix A Original Drawings
Appendix B 2023 Township of Scugog OSIM Summary Report, Planmac Engineering Inc.
Appendix C 2021 Edgerton Road Bridge Load Evaluation, Planmac Engineering Inc.
Appendix D 2025 Bridge Inspection Report, R.J. Burnside & Associates Limited

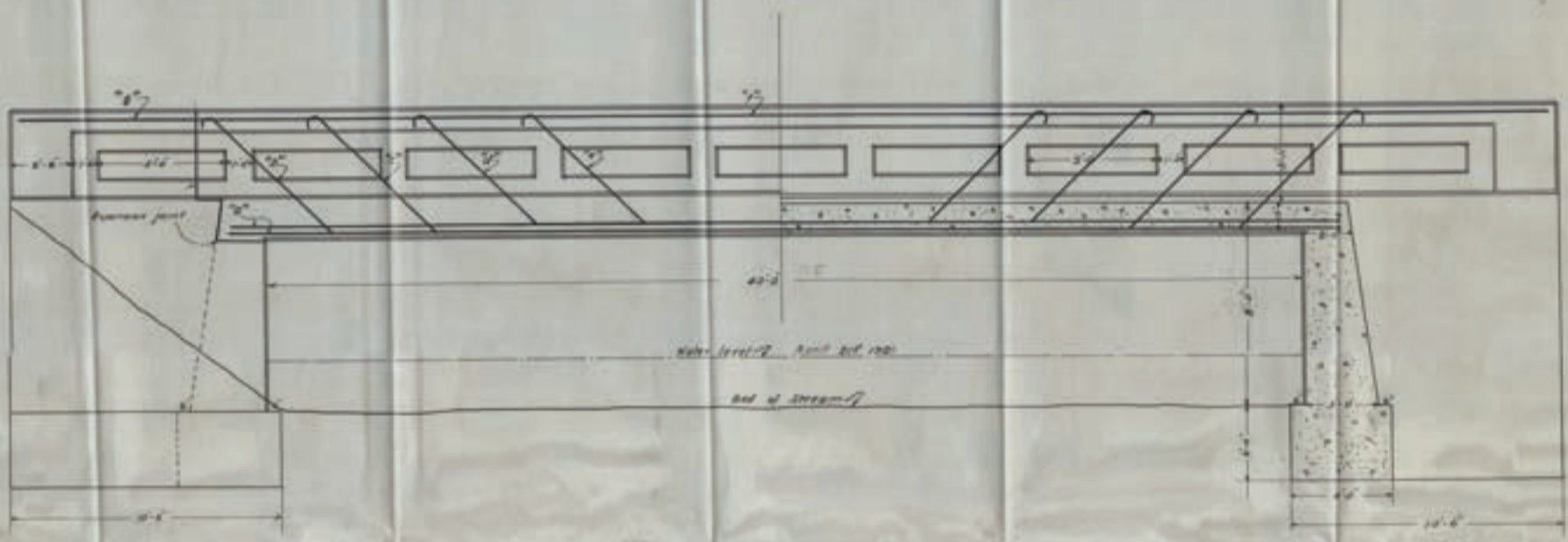
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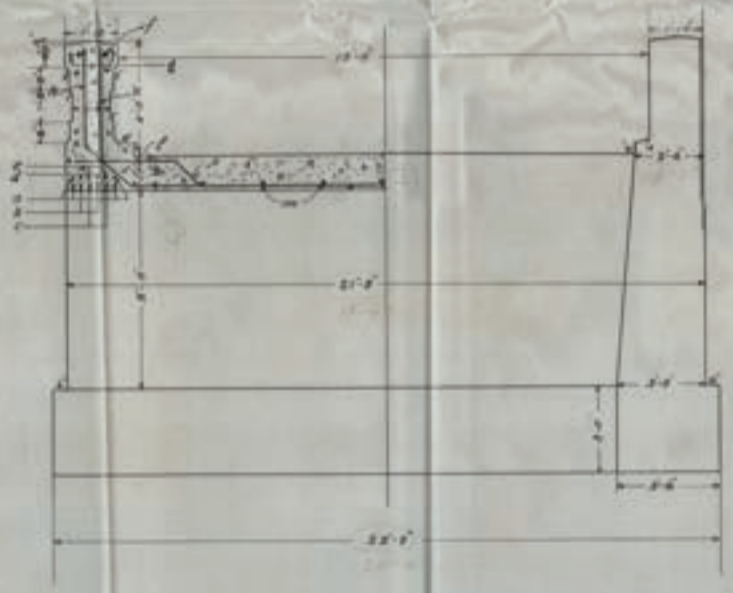
BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

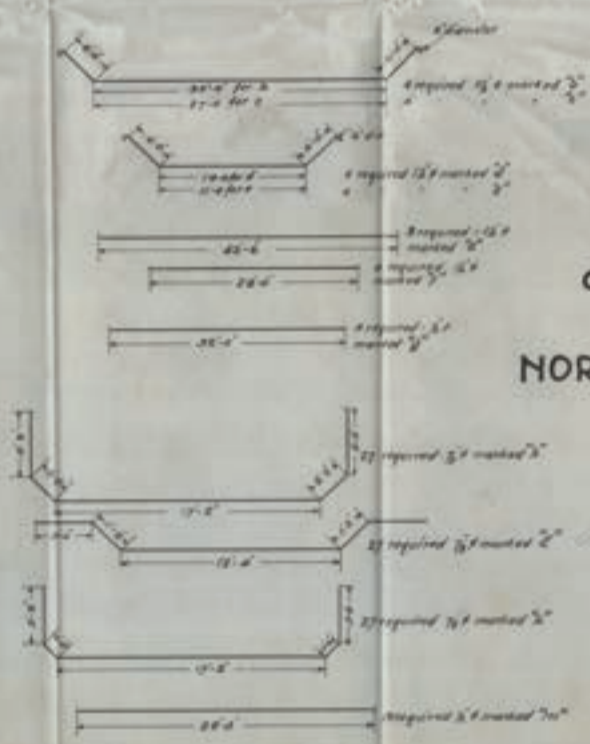
Appendix A

Original Drawings

Ministry of Transportation Archives







CADMUS BRIDGE

Lot 18, Con. V.

CARTWRIGHT TOWNSHIP

NORTHUMBERLAND and DURHAM.

SCALE - 1/8 INCH = 1 FOOT

DEPARTMENT OF PUBLIC HIGHWAYS

Bridge Engineer

Engineer of County Roads

841

21-20

Appendix B

2023 Township of Scugog OSIM Summary Report

Planmac Engineering Inc.

PLANMAC ENGINEERING INC.

Township of Scugog

2023 Ontario Structure Inspection Manual Inventory and Inspection

Summary Report



September 2023

PLANMAC ENGINEERING INC.

September 20th,2023 Planmac Project Number:2328

Township of Scugog
181 Perry Street
Port Perry, ON
L9L 1A7

Attn: Kevin Arsenault,
Capital Project Technologist, Public Works, Park, and Recreation.

Re: 2023 Municipal Structure Inventory and Inspection Final Summary Report

Dear Kevin:

Please find enclosed the 2023 Municipal Structure Inventory and Inspection Final Summary Report, which provides the results of our field investigation and recommendations for the Township's bridge and culvert structures.

We have completed detailed visual inspections and documentation for 24 structures consisting of bridges and culverts including Bridge 12 which is currently under tender to be replaced and has been removed from the Maintenance Needs of the Structures list (Table1) and Structures that Have Highest Repair Priority list (Table2). These structures were inspected in 2023.

If you have any questions regarding the Summary Report, please contact the undersigned to discuss.

Yours truly,

PLANMAC ENGINEERING INC.



Mike Neumann, P. Eng.

President / Project Manager

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2.0 Routine Bridge Maintenance Requirements

3.0 Structure Rehabilitation Program

4.0 Recommendation for Replacement

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Appendix C
- Complete List of Required Maintenance Needs
- Overall List of Bridge and Culvert Priority Rankings
- Bridge and Culvert Replacement Needs
- Complete List of Rehabilitation Needs

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-List of Abbreviations

Appendix E
- Bridge Inspection Forms
- Culvert Inspection Forms

1.0 Introduction

Planmac Engineering Inc. ("Planmac") was retained by the Township of Scugog ("the Township") to complete detailed visual inspections of its bridge and culvert inventory in accordance with the Public Transportation and Improvement Act. Specifically, Ontario Regulation 104/97 'Standards for Bridges' made under the Act requires that:

> "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 …"

Planmac completed the detailed visual inspections of twenty-four (24) roadway structures on behalf of the Township in June 2023, in accordance with the Ontario Structure Inspection Manual (OSIM) -2008. An inventory of all bridges and culverts inspected is provided in Appendix A.

1.1 Structure Appraisals

The structures were inspected in accordance with the current version of the OSIM. The condition rating systems defined in former versions of the OSIM were used to assess the structures inspected. Each component of the structure is assigned a number from 1 to 6, with 6 indicating the best quality, of its material and performance condition. A rating of 0 indicates that the component does not exist. The Material Condition Rating system assesses the condition of a component based on the severity of the material defects, the proportion of the component affected, and the classification (primary, secondary, and tertiary) of a component within the structure. Figure 1 illustrates the guideline of the Material Condition Rating system.

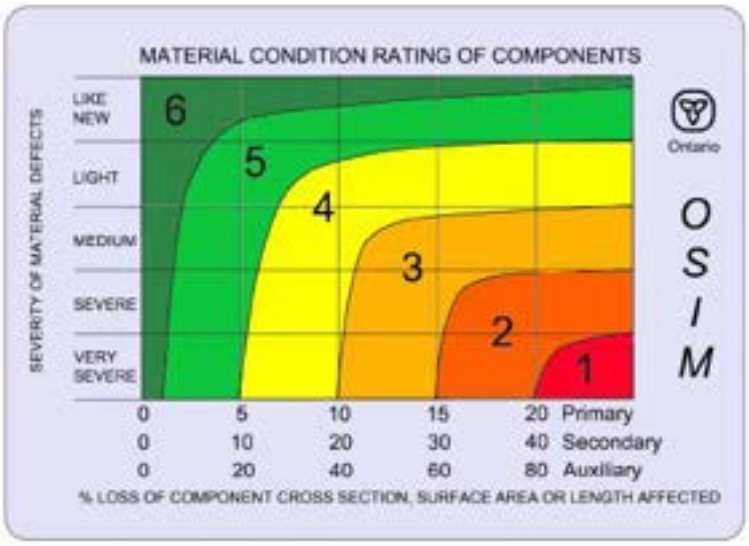


Figure .1 – Material Condition Rating of Components (OSIM)

The performance rating system assesses the ability of a component to perform its intended function within the structure based on the percentage reduction of the performance capacity of the component and the classification of the component within the structure. Although material defects often lead to performance defects, it is possible to have different ratings for the material and performance condition of a component.

All data collected throughout the inspection process was entered into the Excel spreadsheets provided by the Township. In the preparation of the Bridge and Culvert Appraisal Sheets, the following definitions were used:

> ***Bridge*** – A structure that provides a roadway or walkway for the passage of vehicles, pedestrians, or cyclists across an obstruction, gap, or facility and is greater than or equal to a 3m span. Live loads are usually transferred through a superstructure to a substructure and foundations.
>
> ***Culvert*** – A structure that forms an opening through soil that has a span of 3m or more for single-cell culverts or the sum of spans for multiple-cell culverts is 3m or more, including the span(s) of the soil between the cells if applicable. Live loads are usually transferred through the fill.

Open concrete box-type structures with a backfill cover less than 600 mm are appraised as bridges, however, if the cover is greater than 600 mm these structures are appraised as culverts.

2.0 Routine Bridge Maintenance Requirements

Table 1 identifies the maintenance needs, grouped by category, for the bridge and culvert inventory. The list is not a priority since it is assumed that the Township's Public Works staff will perform all necessary maintenance on an intermittent basis, as resources are available. The maintenance needs are a checklist of works that should be completed and monitored by the Township's staff on a regular basis. The Township should strive to ensure that all maintenance items are addressed within one year.

Table 1 – Maintenance Needs of the Structures

Maintenance Activity	Location
Bridge Deck Cleaning (Debris Removal)	001- Malion Bridge
	002 – Blue Mountain Road Bridge
	003 – Swanick Bridge (0.1 km W. of Marsh Hill Road)
	007 – Clements Bridge (1.5 km W. of Regional Road 2)
	008 – Fishers Bridge (0.15 km S. of Scugog Line 10)
	013 – Malcolm Road Bridge (1.6 km E. of Nestleton Road)
	014 – Cedardale Road Bridge
	017– McKee Road Bridge
Repair of Structural Concrete / Steel / Wood	
	002 – Blue Mountain Road Bridge
	003 – Swanick Bridge (0.1 km W. of Marsh Hill Road)
	004 – Brock Concession Road 1 Bridge
	008 – Fishers Bridge (0.15 km S. of Scugog Line 10)
	013 – Malcomb Road Bridge (1.6 km E. of Nestleton Road)
	201 – Scugog Line No. 2 Culvert
	301 – Scugog Line No.14 Culvert
Scaling (Loose Concrete or ACR Steel)	010 – Edgerton Road Bridge (0.35 km E. of Regional Road 57)
	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter Line)
Bridge Surface Repair (Potholes & Patches)	
	002 – Blue Mountain Road Bridge
	003 – Swanick Bridge (0.1 km W. of Marsh Hill Road)
	007 – Clements Bridge (1.5 km W. of Regional Road 2)
	008 – Fishers Bridge (0.15 km S. of Scugog Line 10)

	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter Line)
	014 – Cedardale Road Bridge
	202 – Marsh Hill Road Culvert (0.70 km S. of Scugog Line No.21),
Single Surface Treatment and/or Slurry Seal	010 – Edgerton Road Bridge (0.35 km E. of Regional Road 57)
Watercourse Debris Removal	003 – Swanick Bridge (0.10 km W. of Marsh Hill Road),
	004 – Brock Concession Road 1 Bridge
	009 – Scugog Line No. 8 Bridge (1.7 km E. of Highway 7/12)
	014 – Cedardale Road Bridge
	018 – King Street Bridge
	201 – Scugog Line No. 2 Culvert
	202 – Marsh Hill Road Culvert (0.7 km S. of Scugog Line No.21)
	203 – Marsh Hill Road Culvert (1.15 km S. of Scugog Line No. 6)
	205 – Old Simcoe Road Culvert (0.65 km S. of Scugog Line 8)
	301 – Scugog Line No.14 Culvert
Erosion Control at Bridges and Culverts	004 – Brock Concession Road 1 Bridge
	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter line)
	017 – McKee Road Bridge
	018 – King Street Bridge
	202 – Marsh Hill Road Culvert (0.7 km S. of Scugog Line No.21)
	204 – Scugog Line No.6 Culvert
	206 – Old Simcoe Road Culvert (0.60 km N. of Scugog Line 13)
Install, Repair, or Replace Signs	004 – Brock Concession Road 1 Bridge
	010 – Edgerton Road Bridge (0.35 km E. of Regional Road 57)
	011– Edgerton Road Bridge (0.20 km W. of Cartwright Quarter Line)
	016 – Concession Road 6 Bridge (0.20 km E. of Regional Road 57)
	018 – King Street Bridge
	201 – Scugog Line No. 2 Culvert
	203 – Marsh Hill Road Culvert (1.15 km S. of Scugog Line No. 6)
	204 – Scugog Line No.6 Culvert
	205 – Old Simcoe Road Culvert (0.65 km S. of Scugog Line 8)
	206 – Old Simcoe Road Culvert (0.60 km N. of Scugog Line 13)
	207 – Old Simcoe Road Culvert (1.05 km N. of Scugog Line 13)
	301 – Scugog Line No.14 Culvert

The maintenance activities can be easily grouped into work order tasks for completion and assigned to the Township's work crews accordingly. If internal resources are not available to complete the maintenance activities, the Township should consider contracting the necessary labor, equipment, and materials to complete the work.
As maintenance activities are completed or additional maintenance needs are identified, the Maintenance Needs lists should be kept up to date such that management staff can direct work accordingly. The full listing of maintenance needs is provided in Appendix C.

3.0 Structure Rehabilitation Program

Of the twenty-four structures inspected, twenty-one (21) structures require some form of repair, rehabilitation, and/or replacement. The urgency of rehabilitation varies based on the condition of individual bridge/culvert elements, and therefore priority should be given to the rehabilitation of structures that exhibit advanced states of deterioration or have sustained serious structural damage.

Work that is deemed urgent (i.e., time of need is "now") has been recommended for completion in 2024. The recommended timing for all other work follows the capital program schedule. The total estimated cost for this work is $6,942,740. The Township of Scugog and Brock share ownership of Bridge 000004, therefore the repair/rehabilitation costs for the bridge are shared at 50%, where the Township would carry the cost of $94,874.

The ten structures with the highest repair/replacement priority are listed in Table 2. The calculation of the condition rating for each structure is based on a combination of the Material Condition Rating (MCR) and Performance Condition Rating (PCR) of various components of the structures, and the estimated Annual Average Daily Traffic (AADT) volume for that section of road. Each component has a weighting associated with it based on its classification (primary, secondary, tertiary).

The rehabilitation needs for the Structure Rehabilitation Program are higher priority needs and are short-listed from all the current structure needs. Lower priority needs should be monitored throughout future inspection periods and their priority adjusted as necessary, however, addressing these needs for the lower priority structures is not critical at this time.

Table 2 – Structures that Have Highest Repair Priority

Ranking	Structure No. - Name	Condition Rating	Estimated Costs
1	009 – Scugog Line No. 8 Bridge (1.7 km E. of Highway 7/12)	25.1	$1,792,772
2	011– Edgerton Road Bridge (0.20 km W. of Cartwright East Quarter Line)	39.4	$1,499,906
3	206 – Old Simcoe Road Culvert (0.60 km N. of Scugog Line 13)	39.8	$1,216,482
4	207 – Old Simcoe Road Culvert (1.05 km N. of Scugog Line 13)	51.7	$1,162,350
5	204 – Scugog Line No. 6 Culvert	68.53	$211,670
6	201 – Scugog Line No. 2 Culvert	70.8	$230,345
7	010 - Edgerton Road Bridge (0.35 km E. of Regional Road 57)	71.65	$159,597
8	002 – Blue Mountain Road Bridge	72.2	$291,871
Total Cost estimates			$6,564,993

Bridge 12 is currently under tender to be replaced and has been removed from Tables 1 & 2.

4.0 Recommendations for Replacement/Rehabilitation

Bridge No. 11 is in poor condition and has safety concerns. This bridge was evaluated in 2021, and a load limitation sign is in place. This bridge should be prioritized for replacement/Rehabilitation.

- Bridge No. 11 Edgerton Road Bridge

Appendix A

List of Structures

Table 1A – Municipal Structure Inventory of Bridges

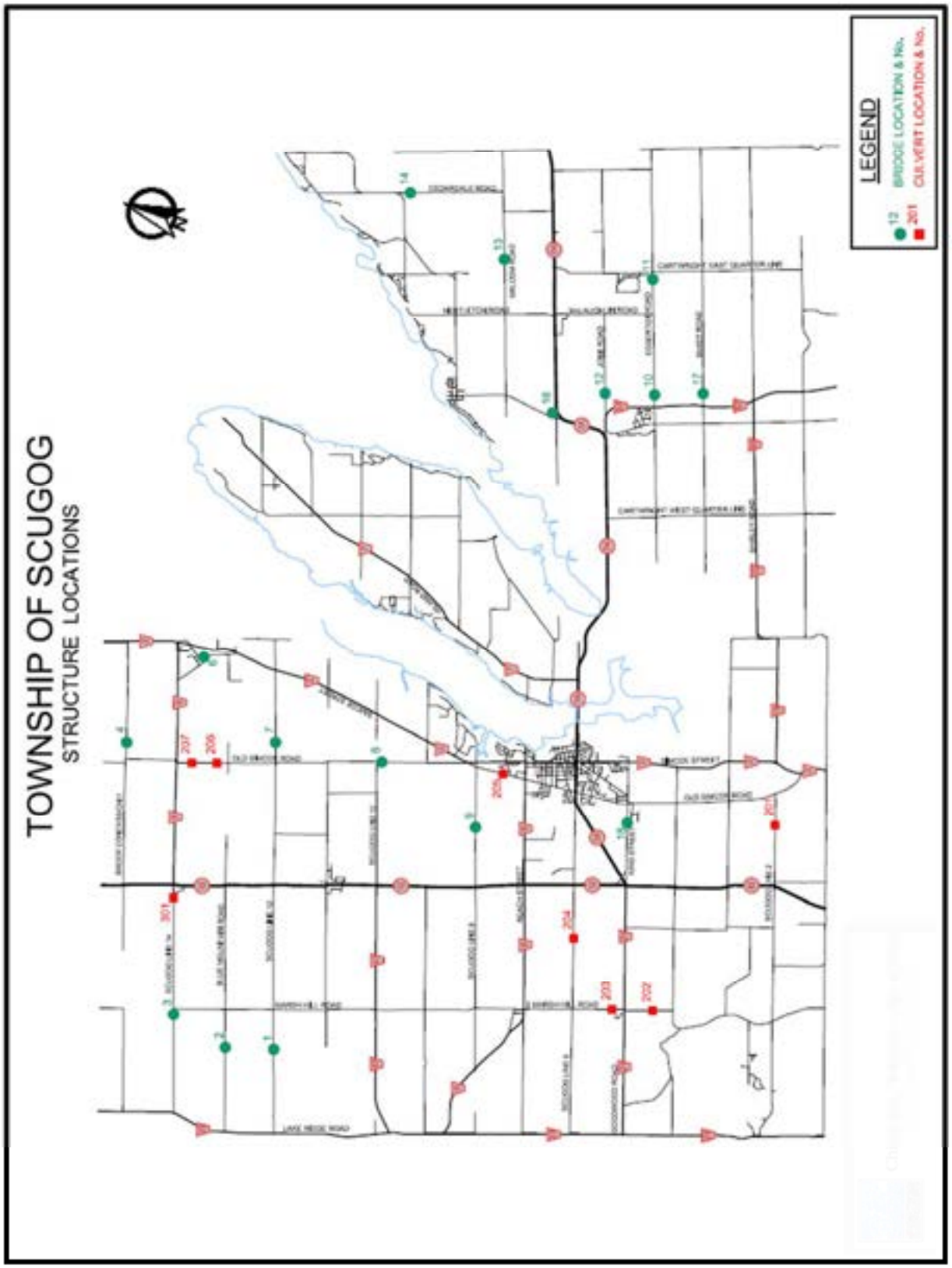
Structure No:	Bridge Name	Location
000001	Malion Bridge	Scugog Line No. 12, 1.10 km W. of Marsh Hill Road
000002	Lot 4/5, Conc. 12/13	Blue Mountain Road,1.10 km W. of Marsh Hill Road
000003	Swanick Bridge	Scugog Line No. 14, 0.10 km W. of Marsh Hill Road
000004	Lot 19, Conc. 14	Brock Concession Road 1, 0.50km E. of Old Simcoe Road
000006	Seagrave Bridge	River St., 0.95 km N. of Regional Road 2
000007	Clements Bridge	Scugog Line No. 12, 1.50 km W. of Regional Road 2
000008	Fisher Bridge	Old Simcoe Road, 0.15 km S. of Scugog Line 10
000009	Lot 15/16, Conc. 7/8	Scugog Line No. 8, 1.70 km E. of Highway 7/12
000010	Lot 13, Conc. 4/5	Edgerton Road, 0.35 km E. of Regional Road 57
000011	Lot 18, Conc. 4/5	Edgerton Road, 0.20 km W. Cartwiright East Quarter Line
000012	Lot 13, Conc. 5/6	Jobb Road, 0.90 km E. Of Regional Road 57
000013	Lot 19, Conc. 7/8	Malcolm Road, 1.60 km E. of Nestleton Road
000014	Lot 22/23, Conc. 9	Cedardale Road, 0.30 km Of Regional Road 57
000016	Lot 12, Conc. 6/7	Concession Road 6, 0.20 km E. Of Regional Road 57
000017	Lot 13, Conc. 3/4	McKee Road, 0.35 km E. of Regional Road 57
000018	Lot 16, Conc. 4/5	King Street. 1.65 km W. of Regional Road 2 (Simcoe St.)

Table 2A – Municipal Structure Inventory of Culverts

Structure No:	Bridge Name	Location
000201	Lot 16, Conc. I/II	Scugog Line 2, 0.60 km W. of Old Simcoe Street
000202	Lot 6/7, Conc. IV	Marsh Hill Road, 0.70 S. of Regional Road 21
000203	Lot 6/7, Conc. V	Marsh Hill Road, 1.15 S. of Scugog Line No. 6
000204	Lot 10, Conc. V/VI	Scugog Line 6, 1.50 km W. of Highway 7/12
000205	Lot 18, Conc. VII	Old Simcoe Road, 0.65 km S. of Scugog Line 8
000206	Lots 18/19, Conc. XIII	Old Simcoe Road, 0.60 km N. of Durward Road
000207	Lots 18/19, Conc. XIII	Old Simcoe Road, 1.05 km N. of Durward Road
000301	Lot 11, Conc. XIII/XIV	Scugog Line No. 14, 0.40 km W. of Highway 7/12

Appendix B

Bridge and Culvert Inventory Maps


TOWNSHIP OF SCUGOG
STRUCTURE LOCATIONS
LEGEND
BRIDGE LOCATION & No.
CULVERT LOCATION & No.

Appendix C

List of Required Maintenance Needs
Overall List of Bridge and Culvert Priority Rankings
Bridge and Culvert Replacement Needs
Complete List of Rehabilitation Needs

Table 1C – Normal Structure Maintenance Summary

Structure No.	Bridge Name	Location	Maintenance Requirements
B-000001	Malion Bridge	Scugog Line No.12, 1.10 km W. of Marsh Hill Road	Remove sand and debris from the deck wearing surface and re-grade gravel approaches to a minimum of 2%.
B-000002	Lot 4/5, Conc. 12/13	Blue Mountain Road,1.10 km W. of Marsh Hill Road	Remove sand and debris from the deck wearing surface and re-grade gravel approaches.
B-000003	Swanick Bridge	Scugog Line No. 14, 0.10 km W. of Marsh Hill Road	Remove sand and debris from the deck wearing surface and re-grade gravel approaches. Watercourse Debris Removal
B-000004	Lot 19, Conc. 14	Brock Concession Road 1, 0.50 km E. of Old Simcoe Road	Watercourse debris removal and repair scour erosion at the west abutment wall and northeast quadrant.
B-000006	Seagrave Bridge	River St., 0.95 km N. of Regional Road 2	Bridge deck cleaning (Debris removal).
B-000007	Clements Bridge	Scugog Line No. 12, 1.50 km W. of Regional Road 2	Bridge deck cleaning (debris removal) and re-grade gravel approaches
B-000008	Fishers Bridge	Old Simcoe Road, 0.15 km S. of Scugog Line 10	Bridge deck cleaning (debris removal) and re-grade gravel approaches. Repair bowing and large gaps at abutment timber planks.
B-000009	Lot 15/16, Conc. 7/8	Scugog Line No. 8, 1.70 km E. of Highway 7/12	Watercourse debris removal.
B-000010	Lot 13, Conc. 4/5	Edgerton Road, 0.35 km E. of Regional Road 57	Bridge deck cleaning (debris removal) and remove delamination from parapet walls and soffit. Single Surface Treatment and/or Slurry Seal. Install hazard makers at both ends.
B-000011	Lot 18, Conc. 4/5	Edgerton Road, 0.20 km W. of Cartwright East Quarter Line	Bridge deck cleaning (debris removal) and remove delamination from parapet walls and soffit. Repair potholes and patches in asphalt wearing surface. Provide erosion control at footing in the southeast quadrant. Repair settled hazard makers.
B-000012	Lot 13, Conc. 5/6	Jobb Road, 0.90 km E. of Regional Road 57	Remove sand and debris from the deck wearing surface. (Under Construction)
B-000013	Lot 19, Conc. 7/8	Malcolm Road, 1.60 km E. of Nestleton Road	Bridge deck cleaning (debris removal). Repair concrete curbs and replace timber wing wall caps.

B-000014	Lot 22/23, Conc. 9	Cedardale Road, 0.30 km of Regional Road 57	Remove sand and debris from the deck wearing surface and re-grade gravel approaches. Attach steel beam to guide tail post.
B-000016	Lot 12, Conc. 6/7	Concession Road 6, 0.20 km E. of Regional Road 57	Install Signage/barricade for the unused bridge.
B-000017	Lot 13, Conc. 3/4	McKee Road, 0.35 km E. of Regional Road 57	Bridge surface repair (potholes & patches). Fix broken conduit. Provide erosion control to the watercourse embankment.
B-000018	Lot 16, Conc. 4/5	King Street, 1.65 km W. of Regional Road 2 (Simcoe St.)	Watercourse debris removal. Routing and Sealing of Asphalt Wearing Surface. Install hazard signage in all quadrants.
C-000201	LOT 16, CONC I/II	Scugog Line 2, 0.60 km W of Old Simcoe Street	Reinforce cracks in steel multi-plate pipe arch. Install hazard markers. Clear vegetation in the watercourse.
C-000202	Lot 6/7, Conc. IV	Marsh Hill Road, 0.70 km S. of Regional Road 21	Repair asphalt wearing surface over structure and approaches, remove watercourse debris, and repair rock protection at embankments.
C-000203	Lot 6/7, Conc. V	Marsh Hill Road, 1.15 km S. of Scugog Line No. 6	Remove vegetation in the watercourse. Install hazard signage.
C-000204	Lot 10, Conc. V/VI	Scugog Line No. 6, 1.50 km W. of HWY 7/12	Provide scour erosion control at the southeast embankment. Install hazard makers.
C-000205	Lot 18, Conc. VII	Old Simcoe Road, 0.65 km S. of Scugog Line 8	Remove vegetation in the watercourse. Install hazard signage.
C-000206	Lots 18/19, Conc. XIII	Old Simcoe Road, 0.60 km N. of Durward Road	Provide erosion control at the watercourse in the southwest quadrant. Install hazard makers in all four quadrants.
C-000207	Lots 18/19, Conc. XIII	Old Simcoe Road, 1.05 km N. of Durward Road	Install hazard signage in all quadrants.
C-000301	Lot 11, Conc. XIII, XIV	Scugog Line No. 14, 0.40 km W. of Highway 7 & 12	Re-grade gravel-wearing surface. Reinforce cracks in steel multi-plate pipe arch. Install hazard makers in all quadrants. Remove vegetation in the watercourse.

Table 2C – Overall Bridge and Culvert Priority Ranking

Structure No.	Priority	Bridge Name	Location	Condition Rating
B-000009	1	Lot 15/16, Conc. 7/8	Scugog Line No. 8, 1.70 km E. of Highway 7/12	24.5
B-000016	2	Lot 12, Conc. 6/7	Concession Road 6, 0.20 km E. of Regional Road 57	38.4
B-000012	3	Lot 13, Conc. 5/6	Jobb Road, 0.90 km E. of Regional Road 57 (Under Const.)	38.9
B-000011	4	Lot 18, Conc. 4/5	Edgerton Road, 0.20 km W. of Cartwiright East Quarter Line	39.2
C-000206	5	Lots 18/19, Conc. XIII	Old Simcoe Road, 0.60 km N. of Durward Road	39.6
C-000207	6	Lots 18/19, Conc. XIII	Old Simcoe Road, 1.05 km N. of Durward Road	51.4
C-000204	7	Lot 10, Conc. V/VI	Scugog Line No. 6, 1.50 km W. of HWY 7/12	68.15
C-000201	8	LOT 16, CONC I/II	Scugog Line 2, 0.60 km W of Old Simcoe Street	70.5
B-000010	9	Lot 13, Conc. 4/5	Edgerton Road, 0.35 km E. of Regional Road 57	71.5
B-000002	10	Lot 4/5, Conc. 12/13	Blue Mountain Road,1.10 km W. of Marsh Hill Road	72.1
B-000008	11	Fishers Bridge	Old Simcoe Road, 0.15 km S. of Scugog Line 10	72.75
B-000003	12	Swanick Bridge	Scugog Line No. 14, 0.10 km W. of Marsh Hill Road	78.4
B-000001	13	Malion Bridge	Scugog Line No. 12 ,1.10 km W. of Marsh Hill Road	79.0
B-000007	14	Clements Bridge	Scugog Line No. 12, 1.50 km W. of Regional Road 2	79.2
B-000013	15	Lot 19, Conc. 7/8	Malcolm Road, 1.60 km E. of Nestleton Road	80.4
B-000018	16	Lot 16, Conc. 4/5	King Street, 1.65 km W. of Regional Road 2 (Simcoe St.)	81.2
C-000205	17	Lot 18, Conc. VII	Old Simcoe Road, 0.65 km S. of Scugog Line 8	81.3
C-000203	18	Lot 6/7, Conc. V	Marsh Hill Road, 1.15 km S. of Scugog Line No. 6	84.0
C-000202	19	Lot 6/7, Conc. IV	Marsh Hill Road, 0.70 km S. of Regional Road 21	86.9
C-000301	20	Lot 11, Conc. XIII, XIV	Scugog Line No. 14, 0.40 km W. of Highway 7 & 12	87.4
B-000017	21	Lot 13, Conc. 3/4	McKee Road, 0.35 km E. of Regional Road 57	89.2
B-000004	22	Lot 19, Conc. 14	Brock Concession Road 1, 0.50 km E. of Old Simcoe Road	89.3
B-000014	23	Lot 22/23, Conc. 9	Cedardale Road, 0.30 km of Regional Road 57	92.1
B-000006	24	Seagrave Bridge	River St., 0.95 km N. of Regional Road 2	94.2

Table 3C – Bridge and Culvert Replacement Cost Estimates

Structure No.	Priority	Bridge Name	Location	Reason for Improvement	Impact of Deferral	Interim Works to Address Safety Issues	Replacement Cost
B-000009	1	Lot 15/16, Conc. 7/8	Scugog Line No. 8, 1.70 km E. of Highway 7/12	The current bridge is inadequate	N/A	Repair wearing surface, corroded steel girder, floor beams, abutments, piers, and wing walls. Re-grade approaching roads.	$1,792,772
C-000206	2	Lots 18/19, Conc. XIII	Old Simcoe Road, 0.60 km N. of Durward Road	Steel arch culvert has very severe cracking	N/A	Install railing and approach guide rails. Install erosion control at the embankment.	$1,216,482
C-000207	3	Lots 18/19, Conc. XIII	Old Simcoe Road, 1.05 km N. of Durward Road	Steel arch culvert has very severe cracking	N/A	Install railing and approach guide rails. Re-grade surface area.	$1,162,350
Total Cost Estimates for Replacement:							$4,171,604

Bridge 12 is currently under tender to be replaced and has been removed from Table 3C.

Table 4C – Bridge Abandonment Cost Estimate

Structure No.	Priority	Bridge Name	Location	Reason for Improvement	Impact of Deferral	Interim Works to Address Safety Issues	Replacement Cost
B-000016	2	Lot 12, Conc. 6/7	Concession Road 6, 0.20 km E. of Regional Road 57	The current bridge is inadequate	N/A	Remove the existing Bridge. Clear watercourse.	$156,454
Total Cost Estimates for Abandonment:							$156,454

Table 4C – Structure Rehabilitation (By Priority Ranking) Cost Estimate

Structure No.	Priority	Bridge Name	Location	Recommended Work	Rehabilitation Cost
B-000011	1	Lot 18, Conc. 4/5	Edgerton Road, 0.20 km W. of Cartwright East Quarter Line	Rehabilitate concrete fascia, soffit, abutments, and wing walls. Re-pave the wearing surface. Railing replacement or replace the bridge with a single-span box culvert.	$1,499,906
C-000204	2	Lot 10, Conc. V/VI	Scugog Line No. 6, 1.50 km W. of HWY 7/12	Install guide rail over the structure and on the approaches. Repair curbs, abutment, and soffit.	$211,670
C-000201	3	LOT 16, CONC I/II	Scugog Line 2, 0.60 km W of Old Simcoe Street	Repair handrail posts, paint railings and install guide rails on approaches. Repair deck soffit, fascia, and deck drains, and retaining walls.	$230,345
B-000010	4	Lot 13, Conc. 4/5	Edgerton Road, 0.35 km E. of Regional Road 57	Repair concrete soffits, abutments, and wing walls.	$159,597
B-000002	5	Lot 4/5, Conc. 12/13	Blue Mountain Road,1.10 km W. of Marsh Hill Road	Rehabilitate abutments, piers, and wing walls. Repair concrete deck and approaches' wearing surface.	$291,871
B-000008	6	Fishers Bridge	Old Simcoe Road, 0.15 km S. of Scugog Line 10	Rehabilitate abutments and piers. Repair concrete deck and approaches the wearing surface.	$385,684
B-000003	7	Swanick Bridge	Scugog Line No. 14, 0.10 km W. of Marsh Hill Road	Rehabilitate abutments and piers. Repair concrete deck and approaches the wearing surface.	$266,649
B-000001	8	Malion Bridge	Scugog Line No. 12 ,1.10 km W. of Marsh Hill Road	Rehabilitate timber abutments and piers. Repair concrete deck and re-pave approaches' wearing surface.	$219,771

B-000007	9	Clements Bridge	Scugog Line No. 12, 1.50 km W. of Regional Road 2	Repair concrete deck wearing surface and re-pave approaches' wearing surface.	$243,315
B-000013	10	Lot 19, Conc. 7/8	Malcolm Road, 1.60 km E. of Nestleton Road	Rehabilitate concrete deck curbs. Repair abutments, piers, and wing walls.	$93,654
B-000018	11	Lot 16, Conc. 4/5	King Street, 1.65 km W. of Regional Road 2 (Simcoe St.)	Install railing and approach guide rails.	$158,875
C-000205	12	Lot 18, Conc. VII	Old Simcoe Road, 0.65 km S. of Scugog Line 8	Install railing and approach guide rails.	$154,459
C-000203	13	Lot 6/7, Conc. V	Marsh Hill Road, 1.15 km S. of Scugog Line No. 6	Embankments Rehabilitation. Install Railing and approach guide rails.	$196,864
C-000202	14	Lot 6/7, Conc. IV	Marsh Hill Road, 0.70 km S. of Regional Road 21	Re-pave the wearing surface. Install railing and approach guide rails.	$194,139
C-000301	15	Lot 11, Conc. XIII, XIV	Scugog Line No. 14, 0.40 km W. of Highway 7 & 12	Re-grade wearing surface. Install railing and approach guide rails.	$200,062
B-000017	16	Lot 13, Conc. 3/4	McKee Road, 0.35 km E. of Regional Road 57	Install railing and approach guide rails.	$165,209
B-000004	17	Lot 19, Conc. 14	Brock Concession Road 1, 0.50 km E. of Old Simcoe Road	Install railing and approach guide rails. Re-grade approaches' wearing surface.	$94,874
B-000014	18	Lot 22/23, Conc. 9	Cedardale Road, 0.30 km of Regional Road 57	Rehabilitate concrete curbs and fascia. Repair abutments, piers and wingwalls.	$111,895

B-000006	19	Seagrave Bridge	River St., 0.95 km N. of Regional Road 2		$0
Total Cost Estimates for Rehabilitations:					$4,878,839
Total Cost estimates for all works:					$9,206,897

Appendix D

List of Abbreviations

- **General**

bc -	Bridge Construction
br -	Bridge Rehabilitation
U	Unknown
C	Concrete
T	Timber
SS	Steel Structure
TB	Thrie Beam
CP	Concrete Parapet wall
CR	Concrete railing
SR	Steel Railing
UN	Unknown
2W	Two-way Traffic
A	Asphalt
AADT	Average Annual Daily Traffic
DHV factor	Design Hour volume factor (if applicable)
DHV	Design hour volume
VPH:	Vehicles per hour
MCR	Material condition rating
PCR	Performance condition rating
TON	Time of need
ADEQ	Adequate

- **Crossing Type**

O-WAT -	Over Water
U-RWY -	Under Railway
O-RWY -	Over Railway

- **Engineering Investigations**

SEI	Seismic Investigation
UI	Underwater Investigation
RDI	Routine Detailed Inspection
STI	Structure Investigation
RRA	Rehabilitate/Replace Analysis
LCE	Load Capacity Evaluation
C/S	Condition Survey of Other Components
N/I	Condition Inspection
DART	DART Survey
DCCS	Detail Coating Condition Survey
DCS	Deck Condition Survey
FI	Fatigue Investigation

- **Type of Improvements**

- **Capital Improvements / Construction Extra**

NEW	New bridge
RBC	Replace Bridge with Culvert
REB	Remove Existing Bridge
RNL	Replace Bridge - New location
RSL	Replace Bridge - Same location
TEB	Twin Existing Bridge
bcApp	Approaches
bcTCP	Traffic Control/Protection
bcUTI	Utility Relocation
bcROW	Right of Way costs
bcENV	Environmental Study Costs

bcDET Detours

- **Bridge Rehabilitation Improvements / Rehabilitation Extra**

RSP - Rehabilitate Superstructure

RSB - Rehabilitate Substructure

RRW - Rehabilitate/Replace Retaining Walls

RIR - Railing Improvement/Replacement

- **Deck Rehabilitation Improvements**

WSR - Wearing Surface Rehabilitation

CDR - Complete Deck Replacement

OWP - Overlay, Waterproof and Pave

PWP - Patch, Waterproof and Asphalt Paving

CDS - Concrete Deck Soffit Repairs

CR - Concrete Repairs

PDR - Partial Deck Replacement

RCS - Rehabilitation/Replacement of Safety Curbs/Sidewalk

TJM - Transverse Exp Joint Modification

TJR - Transverse Expansion Joint Replacement

TJS - Transverse Expansion Joint Seal Replacement

LMC - Latex Modified Concrete Overlay

LJM - Longitudinal Exp Joint Modification

LJR - Longitudinal Exp Joint Replacement

LJS - Longitudinal Exp Joint Seal Replacement

- **Bridge Coating Improvements**

CSR - Coating Steel Railings

CSS - Coating Structural Steel

- **Stream/Waterway Improvements**

SPI - Scour Protection Improvements

C/I - Channel Improvements

C/R - Channel Realignment

EIR - Embankment Improvement/Rehab

- **Safety Improvements**

IAG - Installation of Approach Guide rail

IAB - Install Approach Safety Shape Barrier

- **Non-Standard Improvements**

OTHm - Maintenance Improvements

OTHr - Rehabilitation Improvements

- **Costing Category**

PC - Preliminary Cost Estimate

Appendix E

Bridge and Culvert Inspection Forms

MUNICIPAL BRIDGE APPRAISAL

A. IDENTIFICATION

Bridge Name:	LOT 18, CONC 4/5			Bridge No.:	000011
Road Name:	EDGERTON ROAD			Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE			MTO Site No.:	021 - 0020 -
Roadside Env.:	R	Posting Sign:	t t t	Crossing Type:	O-WAT
Posting:	t t t	Low Clearance Sign:		Federal Navigable Waterway:	No
Bylaw No.:		Narrow Structure Sign:	NS	Bridge Value:	$635,000
Bylaw Expiry Date:	y m	Easting: 17 678364	Northing: 4887468	Old ID:	505000

B. RAILWAY OVERPASS / UNDERPASS

Railway Level Crossing Number:		Original Board Number:	
Railway Company:		Date: y m d	
Railway Subdivision:		Current Board Order Number:	
Subdivision Mileage:	mi	Date: y m d	
Transport Canada Crossing No.:		Seniority:	
Number of Tracks:	0		

C. JURISDICTION

Owner:	10602	Special Designation:	NSD	**Local / Area Municipality (Upper Tier Only)**	
Owner Share:	100.00 %	Designation:	2	MunicA:	00000
[N] Shared?		Adjacent Bridge No.:		MunicB:	00000
Shared With:				Patrol:	
Heritage Status:	R				

D. EXISTING CONDITIONS

Substructure Yr.:	1925	Span Length:	12.20 m	Longitudinal Joint:	0
Superstructure Yr.:	1925	Deck Type:	CC	Transverse Joints:	0
Bridge Type:	C - HB - F	Deck Length:	13.40 m	Number of Bearings:	0
Crossing Skew:	- 0 °	Deck Width:	6.70 m	Soil Condition:	U
Number of Spans:	1	Deck Area:	89.80 m^2	Abutment and Foundation:	C - UN

ROAD OVER BRIDGE

Existing Road Class:	400	No. of Lanes:	1	Barrier Walls / Railings:	CP
Operational Status:	2W - OAT	Median Type / Width:	0.00 m	Min. Vertical Clearance:	m
Wearing Surface:	A	Safety Curb/	(A) N / N 0.2 m		
Travel Deck Width:	5.10 m	Sidewalk and Curb	(B) N / S 0.2 m		

ROAD UNDER BRIDGE

Existing Road Class:		No. of Lanes:		Traffic Barrier:	
Operational Status:	-	Median Type / Width:	m	Min. Vertical Clearance:	m
Wearing Surface:		Safety Curb/	(A) m		
Travel Deck Width:		Sidewalk and Curb	(B) m		

E. TRAFFIC DATA

Legal Speed Limit: 50

Route Designations

[ ] Bus [ ] Truck Route

[X] School [ ] Bike Route

Source: Bridge 000011 Asset Master

Traffic Count		10 Year Traffic Forecast	
Year:	A - 2017 - C	Year:	2027
AADT:	898	AADT:	1,347
DHV Factor:	%	DHV Factor:	%
DHV:	vph	DHV:	vph
Trucks:	5.00 %	Trucks:	5.00 %
Peak Directional Split:	%	Capacity:	0 vph
10 Year Growth Factor:	1.50	20 Year AADT:	2021

F. INSPECTIONS

Date: 04/07/2021

Inspected By: K.Shirani, P.Eng.

