Municipality of West Grey

Structure G-044 and G-033 Bridge

Schedule B Municipal Class Environmental Assessment

Public Information Centre No.1

June 6, 2024

7 – 9 pm

Welcome

Thank you for your interest in this project. We encourage your input, questions, and/or comments on the material presented through this Public Information Centre. This presentation will also be available on the Community of West Grey website from June 6th to July 6th, 2024.

Upon your review of this material, please submit your input, questions, and/or comments on or before **July 6th, 2024**, to cclark@tritoneng.on.ca. A member of the Project Team will respond to any questions raised.

As part of the Public Open House, a comment sheet will be available to fill out. Background reports are available upon request.

There is an opportunity at any time during the EA process for interested persons to provide written input. Comments and information received will be collected under the Ontario Environmental Assessment Act and in accordance with the Freedom of Information and Protection of Privacy Act, and, with the exception of personal information, may be included in the project documentation and become part of the public record.

Contacts

Project Team members are available to assist with website navigation

and submission of comments by mail / phone / email to:

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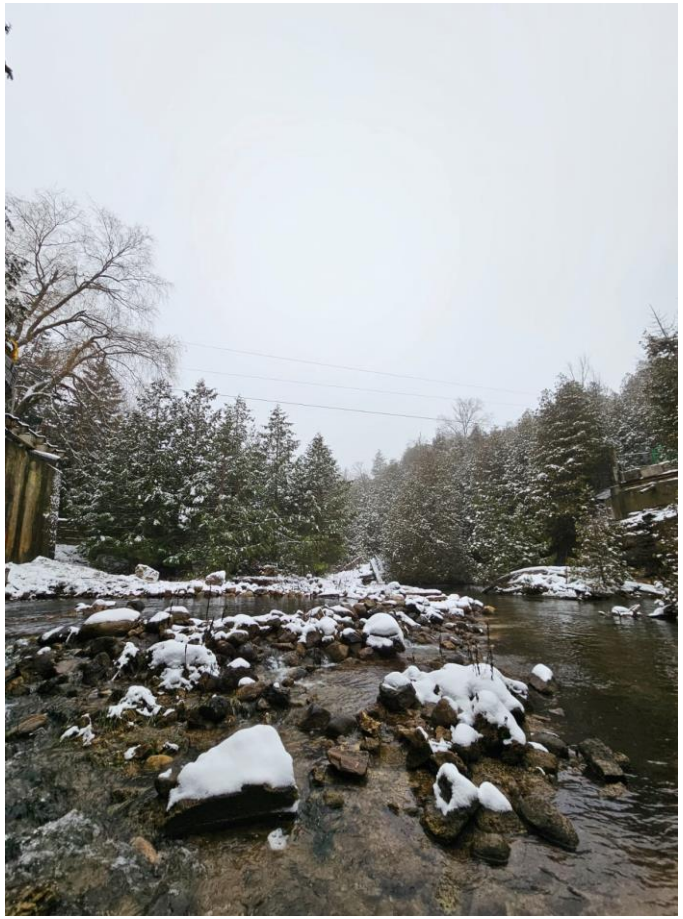
Municipal Class Environmental Assessment Planning Design Process