Company: Planmac Engineering Inc.

Approved By: J.Huang, P.Eng.

MUNICIPAL BRIDGE APPRAISAL

G. BRIDGE NEEDS

Field	MCR	PCR	TON	Comments
Superstructure	3	4	1-5	
Wearing Surface	4	4	1-5	
Deck Condition	4	5	1-5	
Expansion Joints	0	0	ADEQ	
Railings	3	4	1-5	
Substructure	4	4	1-5	
Coating	0	0	ADEQ	
Streams / Waterways	5	5	ADEQ	
Curb/Sidewalk	5	5	ADEQ	

H. FUNCTIONAL NEEDS

Field	Existing	Min. Tolerable	Time of Need	Comments
Road Over Bridge				
RO - Trav. Deck Width	5.10 m	7.00 m	NOW	
RO - Level of Service	A	E	ADEQ	
RO - Min. Vertical Clearance	m	4.50 m	ADEQ	No value for min. vertical clearance
RO - Sidewalks	N	N	ADEQ	
Road Under Bridge				
RU - Trav. Deck Width				
RU - Level of Service				
RU - Min. Vertical Clearance				
RU - Sidewalks				

Recommended Needs

Impr. Class	Improvement	Description	Time of Need	Year	Base / Const. Cost	Eng/Cont.	Total
Maintenance	OTHm	Mainenance Improvement	1-5	0	$0	$0	$0
			Maintenance Subtotal:		$0	$0	$0
Rehab	CDS	Concrete Deck Soffit Repairs	1-5	0	$46,046	$10,626	$56,672
Rehab	OWP	Overlay, Waterproof, Pavement	1-5	0	$67,753	$22,269	$90,022
Rehab	RIR	Railing Improvement/Replacement	1-5	0	$59,225	$3,790	$63,015
Rehab	RSB	Rehabilitate Substructure	1-5	0	$776,250	$218,500	$994,750
			Rehab Subtotal:		$949,274	$255,185	$1,204,459
Rehab Extra	brWPTF	Work Platform	1-5	0	$124,373	$37,904	$162,277
Rehab Extra	brDET	Detours	1-5	0	$8,050	$3,450	$11,500
Rehab Extra	brMB	Mobilization	1-5	0	$65,148	$5,923	$71,070
Rehab Extra	brTCP	Traffic Control/Protection	1-5	0	$40,250	$10,350	$50,600
			Rehab Extra Subtotal:		$237,820	$57,627	$295,447

I. ENGINEERING RECOMMENDATIONS

Bridge Drawings:			
Estimated Posting:	t		
Evaluated Posting:	t	t	t
Closure Date:	y	m	d
Closure Type:			
Monitoring Interval:		m	
Monitoring Component:			

J. DESIGN PARAMETERS

Design Class:	RCHU
Operational Status:	2W - OAT
Abutment Type:	C
Design Deck Width:	10.00
Design Deck Length:	14.00

K. IMPROVEMENT COSTS

Total Construction/Rehab:		$1,499,906
Total Inspection:		$0
TOTAL:		$1,499,906
10602	share @ 100%	$1,499,906

L. HISTORY

Engineering Investigations

Type	Year

Construction Improvements

Type	Year

M. REMARKS **Bridge No.: 000011**

Bridge No. 000011, MTO Site No. 21-20, Edgerton Road, 0.2 km West of East Quarter line, Lot 18. Concessions IV and V, Township of Scugog:

- Structure is posted with a load limit.
- 12.2 m+\-single span concrete bridge with a solid deck slab and an asphalt wearing surface.
- Asphalt wearing surface is in fair to good condition with potholes and settlement towards the curbs (2.0m^2, poor). Moderate settlement is occurring at the northwest quadrant. Asphalt wearing surface does not extend the full width of the deck. There is a buildup of sand along both curbs.
- Concrete curbs are in generally good condition with light to medium scaling and localized cracking.
- Concrete deck fascias are in fair to good condition with narrow stained cracks.
- Concrete deck soffit is in poor condition with spalling, delaminations, localized wide cracking, narrow stained cracking with effloresence and wet areas (14.0 m^2, Poor / 12.0 m^2, Fair).
- Concrete abutments are in generally good condition with light scaling and a wide stained vertical crack in the west abutment face. Localized spalling and delamination was noted. Portions of the west and east abutment footings are spalled and scoured (3.5 m^2, Poor / 1.2 m^2, Fair).
- Concrete wingwalls are in generally good condition with localized wide cracking, light scaling, rust and efflorescence stains (1.5m^2, poor). There is a wide crack seperating the barrier wall and wingwall on the northeast qudrant resulting in the barrer wall rotating inward.
- Concrete parapet walls are in fair to good condition with localized spalling and narrow stained map cracking. A wide horizontal crack was noted on the north parapet wall for the entire length of the wall (3.3m^2, Poor). A portion of the barrier wall is rotating inward in the northeast quadrant.
- Deck drainage is accomodated by 4-100 mm dia. core drilled holes. Medium scaling is occurring around deck drain locations. Deck Drain in the northwest quadrant is clogged.
- Asphalt paved approach roads are in generally good condition with minor localized settlements, water ponding and potholes (1.1m^2, poor).
- New steel beam guide rails on the bridge approaches are attached to concrete parapet walls on structure.
- Hazard markers are provided in NW, SE and SW quadrants. Hazard signs on east side are settling.
- Roadway embankments are in good condition.
- Watercourse is unobstructed with no evidence of scour.
- Severe erosion of footing at southeast quadrant.
- No serious evidence of structural distress.
- Structural rehabilitation/replacement should be prioritized for less than 2 years.
- Should replace existing structure to eliminate deck width deficiency.
- Should remove sand from deck wearing surface and perform small repairs as part of regular structure maintenance.
- To maintain the existing structure, should overlay, waterproof and pave bridge deck.
- Should repair potholes and patches in asphalt wearing surface.
- Should provide erosion control at footing in southest quadrant.
- Should repair settled hazard markers at east side.

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Looking West at Bridge

Date: 2023-07-06



Description: Debonded Mortar Patches on Barrier Wall

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Deep Cracks on Parapet Wall (Typical) Date: 2023-07-06



Description: Wearing Surface (Typical) Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Looking West at West Approach

Date: 2023-07-06



Description: Approach

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Deck Drain (Typical)

Date: 2023-07-06



Description: Guardrail Condition

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description:Guardrail Condition

Date: 2023-07-06



Description: Spalls with Exposed Corroded Rebars in Soffit

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Spalls with Exposed Corroded Rebars in Soffit

Date: 2023-07-06



Description: Wide Crack with Efforesence in West Abutment

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: East Abutment

Date: 2023-07-06



Description: Soffit

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Soffit Condition

Date: 2023-07-06



Description: Wide Crack Extends to Northwest Wingwall

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Severe Erosion of Footing in Southeast Quadrant

Date: 2023-07-06



Description: Disintegration at Joint Between Parapet Wall & Wingwall

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Looking Downstream (North)

Date: 2023-07-06



Description:Rip-Rap Condition

Date: 2023-07-06

MUNICIPAL BRIDGE APPRAISAL

BRIDGE PHOTOGRAPHS

Bridge Name:	LOT 18, CONC 4/5	Bridge No.:	000011
Road Name:	EDGERTON ROAD	Road Section No.:	
Location:	0.20 km W of CARTWRIGHT EAST QUARTER LINE	MTO Site No.:	021 - 0020 -



Description: Elevation view

Date: 2023-07-06

BURNSIDE

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Appendix C

2021 Edgerton Road Bridge Load Evaluation

Planmac Engineering Inc.

PLANMAC ENGINEERING INC.

Township of Scugog

Edgerton Road Bridge Load Evaluation

Evaluation Report



July 2021

Toronto Office: 80 North Queen Street, Suite 400, Toronto, ON M8Z 2C9 | 416.626.5300 | planmac.com | info@planmac.com

PLANMAC ENGINEERING INC.

July 26, 2021 Planmac Project Number:2104

Township of Scugog
181 Perry Street
Port Perry, ON
L9L 1A7

Attn: Kevin Arsenault,
Capital Project Technologist, Public Works, Park and Recreation

Re: Edgerton Road Bridge Load Evaluation (Bridge No 0011)

Dear Kevin:

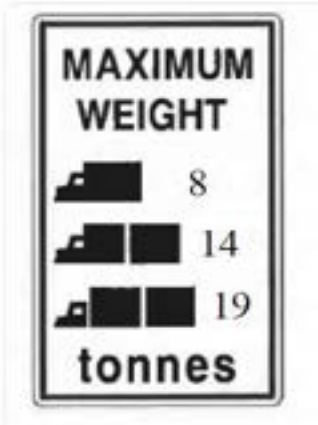
Planmac Engineering Inc. (Planmac) has been retained by Township of Scugog to complete a load evaluation of the above noted bridge to determine its load carrying capacity. The existing bridge, constructed in 1925, is a one-lane, single span concrete bridge approximately 12.20m in span and 6.70m in deck width. The bridge is in an advanced state of deteriorations, with extensive concrete spalling in the decking soffit exposed and corroded rebar and wide cracks in the abutments. As such, evaluation is necessary to determine the safe load carrying capacity, based on its present condition, to facilitate a load posting or closing the bridge to traffic.

There are no record drawings for this bridge, therefore, the rebars arrangement have been assumed for load evaluation based on the site observation and engineering judgment.

The current load evaluation was completed in accordance with Section 14 of the Canadian Highway Bridge Design Code. On June 24th, 2021, Planmac carried out visual examination and non-destructive testing (hammer sounding) of the structure. The 2021 OSIM inspection report (prepared by Planmac) and new measurements from our inspection provided the basis for the current load evaluation.

A summary of the load evaluation can be found in Appendix A. The results of the evaluation indicated that the bridge, in the present condition, requires a triple posting as illustrated in Figure 1 below. New load posting signs should be installed at each bridge approach until the bridge is rehabilitated or replaced (we strongly recommend in less

than 2 years). Additionally, warning signs such as “Load Restriction in Effect” should also be installed as required.



Level 3 (Single Unit): 8 Tonnes

Level 2 (One Trailer or Semi Trailer): 14 Tonnes

Level 1 (more than one trailer): 19 Tonnes

Figure 1. Triple load posting

It should be noted that the existing bridge is at the end of its service life (96 years). Given its present condition it is recommended that follow-up inspections of the bridge be completed annually to identify/address potential safety hazards. Planmac strongly recommends the Township to plan for replacement or rehabilitation of the structure in less than 2 years.

If you have any questions regarding this evaluation Report, please contact the undersigned to discuss.

Yours truly,

Prepared by:
PLANMAC ENGINEERING INC.

Kourosh Shirani, M.Sc., P. Eng.
Senior Structural Engineer

Reviewed by:
PLANMAC ENGINEERING INC.

Mike Neumann, P. Eng.
President / Project Manager

Appendix A

Load Evaluation Summary

Evaluation Parameters

1. Deck Sectional Dimensions for Loading and Modeling Purposes:

	Deck Thickness @ Mid Span (mm)	Thickness @abutments (mm)	Analysis Width (mm)	Length (mm)	Total Width (mm)
Deck	350	350	1000	12200	6700
Asphalt	50	50	1000	12200	5700

System Behavior	Element Behavior	Inspection Level	β	Assumed Section Lost, %	No. Lane
S1	E1	Insp 2	3.75	22	2

2. Material Strengths:

Rebar (Mpa)	Concrete (Mpa)	Thermal Coefficient (/°C)	Poisson 's Ratio	Conc. E(Mpa)	ɣc (kN/m3)	ɣsoil (kN/m3)
230	20	1.00E-05	0.2	21.66	24	19

3. Dead Load estimates (Self Weight of arch is included in the model):

Sidewalk (kN/m/m)	Barrier (kN/m/m)	Utility	Deck (kN/m/m)	Asphalt (kN/m/m)
N/A	14.4	N/A	8.4	1.1

4. Live Load:

Highway Class	ADT	ADTT	Lane load (kN/m)	Level 1	Level 2	level 3
C	N/A	N/A	7	Cl19.9.1.2	Cl19.9.1.3	Cl19.9.1.4

5. Dynamic Load allowance per cl 14.9.1.7:

For Deck: I=0.25

6. Pedestrian Live Load: N/A

7. Temperature Loads

Max Mean Daily Temp (°C)	Min Mean Daily Temp (°C)	Superstructure Type	Max Eff. Daily Temp (°C)	Min Eff. Daily Temp (°C)
30	-30	C	37.5	-31

Effective Temperature range for thermal expansion and contraction

Eff Const. Temp. (°C)	∆ T (°C) pos.	∆ T (°C) Neg.
15	22.5	-46

Analysis Parameters

Analysis Deck Width (m)	Deck DL (kN/m/m)	Asphalt DL kN/m/m	Overall Span (m)	U	I	αD2	αD3	Truck αL	Highway Class
1	8.4	1.1	12.2	0.95	0.25	1.2	1.5	1.7	C

Analysis notes:
1. The bridge is modelled as a single span concrete rigid frame structure with rigid supports at the abutments.
2. The underside of the footings is assumed to be 1.5m below the stream bed
3. Strength of the concrete is assumed to be 20MPa (on average based on concrete rebound hammer testing)
4. Strength of the reinforcing steel is assumed to be 230MPa, based on section 14 of the CHBDC.
5. 25M @ 150mm are assumed at midspan. 25M @ 100mm are assumed at Abutments.
6. 15% section loss in reinforcing steel was estimated based on measurements of the exposed corroded rebars.

Evaluation for all Level 1,2 and 3

Since the bridge spans are short, the load effects of all 3 levels of trucks are the same.

- Positive moment & shear due to dead load @ midspan

Mcon, kN-m/m	Vcon, kN	Ma kN-m/m	Va, kN
55	1	7.15	1

- Positive moment due to truck @ midspan

B, m	F, m	Cf	RL	n	Mt kN-m/m	Mavg kN-m/m	We, m	μ	Fm	m, kN-m/m
6.7	5.7	15	1	1	351	62	5.7	0.58	1.05	65.1

- Shear force due to truck @ midspan

B, m	F	RL	VT, kN	Vavg, kN	Fv	V, kN
6.7	5.7	1	150	26.8	1.2	32.2

- Moment Resistance at mid span (25M@150mm o.c.)

AS (mm)	Section Lost, %	φs	φc	Es (Mpa)	Ec (Mpa)	n	Fyd (MPa)	F'c (MPa)	Mr (kN-m)/m	F
3300.00	15.00	0.90	0.75	200000.00	20000.00	10.00	230.00	20.00	148.44	0.47

- Shear Resistance @ mid span

h, mm	Cover	d, mm	dv, mm	bw, mm	λ	β	φc	fcr (MPa)	f'c (MPa)	Vr, kN	F
350.00	75.00	275.00	248.00	1000.00	1.00	0.18	0.75	1.79	20.00	149.82	2.05

- Negative moment & shear due to dead load @ Abutments

Mcon, kN-m/m	Vcon, kN	Ma kN-m/m	Va, kN
103	51	14	7

- Negative moment due to truck @ Abutment

B, m	F, m	Cf	RL	n	Mt kN-m/m	Mavg kN-m/m	We, m	μ	Fm	m, kN-m/m
6.7	5.7	15	1	1	461	80.9	5.7	0.58	1.05	85

- Shear force due to truck @ Abutments

B, m	F	RL	VT, kN	Vavg, kN	Fv	V, kN
6.7	5.7	1	260	45.6	1.2	54.7

- Moment Resistance at Abutment (25M@100mm o.c.)

AS (mm)	Section Lost, %	φs	φc	Es (Mpa)	Ec (Mpa)	n	Fyd (MPa)	F'c (MPa)	Mr (kN-m)/m	F
5000.00	15.00	0.90	0.75	200000.00	20000.00	10.00	230.00	20.00	216.13	0.34

- Shear Resistance @ Abutments

h, mm	Cover	d, mm	dv, mm	bw, mm	λ	β	φc	fcr (MPa)	f'c (MPa)	Vr, kN	F
350.00	75.00	275.00	248.00	1000.00	1.00	0.18	0.75	1.79	20.00	149.82	0.60

Results

Since the bridge spans are short, the load effects of all 3 levels of trucks are the same.
Since the F factor for level 1, is between 1 and 0.3, a triple load posting applies.
Negative moment at the abutments governs.
Load posting factor as per Figure 14.8.

	F	P	Weight (Tonnes)
L1 =	0.34	0.031	18.0
L2 =	0.34	0.0225	14.0
L3 =	0.34	0.013	8.0

Appendix B

Bridge Condition-Photos



Spalls with Exposed Corroded Rebars in Soffit



Spalls with Exposed Corroded Rebars in Soffit



Spalls with Exposed Corroded Rebars in Soffit



Spalls with Exposed Corroded Rebars in Soffit



Wide Crack with Effloresence in West Abutment



Deep Cracks on Parapet Wall

BURNSIDE

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Appendix D

2025 Bridge Inspection Report

R.J. Burnside & Associates Limited

Ontario Structure Inspection Manual - Inspection Form

Site Number: 000011
MTO Site Number: 021-0020

Inventory Data:

Structure Name	LOT 18, CON 4/5										
Main Hwy/Road #	Edgerton Road	On		Crossing Type:	Navig. Water	X	Non-Navig.		Ped.		
		Under			Rail	X	Road		Other		
Structure Location	Edgerton Rd, .2 km West of East Quarter Line, Lot 18. Concessions IV and V, Town of Scugog										
Latitude				Longitude							
Owners				Heritage Designation	Not Consid:		Cons/not App.		List/n.d.		
					Desig./not list	X	Desig & List				
MTO region				Road Class:	Freeway		Arterial				
					Collector		Local	X			
MTO District				Posted Speed	40		No. of Lanes	2			
Old County				AADT	1000		% Trucks				
Geographic Twp.	Township of Scugog			Inspection Route Sequence							
Structure Type	Cast-In-Place Conc. Rigid Frame			Interchange Number							
Total Deck Length	13.4 m			Interchange Structure Number							
Overall Str. Width	6.6 m			Min. Vertical Clearance		m					
Total Deck Area	88.44 sq. m			Special Routes:	Transit		Truck				
					School		Bicycle				
Road Platform Width	5.1 m (btwn tops of slopes)										
Roadway Width	6.3 m (btwn edges of shoulders)			Detour Length Around Bridge		km					
Skew Angle	0 Degrees			Direction of Structure	W-E						
No. of Spans	1			Fill on Structure	0 m						
Span Lengths	12.2 m			Height (streambed to structure top)	2.53 m						

Historical Data:

Year Built	(●) Known ( ) Estimated ( ) Unknown	1925	Last Evaluation	
Last Biennial Inspection			Current Load Limit	tonnes
Last Bridge Master Inspection			Load Limit By-Law #	
Last Condition Survey			By-Law Expiry Date	
Last Underwater Inspection				

Rehab History: (Date / Description)	Rehab Year		
Portion of Barrier has been replaced.			

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Field Inspection Information:			
Date of Inspection:	May 12, 2025	Type of Inspection:	☑ OSIM ☐ Enhanced OSIM
Inspector:	S. Silverio		
Others in Party:	T. Wright		
Equipment Used:	Camera, Hammer, Meauring tape		
Weather:	Sunny		
Temperature:	21 Degrees celsius		

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

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

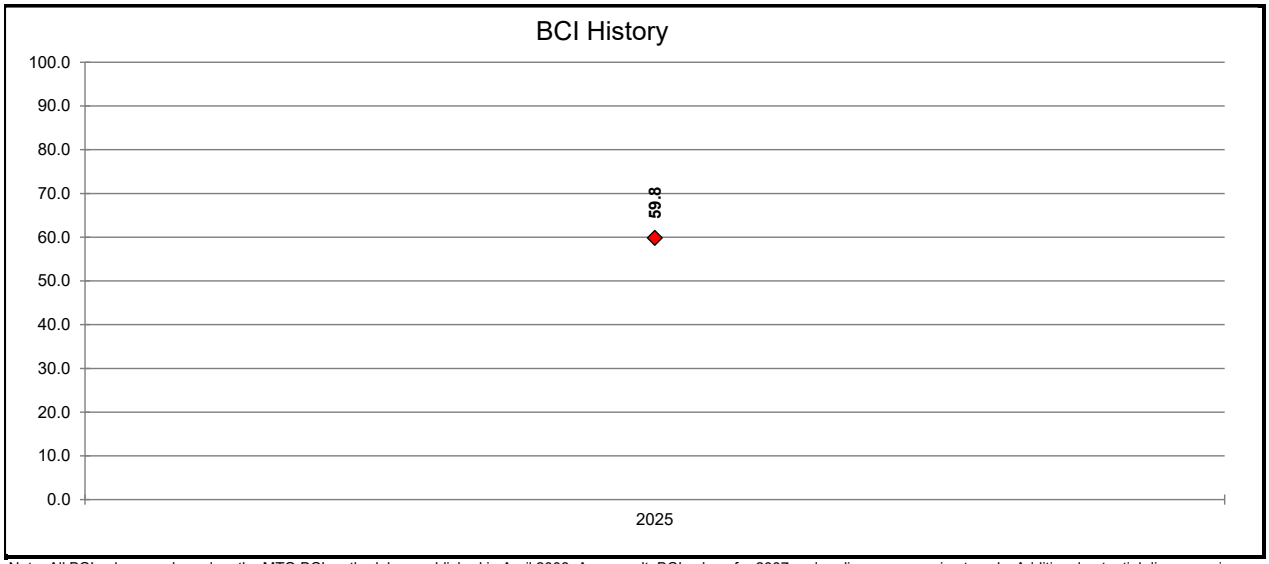
Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

BCI History

Date	BCI	Inspector	BCI Change Justification
2025	59.8	S. Silverio	

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



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

Standard Codes

Suspected Performance Deficiencies

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

Maintenance Needs

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Element Data

Element Group:	Accessories		Length:		m		
Element Name:	Signs		Width:		m		
Location:	All Quadrants		Height:		m		
Material:	Other		Count:				
Element Type:	Other		Total Quantity:	6	Each		
Environment:	Severe		Limited Inspection:	☐			
Protection System:	N/A					Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each		2	4		Element BCI	51.7

Comments: 4 hazard warning signs and 2 load posting signs. HWS installed to low

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	17
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Hazard Signs	
Raise HWS Signs		Performance Deficiencies: None	

Element Group:	Approach		Length:		m		
Element Name:	Approach Guide Rail		Width:		m		
Location:	All Quadrants		Height:		m		
Material:			Count:				
Element Type:	Steel Flex Beam on Steel Post		Total Quantity:	112.28	m		
Environment:			Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	m		108.47	3.81	0	Element BCI	73.8

Comments: Impact damage southwest quadrant. Rotated offset blocks throughout.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	18
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Other	
fix rotated offset blocks, replace damaged pannel.		Performance Deficiencies: None	

Element Group:	Approach		Length:	6	m		
Element Name:	Approach Wearing Surface		Width:	5.1	m		
Location:	East and West		Height:		m		
Material:	Asphalt		Count:	2			
Element Type:	N/A		Total Quantity:	61.2	Sq.m		
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		58.2	1.4	1.6	Element BCI	72.2

Comments: Limited inspection due to sand/gravel on shoulders. Flushing and ravelling present. Erosion at SE and NW corners. Previously patched potholes. Wheel track rutting.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Sweep wearing surface		Performance Deficiencies: None	

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Element Data

Element Group:	Decks		Length:	13.4 m			
Element Name:	Deck Wearing Surface		Width:	5.1 m			
Location:			Height:	m			
Material:	Asphalt		Count:				
Element Type:			Total Quantity:	68.34 Sq.m			
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		65.24	1.5	1.6	Element BCI	72.5

Comments: Limited inspection due to sand/gravel tracked on edges. Exposed concrete around deck drains due to the deterioration of asphalt. Wheel track rutting and ravelling present. Edge cracking present.

Recommended Work:	Rehab ☑ Replace ☐	**Maintenance Needs:**	02
	1-5 Years ☐ 6-10 Years ☑	☐ Urgent ☑ 1 Year ☐ 2 Year	
		Maintenance Needs: Bridge Cleaning	
Sweep wearing surface		Performance Deficiencies: None	

Element Group:	Decks		Length:	13.4 m			
Element Name:	Deck Top		Width:	5.5 m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	73.7 Sq.m			
Environment:	Severe		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		51.28	8.9	13.52	Element BCI	57.0

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

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

Element Group:	Barriers		Length:	18.3 m			
Element Name:	Barrier/Parapet Walls Interior		Width:	0.55 m			
Location:			Height:	1.04 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall without Railing		Total Quantity:	37.74 Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		31.65	1.51	4.58	Element BCI	64.5

Comments: New concretre 2.39m NE. Stained map cracking entire length of South barrier. Large spall at SE end. Popouts throughout. Wide crack along cold joint on north barrier.

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Element Data

Element Group:	Barriers		Length:	18.3 m			
Element Name:	Barrier/Parapet Walls Exterior		Width:	0.55 m			
Location:			Height:	1.04 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:	Parapet Wall without Railing		Total Quantity:	37.74 Sq.m			
Environment:	Benign		Limited Inspection:	☑			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		36.34	0.7	0.7	Element BCI	73.0

Comments: Stained cracking throughout. Seperation/cracking at wingwall joint.

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

Element Group:	Decks		Length:	m			
Element Name:	Deck Drainage		Width:	m			
Location:			Height:	m			
Material:	Cast-In-Place Concrete		Count:	4			
Element Type:			Total Quantity:	4 Each			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Each	0	0	0	4	Element BCI	0.0

Comments: Drains do not extend 300mm below soffit causing delaminations & spalls on the surronding area of the soffit interior. 2 deck drains clogged during time of inspection.

Recommended Work:	Rehab ☐ Replace ☐	**Maintenance Needs:**	
	1-5 Years ☐ 6-10 Years ☐	☐ Urgent ☐ 1 Year ☐ 2 Year	
		Maintenance Needs: None	
Replace and extend deck drains 300mm below soffit		Performance Deficiencies: None	

Element Group:	Decks		Length:	12.2 m			
Element Name:	Soffit - Thin Slab - Ext		Width:	1 m			
Location:	North and South Fascia		Height:	0.54 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	37.58 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		30.27	2.43	4.88	Element BCI	63.0

Comments: Stained cracking throughout. Active wet areas along entire span. Delaminations and spalls throughout.

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Element Data

Element Group:	Decks		Length:	12.2 m			
Element Name:	Soffit - Thin Slab - Int		Width:	4.6 m			
Location:	Underside of Deck		Height:	m			
Material:	Cast-In-Place Concrete		Count:	1			
Element Type:			Total Quantity:	56.12 Sq.m			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		27.79	8.78	19.55	Element BCI	43.4

Comments: Severe delaminations and spalling with exposed corroded rebar throughout soffit. Active wet areas during time of inspection. Stained cracks with Stalactytes forming.

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

Element Group:	Abutments		Length:	6.6 m			
Element Name:	Abutment Walls		Width:	m			
Location:	East and West		Height:	2.03 m			
Material:	Cast-In-Place Concrete		Count:	2			
Element Type:			Total Quantity:	26.8 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		21.07	2.68	3.05	Element BCI	63.0

Comments: Wide crack (potenital shear) on west abutment wall. Delaminations present on east abutment. Scaling present on both abutments.

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

Element Group:	Foundations		Length:	m			
Element Name:	Foundation (below ground level) - Al		Width:	m			
Location:	East and West		Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	2 All			
Environment:	Benign		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All		1		1	Element BCI	37.5

Comments: Severe scour along west footing.

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Element Data

Element Group:	Abutments		Length:	3.05 m			
Element Name:	Wingwalls		Width:	m			
Location:	All Quadrants		Height:	1.3 m			
Material:			Count:	4			
Element Type:			Total Quantity:	7.93 Sq.m			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m		5.81	1.06	1.06	Element BCI	60.3

Comments: Wide crack from abutment to NE wingwall.

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

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

Comments: Appear stable, Dead trees on NW bank.

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

Element Group:	Embankment and Stream		Length:	m			
Element Name:	Streams and Waterways		Width:	m			
Location:			Height:	m			
Material:			Count:				
Element Type:			Total Quantity:	1 All			
Environment:	Moderate		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	All				1	Element BCI	0.0

Comments: Structure is not aligned well with stream. Flows mainly against west abutment causing severe scour on west footing.

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Element Data

Element Group:	Barriers		Length:	m			
Element Name:	End Post		Width:	m			
Location:	All Quadrants		Height:	m			
Material:	Cast-In-Place Concrete		Count:				
Element Type:			Total Quantity:	Sq.m			
Environment:	Severe		Limited Inspection:	☐			
Protection System:						Performance	
Condition	Units	Exc.	Good	Fair	Poor	Deficiencies	
Data:	Sq.m					Element BCI	

Comments: Delete if not needed.

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

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

Comments:

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

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

Comments:

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

Ontario Structure Inspection Manual - Inspection Form

Site Number:	000011
MTO Site Number:	021-0020

Maintenance Need	Element and Comments	Estimated Cost
Bridge Cleaning	Clean Approach Wearing Surface, Deck Wearing Surface,	$1,500.00
Hazard Signs	Riase hazard warning signs	$500.00
	Total Maintenance Needs Costs	**$2,000.00**

Additional Investigations:		**$0.00**

See Page 2 for detailed breakdown of additional investigations

Roadside Protection:	Repair Guide Rail	**$1,047.75**

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

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

Estimated Value of Replacement Structure	**$1,300,000.00**

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

Capital Works Costs:	Notes:	Rehabilitation:	Replacement:
Rehab / Replacement Works:		N/A	$1,315,000.00
Roadside Protection:		N/A	$100,000.00
Staging Costs:		N/A	N/A
Construction Contingencies:	10% of first $1M + 5% of cost above $1M	N/A	$121,000.00
Environmental Assessment*:	Replacement assumes Schedule A/A+ Class Environmental Assessment	N/A	$15,000.00
Engineering Design:	See NOTE 1 Below (Min $20k for rehab, $40k for replace)	N/A	$121,000.00
Geotechnical Investigation		N/A	$20,000.00
Contract Administration	8% of Rehab Works; 5% of Replacement Works (Minimum $20,000)	N/A	$66,000.00
*Minimum $15,000 for replacements to allow for background studies to confirm schedule during design	**Total Capital Works Costs:**	**N/A**	**$1,758,000.00**

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

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

BCI Deterioration Curve		Years to	
Curve	**Description**	**Rehabilitation**	**Replacement**
BR-1	Bridge with span less than 20m. One rehabilitation cycle planned	0.0	5.0

Recommendation:	Forgo rehabilitation and replace structure within 5 years.

Justification:	**Current BCI**	**59.8**
Structure 011 is in fair to poor condition showing signs of severe concrete defects throughout the structure. Based off the current condition, it is recommended to forgo rehabilitation and replace the structure within 5 years. The replacement timeline is based on the condition of the interior deck soffit, which has a BCI of 43.4.		

Site No.: 000011

Inspector: S. Silverio

Structure Name: LOT 18, CON 4/5
Structure Type: Cast-In-Place Conc. Rigid Frame
Year Built: 1925
Last Rehab: See Page 1

Inspection Date: 5/12/2025

ELEMENT GROUP	ELEMENT NAME	ELEMENT QUANTITY	UNIT	ELEMENT VALUE	BCI (TEV)	TEV (% of total)	CONDITION STATES				BCI (CEV)
							EXCELLENT	GOOD	FAIR	POOR	
Abutments	Abutment Walls	26.8	Sq.m	900	24120	**0.3279**	0	21.07	2.68	3.05	15187.05
	Ballast Walls	0	Sq.m	350	0	0	0	0	0	0	0
	A. Bearings	0	Each	1000	0	0	0	0	0	0	0
	Wingwalls	7.93	Sq.m	350	2775.5	0.03773	0	5.81	1.06	1.06	1673.525
	Wingwall Piles	0	Sq.m	900	0	0	0	0	0	0	0
	Pile Clamp	0	Each	1	0	0	0	0	0	0	0
	Abutment Piles	0	Sq.m	900	0	0	0	0	0	0	0
	A. Caps	0	Sq.m	900	0	0	0	0	0	0	0
Accessories	Utilities	0	All	0	0	0	0	0	0	0	0
	Lighting	0	Sq.m	0	0	0	0	0	0	0	0
	Signs	6	Each	0	0	0	0	2	4	0	0
Approach	Approach Slabs	0	Sq.m	140	0	0	0	0	0	0	0
	Approach Wearing Surface	61.2	Sq.m	6	367.2	0.00499	0	58.2	1.4	1.6	265.26
	Approach Sidewalk	0	Sq.m	0	0	0	0	0	0	0	0
	Approach Drainage	0	All	0	0	0	0	0	0	0	0
	Approach Guide Rail	112.28	m	0	0	0	0	108.47	3.81	0	0
	Approach Curb/Gutters	0	m	25	0	0	0	0	0	0	0
Barriers	Barrier/Parapet Walls Exterior	37.74	Sq.m	100	3774	0.05131	0	36.34	0.7	0.7	2753.5
	Barrier/Parapet Walls Interior	37.74	Sq.m	100	3774	0.05131	0	31.65	1.51	4.58	2434.15
	End Post	0	Sq.m	100	0	0	0	0	0	0	0
	Posts	0	Each	200	0	0	0	0	0	0	0
	Railing System	0	m	200	0	0	0	0	0	0	0
	Hand Railings	0	m	100	0	0	0	0	0	0	0
Girders	Girders - Ends	0	Sq.m	200	0	0	0	0	0	0	0
	Girders - Middle	0	Sq.m	200	0	0	0	0	0	0	0
	Diaphragms - End	0	Each	0	0	0	0	0	0	0	0
	Diaphragms - Middle	0	Each	0	0	0	0	0	0	0	0
	Floor Beams	0	Sq.m	200	0	0	0	0	0	0	0
	Stringers	0	Each	0	0	0	0	0	0	0	0
Bracing	Bracings	0	Each	0	0	0	0	0	0	0	0
Coating	Coat - Railing System	0	Sq.m	125	0	0	0	0	0	0	0
	Coat - Posts	0	Sq.m	125	0	0	0	0	0	0	0
	Coat - Pier Bents	0	Sq.m	80	0	0	0	0	0	0	0
	Coat - Steel Diaphramgs	0	Sq.m	80	0	0	0	0	0	0	0
	Coat - Structural Steel - Total	0	Sq.m	80	0	0	0	0	0	0	0
Decks	Deck Top	73.7	Sq.m	350	25795	**0.35067**	0	51.28	8.9	13.52	14707
	Soffit - Thin Slab - End	0	Sq.m	120	0	0	0	0	0	0	0
	Soffit - Thin Slab - Ext	37.58	Sq.m	120	4509.6	**0.06131**	0	30.27	2.43	4.88	2840.94
	Soffit - Thin Slab - Int	56.12	Sq.m	120	6734.4	**0.09155**	0	27.79	8.78	19.55	2922.54
	Soffit - Thin Slab - Total	0	Sq.m	120	0	0	0	0	0	0	0
	Soffit - Thick Slab - End	0	Sq.m	350	0	0	0	0	0	0	0
	Soffit - Thick Slab - Ext	0	Sq.m	350	0	0	0	0	0	0	0
	Soffit - Thick Slab - Int	0	Sq.m	350	0	0	0	0	0	0	0
	Soffit - Thick Slab - Total	0	Sq.m	350	0	0	0	0	0	0	0
	Deck Drainage	4	Each	0	0	0	0	0	0	4	0
	Deck Wearing Surface	68.34	Sq.m	25	1708.5	0.02323	0	65.24	1.5	1.6	1238.25
Embankment and Stream	Embankments	4	Each	0	0	0	0	4	0	0	0
	Slope Protection	0	Each	0	0	0	0	0	0	0	0
	Streams and Waterways	1	All	0	0	0	0	0	0	1	0
Foundations	Foundation (below ground level) - Abut	2	All	0	0	0	0	1	0	1	0
	Foundation (below ground level) -Piers	0	All	0	0	0	0	0	0	0	0
Joints	Seals / Sealants	0	Each	0	0	0	0	0	0	0	0
	Armouring/Retaining Device	0	m	1	0	0	0	0	0	0	0
	Concrete End Dams	0	Sq.m	2100	0	0	0	0	0	0	0
Piers	P. Bearings	0	Each	1000	0	0	0	0	0	0	0
	P. Caps	0	Sq.m	900	0	0	0	0	0	0	0
	Shaft / Bents	0	Sq.m	900	0	0	0	0	0	0	0
	P. Piles	0	Sq.m	900	0	0	0	0	0	0	0
	P. Bracings	0	m	0	0	0	0	0	0	0	0
	P. Straps	0	Each	1	0	0	0	0	0	0	0
Retaining Walls	Barrier on Wall	0	Sq.m	200	0	0	0	0	0	0	0
	Wall	0	Sq.m	350	0	0	0	0	0	0	0
Curb and S/W	Curbs	0	Sq.m	40	0	0	0	0	0	0	0
	Sidewalk	0	Sq.m	150	0	0	0	0	0	0	0
Culvert	Barrels	0	Sq.m	350	0	0	0	0	0	0	0
	Inlet	0	Sq.m	350	0	0	0	0	0	0	0
	Outlet	0	Sq.m	350	0	0	0	0	0	0	0
Trusses	Bottom Chords	0	Sq.m	300	0	0	0	0	0	0	0
	Top Chords	0	Sq.m	300	0	0	0	0	0	0	0
	Connections	0	Each	0	0	0	0	0	0	0	0
	Verticals / Diagonals	0	Sq.m	300	0	0	0	0	0	0	0
					73558.2						44022.215

BCI = 59.8

Appendix A
A4 - Natural Heritage Report

Edgerton Bridge Replacement
Natural Heritage Report

Township of Scugog
181 Perry Street
P.O. Box 780
Port Perry ON L9L 1A7

R.J. Burnside & Associates Limited
292 Speedvale Avenue West Unit 20
Guelph ON N1H 1C4 CANADA

July 2025
300059896.0000

Distribution List

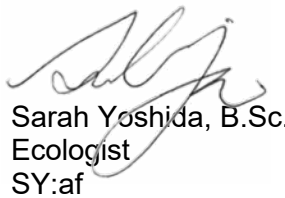
No. of Hard Copies	PDF	Email	Organization Name
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Record of Revisions

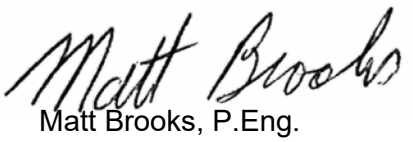
Revision	Date	Description
-	July 24, 2025	Initial Submission to Township of Scugog

R.J. Burnside & Associates Limited

Report Prepared By:

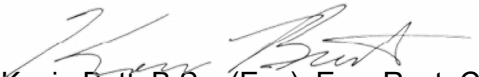


Sarah Yoshida, B.Sc. (Env.), Eco. Rest. Cert.
Ecologist
SY:af

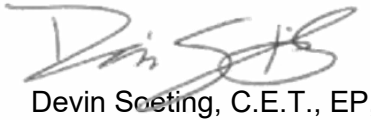


Matt Brooks, P.Eng.
Senior Vice President, Municipal Services and Structures

Report Reviewed By:



Kevin Butt, B.Sc. (Env), Eco. Rest. Cert. TRAQ
ISA Certified Arborist and Terrestrial Ecologist
Vice President, Ecology



Devin Soeting, C.E.T., EP, CAN-CISEC
Project Coordinator

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Appendices

Appendix A Photo Log
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Disclaimer

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1.0 Introduction

R.J. Burnside and Associates Limited (Burnside) has been retained by the Township of Scugog (Township) to complete a Municipal Class Environmental Assessment (MCEA) for Bridge No. 11 (Edgerton Bridge), located on Edgerton Road, in the Village of Cadmus.

This Natural Heritage Report documents the existing natural heritage conditions, both terrestrial and aquatic, in a 120 m study area around each respective bridge.

The natural features associated with the watercourse and its associated bridge crossing are a part of larger connected natural systems comprised of varied forests, hedgerows, swamps and marshes. These areas are designated as Natural Core Areas and Linkages according to the Township of Scugog Official Plan – Schedule A. Kawartha Region Conservation Authority (KRCA) regulated lands are associated with the bridge crossing, watercourse, and impoundments within the Study Area.

This report will inform the preferred alternative decision by identifying natural feature constraints that will need to be protected or mitigated from short-term or long-term impacts.

A review of existing documents and databases was used to identify the presence, or potential presence, of the natural features and their associated policy constraints, supported by a field investigation by Burnside ecologists.

2.0 Methodology

The following sources of information were consulted to determine the ecological constraints in the vicinity of each structure.

- Aerial photographic imaging and 1:10,000 Ontario Base Mapping (OBM)
- DFO Aquatic SAR mapping (2023)
- Ministry of Natural Resources (MNR) Make a Map: Natural Heritage Areas to identify natural heritage features and Natural Heritage Information Centre (NHIC) data of rare wildlife species on, and in the vicinity of, the Study Area: 1x1 km^2 Squares: 17PJ7887
- MNR Land Information Ontario (LIO) database
- MNR Aquatic Resource Area (ARA) summary data
- Ontario Hydrology Network (OHN) mapping
- The Ontario Breeding Bird Atlas (OBBA) 2001-2005 – 10x10 km^2 Square 17TPJ78
- Ontario Reptile and Amphibian Atlas (ORAA) – 10x10 km^2 Square 17TPJ78
- Ontario Insect Atlas (OIA) 2005 – 2021 – 10x10 km^2 Square 17TPJ78
- iNaturalist records

- eBird records
- KRCA Regulated Areas and Features Mapping
- Township of Scugog Official Plan (2017)

In addition, field investigations were carried out, as follows:

- June 26, 2025:
  - An Ecological Land Classification (ELC) and botanical inventory were undertaken from the road ROW. ELC communities were described according to the updated Second Approximation 2008 codes (Lee, 2008) with reference to Ecological Land Classification for Southern Ontario: First Approximation and Its Application (Lee et al. 1998) for units that could not be adequately described by the 2008 codes. Approximations of communities were made where permission to enter was not available and work was completed from the publicly-owned road right-of-way. Air photos were used to delineate the features, as needed.
  - Each bridge structure was surveyed by a Burnside ecologist for evidence of breeding birds, primarily Cliff Swallow nests
- June 17, 2025
  - Visual aquatic habitat survey

A summary of conditions during field investigations is presented in Table 1 below.

Table 1: Natural Environment Field Investigations

Field Study	Methodology	Staff Involved	Date(s)	Time of Day	Weather Conditions		
					Precipitation/Cloud Cover	Temperature (°C)	Wind (Beaufort Wind Scale)[1]
Ecological Land Classification	Ecological Land Classification for Southern Ontario (Lee et al.,1998) of entire property.	Sarah Yoshida	June 25, 2025	1210 - 1340	Clear Partly cloudy	29°C on arrival 32°C on departure	2 - Slight Breeze
Aquatic Habitat Assessment	Ontario Ministry of Transportation (MTO) Fisheries Protocol - Environmental Guide for Fish and Fish Habitat (June 2009)	Matthew Moote	June 17, 2025	1200 - 1300	No precipitation Clear	23°C on arrival 23°C on departure	2 - Slight Breeze
Search for potential wildlife habitats	Survey throughout study areas to search for features that could provide habitat for wildlife or SAR habitat such as: Nests, reptile hibernacula, old	Sarah Yoshida	June 25, 2025	1210 - 1340	Clear Partly cloudy	29°C on arrival 32°C on departure	2 - Slight Breeze

Field Study	Methodology	Staff Involved	Date(s)	Time of Day	Weather Conditions		
					Precipitation/Cloud Cover	Temperature (°C)	Wind (Beaufort Wind Scale)[1]
	barns, structures, uncapped chimneys, foundations, mature forest areas with cavities or other features suitable for bat roosting, turtle nesting or overwintering sites.						
Incidental flora and fauna observations	Visual observations of animals, tracks or scat and compilation of a plant inventory during all site visits.	Sarah Yoshida	June 25, 2025	1210 - 1340	No precipitation Partly cloudy	29°C on arrival 32°C on departure	2 - Slight Breeze

[1] Beaufort Wind Scale: 0 = calm, smoke rises vertically (0-2 km/hr); 1 = light air movement, smoke drifts (3-5); 3 = gentle breeze, wind felt on face; leaves rustle (6-11); 4 = moderate breeze, small branches moving, raises dust & loose paper (20-30); 5 = fresh breeze, small trees begin to sway (31-39); 6 = strong breeze, large branches in motion (40-50)

3.0 Existing Conditions

The following sections document the terrestrial and aquatic natural heritage features and functions at the Edgerton Road bridge.

3.1 Terrestrial Environment

A review of NHIC shows that the Edgerton Road bridge is located within the Protected Countryside and Greenbelt Natural Heritage System. These areas also represent Core Natural Areas of the Township of Scugog Greenlands System. Components of the Natural Heritage System present within the Study Area include watercourses and associated valleylands, Significant Woodlands, and Other Wetlands. Significant Wildlife Habitat features and Significant Habitat of Endangered and Threatened species, while unmapped, are components of the Township and Regional OPs and may also be supported within the Study Area.

3.1.1 Terrestrial Natural Heritage features at the Edgerton Road Bridge

In total, seven ELC communities are present within the Study Area associated with the structure. A summary of ELC communities and components of the natural heritage system present can be found in Table 2 below. No provincially rare plants were incidentally encountered during the course of Burnside's field investigation.

Table 2: Summary of Conditions at the Edgerton Road Bridge

ELC Code	ELC Description	Community Composition	Provincially Significant Wetlands/Other Wetlands	Significant Woodlands	Candidate Significant Wildlife Habitat
CVR	Residential	This community is characterized by single family homes and associated outbuildings / structures, manicured turfgrass lawn, and paved driveways. Open grown trees such as Norway Maple (*Acer platanoides*) and Norway Spruce (*Picea abies*) as well as horticultural plantings are present.	No	No	No
TAGM5	Fencerow	This community consists of coniferous species planted along property boundaries and Edgerton Road. Representative species include Norway Spruce, White Spruce (*Picea glauca*), and White Cedar (*Thuja occidentalis*).	No	No	No
FOCM4	Fresh – Moist White Cedar Coniferous Forest	This community is present south of the crossing. This community consists of a mid-aged coniferous forest. Large standing ash snags occasionally present. Limited amounts of deadfall visible from ROW. Invasive species are pervasive in the groundcover and understory layer of this community.	No	Yes	Bald Eagle & Osprey Nesting, Foraging & Perching Habitat Seeps and Springs Amphibian Breeding Habitat (Woodland) – SAS / MASM1 inclusion only Terrestrial Crayfish

ELC Code	ELC Description	Community Composition	Provincially Significant Wetlands/Other Wetlands	Significant Woodlands	Candidate Significant Wildlife Habitat
		The canopy is dominated by White Cedar with lesser associates of White Spruce, Balsam Poplar (*Populus balsamifera*), and White Pine. The subcanopy is moderately well developed and is dominated by White Cedar with lesser associates of Balsam Poplar, Manitoba Maple (*Acer negundo*), and Scots Pine (*Pinus sylvestris*). The understory is moderately open and consists of European Buckthorn (*Rhamnus cathartica*), Manitoba Maple regeneration, Black Walnut (*Juglans nigra*) regeneration, and Chokecherry (*Prunus virginiana*). The groundcover layer is relatively dense and dominated by Ostrich Fern (*Matteuccia struthiopteris*), Goutweed (*Aegopodium podagraria*), Enchanter's Nightshade (*Circaea lutetiana*), and cool season grasses. Several inclusions are present including the following: • Submerged Shallow Aquatic (SAS): The small ponds located north and south of Edgerton Road is eutrophic with an			Rare Wildlife Species: • Eastern Wood-pewee (SC) • Wood Thrush (SC) • Snapping Turtle (SC) – MASM1 / SAS inclusion only Amphibian Movement Corridors

ELC Code	ELC Description	Community Composition	Provincially Significant Wetlands/Other Wetlands	Significant Woodlands	Candidate Significant Wildlife Habitat
		abundance of Duckweed (*Lemna spp.*) observed on the surface. It could not be determined if submerged macrophytes were present. • Graminoid Mineral Shallow Marsh (MASM1): Identifiable species visible from a distance include Cattails (*Typha spp.*). Cattails from a narrow band around the riparian areas around the SAS inclusion.			
FOMM7	Fresh – Moist White Cedar – Hardwood Mixed Forest Ecosite	This community was identified through air photo interpretation and an NHIC desktop review. Identifiable canopy species include Trembling Aspen (*Populus tremuloides*), Willow (*Salix spp.*), and White Cedar.	No	Yes	Bat Maternity Colonies Bald Eagle & Osprey Nesting, Foraging & Perching Habitat Seeps and Springs Rare Wildlife Species: • Eastern Wood-pewee (SC) • Wood Thrush (SC) • Canada Warbler (SC) Amphibian Movement Corridors

ELC Code	ELC Description	Community Composition	Provincially Significant Wetlands/Other Wetlands	Significant Woodlands	Candidate Significant Wildlife Habitat
SWM	Mixed Swamp	This community was identified through air photo interpretation and an NHIC desktop review. This community is located well beyond the Edgerton Road bridge. Two inclusions are present in association with this community: • Open Water (OAO): this community is a manmade pond that is fed from a small tributary of East Cross Creek north of Edgerton Road. • Graminoid Mineral Shallow Marsh (MASM1): Identifiable species visible from a distance include Cattails which form a narrow band around the riparian areas around the OAO inclusion.	Yes – other wetlands	Yes	Bat Maternity Colonies Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) Bald Eagle & Osprey Nesting, Foraging & Perching Habitat Seeps and Springs Amphibian Breeding Habitat (Woodland) Terrestrial Crayfish Rare Wildlife Species: • Eastern Wood-pewee (SC) • Wood Thrush (SC) • Canada Warbler (SC) • Snapping Turtle (SC) Amphibian Movement Corridors
MASM1	Graminoid Mineral Shallow Marsh	This community was identified through air photo interpretation and an NHIC desktop review. Based on a review of iNaturalist, it	Yes – other wetlands	No	Amphibian Breeding Habitat (Wetlands) Marsh Breeding Bird Habitat

ELC Code	ELC Description	Community Composition	Provincially Significant Wetlands/Other Wetlands	Significant Woodlands	Candidate Significant Wildlife Habitat
		appears that Common Cattail (*Typha latifolia*) form a ring around Brown Lake.			Terrestrial Crayfish Rare Wildlife Species: • Snapping Turtle (SC)
OAO	Open Water	This community represents East Cross Creek and Brown Lake.	No	No	Waterfowl Stopover and Staging Areas (Aquatic) Amphibian Breeding Habitat (Wetlands) Rare Wildlife Species: • Snapping Turtle (SC)

Incidental wildlife observations are detailed in Table 3 below.

Table 3: Incidental Wildlife Observations

Common Species	Scientific Name	SRank	Comment
Baltimore Oriole	*Icterus galbula*	S4B	
Song Sparrow	*Melospiza melodia*	S5	
Racoon	*Procyon lotor*	S5	Prints

Based on a review of the OBBA, ORAA, and OIA, the following SAR (Endangered or Threatened) and Species of Conservation Concern (SCC) were identified as potentially being present on or adjacent to the Study Area (see Table 4).

Table 4: Candidate SAR and SCC on the Study Area or Adjacent Lands Based on Background Review

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
Birds								
Acadian Flycatcher (Source: OBBA)	*Empidonax virescens*	S1B	END	END	END	1	Generally requires large areas of mature, undisturbed forest; avoids the forest edge; often found in well wooded swamps and ravines.[7]	No candidate habitat present.
Barn Swallow (Source: OBBA)	*Hirundo rustica*	S4B	SC	SC	THR	1	Prefers farmland, lake/river shorelines, wooded clearings, urban populated areas, rocky cliffs, and wetlands. Nests inside or on exterior of buildings; under bridges and in road culverts; on rock faces, and in caves.[7]	Candidate habitat present along northern shoreline of Brown Lake and in manmade structures.
Bobolink (Source: NHIC, OBBA)	*Dolichonyx oryzivorus*	S4B	THR	SC	THR	1	Generally, prefers open grasslands and hay fields for nesting, typically featuring relatively tall vegetation. Sometimes uses large fields of winter wheat and rye in southwestern Ontario. Sensitive to vegetation structure and composition. Positively associated with high grass-to-forb ratios; moderate litter depth; tolerate wetter portions of fields compared to Eastern Meadowlark (EAME) and more likely to nest closer to field centres rather than field margins.	No candidate habitat present.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
							Lower tolerance to presence of patches of bare ground. Appear to prefer larger fields than EAME.[8]	
Canada Warbler (Source: OBBA)	*Cardellina canadensis*	S5B	SC	SC	THR	1	Generally, prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest.[6]	Candidate habitat present in association with the SWM, FOMM7, and FOCM4 communities.
Chimney Swift (Source: OBBA)	*Chaetura pelagica*	S3B	THR	THR	THR	1	Historically nested in large hollow trees, other tree cavities and cracks in cliffs. Currently, most are found in developed areas in large, uncapped chimneys. Proximity to lakes is also a preferred habitat feature as they will forage for flying insects close to water.[6]	Candidate habitat present. Breeding habitat may be present in association with residential buildings, and the Study Area is proximate to Brown Lake, offering foraging habitat.
Common Nighthawk (Source: OBBA)	*Chordeiles minor*	S4B	SC	SC	SC	1	Nests in open habitats, in forests and in urban areas. It prefers rock outcrops, alvars, sand barrens, bogs, fens, and in forests, openings created by clearcuts and burns. In southern Ontario, grasslands, agricultural fields, gravel pits, prairies, and alvars and at airports. In cities, it nests mostly on	Unlikely to be supported. Forested areas within the Study Area consist of densely growing trees that are unlikely to support Common Nighthawk.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
							flat, graveled roofs but occasionally on railways and footpaths.[6]	
Eastern Meadowlark (Source: NHIC, OBBA)	*Sturnella magna*	S4B, S3N	THR	THR	THR	1	Generally, prefers grassy pastures, meadows and hay fields. Prefers moderately tall grass with abundant litter cover, a high proportion of grass cover, moderate forb density, low proportions of shrub and woody vegetation cover, and low percent of bare ground. Prefers to nest in drier sites and frequently nests around field margins.[8]	No candidate habitat present within the Study Area.
Eastern Whip-poor-will (Source: OBBA)	*Antrostomus vociferus*	S4B	SC	SC	THR	1	Found in areas with a mix of open and forested areas, such as savannahs, open woodlands or opening in more mature, deciduous, coniferous and mixed forests. It forages in open areas and roosts in forested areas.[7]	No candidate habitat present within the Study Area.
Eastern Wood-Pewee (Source: OBBA)	*Contopus virens*	S4B	SC	SC	SC	1	Prefers open space near the nest in the form of forest edges, clearings, roadways, and water. Does not require large areas of woods but occurs less frequently in woodlots surrounded by development than in those without.[6]	Candidate habitat present in association with the SWM, FOMM7, and FOCM4 communities.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
Least Bittern (Source: OBBA)	*Ixobrychus exilis*	S4B	THR	SC	THR	1	Most frequently found in marshes of at least 5 ha, although much smaller marshes, including sites such as cattail stands along creeks and farm ponds partially filled with cattail, may be used occasionally. Breeding sites typically dominated by cattail, but also sometimes bulrush, grasses, horsetail, and willow. Nests usually close to edge of a stand of vegetation or near openings such as muskrat trails, although may be as far as 45 m from open water.[6]	No candidate habitat present on Study Area or adjacent lands.
Red-headed Woodpecker (Source: OBBA)	*Melanerpes erythrocephalus*	S3	END	END	END	1	Prefers open woodland and woodland edges and often found in parks, golf courses and cemeteries because these areas typically have many dead trees which the woodpecker uses for nesting and perching.[8]	Candidate habitat present in association with the SWM, FOMM7, and FOCM4 communities.
Wood Thrush (Source: OBBA)	*Hylocichla mustelina*	S4B	SC	THR	THR	1	Inhabits and breeds in woodlands ranging from small (3 ha) and isolated to large and contiguous. The presence of tall trees and a thick understorey are usually prerequisites for site occupancy.[6]	Candidate habitat present in association with the SWM, FOMM7, and FOCM4 communities.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
Insects								
Monarch (Source: OIA)	*Danaus plexippus*	S4B, S2N	SC	END	END	1	Throughout their life cycle, Monarchs use three different types of habitats. Only the caterpillars (larvae) feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adult butterflies can be found in more diverse habitats where they feed on nectar from a variety of wildflowers. Monarchs spend the winter in Oyamel Fir forests found in central Mexico. The largest threat to Ontario Monarchs is habitat loss and fragmentation at overwintering sites in central Mexico where forests are being logged and converted into agricultural fields and pastures. Widespread pesticide and herbicide use throughout the Monarch's range may also limit recovery.[9]	Candidate habitat present for adult butterflies. Common Milkweed is present in low quantities. No caterpillars observed.
Plants								
American Ginseng	*Panax quinquefolius*	S2	THR	END	END	Schedule 1	Grows in rich, moist, undisturbed and relatively mature deciduous woods in areas of neutral soil (such as over limestone or marble bedrock).[13]	No potential. Suitable habitat to support this species as absent from the Study Area.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
Black Ash	*Fraxinus nigra*	S4	END	THR	N/A	0	Black Ash is a shade intolerant species. Occurs in riparian areas, floodplains, and wetlands including swamps and bogs.[13]	Candidate habitat present along OHN identified watercourse and SWM community at the northern extent of the Study Area.
Butternut	*Juglans cinerea*	S2?	END	END	END	Schedule 1	Butternut grows best in rich, moist and well-drained soils or limestone gravel sites. They are less commonly found in dry, rocky and sterile soils. They generally grow alone or in small groups in deciduous forests that are commonly comprised of Basswood, Black Cherry, Beed, Black Walnut, Elm, Hemlock, Hickory, Oak, Red Maple, Sugar Maple, Poplar, White Ash and Yellow Birch. In Ontario, they can be found throughout the southern Ontario, south of the Canadian Shield.[9]	Candidate habitat present in association with the FOMM7 community.
Hill's Pondweed	*Potamogeton hillii*	S2S3	SC	SC	SC	Schedule 1	Occurs within cold, clear, alkaline water of open wetlands, small slow-moving streams, ponds, and marshes.[16]	Candidate habitat present along OHN identified watercourse. Aquatic macrophytes were not observed within the reach of East Cross Creek within the ROW.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
Mammals								
Eastern Red Bat (Source: R. J. Burnside)	*Lasiurus borealis*	S3	END	END	N/A	N/A	Roost within the foliage of trees and shrubs in both deciduous and coniferous trees in forests of any age class. Eastern Red bats are known to avoid roosting within conifer species if deciduous trees are present. Typical roost trees are large in diameter and are as tall or taller than the surrounding canopy. Roost sites tend to be along southern aspects and are sheltered from the wind, with Eastern Red Bats being known to be select locations are that unlikely to experience temperature extremes. This species is known to utilize a number of roost trees during the season with average roosting areas spanning <1 ha during the summer months.[13]	Candidate habitat present in association with the FOMM7 and SWM communities.
Eastern Small-footed Myotis (Source: R. J. Burnside)	*Myotis leibii*	S2S3	END	N/A	N/A	1	Overwintering habitat: Cool caves and abandoned mines with low humidity and temperatures and relatively stable microclimates. Cave hibernacula known to be used by Eastern Small-footed Myotis in Ontario are	Candidate habitat present for maternal roosts in buildings.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
							found primarily in limestone, but also in sandstone. Maternal Roosts: In Ontario, summer habitats, including sites of maternity colonies, are very poorly understood. Some reports include anthropogenic buildings (shed/barn, old structures), rocky habitats. However, the extent of the use of summer rock roosts in Ontario has not been determined.[11]	
Hoary Bat (Source: Burnside)	*Lasiurus cinereus*	S4	END	END	0	0	Roost within the foliage of trees and shrubs in both deciduous and coniferous trees in forests of any age class. Typical roost trees are large in diameter and are as tall or taller than the surrounding canopy. Roost sites tend to be along southern aspects and are sheltered from the wind.[13]	
Little Brown Myotis (Source: Burnside)	*Myotis lucifugus*	S3	END	END	END	1	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with buildings (attics, barns etc.).	Candidate habitat present for maternal roosts in buildings and trees.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
							Occasionally found in trees (25-44 cm dbh).[11]	
Northern Hoary Bat (Source: Burnside)	*Lasiurus cinereus*	S3	END	END	N/A	N/A	Hoary Bats roost within the foliage of trees and shrubs in both deciduous and coniferous trees in forests of any age class. Typical roost trees are large in diameter and are as tall or taller than the surrounding canopy. Roost sites tend to be along southern aspects and are sheltered from the wind.[11]	Candidate habitat present in association with the FOMM7, FOCM4 and SWM communities.
Northern Myotis (Source: Burnside)	*Myotis septentrionalis*	S3	END	END	END	1	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns etc.)[11]	Candidate habitat present for maternal roosts in buildings and trees.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
Silver-haired Bat (Source: Burnside)	*Lasionycteris noctivagans*	S3	END	END	N/A	N/A	Primarily roost under sheets of exfoliating bark and within tree cavities. This species will typically roost within a variety of large diameter coniferous and deciduous roost trees. High-quality roost trees include trees with heart-rot infections at the site of limb breakages that have resulted in the creation of well-protected inner chambers. Members of this species, including lactating females, are well documented to roost switch. Silver-haired bats are also known to occasionally roost on or within buildings but only when treed habitats are scarce. Unlike other lasirunes native to Ontario, Silver-haired Bats may occasionally roost on or in structures.[13]	Candidate habitat present in association with the FOMM7, FOCM4 and SWM communities.
Tri-coloured Bat (Source: Burnside)	*Perimyotis subflavus*	S3?	END	END	END	1	Overwintering habitat: Deepest parts of caves and mines where temperature is the least variable.	Candidate habitat present in association with the FOMM7 and SWM communities.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
							Maternal Roosts: Less is known about roosts of Tri-colored Bats. Most roost sites found within forested habitats. May roost in clumps of dead foliage and lichens. In more anthropogenically modified landscapes, maternity roosts may be barns or similar human-made structures.[11]	
Reptiles and Amphibians								
Midland Painted Turtle (Source: NHIC)	*Chrysemys picta marginata*	S4	No Status	SC	SC	1	Generally, prefers waterbodies such as ponds, marshes, lakes and slow-moving creeks that have a soft bottom and provide abundant basking sites and aquatic vegetation.[10]	Candidate habitat present along northern edge of Brown Lake.
Snapping Turtle (Source: ORAA)	*Chelydra serpentina*	S4	SC	SC	SC	1	Generally, inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.[9]	Candidate habitat present. Overwintering and general habitat may be supported within the OAO, and MASM1 communities / inclusions. East Cross Creek may be utilized as general habitat within the summer months as well as a movement corridor but generally lacks the

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?
								characteristics to support overwintering including soft, muddy sediments. Suitable nesting habitat may be supported within residential areas.
Western Chorus Frog (Source: NHIC, ORAA)	*Pseudacris maculata*	S4	No status	THR (Great Lakes - St Lawrence population in Canada)	THR (Great Lakes - St Lawrence population in Canada)	1	The Western Chorus Frog is primarily a lowland terrestrial species. In marshes or wooded wetland areas, it is found on the ground or in low shrubs and grass. Like all other frogs, the Western Chorus Frog requires both terrestrial and aquatic habitats in close proximity. For breeding and tadpole development, it requires seasonally dry temporary ponds devoid of predators, particularly fish. It is very rarely found in permanent ponds. In southern Ontario, its range is bounded by the United States border in the south, Georgian Bay in the northwest, and south of Algonquin Park and up the Ottawa River valley to the vicinity of Eganville in the east.[7, 8, 10]	Candidate habitat present in association with the SWM community or MASM1 inclusions associated with the FOCM4 community.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?

[1]S-Ranks (provincial)
Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario (Please refer to: http://explorer.natureserve.org/nsranks.htm)

SX - Presumed Extirpated - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SH - Possibly Extirpated (Historical) - Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
S1 - Critically Imperiled - Critically imperiled in the province or state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.
S2 - Imperiled - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.
S3 - Vulnerable - Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 - Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 - Secure - Common, widespread, and abundant in the province.
SNR - Unranked - Province conservation status not yet assessed.
SU - Unrankable - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA - Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S# - Range Rank - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
S#? - Inexact or Uncertain - Denotes inexact or uncertain numeric rank.

Breeding Status Qualifiers
B – Breeding Conservation status refers to the breeding population of the species in the nation or state/province.
N – Nonbreeding Conservation status refers to the non-breeding population of the species in the province.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?

M – Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

[2]SARO *Endangered Species Act, 2007*
(provincial status from http://www.ontario.ca/environment-and-energy/how-species-risk-are-listed#section-3)
The provincial review process is implemented by the MNR's Committee on the Status of Species at Risk in Ontario (COSSARO).

Extinct - A species that no longer exists anywhere.
Extirpated (EXT) - Lives somewhere in the world, and at one time lived in the wild in Ontario but no longer lives in the wild in Ontario.
Endangered (END) - Lives in the wild in Ontario but is facing imminent extinction or extirpation.
Threatened (THR) - Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
Special concern (SC) - Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.
Not at Risk (NAR) - A species that has been evaluated and found to be not at risk.
Data Deficient (DD) - A species for which there is insufficient information for a provincial status recommendation.

[3]SARA (Federal *Species at Risk Act*) Status and Schedule (includes COSEWIC Status)
The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.

Extinct - A wildlife species that no longer exists.
Extirpated (EXT) - A wildlife species that no longer exists in the wild in Canada but exists elsewhere.
Endangered (END) - A wildlife species facing imminent extirpation or extinction.
Threatened (THR) - A wildlife species that is likely to become an endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern (SC) - A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
Data Deficient (DD) - A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
Not At Risk (NAR) - A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

COMMON NAME **(Source)	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description[5]	Habitat Present within the Study Area?

[4]SARA Schedule
Schedule 1: is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.
Schedule 2: species listed in Schedule 2 are species that had been designated as endangered or threatened and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.
Schedule 3: species listed in Schedule 3 are species that had been designated as special concern and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

[5]Sources:
[6]Cadman, M.D., et al. (eds). 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 pp
[7]Species at Risk Public Registry https://species-registry.canada.ca/
[8]McCracken, J.D. et al. 2013. Recovery Strategy for the Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario, viii + 88 pp.
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3.2 Aquatic Habitat Conditions

As per the MNR ‘s ARA mapping, the Edgerton Road Bridge is located across East Cross Creek which provides a cold water thermal regime to local fish species. Brown Lake is located approximately 30 m upstream of the structure. Historically, spring (i.e., Creek Chub, Largemouth Bass) and fall spawning (i.e., Brook Trout) species have been observed in East Cross Creek, which indicates that any work in-water is restricted to occurring between July 15 and September 30 of a given year. Table 5 below identifies fish species records for East Cross Creek.

Table 5: Summary of Fish Species Historically Found in East Cross Creek and Brown Lake

Common Name	Scientific Name	Thermal Regime
Blacknose Dace	*Rhinichthys atratulus*	Cool
Brassy Minnow	*Hybognathus hankinsoni*	Cool
Brook Trout	*Salvelinus fontinalis*	Cold
Brown Bullhead	*Ameiurus nebulosus*	Warm
Common Shiner	*Luxilus cornutus*	Cool
Creek Chub	*Semotilus atromaculatus*	Cool
Fathead Minnow	*Pimephales promelas*	Warm
Largemouth Bass	*Micropterus nigricans*	Warm
Longnose Sucker	*Catostomus catostomus*	Cold
Northern Redbelly Dace	*Chrosomus eos*	Cool
Pumpkinseed	*Lepomis gibbosus*	Warm
Rock Bass	*Ambloplites rupestris*	Cool
White Sucker	*Catostomus commersonii*	Cool

Section 3.2.1 below summarizes channel dimensions (i.e., information pertaining to morphology, wetted width/depth, substrate etc.) and conditions observed by Burnside’s Aquatic Ecologist on June 17, 2025. Common sources of pollution that may apply to the site include the roadway (i.e., gravel road source of fine sediments and salts). A photo page that references the observations described in Section 3.2.1 is provided in Appendix A.

3.2.1 Aquatic Natural Features at the Edgerton Road Bridge

3.2.1.1 Upstream

The watercourse flows from south to north from the outlet of Brown Lake, then bending approximately 30 m upstream of the bridge inlet and flowing in an east to west direction. While it could not be observed due to property access restrictions, a dam is present

upstream of the site, serving as the outlet from Brown Lake. Flowing water could be heard loudly during the June 2025 site visit. Through a review of the available aerial imagery, Brown Lake appears to discharge through a pipe to the open channel of East Cross Creek, which could represent a barrier to upstream fish movement.

The watercourse flows in a flat morphology upstream of the bridge within the right-of-way. The wetted width and depth upstream of the bridge were measured to be 5.2 and 0.45 m deep, respectively. There is a deeper scour upstream of the bridge than downstream, which is attributed to the channel bending north, prior to flowing beneath the bridge. The substrate is primarily comprised of silts, muck with trace granular materials (granular) observed as well. Limited boulder-sized stone was observed upstream of the bridge.

The right upstream (south) bank is vegetated with cedars which overhang the surface of the watercourse and provide shading and overhead cover. The left upstream bank is vegetated with cedars as well, in addition to grasses and forbs on the steep roadside embankment. Within the south bank there are large boulders amongst the longer vegetation. The banks are stable upstream of the bridge with limited signs of erosion noted.

3.2.1.2 Downstream

Beneath the bridge, the watercourse continues to flow in a flats type of morphology, although the watercourse was deeper closer to the right upstream (west) abutment. There is a section of exposed earth within the structure adjacent to the east abutment. Substrate conditions were very similar to the upstream reach.

The watercourse flows in a south to north direction downstream of the bridge and it flows through lands characterized by manicured lawns located to the east and west, although trees are present on the west bank between the lawn and watercourse.

Downstream of the bridge the watercourse flows in a flat morphology. The wetted width and depth were measured to be 3.95 and 0.3 m respectively. The substrate is comprised of a combination of silt, sand, and cobbles. As with the upstream reach and beneath the bridge, the watercourse is deeper closer to the right upstream bank.

The banks are minorly eroded downstream of the bridge with minimal signs of erosion (i.e., scalloped banks) observed. The vegetation downstream is more sparse than upstream and provides less shading. Shrubs on the left upstream bank overhang the watercourse, as do grasses on the right upstream bank, although to a lesser extent. Some minor woody debris was observed adjacent to the right upstream (west) bank.

3.2.1.3 Fish Habitat

Fish were observed upstream, within, and downstream of the bridge. Additionally, barriers to fish habitat were not observed immediately downstream of the bridge. The watercourse is considered to be fish habitat as defined by the federal *Fisheries Act* and therefore HADD of fish habitat and the death of fish must be mitigated in the design and construction of any in-water works.

4.0 Impacts Mitigation and Monitoring Guidelines

Impacts, mitigation measures and monitoring must be considered when selecting the preferred alternative. Table 6 below provides a summary of impacts that are anticipated with bridge replacement, removal or rehabilitation (depending on extent of impact area and work zone), with guidelines for the mitigation measures and monitoring.

Table 6: Summary of Impacts, Mitigation, and Monitoring for Natural Heritage Features

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
Effects on Ecological Features and Functions			
Wildlife (General)	Temporary displacement and disturbance to wildlife and habitat during the construction phase. May include SAR and Species of Special Concern.	The footprint of the proposed disturbed area shall be minimized as much as possible. In the event an animal is encountered during construction and does not move from the construction zone, the Contract Administrator should be notified. If the construction activities are such that continuing construction in the area would result in harm to wildlife, construction activities in that location should temporarily stop and the MNR or MECP can be contacted for direction. If temporary perimeter exclusion fencing is used at a location, it should be installed to allow wildlife to leave the fenced area during vegetation clearing. Once the work area has been cleared, it can be securely fenced to prevent wildlife from returning. The excluded area should be searched immediately following fencing installation for any wildlife (including SAR) that may have become trapped. Any wildlife should be safely relocated or permitted to escape, to a suitable habitat. All works should stop immediately and MECP should be contacted if SAR is encountered within the area to ensure compliance with the Endangered Species Act (ESA). Avoid vegetation clearing during sensitive times of the year for local wildlife, such as spring and early summer (during breeding and migration seasons).	The Contractor will conduct regular monitoring of the erosion and sediment control measures to ensure they are acting as intended and are containing the work area.

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
		The new structure will allow for wildlife passage below the structure if feasible. Fencing to delineate the work zone will prevent encroachment into adjacent habitat supporting SAR and Species of Special Concern.	
Migratory Breeding Birds	Disturbance or destruction of migratory breeding bird nests / habitat may occur during construction phase (vegetation clearing)	To reduce the risk of contravening the federal Migratory Bird Convention Act, 1994 (MBCA), timing constraints shall be applied to avoid any limited vegetation clearing (including grubbing) and/or structure works (construction) during the active window for breeding birds, broadly from April 1 to August 31 for most species. Active nests (nests with eggs or young birds) of protected migratory birds, including SAR protected under the ESA, cannot be destroyed at any time of the year. If a nesting migratory bird (or SAR protected under ESA) is identified within or adjacent to the construction site (or during operations and maintenance activities) and the activities are such that continuing works in that area would result in a contravention of the MBCA or ESA, all activities should stop and the Contract Administrator (with assistance from an Avian Biologist) should discuss mitigation measures with the Town. If SAR are identified, all activities should stop and MECP should be contacted to ensure compliance with the ESA. The Contract Administrator can instruct the Contractor on how to proceed based on the mitigation measures established through discussions with the Township, the MECP and/or Environment Canada.	If construction works occur during the active window for breeding birds, an Environmental Inspector should monitor the tarped or netted structure every two to three days to ensure that no bird nests are established on the bridge (some species such as Barn Swallow or Eastern Phoebe (*Sayornis phoebe*) have been reported to attempt nesting on the exterior of the tarp material used for exclusion).

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
		To avoid contravention of the MBCA and/or ESA, the bridge structure should be completely excluded with tarping or netting material prior to the next active window for breeding birds (i.e., by end of March) if construction works are to occur during the active window for breeding birds (as noted above). Tarping or netting of the bridge ensures that breeding birds are excluded from nesting on or under the structure while the bridge is being replaced.	
SAR bat maternity-roosting habitat	Tree removals could impact wildlife	Trees that are identified as candidate bat maternal roosting habitat must be taken down outside the active bat window (active window is March 31 to October 1).	Further studies are required to confirm the extent of impacts and whether surveys are required to determine absence or presence of SAR bats.
Trees	Loss of woody vegetation and creation of new forest edges causing new growing conditions such as sun exposure and weed invasion.	A tree inventory will be completed during the detailed design to characterize and confirm required removals. Impacts will be minimized to remaining trees by implementing measures such as tree protection or ESC fencing to protect trees from grading impacts near adjacent construction. ESC measures and other specified protection measures must be installed prior to commencement of any construction or vegetation disturbance. No access, storage or stockpile of materials or equipment should occur within the area protected by the ESC and other protection measures. A replanting plan may be required to compensate for tree loss.	An Environmental Inspector should be engaged during the construction phase to review ESC and other protection measures for deficiencies. Monitoring of mitigation / compensation plantings will be associated with plant warranty inspections.

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
Vegetation	Temporary disturbance of meadow, swamp, hedgerow, marsh, forest and plantation vegetation may be required for access and construction.	Tree protection fence and ESC measures will delineate the areas of access and construction to reduce impacts extending unnecessarily into adjacent lands. Seeding of native grasses and wildflowers may be required to revegetate the disturbed areas that will be illustrated in replanting plan.	An Environmental Inspector should be engaged during the construction phase to review ESC and other protection measures for deficiencies. Monitoring of mitigation / compensation plantings will be associated with plant warranty inspections.
Fish and Fish Habitat	In-water works may be required, and the proposed works could potentially result in HADD to fish habitat and the death of fish by means other than fishing.	A qualified professional aquatic ecologist will submit a Request for Review to DFO for any bridge replacements or removals requiring in-water works. It is anticipated that a Letter of Advice will be obtained for the project based on the footprint of the structure and fish community present. During Detailed Design, correspondence shall be maintained with a qualified professional aquatic ecologist to determine appropriate mitigation measures and whether the proposal has potential to pose HADD to fish habitat and/or if the proposal has the potential to kill fish. Preferred mitigation measures include work zone isolation while maintaining flow downstream and fish salvage from the isolated work area. Efforts will be made in consultation with the DFO to mitigate should HADD to fish habitat occur. A fish salvage must occur under a License to Collect Fish for a Scientific Purpose obtained from the MNR. Near-water work and work below the annual high-water mark will adhere to the appropriate in-water work timing window to avoid potential impacts to resident and migratory fish species.	ESC monitoring during construction Fish salvage prior to the commencement of any in-water works Spill management plan to be created and measures to contain potential spills are to be on-site throughout construction

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
		Any replacement structure will need to be suitably designed to not negatively impact fish passage (i.e., lower velocities to a point fish cannot swim through it during a two-year storm event).	
Groundwater	Potential for localized groundwater quality impacts as a result of spills. Temporary dewatering in the work area.	Refueling of equipment and fuel storage shall be conducted in designated areas, at least 30 m away from the watercourses and any existing wells, with spill protection provided. The work area shall be dewatered as per recognized provincial standards and pumped into acceptable dewatering traps. These dewatering traps will be placed away from the watercourse to allow for infiltration prior to discharging to the watercourse.	ESC monitoring throughout construction Spill management plan to be created and measures to contain potential spills are to be on-site throughout construction
Surface Water / Hydrology / Stormwater	Potential for sediments to enter the water course due to stockpiling, excavation, and construction. Potential for localized water quality impacts in the case of spills. Potential for invasive species to enter the environment	The footprint of the disturbed area shall be minimized as much as possible, for example, vegetated buffers / setbacks will remain untouched adjacent to the watercourse, wherever possible. An ESC Plan shall be developed during the detailed design phase of the project, prior to construction. Implementation of the erosion and sediment control measures shall conform to recognized standard specifications, such as Ontario Provincial Standards Specification (OPSS), and the requirements of KRCA. A permit from the KRCA under the Prohibited Activities, Exemptions and Permits Regulation (Ontario Regulation 41/24) will be required prior to conducting the proposed works as work is proposed within a flood Regulated Area.	Monitoring of surface water quality will be completed along with regular ESC monitoring as outlined above Spill management plan to be created and measures to contain potential spills are to be on-site throughout construction

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
		In-water operation of heavy equipment shall be prevented, as well as minimizing the operation of any equipment on the banks of the watercourse. Stockpiled material will be stored and stabilized a minimum of 30 m from the watercourse. All materials and equipment used for the purpose of site preparation and project completion will be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the water. ESC measures (silt curtains, silt fence, rock check dams, etc.) shall be installed and maintained during the work phase, until the site has been stabilized. ESC measures will be inspected daily to ensure they are functioning and maintained as required. If ESC measures are not functioning properly, no further work will occur until the problem is resolved. Temporary mitigation measures shall be installed prior to the commencement of any clearing, grubbing, excavation, filling, or grading works and must be maintained on a regular basis, prior to, and after precipitation events. Water quality impacts related to surface water runoff shall be mitigated to avoid downstream impacts by controlling surface water run off within the boundaries of the site. All disturbed areas of the work site shall be stabilized immediately and revegetated as soon as conditions allow.	