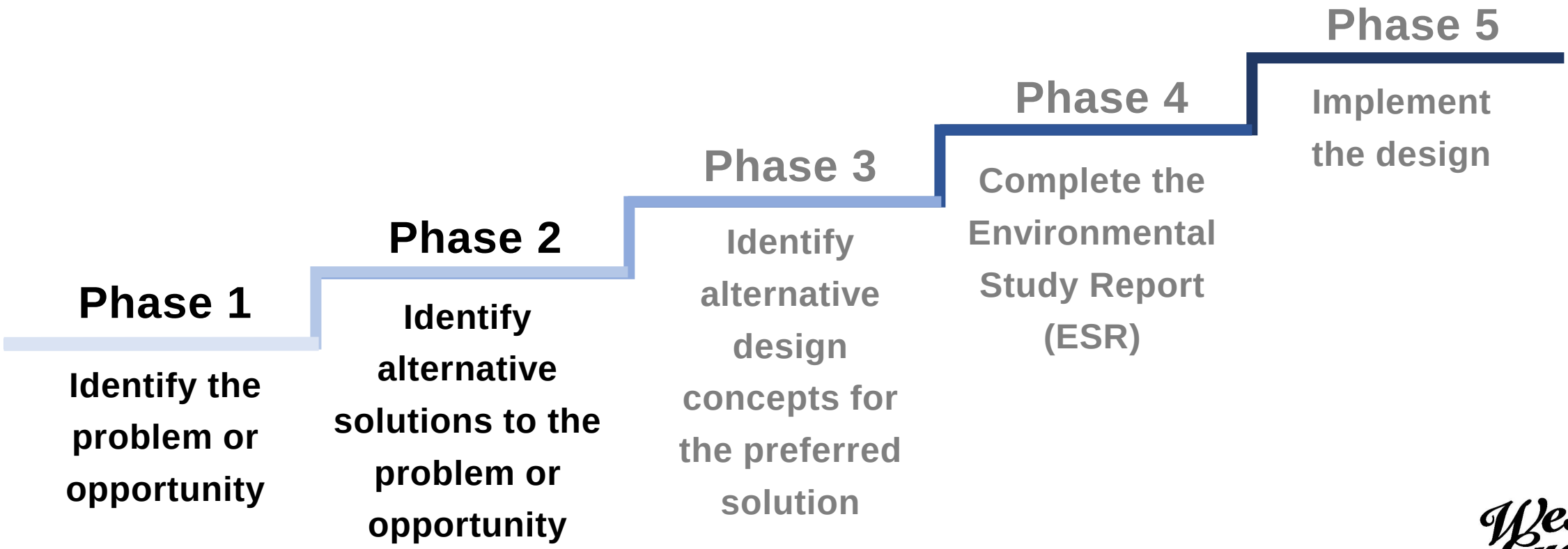


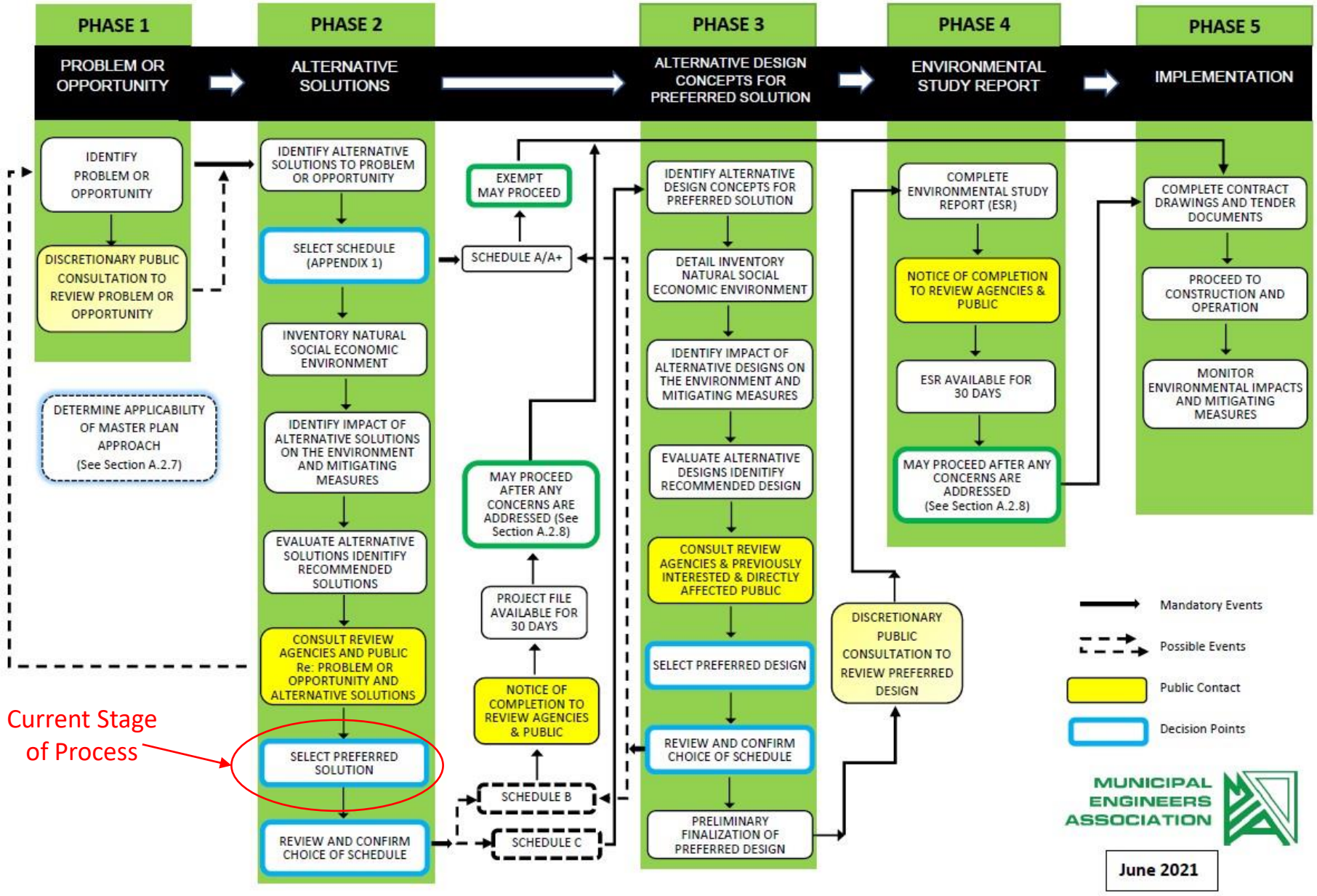
The Municipal Class Environmental Assessment (EA) is an approved process for planning and designing municipal projects, including roads and bridges.