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
		All equipment fueling and maintenance shall be done at least 30 m from the watercourse to ensure that no deleterious substances enter the waterway. The Contractor shall be required to develop Spill Prevention and Contingency Plans for construction and operational phases of the project. Personnel will be trained in how to apply the Plans, and the Plans will be reviewed to strengthen their effectiveness and ensure continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A hydrocarbon spill response kit will be on site at all times during the work. Spills will be reported to the Ontario Spills Action Center at 1-800-268-6060. All equipment and personal protective equipment must arrive on-site clean to prevent the potential transfer of invasive species (i.e., phragmites) to the local environment.	

5.0 Future Commitments

The following future commitments are recommended to be addressed following the selection of the preferred alternative, as detailed design is being carried out.

- A review of proposed grading areas of the site for SAR wildlife habitats such as bat roost trees and snake hibernacula should be completed.
- Agency permits, licenses and approvals should be determined that are required to carry out the work, including a KRCA permit to do work in regulated areas, Letter of Advice from the Department of Fisheries and Oceans, and a License to Collect Fish for a Scientific Purpose from the Ministry of Natural Resources.
- A tree inventory will be completed to determine and characterize required removals.
- An edge management plan and restoration plan should be prepared during the detailed design to ensure the ecological integrity and function of Significant Woodlands is maintained. Site-appropriate native plant species loss should be minimized where possible, and a re-vegetation plan using native species and seed mix should be created.
- If any Provincial SAR are identified during the tree inventory and/or associated detailed design studies, potential impacts will be mitigated to the extent possible and the MECP will be consulted with as needed to determine next steps and permitting requirements.
- Near-bank cover plantings along the watercourse shall be included in the re-planting landscaping plan where possible, while considering the required offset of plantings from structures.
- An Erosion and Sediment Control (ESC) Plan shall be developed during the detailed design phase of the project in consultation with KRCA and will conform to industry best management practices and recognized standard specifications such as Ontario Provincial Standards Specification (OPSS).
- Further investigations should be undertaken to ensure the proposed alternatives will not impact potential erosion hazards that may be present due to riverine slopes and/or the meander belt of the creek. The requirement for engineering assessments such as geotechnical or fluvial geomorphology should be confirmed with KRCA at the detailed design stage.
- The geometry and alignment of structures should be reviewed during the detailed design stage.
- All bridge and SWM-related components of the projected shall be designed with consideration for increased precipitation due to climate change.
- Where erosion protection, channel regrading / stabilization or earth retaining structures are determined to be required, the use of “softer” means of protection shall be preferred over the use of hard surfaces unless it is unfeasible to do so.

- The required ESC measures shall be determined during detailed design to limit sediment migration and protect receiving watercourses. All disturbed areas of the construction site shall be stabilized and re-vegetated as soon as conditions allow.
- All Indigenous communities previously engaged shall be contacted, if there are any substantial changes to the project / process or if the Owner applies for subsequent permits from the Ministry (MECP) that may be of interest or concern to communities.

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Figures



120m Study Area



Sources:

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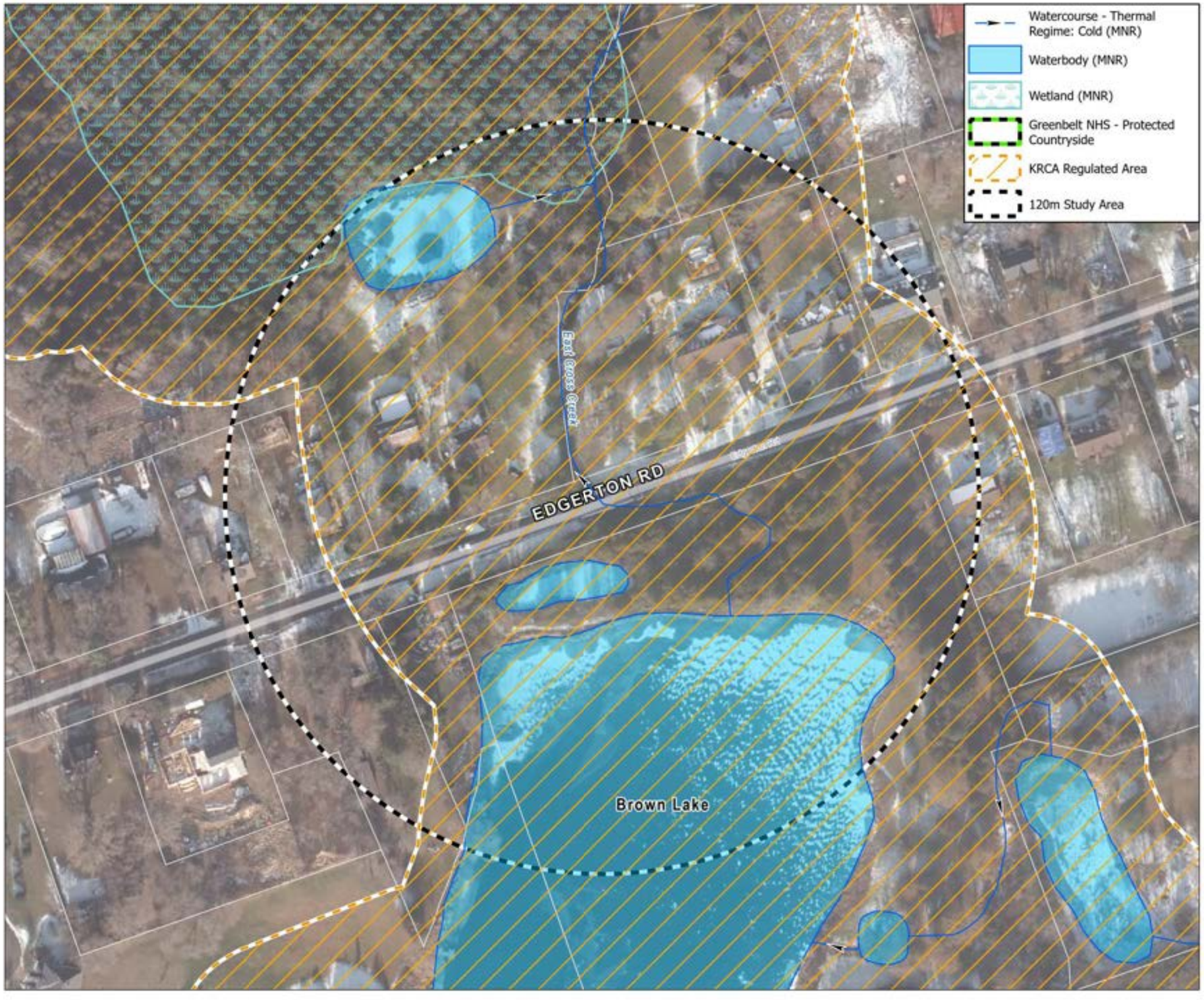
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Figure Title

SCUGOG EDGERTON ROAD BRIDGE REPLACEMENT
NATURAL HERITAGE REPORT
STUDY AREA

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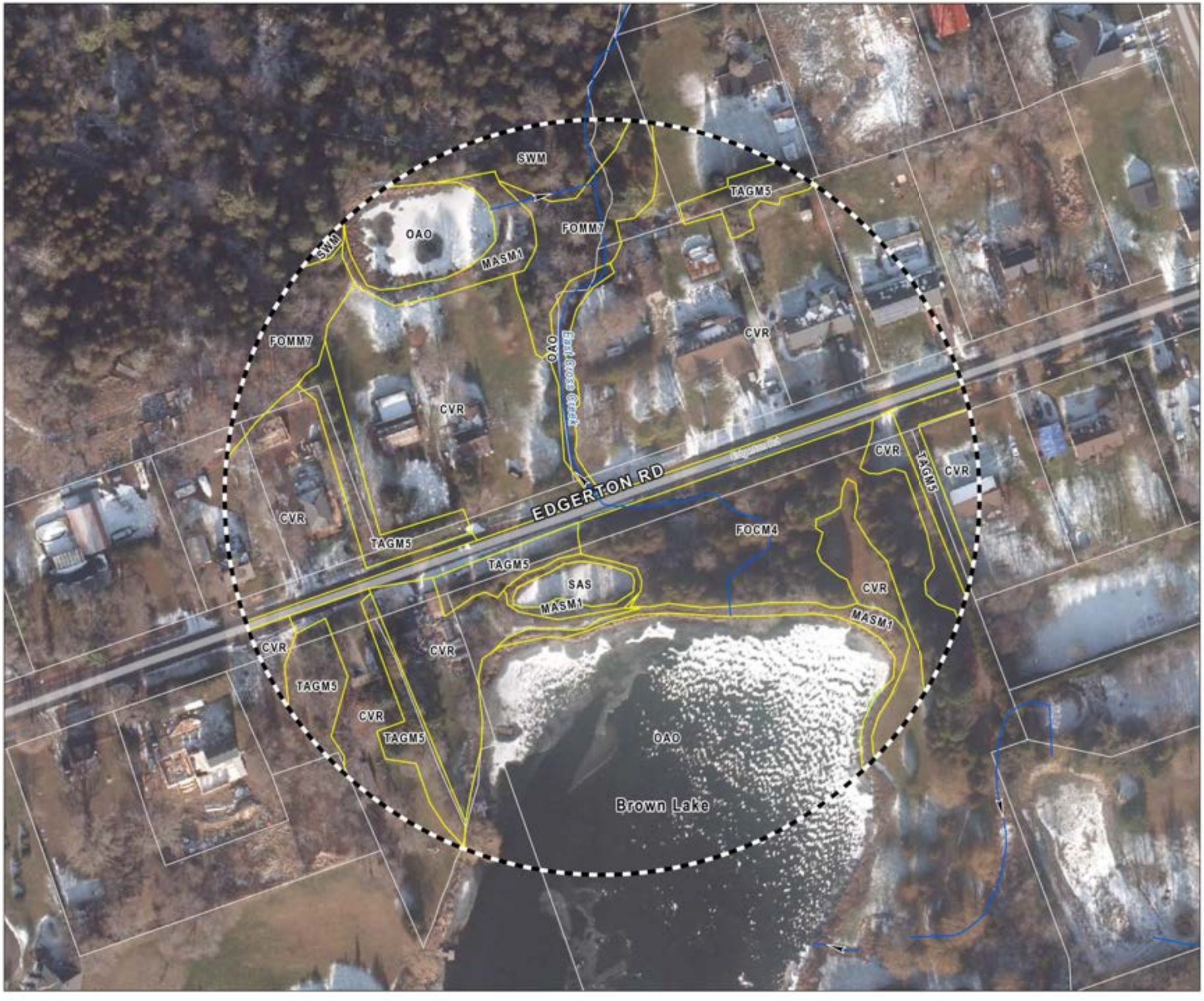
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TOWNSHIP OF SCUGOG

Figure Title
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NATURAL HERITAGE REPORT
POLICY CONSTRAINTS

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Watercourse - Thermal
Regime: Cold (MNR)

Ecological Land Classification

120m Study Area

ELC Descriptions
CVR: Residential
FOCM4: Fresh - Moist White Cedar Coniferous Forest
FOMM7: Fresh - Moist White Cedar - Hardwood Mixed Forest
MASM1: Graminoid Mineral Shallow Marsh
OAO: Open Aquatic
SAS: Submerged Shallow Aquatic
SWM: Mixed Swamp
TAGM5: Fencerow

Sources:

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TOWNSHIP OF SCUGOG

Figure Title
SCUGOG EDGERTON ROAD BRIDGE REPLACEMENT
NATURAL HERITAGE REPORT
ECOLOGICAL LAND CLASSIFICATION

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Appendix A

Photo Log



Photo 1. Riparian condition on the east side of the watercourse downstream of the bridge crossing. The private landowner has mown all the way to the edge of the watercourse. Open grown trees provide cover.



Photo 2. Edgerton Road and the Right of Way east of the crossing.



Photo 3. Representative photo of the FOCM4 community immediately south of the crossing.



Photo 4. Representative photo of the FOCM4 community immediately south of the crossing.



Photo 5. Representative photo of open grown trees and hedgerows on the residential properties.



Photo 6. The OAO and MASM1 community are visible in the background of this photo.



Photo 7. Facing south, the reach upstream of the bridge.



Photo 8. Facing south, the reach of the watercourse upstream of the bridge.



Photo 9. Facing south, the reach through the bridge.



Photo 10. Facing north, the reach downstream of the bridge.



Photo 11. Facing north, the lands northeast of the bridge.

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Appendix B

Significant Wildlife Habitat Screening

Significant Wildlife Habitat Screening – Ecoregion 6E Criteria (2015)

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Table 1.1: Seasonal Concentration Areas of Animals					
Waterfowl Stopover & Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these ecosites.	Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects. • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100300 m radius area, dependent on local site conditions and adjacent land use is the SWH. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • **SWHMiST Index #7** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Waterfowl Stopover & Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and SWM ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead	**Studies carried out & verified presence of:** • Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the Ecological Land Classification (ELC) ecosites and a 100 m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are SWH. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • **SWHMiST Index #7** provides development effects and mitigation measures.	Candidate SWH. Brown Lake is within the adjacent lands and may meet habitat criteria. As this feature is not publicly accessible, it cannot be confirmed if submerged communities are present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
			Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck		
Shorebird Migratory Stopover Area **Rationale**: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and unvegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	**Studies confirming:** • Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (<24 hrs.) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100 m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #8** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Raptor Wintering Area **Rationale**: Sites used by multiple species, a high number of individuals and used annually are most significant.	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering sites (hawk/owl) need to be **>** 20 ha, with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting.	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:** Short-eared Owl Bald Eagle	**Studies confirm the use of these habitats by:** • One or more Short-eared Owls or; One or more Bald Eagle or; At least 10 individuals and two of the listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects."	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. Target species were absent from both background data sources.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
	Upland: CUM; CUT; CUS; CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).			• **SWHMiST Index #10 and #11** provides development effects and mitigation measures.	
Bat Hibernacula **Rationale:** Bat hibernacula are rare habitats in all Ontario landscapes.	**Bat Hibernacula may be found in these ecosites:** CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH. • The locations of bat hibernacula are relatively poorly known.	Big Brown Bat Tri-coloured Bat	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms. • Studies are to be conducted during the peak swarming period (August to September). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #1** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The ecosites are not present and the habitat criteria for Significant Wildlife Habitat is not present.
Bat Maternity Colonies **Rationale:**	Maternity colonies considered SWH are found in	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).	Big Brown Bat Silver-haired Bat	• Maternity Colonies with confirmed use by: – >10 Big Brown Bats – >5 Adult Female Silver- haired Bats	Candidate SWH in association with the FOMM7 and SWM communities north of Edgerton Road, well beyond the structure.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	forested ecosites. **All ELC ecosites in ELC Community Series:** FOD FOM SWD SWM	• Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25 cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.		• The area of the habitat includes the entire woodland, or a forest stand ELC ecosite or an ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #12 provides development effects and mitigation measures.	Bat maternity habitat surveys and acoustic monitoring have not been carried out to confirm the defining criteria.
Turtle Wintering Areas **Rationale:** Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Snapping and Midland Painted Turtles. **ELC Community Classes:** SW, MA, OA and SA **ELC Community Series:** FEO and BOO For Northern Map Turtle: Open water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.	Midland Painted Turtle **Special Concern:** Northern Map Turtle Snapping Turtle	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (September–October) or spring (March–May). • Congregation of turtles is more common where wintering areas are limited and therefore significant. • **SWHMiST Index #28** provides development effects and mitigation measures for turtle wintering habitat.	Candidate SWH. May be potential for Significant Wildlife Habitat in Brown Lake. Surveys to confirm the presence / absence of this feature are absent.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Reptile Hibernaculum **Rationale:** Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and ecosites: FOC1 and FOC3.	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock groundcover. • Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **Special Concern:** Milksnake Eastern Ribbonsnake **Lizard: Special Concern:** (Southern Shield population): Five-lined Skink	**Studies confirming:** • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g., foundation or rocky slope) on sunny warm days in Spring (April/May) and Fall (September/October). • **Note**: If there are Special Concern Species present, then site is SWH. • **Note:** Sites for hibernation possess specific habitat parameters (e.g., temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e., strong hibernation site fidelity). Other critical life processes (e.g., mating) often take place near hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • **SWHMiST Index #13** provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for Skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined Skink wintering habitat.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Colonially - Nesting Bird Breeding Habitat (Bank & Cliff) **Rationale:** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. **Habitat found in the following ecosites:** CUM1 CUT1 CUS1 BLO1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	**Studies confirming:** • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #4** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
population are declining in Ontario.	BLS1 BLT1 CLO1 CLS1 CLT1				
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	**Studies confirming:** • Presence of 2 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300 m radius or extent of the Forest ecosite containing the colony or any island <15.0 ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. • **SWHMiST Index #5** provides development effects and mitigation measures.	Candidate SWH. Potential Significant Wildlife Habitat in association with the SWM community. The presence of heroneries is unlikely along the northern shore of Brown Lake and in the wetland at the northern edge of the Study Area due to the extent of anthropogenic activity in the area in proximity of Edgerton Road.
Colonially - Nesting Bird Breeding Habitat (Ground) **Rationale;** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). MAM1 – 6 MAS1 – 3 CUM	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	**Studies confirming:** • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150 m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0 ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #6** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
	CUT CUS				
Migratory Butterfly Stopover Areas **Rationale:** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Combination of ELC Community Series; need to have present one Community Series from each land class. <u>Field</u>: CUM CUT CUS <u>Forest</u>: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	• A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Erie or Ontario. • The habitat is typically a combination of field and forest and provides the butterflies with a location to rest prior to their long migration south. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	**Studies confirm:** • The presence of Monarch Use Days (MUD) during fall migration (August/October). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • **SWHMiST Index #16** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The subject lands are greater than 5 km from Lake Ontario.
Landbird Migratory Stopover Areas **Rationale:** Sites with a high diversity of species as well as high numbers are most significant.	**All ecosites associated with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Woodlots >10 ha in size and within 5 km of Lake Ontario. • If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat. • If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant. • Woodlots and forest fragments are important habitats to migrating birds, these features located along the	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: *Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997.* Schedule 7: Specially Protected Birds (Raptors)	**Studies confirm:** • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (April/May) and fall (August/October) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #9** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The subject lands are greater than 5 km from Lake Ontario.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
		shore and located within 5 km of Lake Ontario are Candidate SWH.			
Deer Yarding Areas **<u>Rationale:</u>** Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	**Note:** MNRF to determine this habitat. **ELC Community Series** providing a thermal cover component for a deer yard would include: FOM FOC SWM SWC **Or these ELC ecosites:** CUP2 CUP3 FOD3 CUT	• Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • MNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual". • Woodlots with high densities of deer due to artificial feeding are not significant.	White-tailed Deer	**No Studies Required:** • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40 cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by MNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by MNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures.	Confirmed absent. No deer yarding areas were identified by the MNR.
Deer Winter Congregation Areas **Rationale:** Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer	**All Forested ecosites with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Woodlots will typically be >100 ha in size. Woodlots <100 ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha.	White-tailed Deer	**Studies confirm:** • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white- tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (January/February) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey.	Confirmed absent. No deer yarding areas were identified by the MNR.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.	Conifer plantations much smaller than 50 ha may also be used.	• Woodlots with high densities of deer due to artificial feeding are not significant.		• If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • **SWHMiST Index #2** provides development effects and mitigation measures.	
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	**Any ELC ecosite within Community Series:** TAO CLO TAS CLS TAT CLT	• A Cliff is vertical to near vertical bedrock >3 m in height. • A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.		• Most cliff and talus slopes occur along the Niagara Escarpment. • Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. • **SWHMiST Index #21** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The ecosites and habitat criteria for Significant Wildlife Habitat is not present. Subject lands are not in the Niagara Escarpment.
Sand Barren **Rationale;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry.	**ELC ecosites:** SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	• Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.		• A sand barren area >0.5 ha in size. • Confirm any ELC Vegetation Type for Sand Barrens. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #20** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The ecosites and habitat criteria for Significant Wildlife Habitat is not present.
Alvar **Rationale;** Alvars are extremely rare	ALO1 ALS1 ALT1 FOC1	• An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought.		**Field studies that identify:** • An Alvar site > 0.5 ha in size.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
habitats in Ecoregion 6E.	FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** *Carex crawei* *Panicum philadelphicum* *Eleocharis compressa* *Scutellaria parvula* *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E.	Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. • Alvar is particularly rare in Ecoregion 6E where the only known sites are found in the western islands of Lake Erie.		• Four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • **SWHMiST Index #17** provides development effects and mitigation measures.	Subject lands are not in the western islands of Lake Erie.
Old Growth Forest **Rationale;** Due to historic logging practices and land clearance for agriculture, old growth forest is rare in the Ecoregion 6E.	**Forest Community Series:** FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.		**Field Studies will determine:** • If dominant trees species are >140 years old, then the area containing these trees is SWH. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • **SWHMiST Index #23** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The forested and swamp communities present within the Study Area do not represent old growth forest communities.
Savannah	TPS1 TPS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%.		**Field studies confirm:**	No potential on the subject lands or adjacent lands. The ecosites and habitat

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Rationale: Savannahs are extremely rare habitats in Ontario.	TPW1 TPW2 CUS2			• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. • One or more of the Savannah indicator species listed in Appendix N should be present. **Note**: Savannah plant spp. list from Ecoregion 6E should be used. • Area of the ELC ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #18** provides development effects and mitigation measures.	criteria for Significant Wildlife Habitat is not present.
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway Right of Ways (ROW) are not considered to be SWH. • A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.		**Field studies confirm:** • One or more of the Prairie indicator species listed in Appendix N should be present. **Note:** Prairie plant spp. list from Ecoregion 6E should be used. • Area of the ELC ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #19** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The ecosites and habitat criteria for Significant Wildlife Habitat is not present.
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare species which depend on the habitat for survival.	• Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. • Any ELC ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.		• ELC ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. • The MNRF/Natural Heritage Information Centre (NHIC) will have up to date listing for rare vegetation communities. **Field studies should confirm:** • If an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH. • **SWHMiST Index #37** provides development effects and mitigation measures.	No potential on the subject or adjacent lands. No rare vegetation communities were identified during ELC field surveys.
Waterfowl Nesting Area	**All upland habitats located adjacent to these wetland**	• A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of	American Black Duck Northern Pintail Northern Shoveler	**Studies confirmed:**	No potential on the subject or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. Sufficiently large wetland communities

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	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Rationale; Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	**ELC ecosites are Candidate SWH:** MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands (PSW).	each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites.	Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	• Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • **SWHMiST Index #25** provides development effects and mitigation measures.	that meet the defining criteria are absent.
Bald Eagle & Osprey Nesting, Foraging & Perching Habitat **Rationale;** Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	**ELC Forest Community Series:** FOD FOM FOC SWD SWM and SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	• Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top of a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).	Osprey **Special Concern** Bald Eagle	**Studies confirm the use of these nests by**: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400800 m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for >3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid-March to mid-August.	Candidate SWH. Potential on the adjacent lands along the northern shore of Brown Lake in association with the FOCM4 community as well as the FOMM8 and SWM communities. However, neither Bald Eagle nor Osprey were recorded during field surveys.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
				• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #26** provides development effects and mitigation measures.	
Woodland Raptor Nesting Habitat **Rationale:** Nests sites for these species are rarely identified; these are area sensitive habitats and are often used annually by these species.	May be found in all forested ELC ecosites. **May also be found in:** SWC SWM SWD and CUP3	• All natural or conifer plantation woodland/forest stands >30 ha with >10ha of interior habitat. Interior habitat determined with a 200 m buffer. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	**Studies confirm:** • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200 m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk– A 100 m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50 m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • **SWHMiST Index #27** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. Size of contiguous forest does not meet the criteria for Significant Wildlife Habitat.
Turtle Nesting Areas **Rationale;** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	**Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC ecosites:** MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.	Midland Painted Turtle <u>Special Concern Species:</u> Northern Map Turtle Snapping Turtle	**Studies confirm:** • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100 m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • **SWHMiST Index #28** provides development effects and mitigation measures for turtle nesting habitat.	No potential on the subject or adjacent lands. Based on Burnside's review of air photos, the northern shore of Brown Lake lacks beach areas; the habitat criteria for Significant Wildlife Habitat is not present.

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	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Seeps and Springs **Rationale:** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Seeps/Springs are areas where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested ecosite within the headwater areas of a stream could have seeps/springs.	• Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	**Field Studies confirm:** • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. • **SWHMiST Index #30** provides development effects and mitigation measures.	Candidate SWH. May be supported in association with the FOMM7, FOCM4, and SWM communities.
Amphibian Breeding Habitat (Woodland) **Rationale:** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	All ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Presence of a wetland, pond or woodland pool (including vernal pools) >500 m^2 (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	**Studies confirm:** • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230 m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • **SWHMiST Index #14** provides development effects and mitigation measures.	Candidate SWH. Candidate habitat is present at the northern limits of the study area in association with the OAO/MASM1 inclusion of the SWM community as well as the SAS/MASM1 inclusion of the FOCM4 community.
Amphibian Breeding Habitat (Wetlands)	**ELC Community Classes:**	• Wetlands >500 m^2 (about 25 m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF	Eastern Newt American Toad Spotted Salamander	**Studies confirm:**	Candidate SWH.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Rationale; Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	SW MA FE BO OA and SA. Typically, these wetland ecosites will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g., Bull Frog) may be adjacent to woodlands.	mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation.	Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • **SWHMiST Index #15** provides development effects and mitigation measures.	May be supported in association with the MAS / OAO communities that comprise the northern shoreline of Brown Lake.
Woodland Area-Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	**All ecosites associated with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs. old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren **Special Concern:** Cerulean Warbler Canada Warbler	**Studies confirm:** • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • **Note**: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #34** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. Although ecosite codes are present, the size criterion for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Marsh Breeding Bird Habitat **Rationale;** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 **For Green Heron:** All SW, MA and CUM1 sites	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	**Studies confirm:** • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes breeding by any combination of 5 or more of the listed species. • **Note**: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #35** provides development effects and mitigation measures.	Candidate SWH. Suitable habitat may be supported within the MAS community along the shoreline of Brown Lake. Breeding bird surveys were not included within the scope of investigations to confirm the presence / absence of this feature. The marsh inclusions are unlikely to be sufficiently large to support this feature.
Open Country Bird Breeding Habitat **Rationale;** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	**Field Studies confirm:** • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #32** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands as the habitat criteria for Significant Wildlife is not present.
Shrub/Early Successional Bird Breeding Habitat	CUT1 CUT2 CUS1 CUS2	• Large field areas succeeding to shrub and thicket habitats >10 ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for	**Indicator Spp:** Brown Thrasher Clay-coloured Sparrow	**Field Studies confirm:** • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species.	No potential on the subject lands or adjacent lands as the habitat criteria for Significant Wildlife is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Rationale; This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.	**Common Spp.** Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	• A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST cxlix Index #33** provides development effects and mitigation measures.	
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	• Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for Terrestrial Crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. –	Chimney or Digger Crayfish (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish (*Cambarus diogenes*)	**Studies Confirm:** • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. **Note** the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • **SWHMiST Index #36** provides development effects and mitigation measures.	Candidate habitat is present along the northern shore of Brown Lake, along the OHN watercourse on privately owned lands, and the SWM community. Crayfish Chimneys were not observed within the ROW of areas immediately adjacent.
Special Concern and Rare Wildlife Species **Rationale:**	All plant and animal Element Occurrences (EO) within a 1 or 10 km grid.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC ecosites.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the NHIC.	**Studies Confirm:** • Assessment/inventory of the site for the identified Special Concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.	Candidate habitat may be present to support the following: • Canada Warbler (SC) • Eastern Wood-pewee (SC) • Wood Thrush (SC) • Snapping Turtle (SC)

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
These species are quite rare or have experienced significant population declines in Ontario.	Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.			• The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g., specific nesting habitat or foraging habitat. • **SWHMiST Index #37** provides development effects and mitigation measures.	
Amphibian Movement Corridors **Rationale;** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	• Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat–Wetland) of this Schedule.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15 m of vegetation on both sides of waterway or be up to 200 m wide of woodland habitat and with gaps <20 m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • **SWHMiST Index #40** provides development effects and mitigation measures.	Candidate SWH Potential on the subject and adjacent lands within the FOC4 community, FOMM7, SWM, along the OHN watercourse flowing under Edgerton Road, and along the shoreline of Brown Lake.
Deer Movement Corridors **Rationale:** Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. • A deer wintering habitat identified by the MNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).	White-tailed Deer	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200 m wide with gaps <20 m and if following riparian area with at least 15 m of vegetation on both sides of waterway. • Shorter corridors are more significant than longer corridors, SWHMiST Index #39 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
6E-14 **Mast Producing Areas** **Rationale:** The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bear.	**All Forested habitat represented by ELC Community Series**: FOM FOD	• Woodland ecosites >30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). • Black bears require forested habitat that provides cover, winter hibernation sites, and mast- producing tree species. Forested habitats need to be large enough to provide cover and protection for black bears.	Black Bear	**All woodlands >30 ha with a 50% composition of these ELC Vegetation Types are considered significant:** FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. Size criterion for woodland ecosites is not met.
6E- 17 **Lek** **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Ecoregion 6E, Leks are an important habitat to maintain their /*population.	CUM CUS CUT	• The Lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. • Leks are typically a grassy field/meadow >15 ha with adjacent shrublands and >30 ha with adjacent deciduous woodland. Conifer trees within 500 m are not tolerated. • Grasslands (field/meadow) are to be >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous woodland. • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying). • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting.	Sharp-tailed Grouse	• Studies confirming Lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant. • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the Lek habitat. • SWHMiST cxlix Index #32 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Table 1.5.1: Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 7E					
7E-2 - Bat Migratory Stopover Area **Rationale:**	No specific ELC types	• Long distance migratory bags typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. • This is the only known bat migratory stopover habitats based on current information.		• Long Point (42°35'N, 80° 30'E, to 42°33'N, 80°03'E) has been identified as a significant stop-over habitat for fall migrating Silver-haired Bats, due to significant increases in abundance, activity and feeding that was documented during fall migration.	No potential on the subject lands or adjacent lands. The study area is not located near Long Point.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?
Stopover areas for long distance migrant bats are important during fall migration.				• The confirmantion criteria and habitat areas for this SWH are still being determined. • **SWH MIST Index #38** provides development effects and mitigation measures.	

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Appendix B

Evaluation of Alternatives

Evaluation Matrix B1

Cost Estimates B2

Appendix B
B1 - Alternative Solutions Evaluation Matrix

Scugog Edgerton Road Bridge

	Criteria for Evaluating Alternatives	Indicators	1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
A	**Natural Environment**					
1	**Potential to Impact Vegetation / Trees**	Removal of existing trees and vegetation.	No new impacts to vegetation / trees compared to existing conditions.	Moderate impacts to vegetation / trees with removal of bridge and abutments and construction of turnarounds. Grading impacts into natural vegetation communities located within the ROW.	Minor impacts to vegetation / trees with grading impacts into natural vegetation communities located within the ROW.	Moderate impacts to vegetation / trees compared to existing conditions. Moderate loss of vegetation with wider area of disturbance. Grading impacts into natural vegetation communities located within the ROW.
	Rating		○	◑	◔	◑
2	**Potential to Impact Designated Natural Features**	Disturbance to significant woodlands and wetlands. Disturbance to Key Natural Heritage Features, ANSI, PSW, Greenbelt Natural Heritage System	No new impacts to designated natural features.	Some impacts to unclassified watercourse within Greenbelt Natural Heritage System with removal of abutments and in-water work. Construction is located wtihin the existing ROW in a Residential Cluster settlement area. Construction within the regulated area of the Conservation Authority.	No impacts to designated natural features anticipated. Construction within the regulated area of the Conservation Authority.	Some impacts to unclassified watercourse within Greenbelt Natural Heritage System with removal of existing abutments and in-water work. Construction within the regulated area of the Conservation Authority.
	Rating		○	◑	◔	◑
3	**Potential Impact to Terrestrial Habitat (breeding birds, general wildlife, habitat connectivity)**	Direct or Indirect effect on wildlife, Species of Special Concern Impact to habitat, Significant Wildlife Habitat Changes to habitat connectivity.	No new impacts to terrestrial habitat.	Minimal impacts to terrestrial habitat are anticipated as construction works would be within the ROW. Potential for minor grading impacts to fencerow (TAGM5) within the ROW.	Minimal impacts to terrestrial habitat are anticipated as the existing bridge footprint would largely be maintained and construction works would be within the ROW. Potential for minor grading impacts to fencerow (TAGM5).	Minimal impacts to terrestrial habitat are anticipated as construction works would be within the ROW. Potential for minor grading impacts to fencerow (TAGM5) within the ROW.
	Rating		○	◔	◔	◔
4	**Potential Impact to Fisheries / Aquatic Habitat**	Change or removal of existing habitat	No direct impacts to fish / aquatic habitat anticipated above existing conditions	Potential for direct impacts to fish habitat with removal of abutments and in-water work. The watercourse channel would be naturalized and returned to free-flowing conditions.	No direct impacts to fish / aquatic habitat anticipated above existing conditions.	Potential for direct impacts to fish habitat with removal of abutments and in-water work. Larger span bridge has the potential to reduce indirect impacts of scour and erosion, improve flow and aquatic habitat.
	Rating		○	◔	○	◔
5	**Potential Impact to Species at Risk**	Direct and indirect effect on Threatened and Endangered Species at Risk and associated habitat	No new impacts to Species at Risk anticipated.	Impacts to Species at Risk not anticipated. Construction works within the ROW during appropriate seasonal timing windows.	Impacts to Species at Risk not anticipated. Construction works within the ROW during appropriate seasonal timig windows.	Impacts to Species at Risk anticipated. Construction works within the ROW during appropriate seasonal timig windows..
	Rating		○	○	○	○
6	**Groundwater Resources and Drainage Features**	Decreased / increased infiltration. Effects on floodplains. Disruption of natural drainage. Sedimentation to watercourses Impact to aquifers and groundwater Fluvial geomorphological impacts.	No new impacts over existing conditions.	Potential for sediments to enter the watercourse due to construction activities. Potential for localized water quality impacts in the case of spills. Appropriate ESC and spill contengency measures required. No impacts to groundwater anticipated.	Potential for sediments to enter the watercourse due to construction activities. Potential for localized water quality impacts in the case of spills.Appropriate ESC and spill contengency measures required. No impacts to groundwater anticipated.	Potential for sediments to enter the watercourse due to construction activities. Potential for localized water quality impacts in the case of spills.Appropriate ESC and spill contengency measures required. No impacts to groundwater anticipated.
	Rating		○	◔	◔	◔
7	**Impact on Climate Change (potential for greenhouse gas emissions, impact to carbon sinks, resilience or vulnerability)**	Impact to carbon sinks (impact to wetland / vegetation removal). Potential for greenhouse gas emissions. Resilience or vulnerability. Change in air quality.	Vegetation maintenance is not anticipated to signficiantly impact availbility of carbon sinks. Existing issues like erosion and scour along the road embankment and abutment may continue and / or worsen with increased frequency of storm events.Vulnerable to potential increased flood conditions during periods of very high flow (Regional Storm), overtopping the roadway.	Vegetation maintenance and clearing is not anticipated to significantly impact the availability of carbon sinks. Removal of bridge would allow for improved conveyance capacity during periods of high flow. Potential for greenhouse gas emissions during construction activities to be minimized with appropriate pollution controls. Increased emissions from vehicles that will have to detour around the removed bridge.	Vegetation maintenance and clearing is not anticipated to significantly impact the availability of carbon sinks. Existing issues like erosion and scour along the road embankment and abutment may continue and / or worsen with increased frequency of storm events. Vertical profile of the existing bridge is vulnerable to potential flood conditions during periods of very high flow (Regional Storm). Potential for greenhouse gas emissions during construction activities to be minimized with appropriate pollution controls.	Vegetation maintenance and clearing is not anticipated to significantly impact the availability of carbon sinks. Existing issues like erosion and scour along the road embankment and abutment will be improved. Vertical profile of the new bridge would allow for improved conveyance capacity and resilience to potential flood conditions during periods of very high flow (Regional Storm). Potential for greenhouse gas emissions during construction activities to be minimized with appropriate pollution controls.
	Rating		◑	◑	◑	◔
	Summary Natural Environment		○	◑	◔	◑

	Criteria for Evaluating Alternatives	Indicators	1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
B	**Socio-Cultural Environment**					
1	**Conformity to Municipal Policies (Official Plan, transportation planning)**	Conforms to Official Plan, transportation planning	Existing bridge does not conform to municipal minimum standards for width of local residential road or load capacity	Does not conform to transportation planning to establish an integrated system, as it removes connectivity of Edgerton Road and separates the community of Cadmus.	Conforms to Official Plan, transportation planning with demonstrated need for infrastructure based on traffic volume warrants and to facilitate access to individual properties.	Conforms to Official Plan, transportation planning with demonstrated need for infrastructure based on traffic volume warrants and to facilitate access to individual properties.
	Rating		●	●	○	○
2	**Conformity to Agency Policy**	Conforms to federal, provincial and local agency policy e.g. Conservation Authority,	No impact over existing conditions.	The study area is located within the Kawartha Region Conservation Authority (KRCA) Regulated Area, and the project will require a permit under O.Reg. 41/24 prior to construction. Permitting and consultation with KRCA will be required during detaile design.	The study area is located within the Kawartha Region Conservation Authority (KRCA) Regulated Area, and the project will likely require a permit under O.Reg. 41/24 prior to construction. Permitting and consultation with KRCA will be required during detailed design.	The study area is located within the Kawartha Region Conservation Authority (KRCA) Regulated Area, and the project will likely require a permit under O.Reg. 41/24 prior to construction. Permitting and consultation with KRCA will be required during detailed design.
	Rating		○	◑	◑	◑
3	**Access to Adjacent Properties**	impacts to driveway access	No impacts over existing conditions. Load restrictions on the bridge continue to apply	Temporary changes to driveway access during construction. Potential for longer travel route to access adjacent properties with permanent bridge closure. Turnaround areas would be constructed beyond the last driveway on the bridge.	Temporary changes to driveway access with road closure during construction. Rehabilitated bridge would provide access to local properties. Load restrictions continue to apply.	Temporary changes to driveway access with road closure during construction. The new bridge would provide access to local properties with no load restrictions.
	Rating		◔	◕	◑	◔
4	**Access for Emergency Service Vehicles**	Accomodates heavy emergency vehicles (loading, width)	The bridge accommodates heavy emergency vehicles, but is load restricted based on its current physical condition and the load limit may be further reduced if the bridge continues to deteriorate.	Removal of the bridge would require alternate routes for emergency vehicles going to / from Cadmus that may result in circuitous travel	The bridge would accommodate heavy emergency vehicles, but load restrictions would not improve with rehabilitation of the bridge The bridge would remain deficient with regards to driving platform width.	A new two lane bridge would accommodate heavy emergency vehicles and not have load restrictions. The bridge and approach roadway would be widened to accomodate two-way traffic.
	Rating		◕	●	◕	○
5	**Potential Impact to Cultural Heritage Features**	Potential impact to built heritage, cultural heritage landscape features	No impacts over existing conditions. The heritage value of the structure would be maintained until the structure reaches the end of its service life (5 years).	Heritage attributes of the bridge would be removed with the bridge.	No impacts over existing conditions. Under this option the heritage attributes of the original barriers would be preserved.	Minor impacts over existing conditions. To maintain the heritage attributes of the existing bridge, the new barriers can be designed to match the aesthetics and 'art deco' style of the existing bridge barriers.
	Rating		○	●	○	◑
6	**Potential Impact to Archaeological Resources**	Potential impact to archaeological resources	No impacts over existing conditions.	No impacts over existing conditions. No archaeological potential identified.	No impacts over existing conditions. No archaeological potential identified.	No impacts over existing conditions. No archaeological potential identified.
	Rating		○	○	○	○
7	**Nuisance Impacts**	Perceivable changes to existing noise levels. Visual impacts / aesthetics. Temporary disruption to residents during construction.	No impacts over existing conditions.	Temporary disruption to residents during removal works. Longer term impacts with altered travel routes.	Temporary disruption to residents during construction.	Temporary disruption to residents during construction.
	Rating		○	◑	◔	◔
8	**Municipal Services**	Disruption to municipal services, accommodates winter maintenance and snow removal / storage, waste pick up	No impacts to existing services.	Minor disruption for municipal services during construction. Snow removal and waste pickup would require accomodation by construction of turnaround areas.	Minor disruption for municipal services during construction.	Minor disruption for municipal services during construction.
	Rating		○	◔	◔	◔
9	**Active Transportation Connectivity**	Pedestrian / Cyclist Safety Facilitates connectivity of transit and / or active transportation (e.g. Humber Valley Heritage Trail)	No impacts to existing condition. Maintains connectivity of transportation network. Currently shared access with vehicle traffic on a narrow bridge.	Connectivity of transportation network impacted with removal of the bridge.	Maintains connectivity of transportation network. Shared access with vehicle traffic on a narrow bridge.	Improved connectivity of transportation network with two-way AT. Improved pedestrian and cyclist safety through a wider platform width.
	Rating		◔	●	◔	○
10	**Land Acquisition Requirements**	Financial and social effects of property acquisition of homes or businesses.	No impacts over existing conditions. Maintaining the existing bridge would not require any property acquisition.	Property would be required for turnaround areas.	No property acquisition required.	No property acquisition required.
	Rating		○	●	○	○
	Summary Socio-Cultural Environment		○	◑	◔	○

	Criteria for Evaluating Alternatives	Indicators	1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
C	**Financial Factors**					
1	**Estimated Capital Costs**	Cost of the materials for bridge construction, demolition.	No associated capital costs.	Low capital costs associated with removal. Estimated construction cost to remove bridge, naturalize channel construct turnaround and install barriers: approximately $235,000.00 (excluding HST).	Moderate capital costs associated with rehabilitation. Estimated construction cost to remove asphalt, complete repairs: approximately $430,000.00 (excluding HST).	Highest capital costs associated with removal of bridge and abutments and replace with a larger span two lane bridge. Estimated construction cost approximately $1,950,000.00 (excluding HST)
	Rating		○	◔	◑	●
2	**Estimated Operation and Maintenance Cost**	Costs associated with typical operation and maintenance of the bridge.	Continued operation and maintenance costs, potentially increasing due to deteriorating condition and load restrictions, leading to higher long-term costs.	Low costs for continued maintenance associated with the removal of the bridge.	Moderate upfront costs for continued operation and maintenance, anticipated to increase over the short term lifespan of the rehabilitated bridge.	High upfront costs for continued operation and maintenance. Minor concrete repairs and maintenance will be required to reach the lifespan of 75 years.
	Rating		◑	◔	◑	◑
3	**Property Acquisition Cost**	Costs associated with private property requirements, including easements, land purchases, restoration of private lands.	No property acquisition.	Costs associated with private property requirements including easements, land purchases, restoration of private lands are anticipated for the turnaround areas.	No property acquisition anticipated.	No property acquisition anticipated.
	Rating		○	●	○	○
	Summary Financial Factors		○	◑	◔	◑

	Criteria for Evaluating Alternatives	Indicators	1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
D	**Technical Factors**					
1	**Level of Service**	Impact to level of service or traffic flow.	No improvement over existing conditions. Bridge currently accomodates one lane of traffic. Traffic volume warrants two lane structure.	Crossing structure would be removed impacting community connectivity and traffic flow. Does not accomodate traffic volume.	No improvement over existing conditions. Bridge currently accomodates one lane of traffic. Traffic volume warrants two lane structure.	Would accomodate two lanes of traffic, one in each direction, and improve operational safety.
	Rating		●	●	●	○
2	**Structural Condition, Load Capacity, Service Life**	addresses improves or maintains satisfactory condition and appropriate load capacity to accommodate local vehicles and emergency vehicles	No improvement over existing conditions. The bridge is currently subject to load restriction based on its current physical condition. Load limit may be further reduced if the bridge continues to deteriorate. It is estimated that the structure has approximately 5 years of useful service life remaining.	Continued deterioration of the bridge is addressed. Does not accommodate local vehicles or emergency vehicles.	Improves structural condition and repairs defects but does not improve load capacity without shoring and supporting the bridge. The bridge would remain load restricted. It is estimated that the bridge would have a service life of 20 years following the rehabilitation work.	A new two lane bridge would address any structural defects without load restrictions. A pre-stressed concrete box girder bridge would be designed to have an expected service life of 75+ years with regular maintenance.
	Rating		●	●	◕	○
3	**Design Constraints / Geometry**	Accomodates road profile/elevation Addresses operational safety and vulnerability of road users (vehicle, pedestrian, cyclist)	Maintains current road profile. Design speed is less than posted speed limit. The existing bridge has a narrow, 5.7 m wide driving platform that does not meet Township requirements for minimum pavement width for a local residential road.	Road connectivity is removed. Creation of turnaround areas may require additional property large amount of fill to address geometric design standards for turning radii.	Maintains current road profile. Design speed is less than posted speed limit. The existing bridge has a narrow, 5.7 m wide driving platform that does not meet Township requirements for minimum pavement width for a local residential road.	Improves road profile to a design speed to match posted speed limit. The bridge and approach roadway would be widened to an 8.5 metre wide driving platform, beyond minimum pavement width requirements for a local residential road.
	Rating		◕	●	◕	○
4	**Constructibility**	Professional opinion on the ease feasibility and efficiency of construction, including ease of construction staging and relative construction traffic management.	No change to existing conditions.	Removal of the bridge and abutments would require restoration of the riparian area and naturalization of the channel. Construction of turnaround areas would require sufficient area for emergency vehicles and snow removal, likely to require property and large amounts of fill.	Conventional concrete repairs required. Work is anticipated to be completed with a full road closure to reduce construction costs and duration. Construction would take approximately 10 to 12 weeks to complete.	Bridge replacement utilizing conventional construction techniques. Work is anticipated to be completed with a full road closure to reduce construction costs and duration. Construction would take approximately 20 to 22 weeks to complete.Barriers would be designed to match aesthetics of existng bridge barriers.
	Rating		○	◑	◔	◑
5	**Hydraulic Performance**	Conveys Regional Storm	The watercourse channel is currently not well aligned with the existing bridge causing erosion and scour. Existing issues like erosion and scour along the road embankment and abutment may continue and / or worsen. No change to performance, conveys 100-year storm event. Does not convey Regional Storm without overtopping the roadway.	Channel would be naturalized and returned to free-flowing conditions, with the bridge removed, accomodating Regional Storm event.	The watercourse channel is currently not well aligned with the existing bridge causing erosion and scour. Existing issues like erosion and scour along the road embankment and abutment may continue and / or worsen. No change to performance, conveys 100-year storm event. Does not convey Regional Storm without overtopping the roadway.	Larger span bridge will convey 100-year storm event and reduce headwater elevation for lesser storm events. Conveys Regional Storm. The increase in the Regional Storm event is considered to be within the modelling tolerances to be refined during detailed design to limit this increase. This option provides improved hydraulic performance during the 2 to 100-year storm events.
	Rating		◕	○	◕	◔
	Summary Technical Factors		●	●	●	○

	Criteria for Evaluating Alternatives		1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
E	**Problem Statement**					
1	**Addresses Problem Statement**		No - does not address the deteriorating condition or load restrictions of the bridge.	No - Will cause additional operational issues by reducing connectivity of a through road.	Partially - would address deteriorating condition. Load restrictions still apply.	Yes - addresses deteriorating condition and load restrictions, improves operational issues by meeting current standards for width and traffic flow as a full two lane structure.
	Summary Problem Statement		**Not Preferred**	**Not Preferred**	**Not Preferred**	**Preferred**

Criteria for Evaluating Alternatives					
		1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
Overall Summary		**Not Preferred**	**Not Preferred**	**Not Preferred**	**Most Preferred**

Order of Preference

Most Preferred ○

More Preferred ◔

Somewhat Preferred ◑

Less Preferred ◕

Least Preferred ●

Appendix B
B2 - Alternative Solutions Cost Estimates

BURNSIDE

Client: Township of Scugog
Project: Bridge No. 11
Project No.: 300059896.0000
Date: July 31, 2025

Option 1: Remove Structure & Install Turn-around area

Item No.	Description	Contract Quantity	Unit	Preliminary Construction Estimate UNIT PRICE	Preliminary Construction Estimate ESTIMATED PRICE
Part 1 - General Work					
1	Mobilization and Demobilization	1.0	LS	$20,000.00	$20,000.00
2	Contract Bonds and Insurance	1.0	LS	$15,000.00	$15,000.00
3	Traffic Control and Signage	1.0	LS	$15,000.00	$15,000.00
Part 2 - Temporary Works					
4	Heavy Duty Silt Fence Barrier	40.0	m	$60.00	$2,400.00
Part 3 - Removals					
5	Removal of Steel Beam Guide Rail	110.0	m	$50.00	$5,500.00
6	Removal of Bridge Structure	1.0	LS	$60,000.00	$60,000.00
Part 4 - Roadworks					
7	Earth Excavation, Grading	1.0	LS	$20,000.00	$20,000.00
8	Granular A (Roadway)	110.0	t	$40.00	$4,400.00
9	Grandular B (Roadway)	75.0	t	$40.00	$3,000.00
10	Hot Mix Asphalt HL3	40.0	t	$500.00	$20,000.00
11	Hot Mix Asphalt HL8	50.0	t	$500.00	$25,000.00
12	Concrete Barrier	16.0	m	$600.00	$9,600.00
13	Road Sign	2.0	ea	$500.00	$1,000.00
Part 6 - Site Restoration and Environmental Controls					
14	Waterbody Material	60.0	t	$120.00	$7,200.00
15	Imported Topsoil	25.0	m3	$85.00	$2,125.00
16	Seed and Erosion Control Blankets	250.0	m2	$7.50	$1,875.00

Subtotal Estimated Construction Price	$212,100.00
10% Contingency	$21,210.00
Project Subtotal	$233,310.00
13% H.S.T.	$30,330.30
TOTAL ESTIMATED CONSTRUCTION PRICE	$263,640.30

Note - Total estimated construction price does not include any cost for property or engineering

BURNSIDE

Client: Township of Scugog
Project: Bridge No. 11
Project No.: 300059896.0000
Date: July 31, 2025

Option 3: Rehabilitate Structure

Item No.	Description	Contract Quantity	Unit	Preliminary Construction Estimate UNIT PRICE	Preliminary Construction Estimate ESTIMATED PRICE
Part 1 - General Work					
1	Mobilization and Demobilization	1.0	LS	$40,000.00	$40,000.00
2	Contract Bonds and Insurance	1.0	LS	$15,000.00	$15,000.00
3	Construction Layout	1.0	LS	$5,000.00	$5,000.00
4	Traffic Control and Signage	1.0	LS	$15,000.00	$15,000.00
Part 2 - Temporary Works					
5	Heavy Duty Silt Fence Barrier	40.0	m	$60.00	$2,400.00
6	Rock Flow Check Dams	4.0	ea	$500.00	$2,000.00
7	Fibre Roll Check Dams	4.0	ea	$500.00	$2,000.00
8	Access to Work Area, Work Platform and Scaffolding	1.0	LS	$30,000.00	$30,000.00
9	Bird Nesting Preventative Measures	1.0	LS	$5,000.00	$5,000.00
Part 3 - Removals					
10	Removal of Asphalt - Full Depth	190.0	sq.m	$15.00	$2,850.00
11	Removal of Steel Beam Guide Rail	110.0	m	$50.00	$5,500.00
12	Concrete Removal - Partial Depth, Type A	3.4	cu.m	$3,000.00	$10,200.00
13	Concrete Removal - Partial Depth, Type B	4.4	cu.m	$7,000.00	$30,800.00
14	Concrete Removal - Partial Depth, Type C	0.9	cu.m	$6,000.00	$5,400.00
Part 4 - Roadworks					
15	Earth Excavation, Grading	60.0	cu.m	$30.00	$1,800.00
16	Granular A (Roadway)	45.0	t	$40.00	$1,800.00
17	Grandular B (Roadway)	90.0	t	$40.00	$3,600.00
18	Hot Mix Asphalt HL3	25.0	t	$500.00	$12,500.00
19	Hot Mix Asphalt HL8	25.0	t	$500.00	$12,500.00
20	Steel Beam Guide Rail	86.0	m	$250.00	$21,500.00
21	Steel Beam Guide Rail End Treatments	4.0	ea	$7,500.00	$30,000.00
Part 5 - Structure Works					
22	Earth Excavation For Structure	1.0	LS	$5,000.00	$5,000.00
23	Dowels into Concrete	200.0	ea	$40.00	$8,000.00
24	Reinforcing Steel Bar	1.0	LS	$10,000.00	$10,000.00
25	Concrete in Structure	1.0	LS	$20,000.00	$20,000.00
26	Bridge Deck Waterproofing	105.0	m2	$100.00	$10,500.00
27	Concrete Patches, Formed Surfaces	6.0	cu.m	$8,000.00	$48,000.00
28	Concrete Patches, Unformed Surfaces	2.7	cu.m	$2,000.00	$5,400.00
29	Bridge Deck Waterproofing	80.0	m2	$100.00	$8,000.00
Part 6 - Site Restoration and Environmental Controls					
30	Rip-Rap	60.0	t	$120.00	$7,200.00
31	Waterbody Material	60.0	t	$130.00	$7,800.00
32	Imported Topsoil	25.0	m3	$85.00	$2,125.00
33	Seed and Erosion Control Blankets	250.0	m2	$7.50	$1,875.00

Subtotal Estimated Construction Price	$388,750.00
10% Contingency	$38,875.00
Project Subtotal	$427,625.00
13% H.S.T.	$55,591.25
TOTAL ESTIMATED CONSTRUCTION PRICE	$483,216.25

Note - Total estimated construction price does not include any cost for property or engineering

BURNSIDE	**Client:** Township of Scugog **Project:** Bridge No. 11 **Project No.:** 300059896.0000 **Date:** July 31, 2025

Option 4: Replace the Structuret (23.0 m Bridge)

Item No.	Description	Contract Quantity	Unit	Preliminary Construction Estimate UNIT PRICE	Preliminary Construction Estimate ESTIMATED PRICE
Part 1 - General Work					
1	Mobilization and Demobilization	1.0	LS	$50,000.00	$50,000.00
2	Contract Bonds and Insurance	1.0	LS	$50,000.00	$50,000.00
3	Construction Layout	1.0	LS	$10,000.00	$10,000.00
4	Traffic Control and Signage	1.0	LS	$10,000.00	$10,000.00
5	Utility Coordination	1.0	LS	$5,000.00	$5,000.00
Part 2 - Temporary Works					
6	Heavy Duty Silt Fence Barrier	200.0	m	$60.00	$12,000.00
7	Rock Flow Check Dams	4.0	ea	$500.00	$2,000.00
8	Fibre Roll Check Dams	4.0	ea	$500.00	$2,000.00
9	Temporary Flow Passage System	1.0	LS	$50,000.00	$50,000.00
10	Unwatering	1.0	LS	$50,000.00	$50,000.00
11	Bird Nesting Preventative Measures	1.0	LS	$5,000.00	$5,000.00
Part 3 - Removals					
12	Removal of Asphalt - Full Depth	1150.0	m2	$15.00	$17,250.00
13	Removal of Steel Beam Guide Rail	110.0	m	$50.00	$5,500.00
14	Remove Existing Structure	1.0	LS	$50,000.00	$50,000.00
Part 4 - Roadworks					
15	Earth Excavation, Grading	600.0	cu.m	$20.00	$12,000.00
16	Granular A (Roadway)	420.0	t	$35.00	$14,700.00
17	Grandular B (Roadway)	820.0	t	$35.00	$28,700.00
18	Hot Mix Asphalt HL3	100.0	t	$250.00	$25,000.00
19	Hot Mix Asphalt HL8	120.0	t	$225.00	$27,000.00
20	Concrete Curb & Gutter	220.0	m	$100.00	$22,000.00
21	Concrete Gutter Outlets	2.0	ea	$500.00	$1,000.00
22	Steel Beam Guide Rail	86.0	m	$250.00	$21,500.00
23	Steel Beam Guide Rail End Treatments	4.0	ea	$7,500.00	$30,000.00
Part 5 - Structure Works					
24	Earth Excavation For Structure	1.0	LS	$50,000.00	$50,000.00
25	Pipe Subdrain	30.0	m	$50.00	$1,500.00
26	Granular B, Type II Backfill	1000.0	t	$35.00	$35,000.00
27	Supply Equipment for Driven Piles	1.0	LS	$50,000.00	$50,000.00
28	H-Piles	1.0	LS	$60,000.00	$60,000.00
29	Prestressed Concrete Members Fabrication	175.0	m	$2,500.00	$437,500.00
30	Prestressed Concrete Members Delivery	1.0	LS	$30,000.00	$30,000.00
31	Prestressed Concrete Members Erection	1.0	LS	$50,000.00	$50,000.00
32	Concrete in Footings	1.0	LS	$50,000.00	$50,000.00
33	Concrete in Substructure	1.0	LS	$135,000.00	$135,000.00
34	Concrete in Deck	1.0	LS	$85,000.00	$85,000.00
35	Concrete in Parapet Wall	1.0	LS	$60,000.00	$60,000.00
36	Concrete Approach Slab	1.0	LS	$51,000.00	$51,000.00
37	Reinforcing Steel Bar	1.0	LS	$100,000.00	$100,000.00
38	Bridge Deck Waterproofing	215.0	m2	$100.00	$21,500.00
Part 6 - Site Restoration and Environmental Controls					
39	Rip-Rap	90.0	t	$120.00	$10,800.00
40	Waterbody Material	125.0	t	$120.00	$15,000.00
41	Imported Topsoil	75.0	m3	$85.00	$6,375.00
42	Seed and Erosion Control Blankets	750.0	m2	$7.50	$5,625.00

Subtotal Estimated Construction Price	$1,754,950.00
10% Contingency	$175,495.00
Project Subtotal	$1,930,445.00
13% H.S.T.	$250,957.85
TOTAL ESTIMATED CONSTRUCTION PRICE	$2,181,402.85

Note - Total estimated construction price does not include any cost for property or engineering

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Consultation Record

Project Contact List	C1
Notices of Commencement	C2
Agency Correspondence	C3
Public Correspondence	C4
Indigenous Correspondence	C5
Project Information Boards	C6

APPENDIX C
C1 - Project Contact List

LEGEND

DO NOT SEND FURTHER CORRESPONDENCE

Agency/ Organization	Title	First Name	Last Name	Position	Address 1	Address 2	City	Prov.	Postal Code	Email	Telephone	Comments Received	Response Given
Provincial													
Ministry of Agriculture, Food and Rural Affairs				Rural Planner						omafra.eanotices@ontario.ca			250911_Email. Circulated NOCm
Ministry of the Environment, Conservation and Parks										eanotification.cregion@ontario.ca			250911_Email. Circulated NOCm
Ministry of the Environment, Conservation and Parks - Environmental Assessment and Permissions Branch										MEA.NOTICES.EAAB@ontario.ca			
Ministry of the Environment, Conservation and Parks, Central Region Simcoe County & City of Toronto	Ms.	Chunmei	Liu	Environmental Resource Planner & EA Coordinator	Place Nouveau 5775 Yonge Street	9th Floor	Toronto	ON	M2M 4J1	chunmei.liu@ontario.ca	416-326-4886	250911_Email_Acknowledged receipt of NOCm. Sent 2 supporting files (Acknowledgement, and SAR Proponents Guide). Please include a section in the report on source water protection. Please consult with the local source protection authority to discuss potential impacts on drinking water and document the results within the report and include all communication documents / correspondences. Include a discrete section in the report detailing how climate change was considered. Contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised. A Stormwater Management Plan should be prepared.	250911_Email. Circulated NOCm
Ministry of Municipal Affairs and Housing, Central Municipal Service Office	Ms.	Laurie	Miller	Regional Director of the Municipal Services Office (MSO) - Central Region	College Park 777 Bay Street	13th Floor	Toronto	ON	M5G 2E5	laurie.miller@ontario.ca			250911_Email. Circulated NOCm
Ministry of Natural Resources (Aurora Work Centre)	Ms.	Julie	Simard	District Supervisor						julie.simard@ontario.ca			250911_Email. Circulated NOCm
Ministry of Natural Resources (Southern Region)	Mr.	Mike	Poskin	Regional Planner	300 Water Street	4th Floor	Peterborough	ON	K9J 3C7	mike.poskin@ontario.ca	705-313-4975	250912_Email. Responded to circulation of NOCm sent to Julie Simard. Provided supporting attachment MNR Southern Region Information Package - For External Proponent Environmental Assessments	
Ministry of Citizenship and Multiculturalism (MCM).	Ms.	Karla	Barboza	Team Lead, Heritage (Acting)	401 Bay Street	Suite 1700	Toronto	ON	M7A 0A7	karla.barboza@ontario.ca	416-314-7120		250911_Email. Circulated NOCm
Ministry of Citizenship and Multiculturalism (MCM).	Mr.	Dan	Minkin	Heritage Planner						Dan.Minkin@ontario.ca			250911_Email. Circulated NOCm
Ministry of Citizenship and Multiculturalism (MCM).	Ms.	Amanda	Antwi-Nsiah	Heritage Planner						amanda.antwi-nsiah@ontario.ca	437-212-5945	251103_Email. Responded to circulation of NOCm sent to Karla Barboza and Dan Minkin. Provided supporting attachment MCM Initial Letter	
Municipal													
Township of Scugog	Ms.	Wilma	Wotten	Mayor	181 Perry Street		Port Perry	ON	L9L 1A7	wwotten@scugog.ca	905-809-1049		250911_Email. Circulated NOCm
Township of Scugog	Mr.	Ian	McDougall	Regional Councillor	181 Perry Street		Port Perry	ON	L9L 1A7	imcdougall@scugog.ca	905-809-7347		250911_Email. Circulated NOCm
Township of Scugog	Mr.	David	Le Roy	Ward 1 Councillor	181 Perry Street		Port Perry	ON	L9L 1A7	dleroy@scugog.ca	905-809-6683		250911_Email. Circulated NOCm
Township of Scugog	Ms.	Janna	Guido	Deputy Mayor / Ward 2 Councillor	181 Perry Street		Port Perry	ON	L9L 1A7	jguido@scugog.ca	905-809-7345		250911_Email. Circulated NOCm
Township of Scugog	Mr.	Robert	Rock	Ward 3 Councillor	181 Perry Street		Port Perry	ON	L9L 1A7	rrock@scugog.ca	905-260-4725		250911_Email. Circulated NOCm
Township of Scugog	Mr.	Harold	Wright	Ward 4 Councillor	181 Perry Street		Port Perry	ON	L9L 1A7	hwright@scugog.ca	905-213-6226		250911_Email. Circulated NOCm

LEGEND

DO NOT SEND FURTHER CORRESPONDENCE

Township of Scugog	Mr.	Terry	Coyne	Ward 5 Councillor	181 Perry Street		Port Perry	ON	L9L 1A7	tcoyne@scugog.ca	905-213-0311		250911_Email. Circulated NOCm
Township of Scugog	Ms.	Blair	Labelle	Director of Corporate Services / Clerk	181 Perry Street		Port Perry	ON	L9L 1A7	clerks@scugog.ca	905-985-7346		250911_Email. Circulated NOCm
Township of Scugog	Mr.	Warren	Mar	CAO, Acting Director of Development Services	181 Perry Street		Port Perry	ON	L9L 1A7	mail@scugog.ca	905-985-7346		250911_Email. Circulated NOCm
Township of Scugog	Mr.	Kevin	Heritage	Director, Development Services	181 Perry Street		Port Perry	ON	L9L 1A7	kheritage@scugog.ca	905-985-7346 ext. 153	250619_Contact removed as per direction from Township in DRAFT Consultation Plan review	
Township of Scugog	Ms.	Carol	Coleman	Director, Public Works and Infrastructure	181 Perry Street		Port Perry	ON	L9L 1A7	ccoleman@scugog.ca	905-985-7346 ext. 149	250619_Contact removed as per direction from Township in DRAFT Consultation Plan review	
Township of Scugog	Mr.	Grant	Taylor	Director, Public Works and Infrastructure	181 Perry Street		Port Perry	ON	L9L 1A7	gtaylor@scugog.ca	905-985-7346 ext. 149		250911_Email. Circulated NOCm
City of Kawartha Lakes	Ms.	Cathie	Ritchie	City Clerk	26 Francis Street		Lindsay	ON	K9V 4R5	clerks@kawarthalakes.ca	705-324-9411 ext. 1295		250911_Email. Circulated NOCm
Durham Region	Mr.	Alexander	Harras	Regional Clerk	605 Rossland Road East		Whitby	ON	L1N 6A3	clerks@durham.ca	905-668-7711		250911_Email. Circulated NOCm
Township of Brock	Mr.	Fernando	Lamanna	Clerk / Deputy CAO	1 Cameron Street East		Cannington	ON	L0E 1E0	clerks@brock.ca	705-432-2355 ext. 240		250911_Email. Circulated NOCm
Township of Uxbridge	Ms.	Debbie	Leroux	Director of Legislative Services / Clerk	51 Toronto Street South		Uxbridge	ON	L9P 1T1	dleroux@uxbridge.ca	905-852-9181 ext. 228		250911_Email. Circulated NOCm
City of Pickering	Ms.	Susan	Cassel	City Clerk	One The Esplanade		Pickering	ON	L1V 6K7	clerks@pickering.ca	905-420-4611		250911_Email. Circulated NOCm
Town of Whitby	Mr.	Chris	Harris	Town Clerk	575 Rossland Road East		Whitby	ON	L1N 2M8	clerk@whitby.ca	905-430-4302	250911_Email_Confirmed receipt of NOCm	250911_Email. Circulated NOCm
City of Oshawa				City Clerk	50 Centre Street South	1st Floor, West Wing	Oshawa	ON	L1H 3Z7	clerks@oshawa.ca	905-436-3311		250911_Email. Circulated NOCm
Municipality of Clarington	Ms.	June	Gallagher	Municipal Clerk	40 Temperance Street		Bowmanville	ON	L1C 3A6	clerks@clarington.net	905-623-3379 ext. 2109		250911_Email. Circulated NOCm
Utilities													
Bell Canada, Municipal Operations Centre	Mr.	John	Lachapelle	Planner & Manager, ROW Control Centre	100 Borough Drive	Floor 5 Blue	Scarborough	ON	M1P 4WZ	rowcentre@bell.ca		250911_Email_Bounceback email received, New emails given for correspondences.	250911_Email. Circulated NOCm
Bell Canada, Municipal Operations Centre										circulations@bell.ca			250915_Email. Circulated NOCm
Rogers Communications	Ms.	Anuradha	Padmanabhan	Permit Coordinator	3573 Wolfedale Road		Mississauga	ON	L5C 3T6	gtaw.newarea@rci.rogers.com			250911_Email. Circulated NOCm
Enbridge										notifications@enbridge.com;		250911_Email. Confirmed receipt of NOCm 250923_Email. Confirmed receipt of NOCm and that it has been circulated to appropriate departments	250911_Email. Circulated NOCm
Enbridge										mark-ups@enbridge.com			250911_Email. Circulated NOCm
Elexicon Energy										customercare@elexiconenergy.com		250911_Email. Confirmed receipt of NOCm	250911_Email. Circulated NOCm
Hydro One										CustomerRelations@HydroOne.com			250911_Email. Circulated NOCm
Kawartha Region Conservation Authority				Planner	277 Kenrei Park Road		Lindsay	ON	K9V 4R1	geninfo@kawarthaconservation.com	705-328-2271		250911_Email. Circulated NOCm
Lake Scugog Historical Society	Ms.	Marilyn	Pearce	President	175 Perry Street		Port Perry	ON	L9L 1B8	lakescugoghistoricalsociety@gmail.com	905-985-9250		250911_Email. Circulated NOCm

LEGEND

DO NOT SEND FURTHER CORRESPONDENCE

Region of Durham Paramedic Services	Ms.	Carrie	Wallace	Deputy Chief	4040 Anderson Street		Whitby	ON	L1R 3P6	carrie.wallace@durham.ca	905-665-6313 ext. 4042		250911_Email. Circulated NOCm
Durham Regional Police - North Division					605 Rossland Road East		Whitby	ON	L1N 0B8	webmaster@drps.ca	905-579-1520	250911_Email. Confirmed receipt of NOCm	250911_Email. Circulated NOCm
Scugog Fire and Emergency Services					30 Crandell Street		Port Perry	ON	L9L 1J6	fire@scugog.ca	905-985-2384		250911_Email. Circulated NOCm
Durham District School Board					400 Taunton Road East		Whitby	ON	L1R 2K6	General.Inquiry@ddsb.ca	905-666-5500	250911_Email. Confirmed receipt of NOCm	250911_Email. Circulated NOCm
Durham Catholic District School Board					650 Rossland Road West		Oshawa	ON	L1J 7C4	https://www.dcdsb.ca//Modules/email/emailattachment.aspx?CV2=kKT6kXh5kIcuRwUoFBiQTQeQuAleQuAl&ref=https://www.dcdsb.ca/en/our-board/Contact-Us.aspx&lang=en	905-576-6150	250912_Portal. Confirmed submission of NOCm email	250912_Portal. Circulated NOCm

LEGEND

DO NOT SEND FURTHER CORRESPONDENCE

Community/ Organization	Title	First Name	Last Name	Position	Address 1	Address 2	City	Prov.	Postal Code	Email	Telephone	Comments Received	Response Given
Alderville First Nation	Chief	Taynar	Simpson	Chief	11696 2nd Line Road, P.O. Box 46		Roseneath	ON	K0K 2X0	tsimpson@alderville.ca	905-352-3000		250911_Email. Circulated NOCm
Alderville First Nation	Dr.	Julie	Kapyrka	Consultation Manager	11696 2nd Line Road, P.O. Box 46		Roseneath	ON	K0K 2X0	jkapyrka@alderville.ca	Direct: 905-352-2662 Office: 905-352-2011 ext. 244	251015_Email. Confirmed receipt of NOCm Alderville First Nation (AFN) requires a request to consult per the AFN protocol along with a filing fee to cover initial administration and review. AFN may require a mutual agreement to establish a special consultation process for this project. AFN notes that although they have not conducted exhaustive research, there may be the presence of burial or archaeological sites in the proposed project area. AFN must be notified immediately if any ancestral remains or archaeological findings are unearthed. Furthermore, AFN insists on the involvement of at least one of their trained Archaeological Liaisons in all Stage 2–4 assessments (including test pitting, surveys, and excavation), with the proponent bearing this cost. AFN also wishes to be kept informed throughout all project phases. 251203_Email. Sent Township copy of Notice of Request to Consult. 251205_Email. Acknowledged receipt of Notice of Request to Consult. AFN provided instructions for file fee payment, and requested any environmental studies completed for this project as part of their review. 260121_Email. Dr. Julie Kapyrka confirmed receipt of filing fee. With regard to the Stage 1 archaeological assessment report AFN had several comments and concerns. AFN noted that while the report discusses the loss of Indigenous oral histories, it does not incorporate the Michi Saagiig oral history, which was requested to be included. AFN also advised that the historical and treaty context is insufficient; although Treaty 20 is mentioned, the report should include a more complete overview of the treaties that shaped settlement in the region - particularly the Williams Treaties and the Williams Treaties Settlement Agreement. Additionally, AFN expressed concern about outdated and culturally biased terminology used in the report, particularly references to the Ontario Iroquois Tradition and related classifications. AFN requested that terminology be updated to align with current archaeological practice, which uses neutral descriptors such as the Woodland Tradition and Late Woodland horizons. AFN also asked that statements minimizing Anishinaabeg history be removed, noting that the Anishinaabeg have longstanding, continuous presence in the region before, during, and after the Huron-Wendat and Haudenosaunee, and continue to reside in their homelands today.	250911_Email. Circulated NOCm 250919_Follow-up call. Left message 250925_Follow-up call. Left message 251003_Follow-up call. Left message 251105_Follow-up call. Left message regarding Notice for Request to Consult process. 251106_Follow-up call. Left message regarding Notice for Request to Consult process. 251121_Email. Provided a Letter of Request to Consult to initate consultation process with Alderville First Nation. 251205_Email. Follow-up regarding Notice of Request to Consult, file fee payment instructions, and background documents required for Stage 1 archaeological assessment review. 251210_Email. Confirmed file fee payment was sent, provided requested background documents, and requested feedback by January 15, 2026. 260108_Email. Follow-up regarding receipt of file fee payment and checking in on review of Stage 1 archaeological assessment. Confirming if the deadline of January 15, 2026 was on track for review. 260119_Follow-up call. Left message regarding confirmation of reciept of file fee and deadline for Stage 1 archaeological assessment comments. 260121_Email. Follow-up regarding receipt of file fee payment and checking in on review of Stage 1 archaeological assessment. 260128_Email. Acknowledged AFN's feedback on Stage 1 archaeological assessment. Provided an updated Stage 1 archaeological assessment to reflect AFN's comments.
Alderville First Nation	Mr.	Dave	Simpson	Lands and Resources Coordinator	11696 2nd Line Road, P.O. Box 46		Roseneath	ON	K0K 2X0	consultation@alderville.ca;	905-352-2011		250911_Email. Circulated NOCm
Alderville First Nation	Ms.	Joanne	Smoke	First Nation Administrator	11696 2nd Line Road, P.O. Box 46		Roseneath	ON	K0K 2X0	jsmoke@alderville.ca	905-352-2929		250911_Email. Circulated NOCm

Community/ Organization	Title	First Name	Last Name	Position	Address 1	Address 2	City	Prov.	Postal Code	Email	Telephone	Comments Received	Response Given
Beausoleil First Nation		Terra	Roy	Lands Consultation Liaison	11 O'Gemaa Miikaan		Christian Island	ON	L9M 0A9	bfnconsultation@chimnissing.ca	705-247-2554		250911_Email. Circulated NOCm 250919_Follow-up call. Left message 250925_Follow-up call. Left message 251003_Follow-up call. Left message
Chippewas of Georgina Island		JL	Porte	Community Consultation	R.R #2, P.O. Box N13		Sutton West	ON	L0E 1R0	JL.porte@georginaisland.com	705-437-1337 ext. 4226 NEW: 1-705-242-3604	250925_Follow-up call. Confirmed receipt of NOCm Requested finalized PFR once completed.	250911_Email. Circulated NOCm 250919_Follow-up call. Left message
Chippewas of Georgina Island	Chief	Donna	Big Canoe	Chief	R.R #2, P.O. Box N13		Sutton West	ON	L0E 1R0	donna.bigcanoe@georginaisland.com	705-437-1337		250911_Email. Circulated NOCm
Chippewas of Georgina Island	Ms.	Natasha	Charles	Community Consultation	R.R #2, P.O. Box N13		Sutton West	ON	L0E 1R0	natasha.charles@georginaisland.com	705-437-1337	250925_Removed contact, no longer in position	250911_Email. Circulated NOCm
Chippewas of Mnjikaning First Nation (Rama)		Dillon	Bickell	Consultation Worker	5884 Rama Road, Suite 200		Rama	ON	L0K 1T0	dbickell@ramafirstnation.ca	705-325-3611 ext. 1633	250919_Follow-up call. Confirmed receipt of NOCm	250911_Email. Circulated NOCm
Chippewas of Mnjikaning First Nation (Rama)				Consultation General Contact	5884 Rama Road, Suite 200		Rama	ON	L0K 1T0	consultation@ramafirstnation.ca;	705-325-3611		250911_Email. Circulated NOCm
Curve Lake First Nation		Paige	Williams	Consultation Clerk	22 Winookeeda Road		Curve Lake	ON	K0L 1R0	PaigeW@curvelake.ca	705-657-8045 ext. 280		250911_Email. Circulated NOCm 250919_Follow-up call. Left message 250925_Follow-up call. Left message 251003_Follow-up call. Left message
Curve Lake First Nation	Chief	Keith	Knott	Chief	22 Winookeeda Road		Curve Lake	ON	K0L 1R0	KeithK@curvelake.ca	705-657-8045		250911_Email. Circulated NOCm
Hiawatha First Nation	Mr.	Tom	Cowie	Land Resource Consultation Liaison	Satellite Office 197 Sopers Lane, RR #2		Hiawatha	ON	K9J 0E6	tcowie@hiawathafn.ca; cc: info@hiawathafn.ca	705-295-4421	250912_Email. Confirmed receipt of NOCm Understanding the age and heritage issues it may be best to rebuild. The concern is that the aquatic habitat that will be affected and archaeological potential in the area.	250911_Email. Circulated NOCm 251023_Email. Good afternoon Tom, Thank you for your feedback. Studies have been completed to assess the existing conditions in the Study Area – including natural heritage features and a Stage 1 Archaeological Assessment to evaluate the potential impact of the solutions, confirm the preferred solution, and identify any mitigation measures if needed. Thank you for your interest. Your comments will be included in the public record for the study.
Hiawatha First Nation	Chief	Laurie	Carr	Chief	123 Paudash Street		Hiawatha	ON	K9J 0E6	chiefcarr@hiawathafn.ca	705-295-4421		250911_Email. Circulated NOCm
Hiawatha First Nation	Mr.	Sean	Davison	Land Resource Consultation Liaison	Satellite Office 197 Sopers Lane, RR #2		Hiawatha	ON	K9J 0E6	sdavison@hiawathafn.ca cc: info@hiawathafn.ca	705-295-4421		250911_Email. Circulated NOCm 250919_Follow-up call. Left message 250925_Follow-up call. Left Message 251003_Follow-up call. Left Message
Hiawatha First Nation		Mandy	McGonigle	Archeology Coordinator	Satellite Office 197 Sopers Lane, RR #2		Hiawatha	ON	K9J 0E6	mmcgonigle@hiawathafn.ca	705-295-4421 ext. 225		250911_Email. Circulated NOCm
Wendat Nation				Consultation Email	255, place Chef Michel Laveau		Wendake	QC	G0A 4V0	consultations@wendake.ca			250911_Email. Circulated NOCm
Kawartha Nishnawbe First Nation	Chief	Kris	Nahrgang	Chief	257 Big Cedar Lake Rd.		Big Cedar	ON	K0L 2H0	rknahrgang@gmail.com cc: Info@spiritofthestone.ca	705-930-1020	250917_Email. Confirmed receipt of NOCm Indicated that Chief Nahrgang is no longer in role. Removed from contact list.	250911_Email. Circulated NOCm 251031_Email. Acknowledged Chief Nahrgang is no longer in role and has been removed from contact list. Inquired about new contact.

Community/ Organization	Title	First Name	Last Name	Position	Address 1	Address 2	City	Prov.	Postal Code	Email	Telephone	Comments Received	Response Given
Mississaugas of Scugog Island First Nation										consultation@scugogfirstnation.com		250916_Email. Confirmed receipt of NOCm MSIFN Consultation requests to receive the study report once drafted.	250911_Email. Circulated NOCm
Williams Treaty First Nations Claims Coordinator	Ms.	Karry	Sandy-Mackenzie	Claims Coordinator	8 Creswick Court		Barrie	ON	L4M 2S7	k.a.sandy-mckenzie@rogers.com			250911_Email. Circulated NOCm

PUBLIC

Resident	Comments Received	Response Given
Resident 1	250926_Project Website. This bridge will have to be sensitive to the creek. A replacement bridge would seem appropriate and hopefully a single lane so speeds stay down.	
Resident 2	100225_Project Website. Good morning. This is [redacted] Edgerton rd. Please keep me advised as your project progresses. While I would prefer a wide single lane bridge that would keep traffic speed to a liveable level. And given we have families with small children in Cadmus. I realize that you must also consider the water flow from the dam and lake above.	

APPENDIX C
C2 - Notice of Commencement

Notice of Study Commencement
Scugog Edgerton Road Bridge Replacement

The Study: The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements (i.e., rehabilitation, replacement, removal, or do nothing) to the Edgerton Road Bridge (Bridge No. 11).



The Process: The project is anticipated to be completed as a Schedule B of the Municipal Class Environmental Assessment process (Municipal Engineers Association, February 2024), which is an approved process under the Ontario Environmental Assessment Act. The project will evaluate and recommend solutions in consultation with the public, Indigenous Communities, stakeholders, and agencies. At the conclusion of the project, the process will be documented in a Project File Report, prepared for public review.

Your Input is Important! The Township would like to ensure that anyone interested in this project has the opportunity to provide input into the planning and design of the project. Information about the project will be posted on the Township's project webpage at the following link: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment

Share your comments on the webpage by October 31, 2025, or send them directly to the project team below. If you would like to be added to the Project Contact List to receive future project notices, please contact:

Tyler Dukovic, C.Tech.,
Project Manager
Township of Scugog
181 Perry Street
Port Perry, ON L9L 1A7
Tel: 905-985-7346 ext. 150
E-mail: tdukovic@scugog.ca

Matthew Brooks, P.Eng.,
Project Manager
R.J. Burnside & Associates Limited
3 Ronell Crescent
Collingwood, ON L9Y 4J6
Tel: 705-443-7492
E-mail: matt.brooks@rjburnside.com

Project and notice information will be made accessible upon request in accordance with the Accessibility Standard for Information and Communication under the Accessibility for Ontarians with Disabilities Act, 2005.

Personal information provided through public comment is collected by the Township of Scugog in accordance with the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M. 56, and will be used by the Township in making decisions on this Project. With the exception of personal information, all comments will become part of the public record.

This Notice first issued September 11, 2025.