The Class EA descries the process that the proponents must follow to reach requirements of the Provincial Environmental Assessment Act.

Based on the scope of this project, the Structure G-033 and G-044 Bridge is being undertaken as a Schedule B Class EA, which will follow Phase 1 & 2.

Municipal Class EA Planning Design Process





MCEA Planning Design Process

West Grey

Evaluation Criteria
Structure G-044 & G-033

These projects are being planned to follow the Schedule ‘B’ process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address components related to the environment with the replacement or closure of the structures. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Environmental Evaluation Criteria
Structure G-044 & G-033

When performing an environmental analysis of each design alternative, the term “environment” refers to the following:

- **Social Environment** – Disruptions to quality of life from construction activities and finished product
- **Built Environment** – Traffic volume, engineering design and land uses at and in proximity to the bridge sites
- **Economic Environment** – Overall cost of the alternative including periodic maintenance
- **Cultural Environment** – Heritage resources found at the bridge sites
- **Natural Environment** – Impacts to wildlife, water course flow (hydraulics), water, soil and air quality, erosion, and climate change

Structure G-044

G-044 is located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River

Existing Conditions G-044

General Overview

Northline is a narrow gravel road with typically steep side slopes down into the roadside ditches. The existing structure comprises a concrete arch structure with an approximate span of 15.0 m. It is also approximately 4.3 m from the gravel surface over the bridge deck to the river bottom. Frequent pieces of concrete slabs and stacked boulders were observed at the outside edges of the bridge approaches.

Existing Conditions G-044
Natural Environment

- As part of the Municipal Class EA, the Municipality requires the completion of a Natural Environmental Assessment (NEA) to characterize the natural environment and propose reasonable measures to mitigate any potential impacts that may arise through the EA process and determine any mitigation requirements based on the outcome of the EA.

- The study area includes the subject structure and staging areas, as well as adjacent lands up to 120 meters surrounding the subject area, where access to lands is permitted (right of way).

- 15 “Species at Risk” were identified as potentially residing at or within proximity to the project site, however; no “Species at Risk” were located during site visits by Aboud.