APPENDIX C
C3 - Agency Correspondence

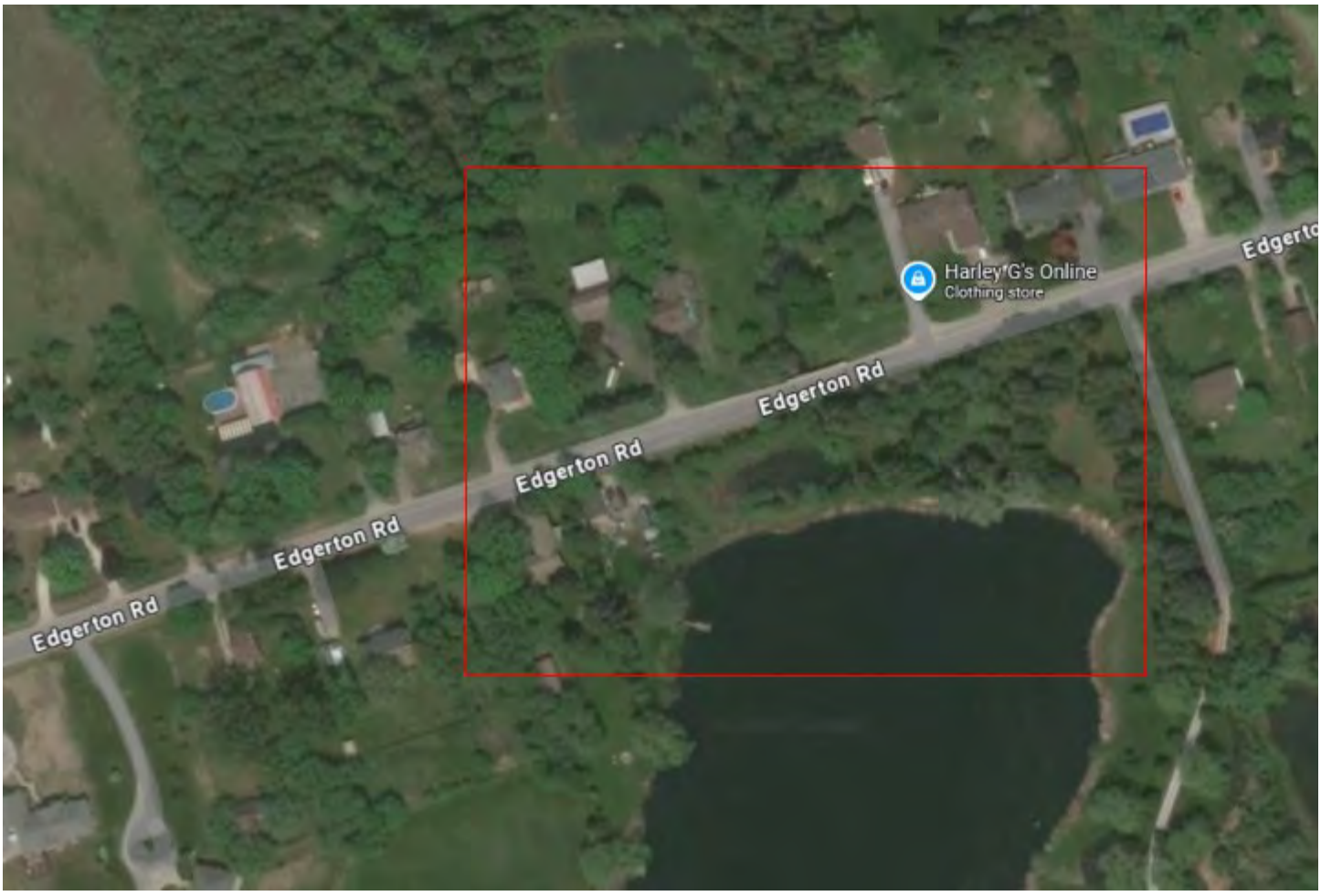
Cole Roddick

From: Cole Roddick
Sent: Friday, May 30, 2025 4:08 PM
To: trevor.bell@ontario.ca
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge MCEA - Indigenous Communities

Good afternoon Trevor,

The Township of Scugog is undertaking a Municipal Class EA to consider options for the rehabilitation, replacement, or removal of the Edgerton Road Bridge.

The approximate study area is provided in the map below.



A Notice of Commencement for the Project will be provided to the MECP in the near future via the Central Region One Window email process, along with the Project Information Form.

Could you please provide direction on the list of Indigenous Communities which may have an interest in the Study and should be engaged in regards to this Study?

Thank you,

Cole Roddick

Cole Roddick

From: Liu, Chunmei (MECP) <Chunmei.Liu@ontario.ca>
Sent: Friday, June 06, 2025 8:13 AM
To: Cole Roddick; Deanna De Forest
Cc: Mazzuca, Marco (MECP); EA Notices to CRegion (MECP); Dugas, Celeste (MECP)
Subject: RE: Scugog Edgerton Road Bridge MCEA - Indigenous Communities

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Cole and Deanna, Happy Friday and hope all is well!

The ministry staff have reviewed the relevant information shared by the email below and offer the following advice for your consideration.

The Township of Scugog (the proponent) is following the planning process with respect to the Edgerton Road Bridge improvements (the undertakings) to which the Municipal Class Environmental Assessment (Class EA) applies. The proponent is preparing a Notice of Commencement for the undertakings. Options of the undertakings may include rehab, replacement or removal of the bridge. The bridge appears to be a single lane bridge along Edgerton Road in a somewhat developed area providing a crossing over a small waterway which empties into Brown Lake.

The bridge is located within treaty 20, 1818, within the treaty and territory of the Williams treaties First Nations, within an area of archaeological interest to the Huron Wendat and within an area asserted by Kawartha Nishnawbe. Based on the limited information and contemplated bridge options, the proponent is required to consult with the following Indigenous communities, who have been identified as being potentially interested or affected by the proposed undertakings in the area of study:

Williams Treaties First Nations

- Curve Lake First Nation
- Hiawatha First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoleil First Nation

- Kawartha Nishnawbe
- Huron-Wendat (should the project impact archaeological resources)

Nothing in this advice should prevent the proponent from reaching out to Indigenous communities with whom they have an established relationship, or they are seeking to develop a relationship to get their input/ideas associated with the projects.

The identified Indigenous communities should be contacted directly throughout the planning process. These communities may be interested in the proposed undertakings generally or may have Constitutionally protected Aboriginal or Treaty rights that may be impacted by the proposed undertakings.

Steps that the proponent may need to take in relation to Indigenous consultation for the proposed undertakings are outlined in the Class EA in section A.3 (Consultation) generally and more specifically in A.3.7.

Proponents are required to contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) if information is shared by an Indigenous community about potential adverse impacts to Aboriginal or Treaty rights or sites of cultural significance, if consultation with any Indigenous communities or other stakeholder has reached an impasse or if a Section 16 Order request is expected. The MECP will then assess whether and what additional steps should be taken, including what role you will be asked to play. While there is currently no across-the-board obligation to provide capacity funding to Indigenous communities being consulted; it is important that communities can effectively engage in the process, and this may require capacity funding. The MECP strongly encourages proponents to consider reasonable requests for such funding.

Should you or any members of your project team have any questions regarding the material above, please contact me either at eanotification.cregion@ontario.ca or chunmei.liu@ontario.ca.

Sincerely,

Chunmei Liu (she/her) | Regional Environmental Planner
Environmental Assessments Branch, Ontario Ministry of the Environment, Conservation and Parks |7th Flr, 135 St Clair Ave W, Toronto, ON M4V 1P5 | Chunmei.Liu@ontario.ca

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 2:56 PM
To: 'eanotification.cregion@ontario.ca'; Liu, Chunmei (MECP)
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement and PIF
Attachments: 059896_Notice of Commencement.pdf; Scugog Edgerton Road Bridge Replacement PIF.xlsx

Good afternoon,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

Cole Roddick

From: EA Notices to CRegion (MECP) <eanotification.cregion@ontario.ca>
Sent: Thursday, September 11, 2025 4:32 PM
To: Cole Roddick; Deanna De Forest; Tyler Dukovic; Matt Brooks
Subject: RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement and PIF
Attachments: MECP Acknowledgement of NOC-ScugogEdgertonRdBridge.pdf; Supporting Attachment - Species at Risk Proponents Guide to Preliminary Screening (May 2019).pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Project Team, hope all is well.

Attached please find the information shared for the above noted project. If you have any questions regarding the information shared, please feel free to contact us for discussion.

Best regards,
Chunmei Liu (she/her) | Regional Environmental Planner
Environmental Assessments Branch, Ontario Ministry of the Environment, Conservation and Parks |7th Flr, 135 St Clair Ave W, Toronto, ON M4V 1P5 | Chunmei.Liu@ontario.ca

Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

September 11, 2025

Tyler Dukovic, C.Tech.,
Project Manager
Township of Scugog
905-985-7346 Ext. 150
Tdukovic@scugog.ca
***BY EMAIL ONLY

Re: **Scugog Edgerton Road Bridge Replacement**
Township of Scugog
Municipal Class Environmental Assessment, Schedule B
Acknowledgement of Notice of Commencement

Dear Tyler Dukovic,

The Ministry of the Environment, Conservation and Parks (MECP) has received your Notice of Commencement for the above project. The Township of Scugog (proponent) is following the Schedule B process with respect to project, to which the Municipal Class Environmental Assessment (Class EA) applies.

The enclosed "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study.

Based on the ministry's review of the Notice of Commencement, the bridge is located within treaty 20, 1818, within the treaty and territory of the Williams treaties First Nations, within an area of archaeological interest to the Huron Wendat and within an area asserted by Kawartha Nishnawbe. The proponent is required to consult with the following Indigenous communities, who have been identified as being potentially interested or affected by the project:

Williams Treaties First Nations

- Curve Lake First Nation
- Hiawatha First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoleil First Nation

- Kawartha Nishnawbe
- Huron-Wendat (should the project impact archaeological resources)

Nothing in this advice should prevent the proponent from reaching out to Indigenous communities with whom they have an established relationship or with whom they are seeking to develop a relationship to get input/ideas associated with the projects.

The identified Indigenous communities should be contacted directly throughout the planning process. These communities may be interested in the proposed undertakings generally or may have Constitutionally protected Aboriginal or Treaty rights that may be impacted by the project.

Steps that the proponent may need to take in relation to Indigenous consultation for the proposed undertakings are outlined in the Class EA in section A.3 (Consultation) generally and more specifically in A.3.7.

Proponents are required to contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) if information is shared by an Indigenous community about potential adverse impacts to Aboriginal or Treaty rights or sites of cultural significance, if consultation with any Indigenous communities or other stakeholder has reached an impasse or if a Section 16 Order request is expected. The MECP will then assess whether and what additional steps should be taken, including what role you will be asked to play. While there is currently no across-the-board obligation to provide capacity funding to Indigenous communities being consulted; it is important that communities can effectively engage in the process, and this may require capacity funding. The MECP strongly encourages proponents to consider reasonable requests for such funding.

Please ensure a copy of the Notice of Completion and final report is sent to the ministry's Central Region email account (eanotification.cregion@ontario.ca) for the record.

Should you or any members of your project team have any questions regarding the material above, please contact me at eanotification.cregion@ontario.ca.

Sincerely,



Chunmei Liu
Regional Environmental Planner
Project Review Unit, Environmental Assessment Branch

Cc: Marco Mazzuca, Supervisor, Project Review Unit, MECP
Chris Hyde, Manager, Barrie District Office, MECP
Matthew Brooks,, Project Manager, R.J. Burnside & Associates Limited

Enclosed: Areas of Interest

Attached: Client's Guide to Preliminary Screening for Species at Risk

AREAS OF INTEREST

It is suggested that you check off each section after you have considered / addressed it.

Planning and Policy

- Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
    - The **Provincial Planning Statement (PPS) (2024)** contains policies that protect Ontario's natural heritage and water resources. Applicable policies in the PPS 2024 should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies. **The PPS 2024 replaces the Provincial Policy Statement (2020) and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (APTG) (2019)**.
    - Projects located in MECP Central or Eastern Region may be subject to the **Oak Ridges Moraine Conservation Plan (2017)** or the **Lake Simcoe Protection Plan (2014)**.
    - Projects located in MECP Central, Southwest or West Central Region may be subject to the **Niagara Escarpment Plan (2017)**.

- Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the **Greenbelt Plan (2017)**. Due to Amendment 4 to the Greenbelt Plan, areas within the Greenbelt are still subject to applicable policies in the PPS **(2020)** and APTG **(2019)**.
- Projects located in MECP Northern Region may be subject to the **Growth Plan for Northern Ontario (2011)**.

- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

Source Water Protection

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**

- The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.

- If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.

- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.

- In order to determine if this project is occurring within a vulnerable area, proponents can use Source Protection Information Atlas, which is an online mapping tool available to the public. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the "Map Legend" bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.

- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to Conservation Ontario's website where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the *Clean Water Act*. In addition to prescribed drinking water threats, some

source protection plans may include policies to address additional “local” threat activities, as approved by the MECP.

Climate Change

The document "Considering Climate Change in the Environmental Assessment Process" (Guide) is part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

- **The MECP expects proponents of Class EA projects to:**

    1. Consider during the assessment of alternative solutions and alternative designs, the following:
        a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
        b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
    2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project’s level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "Community Emissions Reduction Planning: A Guide for Municipalities" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

Air Quality, Dust and Noise

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment

will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**

- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:

    - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
    - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
    - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
    - A discussion of potential mitigation measures.

- As a common practice, "air quality" should be used an evaluation criterion for all road projects.

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.

- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to *Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities* report prepared for Environment Canada. March 2005.

- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.

- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
    - Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant

valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
  - Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
  - Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, for projects located in Central Region you may consider the provisions of the Rouge Park Management Plan if applicable.

Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at https://www.ontario.ca/page/species-risk.

- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.

- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

Surface Water

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's Stormwater Management Planning and Design Manual (2003) should be referenced in the report and utilized when designing stormwater control methods. **A**

Stormwater Management Plan should be prepared as part of the Class EA process that includes:

  - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
  - Watershed information, drainage conditions, and other relevant background information
  - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
  - Information on maintenance and monitoring commitments.

- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If a proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.

- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.

- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.

- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.

- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information.

- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled "On-Site and Excess Soil Management" (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don't go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit https://www.ontario.ca/page/handling-excess-soil.

- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "Management of Excess Soil – A Guide for Best Management Practices" (2014).

- All waste generated during construction must be disposed of in accordance with ministry requirements.

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the MECP's D-4 guideline for land use considerations near landfills and dumps.
  - Resources available may include regional/local municipal official plans and data; provincial data on large landfill sites and small landfill sites; Environmental Compliance Approval information for waste disposal sites on Access Environment.

- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's website).

- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.

- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.

- We recommend referring to the ministry's environmental land use planning guides to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.

- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).

- Please include the full stakeholder distribution/consultation list in the documentation.

Class EA Process

- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Section 16 Order Requests under the

Environmental Assessment Act, although the plan itself would not be. **Please include a description of the approach being undertaken (use Appendix 4 as a reference).**

- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.

- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.

- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.

- Ministry guidelines and other information related to the issues above are available at http://www.ontario.ca/environment-and-energy/environment-and-energy. We encourage you to review all the available guides and to reference any relevant information in the report.

Notice of Completion

Once the EA Report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address.

The public can request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. Once the requested information has been

received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- a Section 16 Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, or
- the Director has issued a Notice of Proposed order regarding the project.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Section 16 Order requests on those matters should be addressed in writing to:

Minister of the Environment, Conservation and Parks

777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Client's Guide to Preliminary Screening for Species at Risk

Ministry of the Environment, Conservation and Parks

Species at Risk Branch, Permissions and Compliance

DRAFT - May 2019

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1.0 Purpose, Scope, Background and Context

1.1 Purpose of this Guide

This guide has been created to:

- help clients better understand their obligation to gather information and complete a preliminary screening for species at risk before contacting the ministry,
- outline guidance and advice clients can expect to receive from the ministry at the preliminary screening stage,
- help clients understand how they can gather information about species at risk by accessing publicly available information housed by the Government of Ontario, and
- provide a list of other potential sources of species at risk information that exist outside the Government of Ontario.

It remains the client's responsibility to:

- carry out a preliminary screening for their projects,
- obtain best available information from all applicable information sources,
- conduct any necessary field studies or inventories to identify and confirm the presence or absence of species at risk or their habitat,
- consider any potential impacts to species at risk that a proposed activity might cause, and
- comply with the *Endangered Species Act* (ESA).

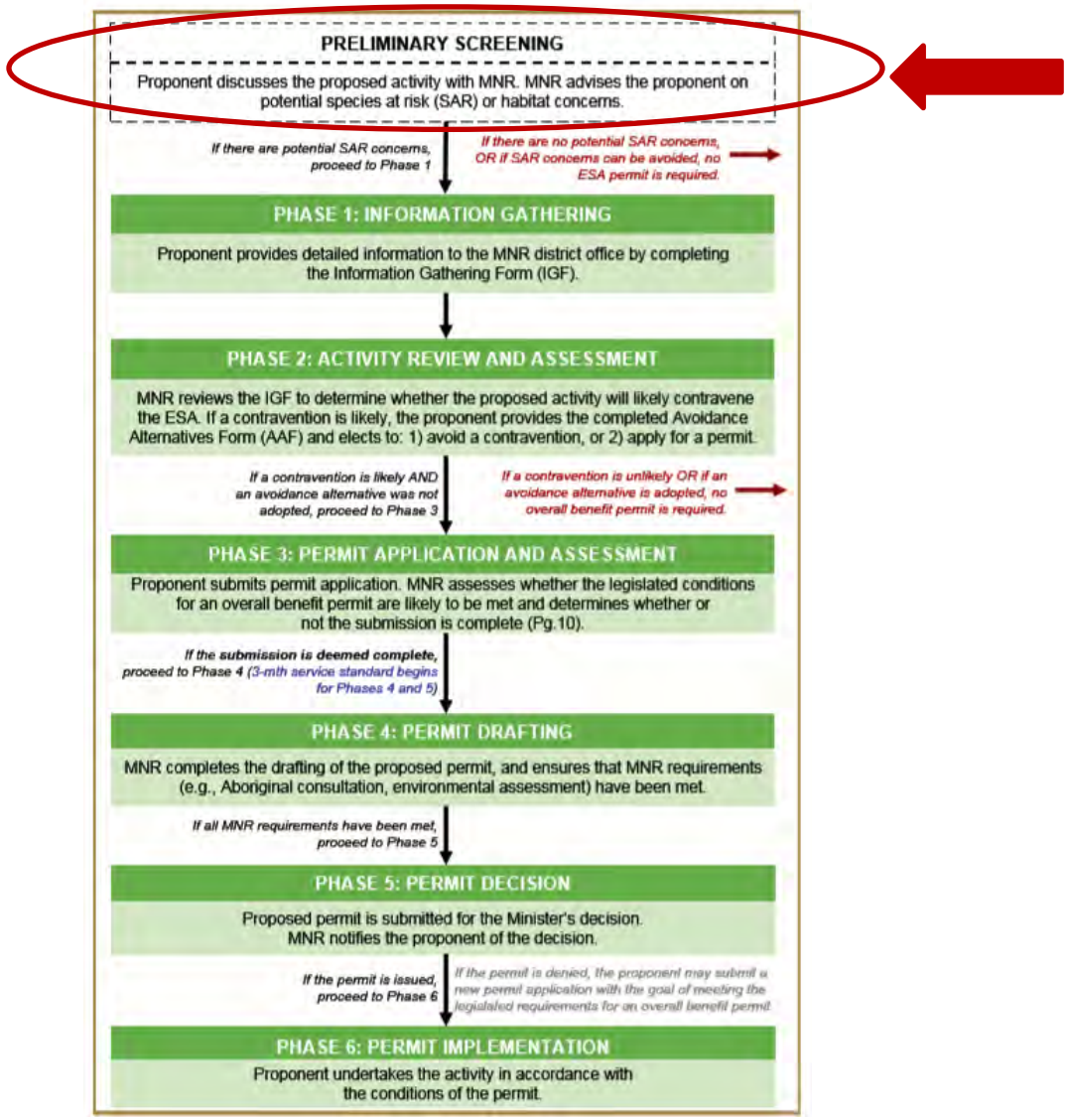
To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide, at a minimum, prior to contacting Government of Ontario ministry offices for further information or advice.

1.2 Scope

This guide is a resource for clients seeking to understand if their activity is likely to impact species at risk or if they are likely to trigger the need for an authorization under the ESA. It is not intended to circumvent any detailed site surveys that may be necessary to document species at risk or their habitat nor to circumvent the need to assess the impacts of a proposed activity on species at risk or their habitat. This guide is not an exhaustive list of available information sources for any given area as the availability of information on species at risk and their habitat varies across the province. This guide is intended to support projects and activities carried out on Crown and private land, by private landowners, businesses, other provincial ministries and agencies, or municipal government.

1.3 Background and Context

To receive advice on their proposed activity, clients must first determine whether any species at risk or their habitat exist or are likely to exist at or near their proposed activity, and whether their proposed activity is likely to contravene the ESA. Once this step is complete, clients may contact the ministry at SAROntario@ontario.ca to discuss the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. At this stage, the ministry can provide advice and guidance to the client about potential species at risk or habitat concerns, measures that the client is considering to avoid adverse effects on species at risk or their habitat and whether additional field surveys are advisable. This is referred to as the "Preliminary Screening" stage. For more information on additional phases in the diagram below, please refer to the *Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits* policy available online at https://www.ontario.ca/page/species-risk-overall-benefit-permits



2.0 Roles and Responsibilities

To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide prior to contacting Government of Ontario ministry offices for further information or advice.

Step 1: Client seeks information regarding species at risk or their habitat that exist, or are likely to exist, at or near their proposed activity by referring to all applicable information sources identified in this guide.

Step 2: Client reviews and consider guidance on whether their proposed activity is likely to contravene the ESA (see section 3.4 of this guide for guidance on what to consider).

Step 3: Client gathers information identified in the checklist in section 4 of this guide.

Step 4: Client contacts the ministry at SAROntario@ontario.ca to discuss their preliminary screening. Ministry staff will ask the client questions about the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. Ministry staff will also ask the client for their interpretation of the impacts of their activity on species at risk or their habitat as well as measures the client has considered to avoid any adverse impacts.

Step 5: Ministry staff will provide advice on next steps.

Option A: Ministry staff may advise the client they can proceed with their activity without an authorization under the ESA where the ministry is confident that:

- no protected species at risk or habitats are likely to be present at or near the proposed location of the activity; or
- protected species at risk or habitats are known to be present but the activity is not likely to contravene the ESA; or
- through the adoption of avoidance measures, the modified activity is not likely to contravene the ESA.

Option B: Ministry staff may advise the client to proceed to Phase 1 of the overall benefit permitting process (i.e. Information Gathering in the previous diagram), where:

- there is uncertainty as to whether any protected species at risk or habitats are present at or near the proposed location of the activity; or
- the potential impacts of the proposed activity are uncertain; or
- ministry staff anticipate the proposed activity is likely to contravene the ESA.

3.0 Information Sources

Land Information Ontario (LIO) and the Natural Heritage Information Centre (NHIC) maintain and provide information about species at risk, as well as related information about fisheries, wildlife, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory approvals and planning processes.

The information available from LIO or NHIC and the sources listed in this guide should not be considered as a substitute for site visits and appropriate field surveys. Generally, this information can be regarded as a starting point from which to conduct further field surveys, if needed. While this data represents best available current information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in more remote parts of the province. The absence of species at risk location data at or near your site does not necessarily mean no species at risk are present at that location. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats.

Information on the location (i.e. observations and occurrences) of species at risk is considered sensitive and therefore publicly available only on a 1km square grid as opposed to as a detailed point on a map. This generalized information can help you understand which species at risk are in the general vicinity of your proposed activity and can help inform field level studies you may want to undertake to confirm the presence, or absence of species at risk at or near your site.

Should you require specific and detailed information pertaining to species at risk observations and occurrences at or near your site on a finer geographic scale; you will be required to demonstrate your need to access this information, to complete data sensitivity training and to obtain a Sensitive Data Use License from the NHIC. Information on how to obtain a license can be found online at https://www.ontario.ca/page/get-natural-heritage-information.

Many organizations (e.g. other Ontario ministries, municipalities, conservation authorities) have ongoing licensing to access this data so be sure to check if your organization has this access and consult this data as part of your preliminary screening if your organization already has a license.

3.1 Make a Map: Natural Heritage Areas

The Make a Natural Heritage Area Map (available online at http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US provides public access to natural heritage information, including species at risk, without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify generalized species at risk information, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk has been generalized to a 1-kilometre grid to mitigate the risks to the species (e.g. illegal harvest, habitat disturbance, poaching).

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map; however, information included in this application is available digitally through Land Information Ontario (LIO) at https://www.ontario.ca/page/land-information-ontario.

3.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large provincial corporate database called the LIO Warehouse and can be accessed online through the LIO Metadata Management Tool at https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

While most data are publicly available, some data may be considered highly sensitive (i.e. nursery areas for fish, species at risk observations) and as such, access to some data maybe restricted.

3.3 Additional Species at Risk Information Sources

- The Breeding Bird Atlas can be accessed online at http://www.birdsontario.org/atlas/index.jsp?lang=en
- eBird can be accessed online at https://ebird.org/home
- iNaturalist can be accessed online at https://www.inaturalist.org/
- The Ontario Reptile and Amphibian Atlas can be accessed online at https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas
- Your local Conservation Authority. Information to help you find your local Conservation Authority can be accessed online at https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/

  Local naturalist groups or other similar community-based organizations
- Local Indigenous communities
- Local land trusts or other similar Environmental Non-Government Organizations
- Field level studies to identify if species at risk, or their habitat, are likely present or absent at or near the site.
- When an activity is proposed within one of the continuous caribou ranges, please be sure to consider the caribou Range Management Policy. This policy includes figures and maps of the continuous caribou range, can be found online at https://www.ontario.ca/page/range-management-policy-support-woodland-caribou-conservation-and-recovery

3.4 Information Sources to Support Impact Assessments

- Guidance to help you understand if your activity is likely to adversely impact species at risk or their habitat can be found online at https://www.ontario.ca/page/policy-guidance-harm-and-harass-under-endangered-species-act and https://www.ontario.ca/page/categorizing-and-protecting-habitat-under-endangered-species-act
- A list of species at risk in Ontario is available online at https://www.ontario.ca/page/species-risk-ontario. On this webpage, you can find out more about each species, including where is lives, what threatens it and any specific habitat protections that apply to it by clicking on the photo of the species.

4.0 Check-List

Please feel free to use the check list below to help you confirm you have explored all applicable information sources and to support your discussion with Ministry staff at the preliminary screening stage.

- ✓ Land Information Ontario (LIO)
- ✓ Natural Heritage Information Centre (NHIC)
- ✓ The Breeding Bird Atlas
- ✓ eBird
- ✓ iNaturalist
- ✓ Ontario Reptile and Amphibian Atlas
- ✓ List Conservation Authorities you contacted:_____

  _____
- ✓ List local naturalist groups you contacted:_____

  _____
- ✓ List local Indigenous communities you contacted:_____

  _____
- ✓ List any other local land trusts or Environmental Non-Government Organizations you contacted:_____

  _____
- ✓ List and field studies that were conducted to identify species at risk, or their habitat, likely to be present or absent at or near the site: _____

  _____
- ✓ List what you think the likely impacts of your activity are on species at risk and their habitat (e.g. damage or destruction of habitat, killing, harming or harassing species at risk):_____

  _____

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 2:56 PM
To: 'wwotten@scugog.ca'; 'imcdougall@scugog.ca'; 'dleroy@scugog.ca'; 'jguido@scugog.ca'; 'rrock@scugog.ca'; 'hwright@scugog.ca'; 'tcoyne@scugog.ca'; 'clerks@scugog.ca'; 'mail@scugog.ca'; 'gtaylor@scugog.ca'; 'clerks@kawarthalakes.ca'; 'clerks@durham.ca'; 'clerks@brock.ca'; 'dleroux@uxbridge.ca'; 'clerks@pickering.ca'; 'clerk@whitby.ca'; 'clerks@oshawa.ca'; 'clerks@clarington.net'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area map is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

Cole Roddick

From: Internet, Clerk <clerk@whitby.ca>
Sent: Thursday, September 11, 2025 2:58 PM
To: Cole Roddick
Subject: Your email to the Office of the Town Clerk has been received

Follow Up Flag: Follow up
Flag Status: Flagged

Your correspondence has been received

Thank you for your email to the Office of the Town Clerk. Your enquiry is important to us. Please be advised that your message will be reviewed and forwarded to the appropriate staff and department for action as required.

Correspondence directed to Whitby Town Council will be provided to the Mayor and Members of Council.

If the matter relates to an item on an upcoming agenda, it will be provided as part of that meeting package. Please visit whitby.ca/CouncilCalendar for more information about Council and Standing Committee meetings.

Notice of Collection of Personal Information

Personal information provided through correspondence is collected under the authority of the Procedure By-law, Municipal Act, Planning Act and/or Municipal Freedom of Information and Protection of Privacy Act. Personal information on correspondence regarding a public application (i.e. development approval) or other matter before Council for consideration shall form part of the public record. Questions about the collection of personal information should be directed to the Office of the Town Clerk at 905.430.4300 or in writing to the Town Clerk, Town of Whitby, 575 Rossland Road East, Whitby, L1N 2M8 or to clerk@whitby.ca.

Confidentiality Warning: This e-mail contains information that is confidential and is intended only for the use of the named recipient(s). If you are not the intended recipient, you are hereby notified that any review, copying or distribution of this transmission is strictly prohibited. Please contact the Town of Whitby immediately if you have received this transmission in error and delete this message.

Confidentiality Warning: This e-mail contains information that is confidential and is intended only for the use of the named recipient(s). If you are not the intended recipient, you are hereby notified that any review, copying or distribution of this transmission is strictly prohibited. Please contact the Town of Whitby immediately if you have received this transmission in error and delete this message.

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 2:56 PM
To: rowcentre@bell.ca; gtaw.newarea@rci.rogers.com; notifications@enbridge.com; mark-ups@enbridge.com; customercare@elexiconenergy.com; CustomerRelations@HydroOne.com; geninfo@kawarthaconservation.com; lakescugoghistoricalsociety@gmail.com; carrie.wallace@durham.ca; webmaster@drps.ca; fire@scugog.ca; General.Inquiry@ddsb.ca
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

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On behalf of the study team,

Cole Roddick

Cole Roddick

From: ROWCC <rowcentre@bell.ca>
Sent: Thursday, September 11, 2025 2:57 PM
To: Cole Roddick
Subject: Automatic reply: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Completed

Hello

The ROWCC (rowcentre@bell.ca) inbox is being decommissioned, and all communications should be sent to as follows:

- All Permitting (Metrolinx, Pipeline (temp and perm), Rails, Submarine permit Inquiries) will be sent to MOC (Municipal Operations Centre) to moc.bell@bell.ca
- All Easement Search Requests are to be sent to the Right of Way Manager for the area. Use the Network Responsibility Tool (NRT) to determine the correct contact.
- All ROWCC circulations (shore closure, road closures, MNR, MTO) will be sent to circulations@bell.ca

Cole Roddick

From: Cole Roddick
Sent: Monday, September 15, 2025 11:53 AM
To: 'circulations@bell.ca'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good morning,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

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A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

Cole Roddick

From: Notifications <Notifications@enbridge.com>
Sent: Thursday, September 11, 2025 3:04 PM
To: Cole Roddick
Subject: Automatic reply: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for your email,

Enbridge will review all planning and development notifications to determine their proximity and potential to impact our liquids pipeline network. If your notification is **in proximity** to an Enbridge liquids transmission pipeline, a formal response will be prepared and emailed by your specified deadline.

Planning and development notifications **not in proximity** to an Enbridge transmission pipeline will not receive a response. Please continue to send in planning and development notifications to notifications@enbridge.com. You can view the approximate locations of Enbridge liquids transmission pipelines on our web map here.

All **other non-land use** requests will be forwarded to the appropriate Enbridge contact. We will respond to all general inquiries and questions.

We appreciate the opportunity to work with you in support of Enbridge's damage prevention and integrity management program and look forward to collaborating in the future.

Sincerely,

Enbridge Damage Prevention

Nous avons bien reçu votre courriel et vous en remercions,
Enbridge examinera toutes les notifications de planification et de développement afin de déterminer leur proximité et leur potentiel d'impact sur notre réseau d'oléoducs. Si votre notification se trouve **à proximité** d'un oléoduc d'Enbridge, une réponse officielle sera préparée et envoyée par courriel par la date limite dont vous avez spécifiée.

Les notifications de planification et de développement **qui ne se trouvent pas à proximité** d'un oléoduc d'Enbridge ne recevront pas de réponse. Veuillez continuer à envoyer vos notifications de planification et de développement à notifications@enbridge.com. Vous pouvez voir les emplacements approximatifs des oléoducs d'Enbridge sur notre carte Web ici.

Toutes **autres demandes non liées à l'utilisation des fonciers** seront transmises au contact approprié d'Enbridge. Nous répondrons à toutes demandes et questions générales.

Nous apprécions l'opportunité de travailler avec vous pour soutenir le programme de prévention des dommages et de gestion de l'intégrité d'Enbridge et nous espérons pouvoir collaborer à l'avenir.

Sincèrement,
Prévention des dommages d'Enbridge

Cole Roddick

From: Elexicon Energy <CustomerCare@elexiconenergy.com>
Sent: Thursday, September 11, 2025 2:57 PM
To: Cole Roddick
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for contacting Elexicon Energy.

Your enquiry has been received and is important to us.

Please be advised that our hours of operation are **Monday to Friday** from **8:30 am** until **4:30 pm**, excluding holidays.

We respond to all messages as quickly as possible however based on the nature of your enquiry it may take up to 10 business days to provide an appropriate response.

Power outages and interruptions should be reported to our 24-hour Outage Hotline at 1-866-579-6819.

Your Customer Care Team

Elexicon Energy customers who receive their monthly bills by mail may be impacted by a postal disruption as early as May 2025 and will need to access their eBill online at my.elexicon. Register for e-bill today!

Cole Roddick

From: WebMaster <webmaster@drps.ca>
Sent: Thursday, September 11, 2025 2:57 PM
To: Cole Roddick
Subject: Automatic reply: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for your email. Please note this email account is not monitored 24/7 and DRPS cannot take police reports over email. In an emergency call 911. If you have a concern or would like to report a non-emergency crime please contact police at 1-888-579-1520 to speak with an officer. You can also report non-emergency crimes online here at www.drps.ca under Online Services.

Cole Roddick

From: General Inquiry <General.Inquiry@ddsb.ca>
Sent: Thursday, September 11, 2025 2:57 PM
To: Cole Roddick
Subject: Automatic reply: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for contacting the Durham District School Board's General Inquiry mailbox. Your e-mail is important to us and we welcome the opportunity to address your inquiry.

Should you require support or assistance with...

Requesting a Transcript: https://forms.office.com/pages/responsepage.aspx?id=Jrm3b-vtT02C6AwQ5Ee1cHdiV7p7eZRKt7bH7bLQca1UMDNES1IxWFcyQzRTOFdNT0YwTENBWFUzViQlQCN0PWcu&route=shorturl

Kindergarten or New to DDSB Registration: Please visit our website to complete the online registration process at: https://www.ddsb.ca/en/our-schools/register-for-school.aspx?_mid_=200

Parent Portal: Please visit our website for Frequently Asked Questions and login assistance: https://www.ddsb.ca/en/family-and-community-support/parent-portal.aspx If you require additional assistance with the Parent Portal, please contact your child's school. Unfortunately, Board office staff are not able to assist you with this information.

Report Cards: Report cards are accessed via the Parent Portal. If you require additional assistance with receiving your report card via the Parent Portal, please contact your child's school. Unfortunately, Board office staff are not able to provide you with a report card.

Please note: In July and August, the General Inquiry mail box is monitored **Monday through Thursday,** between the hours of 8:00 a.m. – 4:00 p.m.

Thank you
Communications & Public Relations

This email communication is intended as a private communication for the sole use of the primary addressee and those individuals listed for copies in the original message. The information contained in this email is private and confidential and if you are not an intended recipient you are hereby notified that copying, forwarding or other dissemination or distribution of this communication by any means is prohibited. If you are not specifically authorized to receive this email and if you believe that you received it in error please notify the original sender immediately.

Cole Roddick

From: Elexicon Energy <CustomerCare@elexiconenergy.com>
Sent: Tuesday, September 23, 2025 11:02 AM
To: Cole Roddick
Subject: Re: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Cole,

RE : Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Thank you for contacting Elexicon Energy.

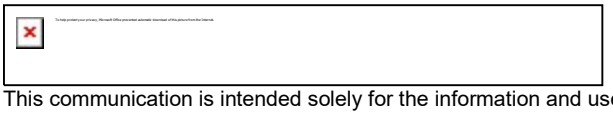
I have forwarded your inquiry to the appropriate department.

If you need additional support, please let us know and we will be happy to assist.

Kindly,
Dil
Customer Care Team
Elexicon Energy

Elexicon Energy customers who receive their monthly bills by mail may be impacted by a postal disruption as early as May 2025 and will need to access their eBill online at my.elexicon. Register for e-bill today!





This communication is intended solely for the information and use of the individual or entity to which it is addressed. Its contents may contain information that is confidential, privileged and exempt from disclosure under applicable law. Any use, disclosure, printing or copying of this communication by anyone other than the intended recipient(s) is strictly prohibited. If you have received this communication in error, please immediately notify the sender, delete the message and do not retain a copy. Thank you.

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 2:55 PM
To: 'omafra.eanotices@ontario.ca'; 'laurie.miller@ontario.ca'; 'julie.simard@ontario.ca'; Barboza, Karla (She/Her) (MCM); 'Dan.Minkin@ontario.ca'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

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Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

Cole Roddick

From: Southern Region Planning Inbox (MNR) <SR.Planning@ontario.ca>
Sent: Friday, September 12, 2025 1:00 PM
To: Cole Roddick
Cc: Poskin, Mike (He/Him) (MNR)
Subject: RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: MNR Southern Region Information Package – For External Proponent Environmental Assessments_Ver2.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Cole,

The Ministry of Natural Resources (MNR) received the **Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement** on September 11, 2025. Thank you for circulating this to our office.

MNR has prepared the attached **MNR Southern Region Information Package – For External Proponent Environmental Assessments** (Package) to help project proponents understand MNR's role as a commenting agency and interests related to environmental assessment within the Ministry's mandate. The Package also provides information on the Ministry's regulatory authority to issue authorizations, permits, licenses and/or approvals. The information provided is subject to change from time to time and it is the proponent's responsibility to ensure the information used to support project planning and compliance with *Environmental Assessment Act* requirements is current and accurate. It is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws and/or other agency approvals.

Please note the ministry has not completed a screening of natural heritage or other resource values at this time. If no MNR interests are identified based on the information contained in this Package, there is no need to further circulate MNR as a commenting agency when undertaking consultation and review under the applicable EA process. If you have identified any MNR interests in your project planning and require additional technical information, or if you have questions about the content of this Package, please feel free to contact me, or SR.planning@ontario.ca.

Best Regards,

Mike Poskin
Regional Planner
Land Use Planning and Strategic Issues Section | Southern Region
Regional Operations Division
Ministry of Natural Resources
705-313-4975 | mike.poskin@ontario.ca

300 Water Street, 4th Floor South
Peterborough, ON K9J 3C7

Ontario

Taking pride in strengthening Ontario, its places and its people

Please note: As part of providing accessible customer service, if you have any accommodation needs, require communication supports, or alternate formats please let me know.

From: Simard, Julie (MNR) <julie.simard@ontario.ca>
Sent: September 11, 2025 3:11 PM
To: Southern Region Planning Inbox (MNR) <SR.Planning@ontario.ca>
Subject: FW: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Julie Simard (pronouns: she, her, hers)
A/Land Use Planning Supervisor |Southern Region, Regional Operations Division
Ontario Ministry of Natural Resources | Ontario Public Service
Cell: 705-761-9364 | julie.simard@ontario.ca

Ontario

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Please note: As part of providing accessible customer service, if you have any accommodation needs, require communication supports, or alternate formats please let me know.

MNR SOUTHERN REGION INFORMATION PACKAGE – FOR EXTERNAL PROPONENT ENVIRONMENTAL ASSESSMENTS

MNR – SOUTHERN REGION – LUPSI

October 2024

How to Use This Information Package

Environmental Assessment (EA) is a planning and decision-making process used to promote environmentally responsible decision-making. In Ontario, this process is defined and is required pursuant to the *Environmental Assessment Act (EAA)*. The Ministry of Environment, Conservation and Parks (MECP) administers the *EAA*.

The Ministry of Natural Resources (MNR) may be asked by a proponent of a project subject to an EA or Class EA to participate as a commenting agency to ensure provincial interests within MNR's mandate are considered by the proponent in the project planning process.

Use of this Information Package "Package" is intended to help project proponents understand MNR's:

- role as a commenting agency and interests related to environmental assessment within the Ministry's mandate (refer Sections 1 through 8 of this document)
- regulatory authority to issue authorizations, permits, licenses and/or approvals (refer Appendix A – MNR Regulatory Role)

The information provided by MNR and the sources listed in this Package should not be considered exhaustive nor a substitute for consultation with other agencies, site visits and appropriate field studies. The information provided is subject to change from time to time and it is the proponent's responsibility to ensure the information used to support project planning and compliance with *EAA* requirements is current and accurate.

If no MNR interests are identified based on the information contained in this Package there is no need to further circulate MNR as a commenting agency when undertaking consultation and review under the applicable EA process. MNR Southern Region (via sr.planning@ontario.ca) may be contacted if there are any questions about the content of this Package or if specific technical information is required.

This Package is intended for use within MNR's Southern Region (SR) regional boundary only. To view the MNR SR regional boundary please see Ministry of Natural Resources and Forestry work centres | ontario.ca.

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1. MNR Mandate

MNR has a mandate to protect Ontario's biodiversity while promoting economic opportunities in the resource sector and supporting outdoor recreation opportunities by:

- Sustainably managing Ontario's fish and wildlife resources.
- Leading the management of Ontario's public (also referred to as Crown) lands, including the beds of navigable waters, oil, gas, salt and aggregate resources, and access to Crown land for renewable energy projects.
- Ensuring the sustainable management of Ontario's Crown forests.
- Protecting people, property and communities from forest fires, floods, and droughts.
- Developing and applying geographic information to help manage the province's natural resources.

MNR's regulatory role is triggered when a project proponent seeks an approval under legislation administered by the Ministry. Information on the Ministry's regulatory role under applicable legislation can be found in Appendix A.

2. MNR Role as Commenting Agency

MNR's role as a commenting agency on projects subject to *EAA* requirements is to:

- Assist and enable project proponents to access relevant technical and scientific information within the scope of MNR's mandate.
- Provide legislative / regulatory / policy information and direction regarding interests within MNR's mandate.
- Support the identification and consideration of the potential effects of a project on matters within MNR's mandate.
- Identify where the project proponent may need to seek MNR approvals regarding the project.

3. Provincial Planning Policies

Provincial plans together with the *Provincial Policy Statement, 2024* (PPS) issued under section 3(1) of the *Planning Act,* provide policy direction on matters of provincial interest related to land use planning and development in Ontario. The PPS and provincial plans contain policies specific to infrastructure projects.

A summary of matters related to MNR's mandate within specific infrastructure-related provincial planning policies can be found below. Please note, this is not an exhaustive list of provincial policies that may apply to a project and other MNR mandated interests may be applicable. It is the project proponent's responsibility to review the provincial plans and PPS,

which may be amended from time to time, to determine policies applicable to the proposed project.

Provincial Plan Mapping

Mapping of provincial plan boundaries and natural heritage areas as defined in individual provincial plans is available to view or download through Make A Map: Natural Heritage Areas or Ontario GeoHub (GeoHub) - Natural Heritage System Area.

Greenbelt Plan, 2017

Section 4.2.1.2 of the Greenbelt Plan contains policies which are designed to direct infrastructure away from, or where not possible, to minimize the impacts on the Natural Heritage and Water Resource Systems. It requires that new or expanding infrastructure "shall avoid *key natural heritage features, key hydrologic features or key hydrologic areas* unless need has been demonstrated and it has been established that there is no other reasonable alternative."

Niagara Escarpment Plan (NEP), 2017

The NEP is administered by the Niagara Escarpment Commission, the government agency mandated to develop, interpret, and apply NEP policies that maintain and enhance the Niagara Escarpment's unique environmental and landscape features. In addition to Make A Map: Natural Heritage Areas, mapping of NEP Escarpment Natural Areas and Escarpment Protection Areas may be obtained from your local municipality or the Niagara Escarpment Commission.

Oak Ridges Moraine Conservation Plan (ORMCP), 2017

Section 41 of the ORMCP contains policies specific to the development of new or the upgrading/extension of existing infrastructure. This policy direction includes where development shall not be permitted unless specified criteria have been satisfied (including where applicable that there is no other reasonable alternative) and establishes required documentation to support infrastructure projects. Specific conditions apply to proposed infrastructure development within a natural core area and infrastructure crossings of key natural heritage features.

Lake Simcoe Protection Plan (LSPP), 2009

Policy 6.23-DP of the LSPP directs that development or site alteration in relation to infrastructure shall not be permitted within a key natural heritage feature, a key hydrologic feature or within a related vegetation protection zone unless the need for the project has been demonstrated through an Environmental Assessment or other similar environmental approval and it has been demonstrated there is no reasonable alternative. Some exceptions may apply.

4. Fish, Wildlife and Natural Heritage

MNR's natural heritage and natural resources geospatial data layers can be accessed through the ministry's GeoHub and Natural Resources Data Access Requests | Ontario GeoHub. Please note, these Geospatial Ontario (formerly known as Land Information Ontario) GIS data layers available from MNR and the sources listed and linked on this webpage should not be considered as a substitute for site visits and appropriate field surveys. Generally, information available from MNR can be regarded as a starting point from which to conduct further field studies, if needed. While this data represents MNR's best available current information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. There are many areas where MNR does not currently have information. On-site assessments can better verify site conditions, identify natural features and values and confirm presence of species at risk and/or their habitats.

The information below provides an overview of MNR's mandated interests in natural heritage to consider within the project study area. A detailed list of provincial technical guidance material used to identify significant natural heritage features in different landscapes can be found in Appendix B.

Fisheries

All permanent and intermittent watercourses and waterbodies have potential to contain fish habitat or contribute to fisheries resources. MNR is responsible for administering and enforcing the Ontario Fishery Regulations under the *Fisheries Act*.

When agency approvals are required for a proposed project, it is the responsibility of the authorizing regulatory agency to set any in-water work timing windows in their authorizations. These timing windows may be based on the MNR's In-water Work Timing Window Guidelines.

Areas of Natural and Scientific Interest

The study area should be screened for the presence of Areas of Natural and Scientific Interest (ANSI). ANSIs are lands and waters containing features that are important for natural heritage protection, scientific study, and education. ANSIs are identified and confirmed by MNR based on their representation of Ontario's significant geological and natural heritage features and are categorized as either Earth Science or Life Science.

Wetlands

Study areas that contain unevaluated or unmapped wet features should be investigated for the presence of wetlands. Wetlands are lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to the surface. Wetlands may

vary in their significance, and the four major types of wetlands are swamps, marshes, bogs, and fens.

As of January 1, 2023, MNR no longer reviews and confirms wetland evaluations. MNR's role with respect to wetland evaluation includes providing the provincial framework under which wetlands in Ontario are evaluated for significance (OWES), and uploading digital wetland boundary mapping and wetland status into the Geospatial Ontario database.

Significant Wildlife Habitat

Study areas which may contain significant wildlife habitat should be investigated for its presence or absence. Significant wildlife habitat may include features such as: seasonal concentration areas for wildlife species (e.g., snake hibernaculum), rare vegetation communities (e.g., tallgrass prairie), specialized habitats of wildlife (e.g., turtle nesting and over-wintering areas), habitats of species of conservation concern (e.g., Special Concern species as identified on the Species at Risk in Ontario list) and animal movement corridors (e.g., amphibian movement corridors). Provincially tracked species data (generalized to Natural Heritage Information Centre 1 km screening grid) can be viewed in Natural Heritage Make a Map. Detailed geospatial data may be obtained through GeoHub via a data sharing agreement.

Please note, relying on online mapping tools only may not accurately reflect the presence or absence of significant wildlife habitat within the project study area. Surveys or additional site level assessment are often required to confirm presence or absence of natural heritage features and values.

Significant Woodlands

Project study areas that contain wooded areas should be investigated for the presence of significant woodlands. Significant woodlands are areas that are ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to their contribution to the broader landscape; or economically important. Local planning authorities are responsible for identifying significant woodlands in accordance with criteria established by MNR.

Significant Valleylands

Project study areas that occur in a valley or other landform depression that has water for some period of the year should be investigated for the presence of significant valleylands. The identification of valleyland significance is the responsibility of the local planning authority. MNR recommends criteria for determination of valleyland significance.

5. Natural Hazards

In Ontario, development is generally directed away from areas impacted by natural hazards to prevent risks from inappropriate development on and around these lands and to ensure that the risks to public health and safety are minimized. Keeping people and property out of harm's way is a cost-effective, socially responsible, and proactive approach to addressing natural hazards. Various policies and programs direct people and development outside of natural hazard areas.

Responsibility for natural hazard management and implementation of programs and policies for most natural hazards has been delegated to municipalities and Conservation Authorities (CA) where they exist. MNR supports implementation of natural hazard policies by local municipalities and CAs by providing a series of natural hazard technical guidelines (see Appendix B).

Hazardous Lands (flooding, erosion and dynamic beach hazards)

The project location should be reviewed for the presence of hazardous lands. These may include lands subject to flooding and/or erosion and dynamic beaches. These lands become hazardous when people and property locate in these areas. The local municipality and CA should be contacted for further guidance where required.

Special Policy Areas

Some localized areas of the province may be subject to an approved Special Policy Area (SPA), as defined by the PPS. If the study area is located within or adjacent to a SPA, special consideration for any impacts to the flood plain and site-specific SPA policies may be necessary. Any proposed change or modification to the official plan policies, land use designations or boundaries applying to SPA lands, requires joint approval by the Ministers of the Ministry of Municipal Affairs and Housing (MMAH) and MNR.

Local official plans may be reviewed to identify the presence of SPAs within the study area. MNR may have additional information regarding SPAs which can be made available upon request.

Where applicable, information should be identified at the EA stage regarding any expected changes to the floodplain or potential modifications to the SPA subject to provincial approval.

Hazardous Sites (unstable soils and bedrock)

The project location should be reviewed for the presence of hazardous sites. These may include unstable soils (sensitive marine clays [leda], organic soils) or unstable bedrock (karst topography). General information and mapping tools available to assist in identifying the

potential presence of hazardous sites (e.g., karst and organic soils) include, but are not limited to:

- GeologyOntario (gov.on.ca) is maintained by the Ministry of Mines and provides access to all Ontario Geological Survey maps, reports and digital datasets.
- Wetland mapping
- Soil information and mapping maintained by the Ministry of Agriculture, Food and Rural Affairs is available at Soil Survey Complex (GeoON) or AgMaps

Hazardous Forest Types for Wildland Fire

Project study areas containing wooded areas should be screened for the presence of hazardous forest types for wildland fire. Data to identify potential areas that meet this definition can be found in GeoHub - Potential Hazardous Forest Types for Wildland Fire. Note that this data layer is based on forest type data at a coarse scale. Complete assessment of risk and determination of appropriate mitigation measures can only be done with confidence on a site-specific basis.

6. Oil, Gas and Salt Resources

Oil, gas or salt wells are regulated under the *Oil, Gas and Salt Resources Act*, and the supporting regulations and operating standards.

To help determine the presence of petroleum wells within the proposed project area, basic mapping information can be found through the GeoHub portal or the Ontario Oil, Gas and Salt Resources Library (www.ogsrlibrary.com). The 'Definitions and Terminology Guide' listed in the publications section on the library website may provide a better understanding of the well and resource information available.

The Ontario Petroleum Institute (OPI) is an industry association that can assist with retaining the services of a consultant who can provide information about the potential resources located below the property.

If any unanticipated petroleum wells or associated works are encountered during a project, the proponent should cease work immediately and contact MNR's Petroleum Operations Section (POS) to further understand the proponent's obligations under the *Oil, Gas and Salt Resources Act*. The POS may be contacted at POSRecords@ontario.ca or 519-873-4634. In the event of a spill, the project proponent should report it to the Spills Action Centre at 416-325-3000, 1-800-268-6060 (toll free), or 1-855-889-5775 (TTY).

7. Mineral Aggregate Resources

Mineral aggregate resources are usually sand, gravel, clay, earth and bedrock. They are used to make roads, subway tunnels, homes and other structures. Mineral aggregate resources are a non-renewable resource that exist in fixed locations.

MNR has an interest in protecting mineral aggregate resources from incompatible development so they may continue to be available for future extraction. Data to map known deposits of mineral aggregate resources is available from Geology Ontario at GeologyOntario (gov.on.ca).

Project proponents should consider mineral aggregate resources by screening for existing aggregate operations at Find Pits and Quarries | ontario.ca, and consider any potential to preclude or hinder operations and the use of aggregate resource deposits through incompatible development.

8. Crown Lands, Lakes, Rivers and Forests

MNR manages public lands including the beds of most lakes and rivers. Some activities on shore lands (both public and private) are also managed by the MNR.

Public land boundaries (mapping is representative only) and applicable Crown land use policies can be viewed at Crown Land Use Policy Atlas | ontario.ca. Provincial parks and conservation reserves are managed by MECP under the *Provincial Parks and Conservation Reserves Act*.

MNR manages the health of Crown forests so they may continue to provide ecological, economic, and social benefits. Most of Ontario's Crown forests are managed by forest companies under 20-year Sustainable Forest Licences. These companies are responsible for working with government and others to prepare and implement a forest management plan for their licence area, monitoring compliance with the plan and renewing the forest after harvesting trees.

9. Conclusion

The list of interests within MNR's mandate described in this document is not exhaustive. For additional information on legislation and programs the ministry administers see Ministry of Natural Resources | ontario.ca.

If you have identified any MNR interests in your project planning and require additional information, please direct your specific questions to the designated Regional Planner for the project, or to SR.planning@ontario.ca.

Appendix A – MNR Regulatory Role

MNR's regulatory role is triggered when a project proponent seeks an approval under legislation administered by the Ministry. This Appendix provides information about some of the more commonly applicable approvals issued by MNR. Please note, MNR may not be able to confirm the requirement for an approval until a detailed project and site plan have been provided to the Ministry.

A proposal for an MNR approval may engage the ministry's duty to consult Indigenous peoples.

Where MNR is considering an application, the ministry must also ensure its own obligations under the *EAA* are satisfied prior to a final decision. Where an approval would dispose of rights to Crown Resources for a project that has already completed *EAA* requirements under another process, MNR will require written documentation from the applicant setting out how *EAA* requirements for the project have been met prior to MNR issuing any requested approval.

Fish and Wildlife Conservation Act

The *Fish and Wildlife Conservation Act, 1997* regulates the relocation of fish and wildlife. Accordingly, should a project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), will require a Wildlife Collector's Authorization.
- The destruction, taking or possession of any nests or eggs of species not protected by the *Migratory Birds Convention Act (*MBCA*)* or excluded under section 7(2) of the FWCA may also require a Wildlife Collector's Authorization.

To learn more about the management of Fish and Wildlife in Ontario, or to apply for permits or licenses, please visit the Natural Resources Information Portal.

Aggregate Resources Act

The *Aggregate Resources Act* (ARA) is the primary legislative framework for regulating aggregate resource extraction in Ontario. The MNR administers the *ARA* and issues licenses, permits and approves amendments to existing approvals. Information on existing pits and quarries and when an aggregate permit or license may be required can be accessed from MNR's Aggregates Section or GeoHub – Additional Resources

Lakes and Rivers Improvement Act

The *Lakes and Rivers Improvement Act* (LRIA) provides the MNR with regulatory authority over the design, construction, operation, maintenance and safety of dams in Ontario. For

information regarding when a MNR approval may be required and how the LRIA is administered by the Ministry visit Lakes and Rivers Improvement Act administrative guide | ontario.ca

Public Lands Act

The use of public land and shore lands are regulated under the *Public Lands Act*. A work permit must be obtained from MNR to undertake certain activities on public land and shore lands. To occupy public lands in Ontario, you must receive prior approval from MNR unless the use is permitted by regulation. Visit Natural Resources Information Portal for information on when a permit or approval is required and how to submit an application.

Crown Forest Sustainability Act

Any activities that involve a proposal to cut Crown forest resources (e.g., trees on Crown land) may require approval under the *Crown Forest Sustainability Act, 1994.*

Appendix B – Technical Guides

The following technical guides are the province's best available information to support identification of significant natural heritage features in different landscapes:

- Natural Heritage Reference Manual (2010)
- Greenbelt Technical Paper (2005)
- Oak Ridges Moraine Technical Paper 1 (Natural Heritage Features)
- Oak Ridges Moraine Technical Paper 2 (Significant Wildlife Habitat)
- Oak Ridges Moraine Technical Paper 7 (Significant Woodlands)
- Lake Simcoe Protection Plan Technical Paper
- Ontario Wetland Evaluation System (OWES)
- Significant Wildlife Habitat Technical Guide
    - Ecoregion Criterion Schedules for the identification of Significant Wildlife Habitat
        - Ecoregion 5E
        - Ecoregion 6E
        - Ecoregion 7E
    - Significant Wildlife Habitat Mitigation Support Tool (MiST)

Other supporting information may be found at Ontario GeoHub or Natural Resources Data Access Requests | Ontario GeoHub.

The following technical guides are the province's best available information to support implementation of MNR's interest in natural hazards (contact MNR to request pdf copies):

- Understanding Natural Hazards (2001)
- Special Policy Areas Procedures (2009)
- Technical Guide – River & Stream Systems: Flooding Hazard Limit (2002)
- Technical Guide – River & Stream Systems: Erosion Hazard Limit (2002)
- Great Lakes-St. Lawrence River Shorelines: Flooding, Erosion and Dynamic Beaches (2001)
- Technical Guide for Large Inland Lakes Shorelines: Flooding, Erosion and Dynamic Beaches (1996)
- Hazardous Sites Technical Guide (1996)
- Technical Bulletin: Flooding Hazards: Data Survey and Mapping Specifications (2023)
- Wildland Fire Risk Assessment and Mitigation Reference Manual (2017)

The following technical guide is the province's best available information supporting implementation of MNR's mandated interest in mineral aggregate resources (contact MNR to request pdf copy):

- Non-renewable Resources Training Manual (1997)

Cole Roddick

From: Antwi-Nsiah, Amanda (MCM) <Amanda.Antwi-Nsiah@ontario.ca>
Sent: Monday, November 03, 2025 2:13 PM
To: Matt Brooks
Cc: Barboza, Karla (She/Her) (MCM); Minkin, Dan (MCM); Tyler Dukovic; Cole Roddick; Deanna De Forest
Subject: MCM Response - Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement [MCM File: 0023689]
Attachments: 2025-11-03 Scugog Edgerton_Rd Bridge_MCM_InitialLetter.pdf; 2025-09-11 EdgertonRdBridge_NofCommencement.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Matthew Brooks,

Thank you for sending the Notice of Study Commencement for the above-referenced project to the Ministry of Citizenship and Multiculturalism (MCM). Please find attached our initial letter on this project.

If you have any questions, please do not hesitate to contact us.

Best regards,

Amanda Antwi-Nsiah
Heritage Planner | Heritage Operations Branch | Citizenship, Inclusion and Heritage Division
Ministry of Citizenship and Multiculturalism | Ontario Public Service
437-212-5945 | *Amanda.Antwi-Nsiah@ontario.ca*

Ontario

Taking pride in strengthening Ontario, its places and its people

Ministry of Citizenship and Multiculturalism

Heritage Planning Unit
Heritage Operations Branch
Citizenship, Inclusion and Heritage Division
5th Flr, 400 University Ave
Toronto, ON M5G 1S7
Tel.: 416-786-7553

Ministère des Affaires civiques et du Multiculturalisme

Planification relative au patrimoine
Opérations relatives au patrimoine
Division des affaires civiques, de l'inclusion et du patrimoine
5e étage, 400, av. University
Toronto, ON M5G 1S7
Tél.: 416-786-7553

November 3, 2025 EMAIL ONLY

Matthew Brooks, P.Eng.,
Project Manager
R.J. Burnside & Associates Limited
3 Ronell Crescent
Collingwood ON L9Y 4J6
Matt.Brooks@rjburnside.com

MCM File	**:**	**0023689**
Proponent	**:**	**Township of Scugog**
Subject	**:**	**Notice of Study Commencement – Schedule B – Municipal Class Environmental Assessment**
Project	**:**	**Scugog Edgerton Road Bridge Replacement**
Location	**:**	**Township of Scugog, Region of Durham**

Dear Matthew Brooks:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with the Notice of Study Commencement for the above-referenced project.

MCM's interest in this environmental assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources (including land and marine);
- built heritage resources (including bridges and monuments); and
- cultural heritage landscapes.

Project Summary
The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements (i.e., rehabilitation, replacement, removal, or do nothing) to the Edgerton Road Bridge (Bridge No. 11). The project is anticipated to be completed as a Schedule B of the Municipal Class Environmental Assessment process (Municipal Engineers Association, February 2024).

Identifying Cultural Heritage Resources
While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities.

Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.

Municipal Heritage Bridges: Cultural, Heritage & Archaeological Resources Assessment Checklist

Under the EA process, the proponent is required to determine a project's potential impact on cultural heritage resources. The Municipal Engineers Association prepared a checklist in consultation with MCM to assist with undertaking cultural heritage due diligence as per the requirements of the Municipal Class EA. Further information can be found in their website:

- Municipal Bridges – Criteria for Evaluating Potential for Cultural Heritage Resources (revised July 7, 2023) – Checklist: https://municipalclassea.ca/files/Clarifications/2023/15%20-%20Municipal%20Bridge%20Checklist%20Accepted%20by%20MCM%20July%207%202023.pdf
- Heritage Bridges presentation material: https://municipalclassea.ca/files/Clarifications/2023/14%20-%20Webinar%20-%20Heritage%20Bridge%20Checklist%20April%2027%202023%20final%20for%20May%2016%202023%20webinar.pdf

Part A – Municipal Class EA Activity Selection

Please use the checklist referenced above to determine the Municipal Class EA schedule (A, A+, B or C) for the project. Completing the remainder of this checklist determines what technical cultural heritage studies may be required.

Part B - Screening for Built Heritage Resources and Cultural Heritage Landscapes

If Part B of the checklist determines that the bridge or study area warrants the preparation of a Cultural Heritage Evaluation Report (CHER), and the undertaking of a Heritage Impact Assessment (HIA), please note that CHERs and HIAs are to be prepared by qualified heritage consultants. Please send CHERs and/or HIAs to MCM for review and comment and make copies available to local organizations or individuals who have expressed an interest in cultural heritage as early as possible during the planning phase and prior to the completion of the EA process.

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person to undertake technical cultural heritage studies as identified at the end of Part B.

Part C – Screening for Archaeological Resources

If Part C of the checklist determines that an archaeological assessment is required, you will need to hire an archaeologist licensed under the *Ontario Heritage Act*.

For more information on archaeological assessments and a list of licensed archaeologists in Ontario:
https://www.ontario.ca/page/archaeological-assessments and
https://www.ontario.ca/page/archaeologists-licensed-ontario

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a licensed archaeologist to undertake an archaeological assessment.

Environmental Assessment Reporting
After completing the checklist, please update MCM on the project Class EA schedule and whether any technical cultural heritage studies will be completed for the project.

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please provide all technical cultural heritage studies to MCM as early as possible during the planning phase and prior to the issuance of a Notice of Completion or any ground disturbing activities.

If the screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Please note that the responsibility for administration of the *Ontario Heritage Act* and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and contact information remain unchanged. Please continue to send any notices, report and/or documentation to both Karla Barboza and Dan Minkin.

- Karla Barboza, Team Lead - Heritage | Heritage Planning Unit (Citizenship and Multiculturalism) | 416-660-1027 | karla.barboza@ontario.ca
- Dan Minkin, Heritage Planner | Heritage Planning Unit (Citizenship and Multiculturalism) | 416-786-7553 | dan.minkin@ontario.ca

Thank you for consulting MCM on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact us.

Sincerely,

Amanda Antwi-Nsiah
Sent on behalf of

Dan Minkin
Heritage Planner
dan.minkin@ontario.ca

Copied to: Karla Barboza, Team Lead, Heritage Planning Unit, MCM
Tyler Dukovic, Project Manager, Township of Scugog
Cole Roddick, Environmental Planner, R.J. Burnside & Associates Limited
Deanna De Forest, R.J. Burnside & Associates Limited

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. The Ministry of Citizenship and Multiculturalism (MCM) makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MCM be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with *Ontario Regulation 30/11* the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

APPENDIX C
C4 - Public Correspondence

Cole Roddick

From: Matt Brooks
Sent: Friday, September 26, 2025 1:59 PM
To: Cole Roddick
Cc: Deanna De Forest
Subject: FW: edgerton road bridge - resident feedback

Follow Up Flag: Follow up
Flag Status: Completed

First comment

Can you please track

From: Tyler Dukovic <tdukovic@scugog.ca>
Sent: Friday, September 26, 2025 12:30 PM
To: Matt Brooks <Matt.Brooks@rjburnside.com>
Subject: RE: edgerton road bridge - resident feedback

Good Afternoon Matt,

The website received its first comment:

This bridge will have to be sensitive to the creek. A replacement bridge would seem appropriate and hopefully a single lane so speeds stay ⬇

Thanks,

Tyler Dukovic, C. Tech.
Capital Projects Technologist
TOWNSHI Scugo
181 Perry St., PO Box 780
Port Perry, ON L9L 1A7
Tel: 905-985-7346 x 150
tdukovic@scugog.ca
www.scugog.ca

Cole Roddick

From: Matt Brooks
Sent: Monday, October 06, 2025 12:46 PM
To: Cole Roddick
Cc: Deanna De Forest
Subject: FW: Re your edgerton rd bridge project

Follow Up Flag: Follow up
Flag Status: Completed

Cole

Please log the correspondence below.

From: Tyler Dukovic <tdukovic@scugog.ca>
Sent: Monday, October 06, 2025 11:26 AM
To: Matt Brooks <Matt.Brooks@rjburnside.com>
Subject: FW: Re your edgerton rd bridge project

Good Morning Matt,

Please see the email below regarding a resident comment.

Thanks,

Tyler Dukovic, C. Tech.
Capital Projects Technologist
TOWNSHIP OF SCUGOG
181 Perry St., PO Box 780
Port Perry, ON L9L 1A7
Tel: 905-985-7346 x 150
tdukovic@scugog.ca
www.scugog.ca

From: [redacted]
Sent: October [redacted]
To: Tyler Dukovic <tdukovic@scugog.ca>
Subject: Re your edgerton rd bridge project

You don't often get email from [redacted] Learn why this is importan

Good morning. This is [redacted] Edgerton rd. Please keep me advised as your project progresses. While I would prefer a wide single lane bridge that would keep traffic speeds to a liveable level. And given we have families with small children in Cadmus. I realize that you must also consider the water flow from the dam and lake above.

APPENDIX C
C5 - Indigenous Correspondence

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:18 PM
To: 'tsimpson@alderville.ca'; 'jkapyrka@alderville.ca'; 'consultation@alderville.ca'; 'jsmoke@alderville.ca'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Chief Simpson,
Dr. Julie Kapyrka
Dave Simpson
Joanne Smoke

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

Cole Roddick

From: Matt Brooks
Sent: Wednesday, October 15, 2025 6:24 PM
To: Deanna De Forest; Cole Roddick
Subject: Fw: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement - Sept 2025.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Get Outlook for iOS

From: Julie Kapyrka <jkapyrka@alderville.ca>
Sent: Wednesday, October 15, 2025 6:14:04 PM
To: Tyler Dukovic <tdukovic@scugog.ca>; Matt Brooks <Matt.Brooks@rjburnside.com>
Cc: Taynar Simpson <tsimpson@alderville.ca>
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Aaniin Tyler and Matthew,

Please see attached.

Miigwech,

Dr. Julie Kapyrka
Consultation Manager
Alderville First Nation
11696 Second Line Rd.
Roseneath, ON K0K 2X0
905-352-2662
jkapyrka@alderville.ca

ALDERVILLE FIRST NATION

11696 Second Line Road
Roseneath, Ontario K0K 2X0
Phone: (905) 352-2011
Fax: (905) 352-3242
www.alderville.ca

Chief: Taynar Simpson
Councillor: Lisa McDonald
Councillor: Jason Marsden
Councillor: Amber Crowe
Councillor: Kassie McKeown
Councillor: Joanne Smoke

VIA E-MAIL

October 15, 2025

Tyler Dukovic, C.Tech.,
Project Manager
Township of Scugog
181 Perry Street
Port Perry ON L9L 1A7
Tel: 905-985-7346 Ext. 150
Email: Tdukovic@scugog.ca

Matthew Brooks - R.J. Burnside & Associates Limited
Email: Matt.Brooks@rjburnside.com

Dear Tyler Dukovic and Matthew Brooks,

RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

I would like to acknowledge receipt of your correspondence, which was received September 11h, 2025, regarding the above noted project.

As you may be aware, the area in which this project is proposed is situated within the Traditional and Treaty Territory of Alderville First Nation. Our First Nation's Territory is incorporated within the Williams Treaties Territory and was the subject of a claim under Canada's Specific Claims Policy, which has now been settled. All 7 First Nations within the Williams Treaties have had their harvesting rights legally re-affirmed and recognized through this settlement (2018).

In addition to Aboriginal title, Alderville First Nation rights in its Reserve and Traditional Territory and/or Treaty Territory include rights to hunt, fish and trap, to harvest plants for food and medicine, to protect and honour burial sites and other significant sites, to sustain and strengthen its spiritual and cultural connection to the land, to protect the Environment that supports its survival, to govern itself, sustain itself and prosper including deriving revenues from its lands and resources, and to participate in all governance and operational decisions about how the land and resources will be managed, used and protected.

Alderville First Nation is requiring a File Fee for this project in the amount of $300.00. This Fee includes administration, an initial meeting, project updates as well as review of standard material and project overviews. Depending on the number of documents to be reviewed by the Consultation Department, additional fees may apply.

Please make this payment to Alderville First Nation and please indicate the project name on the cheque. If you do not have a copy of Alderville First Nation's Consultation Protocol, it is available at: alderville.ca/wp-content/uploads/2017/02/AFNProtocol2.pdf. Please note that the mapping in this document needs updating to reflect the Williams Treaties First Nations Settlement Agreement 2018.

In order to assist us in providing you with timely input, please provide us with a Notice of Request to Consult containing relevant information and material facts in sufficient form and detail to assist Alderville First Nation to understand the matter in order to prepare a meaningful response. Guidance for giving notice can be found on pages 11-12 of our Consultation Protocol. Based on the information that you have provided us with respect to the notice of **Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement,** Alderville First Nation may require a mutual agreement to establish a special consultation process for this project. After the information is reviewed it is expected that you or a representative will be in contact to discuss this matter in more detail and possibly set up a date and time to meet with Alderville First Nation in person or virtually.

Although we have not conducted exhaustive research nor do we have the resources to do so, there may be the presence of burial or archaeological sites in your proposed project area. Please note, that we have particular concern for the remains of our ancestors. Should excavation unearth bones, remains, or other such evidence of a native burial site or any other archaeological findings, we must be notified without delay. In the case of a burial site, Council reminds you of your obligations under the *Cemeteries Act* to notify the nearest First Nation Government or other community of Aboriginal people which is willing to act as a representative and whose members have a close cultural affinity to the interred person. As I am sure you are aware, the regulations further state that the representative is needed before the remains and associated artifacts can be removed. Should such a find occur, we request that you contact our First Nation immediately.

Furthermore, Alderville First Nation also has available, trained Archaeological Liaisons who can actively participate in the archaeological assessment process as a member of a field crew, the cost of which shall be borne by the proponent. Alderville First Nation expects engagement at Stage 1 of an archaeological assessment, so that we may include Indigenous Knowledge of the land in the process. We insist that at least one of our Archaeological Liaisons be involved in any Stage 2-4 assessments, including test pitting, and/or pedestrian surveys, to full excavation.

Although we may not always have representation at all stakeholders' and rights holders' meetings, it is our wish to be kept apprised throughout all phases of this project. Should you have further questions or if you wish to hire a Liaison for a project, please feel free to contact Julie Kapyrka, Consultation Manager, at 905-352-2662 or via email at jkapyrka@alderville.ca .

Yours sincerely,



Chief Taynar Simpson
Alderville First Nation

Cole Roddick

From: Cole Roddick
Sent: Friday, November 21, 2025 2:19 PM
To: 'jkapyrka@alderville.ca'
Cc: Matt Brooks; Deanna De Forest
Subject: RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 251121 Notice for Request To Consult Letter.pdf

Good afternoon,

Please find attached the Letter of Notice of Request to Consult for the Scugog Edgerton Road Bridge Replacement MCEA.

Thank you,

Cole Roddick

R.J. Burnside & Associates Limited 128 Wellington Street West Suite 301 Barrie ON L4N 8J6 CANADA
telephone (705) 797-2047 **fax** (226) 526-9660 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

November 21, 2025

Via: Email

Dr. Julie Kapyrka
Consultation Manager
Alderville First Nation
11696 Second Line Rd.
Roseneath, ON K0K 2X0

Dear Dr. Julie Kapyrka:

Re: Scugog Edgerton Road Bridge Replacement, Schedule B MCEA
Notice of Request to Consult
Project No.: 300059896.0000

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) for Edgerton Bridge (Bridge No. 11). The objective of the project is to evaluate options to address operational issues for the bridge, including the existing bridge's deteriorating condition and load restrictions.

This Notice of Request to Consult is provided on behalf of the Township of Scugog (Township) by R.J. Burnside & Associates Limited (Burnside), as outlined in Section 6 of the Alderville First Nation (AFN) Consultation Protocol. The purpose of this letter is to provide Alderville First Nation with available study information, and to invite any input into the study for the proposed bridge replacement.

1.0 Nature and Scope of the Proposed Activity

The Edgerton bridge, built in 1925, is substandard in width (5.7 m driving platform) and cannot be widened without replacement due to its original design as a Concrete Through-Girder Bridge. The bridge is currently load-limited to 8 / 14 / 19 tonnes with several defects, including severe spaling, delaminations, localized wide cracking, and exposed corroded reinforcing steel in the concrete deck soffit. The abutment footings also show severe scour. The bridge was inspected in 2023 and found to be in poor condition and has safety concerns.

The MCEA evaluated four alternatives:

1. Do Nothing
2. Remove Bridge Structure
3. Bridge Rehabilitation
4. Two Lane Bridge Replacement

The recommended solution is alternative 4, Two Lane Bridge Replacement, to address the noted deficiencies and safety concerns of the bridge.

The replacement of the bridge would include replacing the existing 12.2 m clear-span Concrete Through-Girder Bridge with a 23.0 m concrete slab, on a prestressed concrete box girder bridge. The new larger span bridge will increase the driving platform width to 8.5 m and set abutments back 3 m to 4 m from the natural channel to improve the hydraulic performance of the crossing including conveying up to the 100-year storm event.

1.1 Timing of the Proposed Activity

The MCEA process commenced with the Notice of Study Commencement issued on September 11, 2025. The Notice of Completion of the study is anticipated to be issued in early January 2026.

The existing bridge is estimated to have less than five years of useful service life remaining, and replacement is prioritized to be completed within less than two years (prior to 2028). Construction for the recommended replacement is anticipated to take approximately 20 to 22 weeks.

1.2 Location of the Proposed Activity

The proposed activity is located on Edgerton Road at Edgerton Bridge (Bridge No. 11), over East Cross Creek. The location is approximately 200 m west of Cartwright East Quarter Line, between Lots 18, Concession 4 and 5, in the Township of Scugog, Regional Municipality of Durham, Ontario. A map of the study area and location of the bridge is provided below.

Figure 1: Site Location



Figure 2: Study Area



2.0 How the Proposed Activity May Affect AFN and its Traditional Territory

Project activities associated with the recommended solution for the bridge include the removal and replacement of the existing bridge and abutments, temporary road closure, excavation, grading and asphalt application within the existing Edgerton Road Right of Way in the vicinity of the bridge.

2.1 Natural Features

The construction will require removal of trees and vegetation located within the road right-of-way, primarily along the south side of Edgerton Road. A total of 25 individual trees is anticipated to be removed to accommodate construction.

Temporary displacement of wildlife and disturbance to habitat will occur during the construction phase, including migratory breeding bird habitat and potential Species at Risk bat habitat as a result of tree removal.

The activity involves in-water works and disturbance of the existing watercourse (East Cross Creek) during the removal of the bridge abutments which could result in Harmful Alteration, Disruption, or Destruction (HADD) to fish habitat.

Potential impacts to the natural environment are anticipated to be minimized with avoidance, tree protection, erosion and sediment control and mitigation measures. The Township is committed to mitigating adverse effects to aquatic habitat by reinstating disturbed areas with natural substrate, improving hydraulic flow, and obtaining necessary environmental permits. Seasonal timing windows for construction are recommended. Vegetation removal should avoid sensitive times of the year for local wildlife, such as spring and early summer (during the breeding and migration seasons), generally from April 1 to October 1 and near water and any in-water work within East Cross Creek is to be restricted to occurring between July 15 and September 30 of a given year, applicable for a cold water thermal regime. Areas disturbed because of construction activities are recommended to be restored as practical.

2.2 Cultural Heritage

The existing bridge has been identified as having Cultural Heritage Value or Interest (CHVI) as a representative example of an early 20th century, narrow two-lane reinforced concrete solid slab bridge which was cast in place, concrete abutments, paneled parapet wall and art deco elements and its east west orientation and location over East Cross Creek.

The proposed undertaking involves the complete removal of the existing bridge. The replacement bridge structure is recommended to be designed to be compatible with the existing rural context, at the current crossing location, with the opportunity to incorporate the aesthetic of the original features of the bridge having value or interest into the design. Recommended mitigation measures include photographic documentation of all elevations of the existing bridge prior to removal to supplement the historic record.

2.3 Archaeological Resources

A Stage 1 Archaeological Assessment was completed in June 2025 and determined that the study area has low archaeological potential due to extensive previous disturbance (including a paved road, steep slopes, ditches, and bridge footings) Further archaeological assessment was not recommended.

2.4 Who Will Be Undertaking the Activity?

The proponent undertaking this activity is the Township of Scugog.

3.0 Description of the Proposed Consultation Process

In accordance with the MCEA process for Schedule B projects, a Notice of Commencement was circulated to the public, agencies, utilities and Indigenous Nations with a potential interest in the study. Project notices requesting input on the project are circulated by email, direct mail, newspaper advertisement and a project webpage hosted on the Town's website https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment where study information, notices and reports are available for public review and comment. The consultation and engagement process and study findings will be documented in a Project File Report (PFR). The study will conclude with the Notice of Completion and the opportunity for a 30-day public review of the Project File Report, documenting the consultation and engagement, planning and decision-making process for the project.

3.1 Pertinent Documents Available for Review

The following documents, studies, and assessments relevant to the proposed activity are available for AFN review:

- Existing Geometry and Physical Conditions Technical Memorandum (R.J. Burnside & Associates Limited)
- Natural Heritage Report (R.J. Burnside & Associates Limited)
- Arborist Technical Memorandum and Tree Preservation Plan (R.J. Burnside & Associates Limited)
- Heritage Impact Assessment (MHBC)
- Stage 1 Archaeological Assessment (Parslow Heritage Consultancy Inc.)
- Project Information Boards (https://hdp-ca-prod-app-scugog-myscugog-files.s3.ca-central-1.amazonaws.com/4917/5753/2339/Project_Information_Boards.pdf)

3.2 Collateral or Related Processes or Approvals Underway

- The activity involves work within regulated lands and will require a permit from Kawartha Region Conservation Authority under Ontario Regulation 41/24 (Prohibited Activities, Exemptions and Permits Regulation).
- In-water works may necessitate a Request for Review from the Department of Fisheries and Oceans (DFO) to ensure mitigation of potential HADD to fish habitat.
- A License to Collect Fish for a Scientific Purpose from the Ministry of Natural Resources (MNR) will be required to conduct necessary fish salvage from the isolated work area.

3.3 Documentation of Any Deadlines or Filing Dates

The Notice of Completion for this project will be issued in early 2026, anticipated for January / February. This notice will be published in the local newspaper (The Standard) and posted on the project website, initiating the mandatory 30-day public review period.

3.4 Pertinent Names, Addresses, and Telephone Numbers for Contacts

The main project contacts for both the Township and Burnside are the following:

Tyler Dukovic, C. Tech., Project Manager Township of Scugog 181 Perry Street Port Perry, ON, L9L 1A7 Tel: 905-985-7346 ext. 150 Email: tdukovic@scugog.ca	**Matt Brooks, P. Eng.,** Project Manager R.J. Burnside & Associates Limited 3 Ronell Crescent Collingwood, ON L9Y 4J6 Tel: 705-443-7492 Email: matt.brooks@rjburnside.com

It would be appreciated if you could please provide confirmation of receipt of this Notice of Request and kindly provide any comments on the study and next steps.

Yours truly,

R.J. Burnside & Associates Limited

Cole Roddick
Environmental Planner
CR:cvh

Other than by the addressee, copying or distribution of this document, in whole or in part, is not permitted without the express written consent of R.J. Burnside & Associates Limited.

Cole Roddick

From: Matt Brooks
Sent: Wednesday, December 03, 2025 11:26 AM
To: Deanna De Forest; Cole Roddick
Subject: FW: Scugog Edgerton Road Bridge Replacement
Attachments: Scugog Edgerton Road Bridege Replacement - Nov 2025.pdf

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

From: Julie Kapyrka <jkapyrka@alderville.ca>
Sent: Wednesday, December 03, 2025 11:21 AM
To: Tyler Dukovic <tdukovic@scugog.ca>; Matt Brooks <Matt.Brooks@rjburnside.com>
Cc: Taynar Simpson <tsimpson@alderville.ca>
Subject: Scugog Edgerton Road Bridge Replacement

Aaniin Tyler,

Please see attached.

Miigwech,

Dr. Julie Kapyrka
Consultation Manager
11696 Second Line Rd.
Roseneath, ON K0K 2X0
905-352-2662
jkapyrka@alderville.ca

ALDERVILLE FIRST NATION

11696 Second Line Road
Roseneath, Ontario K0K 2X0
Phone: (905) 352-2011
Fax: (905) 352-3242
www.alderville.ca

Chief: Taynar Simpson
Councillor: Lisa McDonald
Councillor: Jason Marsden
Councillor: Amber Crowe
Councillor: Kassie McKeown
Councillor: Joanne Smoke

VIA E-MAIL

December 3, 2025

Tyler Dukovic
Project Manager
Township of Scugog
181 Perry Street, Port Perry, On L9L 1A7
tdukovic@scugog.ca
905-985-7346 ext. 150

Matt Brooks
matt.brooks@rjburnside.com

Dear Tyler Dukovic,

RE: Scugog Edgerton Road Bridge Replacement, Schedule B MCEA Project # 300059896.0000

I would like to acknowledge receipt of your correspondence, which was received November 21st, 2025, regarding the above noted project.

As you may be aware, the area in which this project is proposed is situated within the Traditional and Treaty Territory of Alderville First Nation. Our First Nation's Territory is incorporated within the Williams Treaties Territory and was the subject of a claim under Canada's Specific Claims Policy, which has now been settled. All 7 First Nations within the Williams Treaties have had their harvesting rights legally re-affirmed and recognized through this settlement (2018).

In addition to Aboriginal title, Alderville First Nation rights in its Reserve and Traditional Territory and/or Treaty Territory include rights to hunt, fish and trap, to harvest plants for food and medicine, to protect and honour burial sites and other significant sites, to sustain and strengthen its spiritual and cultural connection to the land, to protect the Environment that supports its survival, to govern itself, sustain itself and prosper including deriving revenues from its lands and resources, and to participate in all governance and operational decisions about how the land and resources will be managed, used and protected.

Alderville First Nation is requiring a File Fee for this project in the amount of $300.00. This Fee includes administration, an initial meeting, project updates as well as review of standard material and project overviews. Depending on the number of documents to be reviewed by the Consultation Department, additional fees may apply. **Please make this payment to Alderville First Nation and please indicate the project name on the cheque.**

If you do not have a copy of Alderville First Nation's Consultation Protocol, it is available at: alderville.ca/wp-content/uploads/2017/02/AFNProtocol2.pdf. Please note that the mapping in this document needs updating to reflect the Williams Treaties First Nations Settlement Agreement 2018.

In order to assist us in providing you with timely input, please provide us with a Notice of Request to Consult containing relevant information and material facts in sufficient form and detail to assist Alderville First Nation to understand the matter in order to prepare a meaningful response. Guidance for giving notice can be found on pages 11-12 of our Consultation Protocol. Based on the information that you have provided us with respect to the notice of **Scugog Edgerton Road Bridge Replacement, Schedule B MCEA Project # 300059896.0000,** Alderville First Nation may require a mutual agreement to establish a special consultation process for this project. After the information is reviewed it is expected that you or a representative will be in contact to discuss this matter in more detail and possibly set up a date and time to meet with Alderville First Nation in person or virtually.

Although we have not conducted exhaustive research nor do we have the resources to do so, there may be the presence of burial or archaeological sites in your proposed project area. Please note, that we have particular concern for the remains of our ancestors. Should excavation unearth bones, remains, or other such evidence of a native burial site or any other archaeological findings, we must be notified without delay. In the case of a burial site, Council reminds you of your obligations under the *Cemeteries Act* to notify the nearest First Nation Government or other community of Aboriginal people which is willing to act as a representative and whose members have a close cultural affinity to the interred person. As I am sure you are aware, the regulations further state that the representative is needed before the remains and associated artifacts can be removed. Should such a find occur, we request that you contact our First Nation immediately.

Furthermore, Alderville First Nation also has available, trained Archaeological Liaisons who can actively participate in the archaeological assessment process as a member of a field crew, the cost of which shall be borne by the proponent. Alderville First Nation expects engagement at Stage 1 of an archaeological assessment, so that we may include Indigenous Knowledge of the land in the process. We insist that at least one of our Archaeological Liaisons be involved in any Stage 2-4 assessments, including test pitting, and/or pedestrian surveys, to full excavation.

Although we may not always have representation at all stakeholders' and rights holders' meetings, it is our wish to be kept apprised throughout all phases of this project.

Should you have further questions or if you wish to hire a Liaison for a project, please feel free to contact Julie Kapyrka, Consultation Manager, at 905-352-2662 or via email at jkapyrka@alderville.ca .

Yours sincerely,



Chief Taynar Simpson
Alderville First Nation

Cole Roddick

From: Cole Roddick
Sent: Friday, December 05, 2025 9:11 AM
To: jkapyrka@alderville.ca
Cc: Matt Brooks; Deanna De Forest; tsimpson@alderville.ca
Subject: RE: Scugog Edgerton Road Bridge Replacement
Attachments: 251121 Notice for Request To Consult Letter (2).pdf; Scugog Edgerton Road Bridege Replacement - Nov 2025.pdf

Good morning,

I am reaching out regarding the Scugog Edgerton Road Bridge Municipal Class Environmental Assessment (MCEA) project and to confirm next steps following our Notice of Request to Consult sent by email to you on November 21, 2025 (attached), as outlined in Alderville First Nation's Consultation Protocol.

File Fee Payment: We understand that a file fee of $300 is required for the review of project materials. Could you please inform us how to make payment of the fee.

Next Steps: A Stage 1 Archaeological Assessment has been completed for the study and is available for review.

Please let us know if there is any other information or materials related to a particular area of interest you would like to review prior to the completion of the study. The MCEA study is anticipated to be completed early in the new year with the publication of the Notice of Completion.

Thank you for your time and guidance,

Cole Roddick

Cole Roddick

From: Julie Kapyrka <jkapyrka@alderville.ca>
Sent: Friday, December 05, 2025 2:06 PM
To: Cole Roddick
Cc: Matt Brooks; Deanna De Forest; Taynar Simpson
Subject: RE: Scugog Edgerton Road Bridge Replacement

Follow Up Flag: Follow up
Flag Status: Flagged

Aaniin Cole,

Thank you for your e-mail. Thank you also for the notice of request to consult – we should have flagged that in our letter.
Please pay the filing fee by cheque to Alderville First Nation (with the project listed on the cheque) – send to address below in my signature.

Please send us the Stage 1 archaeological assessment. Until we have reviewed it – we are not sure there is actually no archaeological potential in that area.

Please also send us any Environmental Studies that were completed for this project.

Miigwech.
All the best,

Dr. Julie Kapyrka
Consultation Manager
11696 Second Line Rd.
Roseneath, ON K0K 2X0
905-352-2662
jkapyrka@alderville.ca

Cole Roddick

From: Cole Roddick
Sent: Wednesday, December 10, 2025 4:12 PM
To: 'Julie Kapyrka'
Cc: Matt Brooks; Deanna De Forest; Taynar Simpson
Subject: RE: Scugog Edgerton Road Bridge Replacement

Good afternoon,

As part of the Scugog Edgerton Road Bridge MCEA – Schedule B project, the $300 File Fee for the project has been mailed to Alderville First Nation by the Township of Scugog.
You should receive the cheque later this week or early next week (week of December 15th).

As requested, I have included the following documents in this link Natural Heritage Report and Stage 1 Archaeological Assessment for your review.

- Natural Heritage Report
- Stage 1 Archaeological Assessment

We kindly ask that you provide any feedback by January 15, 2026, in an effort to meet the project timelines.

If you have any questions, or require further information, please do not hesitate to reach out.

Thank you for your time and feedback,

Cole Roddick

Cole Roddick

From: Cole Roddick
Sent: Thursday, January 08, 2026 10:39 AM
To: Julie Kapyrka
Cc: Matt Brooks; Deanna De Forest; Taynar Simpson
Subject: RE: Scugog Edgerton Road Bridge Replacement

Good morning,

I am reaching out to follow-up regarding the payment that was sent recently and to confirm that it has been received on your end.

Additionally, I also wanted to check-in on the review of the documents shared in my previous email. If you are still able to meet the January 15, 2026, deadline for your review and comments, please let me know.

Thank you again for your time and collaboration. Please feel free to reach out if you have any questions.

Cole Roddick

Cole Roddick

From: Cole Roddick
Sent: Wednesday, January 21, 2026 9:06 AM
To: 'Julie Kapyrka'
Cc: Matt Brooks; Deanna De Forest; 'Taynar Simpson'
Subject: RE: Scugog Edgerton Road Bridge Replacement

Good morning,

I hope you are doing well. I am following up on the Scugog Edgerton Road Bridge MCEA – Schedule B project and your review of the Stage 1 Archaeological Assessment to kindly ask if you could confirm you have received the required payment and if you will be providing any comments on the Stage 1 Archaeological Assessment or Natural Heritage Report for the MCEA?

We are preparing to issue The Notice of Completion for this project next week (end of January) and would kindly ask if you could provide any comments on the reports or the MCEA study at your earliest convenience ahead of the Notice of Completion, or if you require additional time for your review. Your input is important to us and we appreciate receiving any comments you may have about the study.

Thank you very much for your time and consideration. Please feel free to contact me if you have any questions or if you would like to discuss anything further.

Cole Roddick

Cole Roddick

From: Julie Kapyrka <jkapyrka@alderville.ca>
Sent: Wednesday, January 21, 2026 9:50 AM
To: Cole Roddick
Cc: Matt Brooks; Deanna De Forest; Amanda Phillips
Subject: RE: Scugog Edgerton Road Bridge Replacement
Attachments: Michi Saagiig Background-Historical Context.pdf

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Aaniin Cole,

Thank you for following up. Yes – we received the filing fee, thank you.

With regard to the Stage 1 archaeological assessment we have the following comments and concerns:

The report comments on the loss of Indigenous oral histories yet does not include the Michi Saagiig oral history that we have provided to archaeological consulting firms doing work on our treaty territories. Please see attached and please include this contribution in the report proper.

The archaeology report is lacking on the treaty history of the area and briefly mentions Treaty 20. Please revise to include a more fulsome context on the treaties that allowed European settlement to occur, I.E. Williams Treaties 1923, and more importantly the Williams Treaties Settlement Agreement 2018. These are significant in terms of the history of the land and relationships upon the land between settlers and First Nations – that have implications for reporting in archaeological assessments (historical background contexts of the lands and peoples).

The archaeological report is also very biased towards the Haudenosaunee (Iroquois) and uses terminology that is outdated – this requires revision. The terms: Early Ontario Iroquois, Middle Ontario Iroquois etc. are no longer being used to define Late Woodland Horizons, rather archaeologists are using less biased terms such as the Woodland Tradition and characterizing horizons as: Early Late Woodland, Middle Late Woodland, etc. Ethnicity is implied by using these outdated terms, and that confuses what actual realities may be. Please remove references to the Ontario Iroquois Tradition.

Please also remove statements that diminish Anishinaabeg understandings and knowledge like the following on page 11: “The Anishinaabeg replaced the Haudenosaunee…” This is not factually correct. The Anishinaabeg were in this area of Ontario (where the project is located) long before, during, and after the coming and going of the Huron-Wendat and Haudenosaunee – and the Anishinaabeg are STILL here to this day. These are Anishinaabeg homelands. Michi Saagiig Anishinaabeg histories speak to leaving the southern part of Ontario in the late 17th century to avoid the disease and warfare, only to return about 15-20 years later.

There are some clear biases present within this report. Including the following references in this report would help to address this and offer a more balanced synopsis of the archaeological history of the area:

Jackson, Lawrence J.
2024 *Ethnicity in the Ontario Woodland Tradition: The Algonquin and Huron Alliance and Algonquin Visibility in an Iroquois-Centered Archaeological Narrative*. Tellwell Talent. Bolton, Ontario.

Manning, Sturt W., J. Birch, M.A. Conger, M.W. Dee, C. Griggs, C.S. Hadden, A.C. Hoog, C.B. Ramsay, S. Sanft, P. Steier, E.M. Wild
2018 Radiocarbon re-dating of Contact-era Iroquoian History in northeastern North America. *Science Advances* 2018:4, December 05.

Manning, Sturt W., J. Birch, M.A. Conger, and Samantha Sanft
2020 Resolving Time among Non-Stratified Short-Duration Contexts on a Radiocarbon Plateau: Possibilities and Challenges from the AD 1480-1630 Example and Northeastern North America. *Radiocarbon* 62(6): 1785-1807, Proceedings of the 9th International Symposium, December 2020.

White, John
1588 Indian Village of Pomeiooc, watercolour. In *A Briefe and True Report of the New Found Land of Virginia*, by Thomas Hariot. Reproduced in Facsimile from the First Edition of 1588. Dodd, Mead & Company, New York, 1903.

Wright, Joyce M.
2020 Foreword. In *The Draper Site. And Ontario Woodland Tradition Frontier Coalescent Village in Southern Ontario, Canada: Looking Back, Moving Forward*, by William D. Finlayson, pp. xxix-xxxi. Our Lands Speak – Occasional Papers in Ontario Archaeology No.2.

Miigwech.
All the best,

Dr. Julie Kapyrka
Consultation Manager
Alderville First Nation
11696 Second Line Rd.
Roseneath, ON K0K 2X0
905-352-2662
jkapyrka@alderville.ca

Michi Saagiig Historical/Background context:

The traditional homelands of the Michi Saagiig (Mississauga Anishinaabeg) encompass a vast area of what is now known as southern Ontario. The Michi Saagiig are known as "the people of the big river mouths" and were also known as the "Salmon People" who occupied and fished the north shore of Lake Ontario where the various tributaries emptied into the lake. Their territories extended north into and beyond the Kawarthas as winter hunting grounds on which they would break off into smaller social groups for the season, hunting and trapping on these lands, then returning to the lakeshore in spring for the summer months.

The Michi Saagiig were a highly mobile people, travelling vast distances to procure subsistence for their people. They were also known as the "Peacekeepers" among Indigenous nations. The Michi Saagiig homelands were located directly between two very powerful Confederacies: The Three Fires Confederacy to the north and the Haudenosaunee Confederacy to the south. The Michi Saagiig were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations.

Michi Saagiig oral histories speak to their people being in this area of Ontario for thousands of years. These stories recount the "Old Ones" who spoke an ancient Algonquian dialect. The histories explain that the current Ojibwa phonology is the 5th transformation of this language, demonstrating a linguistic connection that spans back into deep time. The Michi Saagiig of today are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo-Indian periods. They are the original inhabitants of southern Ontario, and they are still here today.

The traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands. This also includes all the tributaries that flow from the height of land north of Toronto like the Oak Ridges Moraine, and all of the rivers that flow into Lake Ontario (the Rideau, the Salmon, the Ganaraska, the Moira, the Trent, the Don, the Rouge, the Etobicoke, the Humber, and the Credit, as well as Wilmot and 16 Mile Creeks) through Burlington Bay and the Niagara region including the Welland and Niagara Rivers, and beyond. The western side of the Michi Saagiig Nation was located around the Grand River which was used as a portage route as the Niagara portage was too dangerous. The Michi Saagiig would portage from present-day Burlington to the Grand River and travel south to the open water on Lake Erie.

Michi Saagiig oral histories also speak to the occurrence of people coming into their territories sometime between 500-1000 A.D. seeking to establish villages and a corn growing economy – these newcomers included peoples that would later be known as the Huron-Wendat, Neutral, Petun/Tobacco Nations. The Michi Saagiig made Treaties with these newcomers and granted them permission to stay with the understanding that they were visitors in these lands. Wampum was made to record these contracts, ceremonies would have bound each nation to their respective responsibilities within the political relationship, and these contracts would have been renewed annually (see Gitiga Migizi and Kapyrka 2015). These visitors were extremely successful as their corn economy grew as well as their populations. However, it was understood by all nations involved that this area of Ontario were the homeland territories of the Michi Saagiig.

The Odawa Nation worked with the Michi Saagiig to meet with the Huron-Wendat, the Petun, and Neutral Nations to continue the amicable political and economic relationship that existed – a symbiotic relationship that was mainly policed and enforced by the Odawa people.

Problems arose for the Michi Saagiig in the 1600s when the European way of life was introduced into southern Ontario. Also, around the same time, the Haudenosaunee were given firearms by the colonial governments in New York and Albany which ultimately made an expansion possible for them into Michi Saagiig territories. There began skirmishes with the various nations living in Ontario at the time. The Haudenosaunee engaged in fighting with the Huron-Wendat and between that and the onslaught of European diseases, the Iroquoian speaking peoples in Ontario were decimated.

The onset of colonial settlement and missionary involvement severely disrupted the original relationships between these Indigenous nations. Disease and warfare had a devastating impact upon the Indigenous peoples of Ontario, especially the large sedentary villages, which mostly included Iroquoian speaking peoples. The Michi Saagiig were largely able to avoid the devastation caused by these processes by retreating to their wintering grounds to the north, essentially waiting for the smoke to clear.

Michi Saagiig Elder Gitiga Migizi (2017) recounts:
"We weren't affected as much as the larger villages because we learned to paddle away for several years until everything settled down. And we came back and tried to bury the bones of the Huron but it was overwhelming, it was all over, there were bones all over – that is our story.

There is a misnomer here, that this area of Ontario is not our traditional territory and that we came in here after the Huron-Wendat left or were defeated, but that is not true. That is a big misconception of our history that needs to be corrected. We are the traditional people, we are the ones that signed treaties with the Crown. We are recognized as the ones who signed these treaties and we are the ones to be dealt with officially in any matters concerning territory in southern Ontario.

We had peacemakers go to the Haudenosaunee and live amongst them in order to change their ways. We had also diplomatically dealt with some of the strong chiefs to the north and tried to make peace as much as possible. So we are very important in terms of keeping the balance of relationships in harmony.

Some of the old leaders recognized that it became increasingly difficult to keep the peace after the Europeans introduced guns. But we still continued to meet, and we still continued to have some wampum, which doesn't mean we negated our territory or gave up our territory – we did not do that. We still consider ourselves a sovereign nation despite legal challenges against that. We still view ourselves as a nation and the government must negotiate from that basis."

Often times, southern Ontario is described as being "vacant" after the dispersal of the Huron-Wendat peoples in 1649 (who fled east to Quebec and south to the United States). This is misleading as these territories remained the homelands of the Michi Saagiig Nation.

The Michi Saagiig participated in eighteen treaties from 1781 to 1923 to allow the growing number of European settlers to establish in Ontario. Pressures from increased settlement forced the Michi Saagiig to slowly move into small family groups around the present day communities: Curve Lake First Nation, Hiawatha First Nation, Alderville First Nation, Scugog Island First Nation, New Credit First Nation, and Mississauga First Nation.

The Michi Saagiig have been in Ontario for thousands of years, and they remain here to this day.

This historical context was prepared by Gitiga Migizi, a respected Elder and Knowledge Keeper of the Michi Saagiig Nation.

Publication reference:

Gitiga Migizi and Julie Kapyrka

2015 Before, During, and After: Mississauga Presence in the Kawarthas. In *Peterborough Archaeology,* Dirk Verhulst, editor, pp.127-136. Peterborough, Ontario: Peterborough Chapter of the Ontario Archaeological Society.

Cole Roddick

From: Cole Roddick
Sent: Wednesday, January 28, 2026 12:57 PM
To: 'Julie Kapyrka'
Cc: Matt Brooks; Deanna De Forest; Amanda Phillips
Subject: RE: Scugog Edgerton Road Bridge Replacement
Attachments: P1153-0187-2025_RE_27Jan2026.pdf

Good afternoon Dr. Kapyrka,

Thank you for taking the time to review the draft Stage 1 Archaeological Assessment, we appreciate your feedback. Please find attached the updated Stage 1 Archaeological Assessment. We have updated the report to reflect your review comments.

Thank you again for your time and support,

Cole Roddick

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:18 PM
To: bfnconsultation@chimnissing.ca
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Terra Roy,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:21 PM
To: JL.porte@georginaisland.com; donna.bigcanoe@georginaisland.com; natasha.charles@georginaisland.com
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Chief Big Canoe,
JL Porte
Natasha Charles

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

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On behalf of the study team,

Cole Roddick

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:22 PM
To: 'dbickell@ramafirstnation.ca'; 'consultation@ramafirstnation.ca'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Dillon Bickell,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

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On behalf of the study team,

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:23 PM
To: 'PaigeW@curvelake.ca'; 'KeithK@curvelake.ca'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Chief Knott,
Paige Williams

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

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On behalf of the study team,

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:24 PM
To: 'tcowie@hiawathafn.ca'; 'chiefcarr@hiawathafn.ca'; 'sdavison@hiawathafn.ca'; 'mmcgonigle@hiawathafn.ca'
Cc: Deanna De Forest; 'cc:'
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Chief Carr,
Tom Cowie
Sean Davison
Mandy McGonigle

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

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On behalf of the study team,

Cole Roddick

Cole Roddick

From: Tom Cowie <tcowie@hiawathafn.ca>
Sent: Friday, September 12, 2025 11:55 AM
To: Cole Roddick; Chief Laurie Carr; Sean Davison; Mandy McGonigle
Cc: Deanna De Forest; Info
Subject: RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Aaniin Cole,

Chi miigwech for the information on the proposed bridge repairs. Understanding the age and heritage issues it may be best to rebuild. The concern is that the aquatic habitat that will be affected and archaeological potential in the area. Looking forward to seeing what will be done. Have a great weekend.

Gichi manaadendamowin

Tom Cowie
Tom Cowie
Consultation Indigenous Knowledge Lead
Hiawatha First Nation
431 Hiawatha Line,
Hiawatha, On
K9J 0E6
705 295-4421 Ext. 216
Email tcowie@hiawathafn.ca

We, the Michi Saagiig of Hiawatha First Nation, are a vibrant, proud, independent and healthy people balanced in the richness of our culture and traditional way of life

Cole Roddick

From: Cole Roddick
Sent: Thursday, October 23, 2025 2:48 PM
To: 'Tom Cowie'; Chief Laurie Carr; Sean Davison; Mandy McGonigle
Cc: Info
Subject: RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Good afternoon Tom,

Thank you for your feedback. Studies have been completed to assess the existing conditions in the Study Area – including natural heritage features and a Stage 1 Archaeological Assessment to evaluate the potential impact of the solutions, confirm the preferred solution, and identify any mitigation measures if needed.

Thank you for your interest. Your comments will be included in the public record for the study.

Cole Roddick

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:25 PM
To: 'rknahrgang@gmail.com'
Cc: Deanna De Forest; 'info@spiritofthestone.ca'
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Chief Nahrgang,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

From: Kris Nahrgang <rknahrgang@gmail.com>
Sent: Wednesday, September 17, 2025 7:37 AM
To: Cole Roddick
Cc: Deanna De Forest
Subject: Re: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

My name is Jenna and I'm Kris's daughter. Unfortunately, my dad passed away in April, tragically. We've been monitoring his email and such to keep track of important things.

If there's anything I can do to assist please let me know. Otherwise, it would probably be helpful to remove him from your email list regarding these matters.

I hope you understand, and thank you so much

Jenna Nahrgang

Cole Roddick

From: Cole Roddick
Sent: Friday, October 31, 2025 2:06 PM
To: 'Kris Nahrgang'
Cc: Deanna De Forest
Subject: RE: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Good afternoon Jenna,

Thank you for letting us know, please accept our condolences. We will be sure to remove his contact information from our list.

By chance, are you aware of another appropriate contact that would be interested in receiving this notice?

Thank you,

Cole Roddick

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:25 PM
To: 'consultation@scugogfirstnation.com'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

From: Consultation <consultation@scugogfirstnation.com>
Sent: Tuesday, September 16, 2025 9:55 AM
To: Cole Roddick
Cc: Deanna De Forest
Subject: Re: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Cole,

Thank you for your email and for providing this notice of study commencement for the Scugog Edgerton Road Bridge Replacement MCEA. MSIFN Consultation requests to receive the study report once drafted.

Miigwech,
Ameer

Ameer Idreis
Planning Manager
aidreis@scugogfirstnation.ca
Minogi Corp.
Mississaugas of Scugog Island First Nation

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:24 PM
To: 'consultations@wendake.ca'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



On behalf of the study team,

Cole Roddick

From: Cole Roddick
Sent: Thursday, September 11, 2025 3:26 PM
To: 'k.a.sandy-mckenzie@rogers.com'
Cc: Deanna De Forest
Subject: Scugog Edgerton Road Bridge Replacement MCEA - Notice of Commencement
Attachments: 059896_Notice of Commencement.pdf

Good afternoon, Karry Sandy-Mackenzie,

The Township of Scugog is undertaking a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements to the Edgerton Road Bridge (Bridge No. 11). The bridge improvements are being planned as a Schedule "B" Municipal Class Environmental Assessment (MCEA) project under the Municipal Engineers Association Municipal Class Environmental Assessment document (February 2024).

Attached for your information, please find the Notice of Study Commencement for the Municipal Class Environmental Assessment, Scugog Edgerton Road Bridge improvements.

A map of the study area is provided below.

Information can also be found on the project webpage: https://my.scugog.ca/edgerton-bridge-municipal-class-environmental-assessment



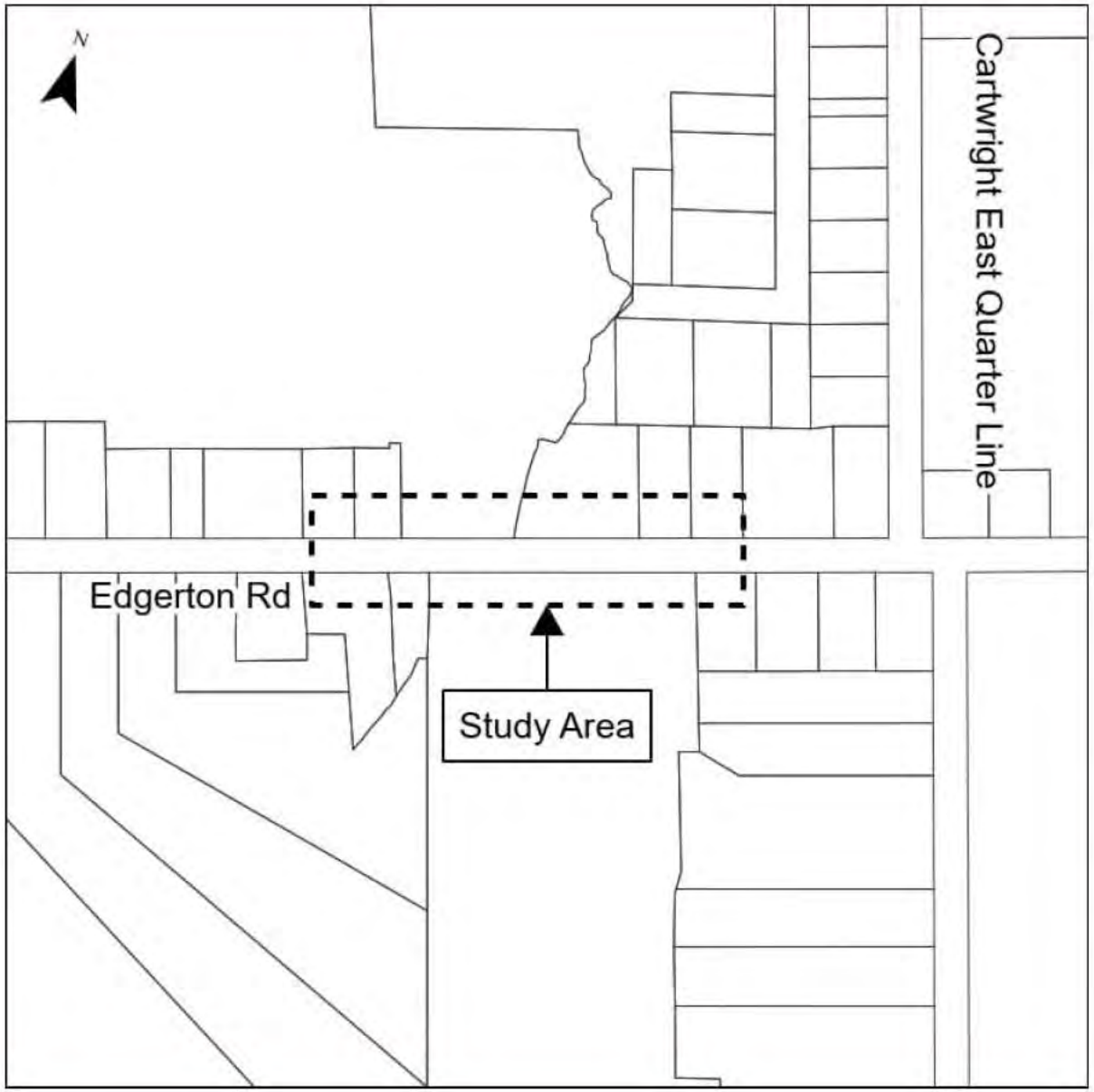
On behalf of the study team,

APPENDIX C
C6 - Project Information Boards

Municipal Class Environmental Assessment
Scugog Edgerton Road Bridge Improvements



Introduction



The Township of Scugog is completing a Municipal Class Environmental Assessment (MCEA) to evaluate options for improvements (i.e., rehabilitation, replacement, removal or do nothing) to the Edgerton Road Bridge (Bridge No. 11).

Problem Opportunity Statement:

The Township of Scugog has identified the need to consider options for improvements to the Edgerton Road Bridge to address operational issues including its deteriorating condition and load restrictions.

Municipal Class Environmental Assessment (MCEA) Process

This project is being completed as a Schedule B Project (Phases 1 and 2), as defined in the Municipal Engineers Association Class EA (February 2024) document.

Phase 1

- **Confirm Problem / Opportunity Statement**

Phase 2

- **Identify Alternative Solutions**
- **Inventory environment**
- **Consult review agencies, Indigenous Nations and Public**
- **Evaluate Alternative Solutions and select Preferred Solution**

Supporting Studies

The following studies have been completed to characterize the environment of the study area, develop criteria for the evaluation of the options for the bridge and identify possible impacts and mitigation measures.

Spring 2025

- Topographic and Legal Survey
- Hydraulic Assessment
- Utilities Investigation
- Stage 1 Archaeological Assessment

Summer 2025

- Geotechnical Investigation
- Natural Heritage
- Tree Inventory
- Heritage Impact Assessment

Existing Conditions – Natural Heritage

The Study Area contains several natural feature constraints:

- East Cross Creek – flows from south to north beneath the bridge and is generally considered to provide and contribute to cold water habitat, utilized by sensitive trout species

  The watercourse channel is not well aligned with the existing bridge causing erosion and scour along the western bank and bridge abutment.

- Vegetation – lands immediately upstream (south) contain a treed corridor, while lands downstream (north) are residential properties with manicured lawns

- Species at Risk (SAR) – based on preliminary review, the wooded areas and aquatic features in the vicinity of the study area may include potential habitat for SAR, including birds, bats, trees, turtles and frogs

- The Study Area is located within the Kawartha Region Conservation Authority (KRCA) Regulated Area, and the project will require a permit under O.Reg. 41/24 prior to construction



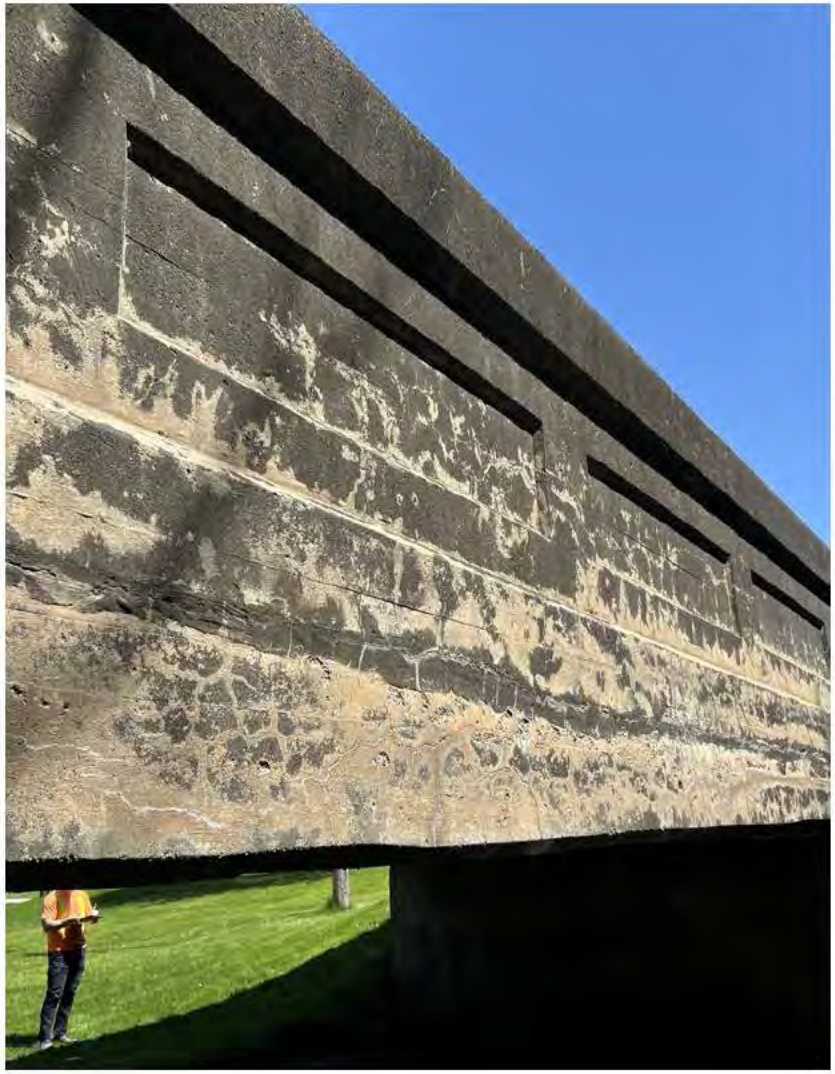
Existing Conditions – Cultural Heritage

Archaeological Potential

- A Stage 1 Archaeological Assessment was completed to assess the archaeological potential of the study area. The report identified the area has been extensively disturbed. Further archaeological assessment (e.g. Stage 2) was not recommended

Built Heritage / Cultural Heritage Landscape

- The existing bridge structure has been identified as having Cultural Heritage Value or Interest (CHVI)
- Heritage attributes include its location, structure type, narrow width, paneled architectural details on barriers, and surface texture of the original form work



Existing Conditions – Technical Environment

Road Width

- The current road width on the approaches is approximately 7.0 m, which is considered substandard compared to the minimum MTO design guidelines, which recommend a driving platform width of 8.0 m.



Bridge Width

- The existing bridge provides a narrow, 5.7 m wide driving platform, which does not meet the current standard minimum bridge width of 8.5 m between the inside face of barriers for a two-lane bridge, per MTO design guidelines.



Load Restrictions

- The bridge is currently subject to load restriction of 8 / 14 / 19 tonnes.



Road Profile

- The existing road profile has a posted speed limit of 40 km/h at the bridge location. The existing profile currently has a design speed of 30 km/h and is deficient, based on minimum stopping sight distances.



Property Access

- Several residential driveway entrances are located near the bridge structure, including a field entrance to Brown Lake, which could be affected by road profile adjustments



Existing Conditions – Technical Environment

Existing Physical Conditions:

- The bridge was originally constructed in 1925 and underwent a minor rehabilitation in 2007
- The rehabilitation included rebuilding the end of the north barrier wall, concrete overlay on the deck, concrete patch repairs and the installation of guiderail.
- Current defects on the bridge include, severe spalling with exposed and corroded reinforcing steel throughout the soffit, wide crack in the west abutment that extends along the wingwall and a wide horizontal crack along the north concrete barrier.
- The bridge has a Bridge Condition Index (BCI) rating of less than 50, which is generally considered poor and is recommended for replacement in < 5 years.



Alternative Solutions



Alternative 1: Do Nothing (Maintain Existing Bridge)

- The existing bridge would remain the same, with regular maintenance performed. This Alternative is mandatory for consideration in the MCEA process.

Alternative 2: Remove Bridge Structure

- Involves the removal of the bridge and abutments, construction of turnarounds, and naturalization of the watercourse channel

Alternative 3: Bridge Rehabilitation

- Involves improvements to the existing structure to address its deteriorating condition and repair defects

Alternative 4: Two Lane Bridge Replacement

- Involves replacing the existing structure with a new bridge designed for two-lane traffic

Evaluation Criteria



Natural Environment

Potential to impact vegetation and aquatic features

Potential impact to wildlife habitat and habitat of species at risk

Potential impact to water resources and drainage

Potential climate change impact and resilience



Socio-Cultural Environment

Potential to impact heritage resources such as archaeology and cultural heritage

Nuisance impacts such as noise, visual impact, construction impacts

Land acquisition needs (if required), impacts to driveway access

Conformity to municipal and agency policy

Level of service for local residents and business, impact to municipal services

Multi-modal transportation connectivity and safety

Pedestrian and cyclist needs



Technical Environment

Level of service / traffic congestion

Operational safety, roadside safety

Design constraints, utility impacts, goods movement requirements



Financial Environment

Estimated capital costs

Estimate operation and maintenance costs

Property acquisition costs (if required)

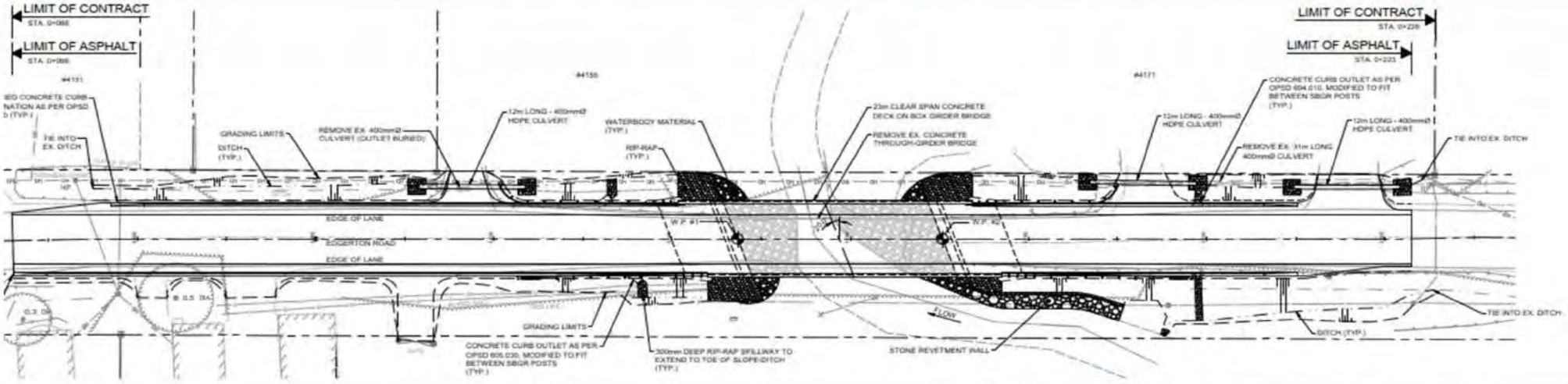
Evaluation of Alternative Solutions

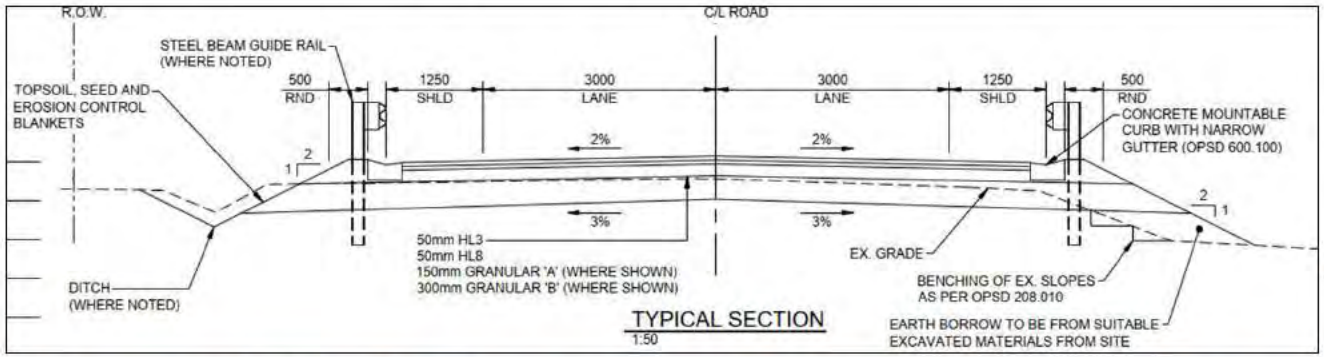
Criteria for Evaluating Alternatives	1) Do Nothing (Maintain Existing Bridge)	2) Remove Bridge Structure	3) Bridge Rehabilitation	4) Two Lane Bridge Replacement
Natural Environment	○	◑	◔	◑
Socio-Cultural Environment	○	◑	◔	○
Financial Factors	○	○	◔	◑
Technical Factors	●	●	●	○
Addresses Problem Statement	**No**	**No**	**No**	**Yes**
Overall Summary	**Not Preferred**	**Not Preferred**	**Not Preferred**	**Most Preferred**

Most Preferred ○ More Preferred ◔ Somewhat Preferred ◑ Less Preferred ◕ Least Preferred ●

Preliminary Preferred Alternative

Alternative 4 – Two Lane Bridge Replacement





The replacement bridge will be designed as a full two-lane structure with no load limits and a projected 75-year service life.

- Larger span bridge has the potential to reduce indirect impacts of scour and erosion, and improve flow and aquatic habitat
- The new bridge will address any structural defects
- The road approach to the bridge would be widened to accommodate two-way traffic
- The road profile will be improved to a design speed matching the posted speed limit

- Temporary access restrictions may occur during construction
- Potential impact to Cultural Heritage Value or Interest (CHVI) of the bridge to be mitigated as recommended
- High upfront costs are anticipated with lower cost for continued operation and maintenance, including minor concrete repairs required to reach the 75-year lifespan

Next Steps

September 2025

- Review comments received by October 31st, 2025
- Confirm the preferred solution
- Draft study report

November 2025

- Issue Notice of Completion
- Notice and Study Report posted for public review and comment for 30 days

2025 / 2026

- Detailed Design

TBD

- Construction and Utility Relocation (as needed)

Thank You

We want to hear from you!



We invite you to provide your comments on this study until **October 31, 2025**

Comments can be provided on the comment form available on the Township's project webpage.

A summary of comments received and responses to comments will be included in the project reporting at the conclusion of the study.



If you would like more information or if you have any questions about the study please contact the following members of the project team before October 31, 2025.

Tyler Dukovic
Project Manager
Township of Scugog
181 Perry Street
Port Perry, ON L9L 1A7
Tel: (905) 985-7346 ext. 150
Email: **tdukovic@scugog.ca**

Matthew Brooks, P.Eng.
Project Manager
R. J. Burnside and Associates Limited
17345 Leslie Street, Suite 303
Newmarket, ON L3Y 0A4
Tel: (705) 797-4284
Email: **matt.brooks@rjburnside.com**

Project information will be made accessible upon request in accordance with the Accessibility Standard for Information and Communication under the Accessibility for Ontarians with Disabilities Act, 2005.

Personal information provided through public comment is collected by the Township of Scugog in accordance with the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M. 56, and will be used by the Township in making decisions on this Project. With the exception of personal information, all comments will become part of the public record.