Existing Conditions G-044
Natural Environment

- The Structure G-044 site is within the Saugeen Valley Conservation Authority (SVCA) approximate screening area and is zoned as Natural Environment within the Municipality of West Grey Zoning By-Law 37-2006 (2017).

- The proposed alternatives could result in impacts to the existing natural features. If the structure is to be replaced, it is proposed to be replaced in the same location as the current structure. Subject to future detailed design, through the implementation of proposed mitigation measures, **the impacts will be minor to none.**

- The alternatives will result in no significant long-term negative impacts to natural heritage features identified in the study area. The natural features within the study area will be protected and enhanced through mitigation and restoration recommendations. This will result in long-term positive effects on the natural heritage features within the study area.

Existing Conditions G-044
Key Considerations - Archaeological

The Saugeen River flows underneath Structure G-044 on Northline Road. Guide rails, fencing, hydro and gravel are within or near this section of the Study Areas, indicating previously disturbed locations.

The Study Area meets the following criteria indicative of archaeological potential:

- Water sources: primary, secondary, or past water source (Saugeen River, Rocky Saugeen River)
- Proximity to early settlements (Saugeen Ojibway Nation's traditional territory - Treaty $45\frac{1}{2}$ Saugeen Tract Purchase 1836)
- Early historic transportation routes (Northline Road, Saugeen River)

Existing Conditions G-044
Key Considerations - Archaeological

Stage 1 background research determined there are no previously registered archaeological sites located within one (1) kilometer of the Study Area. The property inspection determined that parts of the Study Areas could exhibit archaeological potential and may require further archaeological assessment.

The following recommendations are made:

1. Parts of the Study Areas exhibit archaeological potential. These lands could require Stage 2 archaeological assessment by test pit survey at five metre intervals, where appropriate. The alternatives presented **will not** encroach onto land that exhibits archaeological potential.

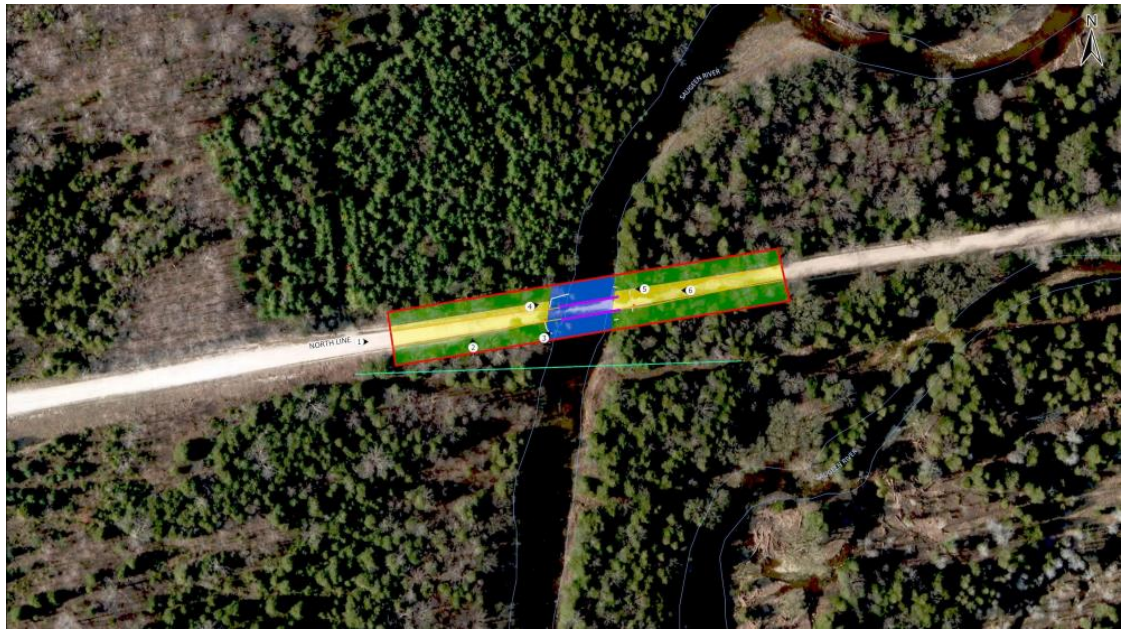
2. The remainder of the Study Areas do not retain archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment.

3. Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

Existing Conditions G-044

Key Considerations - Archaeological

Structure G-044



Yellow – Previously disturbed locations

Blue – Water course

Green – Undisturbed locations (archaeological potential)

Need & Justification G-044

- The purpose of this Class EA undertaking is to determine and evaluate options to address deficiencies identified with Existing Structure G-044.

- In addition to the severe spalling and deterioration of the structure, there are concerns regarding the load carrying capacity as well as scouring at the waterline resulting in an undermined structure.

- Given the extent and significance of the identified deficiencies, the bridge should be subject to complete replacement, per the recent 2023 OSIM Bridge Inspection Report

Need & Justification G-044

View of Structure from West Approach

View of Structure Elevation

Delamination Along Parapet Wall and Vegetation and Debris on Curb

Deterioration of Parapet Wall

Potholes and Wheel Path Rutting on Structure Wearing Surface

Need & Justification G-044

Score in Wingwall

View of Watercourse Upstream

View of Watercourse Downstream

View of Exterior and Interior Soffit with Spalling and Exposed Rebar

Barrel: Severe scouring and disintegration at waterline

Barrel: Severe scouring and disintegration at waterline

Problem / Opportunity Statement
Structure G-044

Structure G-044 is in a state of disrepair and recent 2023 OSIM inspection report indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access through Northline Road.

West Grey is initiating a Schedule B - Class EA to identify alternative solutions and evaluate the alternative under the outlined list of “Evaluation Criteria”, to address the Problem Statement.

Alternative Solutions G-044

Reasonable alternatives being considered are:

1. Do nothing
2. Replacement with a single or narrow 2-lane concrete span structure
3. Replacement with a single or narrow 2-lane wood or steel bridge structure

Analysis & Evaluation

Environment Component	**Alternative 1:** Do Nothing
Built	Results in significant detours and increased traffic volume on other roads, especially given the use of farm equipment on this road. Structure could become unsafe and inevitably closed from structural deficiencies.
Natural	Minimal impacts as the structure would be left as-is. If the bridge were to fail and need to be removed, some disruptions to wildlife would be encountered for a short period of time.
Economic	Eventual Capital Cost to remove structure= $250,000 Life Cycle Cost =Typical annual maintenance and ongoing OSIM inspection
Social	No construction disruptions to quality of life. However, could cause a high level of impact to local residents given increased emergency response times and impacts to municipal services such as winter and general road maintenance, school bus routes and waste collection, if the structure were to fail.
Cultural	Structure G-044 is one of the few remaining examples of early twentieth century concrete barrel arch structures in the area. The continued deterioration of the current structure will impact the cultural heritage value of the bridge.

Analysis & Evaluation

Environment Component	**Alternative 2:** Replacement with a single or narrow two-lane concrete span structure
Built	Allows for the continued use of the structure and a concrete box shape would be best suited for common weather problems known to occur in the area, such as ice jams. Hydraulic assessment satisfies MTO/SVCA design criteria for all aspects; freeboard, regular flow, relief flow and soffit clearance.
Natural	The site is located within a wooded area; therefore, noise and air quality effects would be minimal. Some impacts to terrestrial and aquatic habitat would be anticipated as a result of construction, however, would be restored after completion. Erosion and sediment controls would be in place to mitigate impacts of excavation and regrading.
Economic	Capital Cost = $1.65 - $1.85 million Life Cycle Cost = Typical Annual Maintenance
Social	Continued access to Structure G-044 will maintain emergency response times and municipal services to residents. Standard construction mitigation measures ie; temporary detour, would be implemented to maintain access to all properties, during construction.
Cultural	The structure meets 1 of 9 criteria contained in Ontario Regulation 9/06 of the *Ontario Heritage Act.* Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment Report submitted to the Ministry of Citizenship and Multiculturism).

Analysis & Evaluation

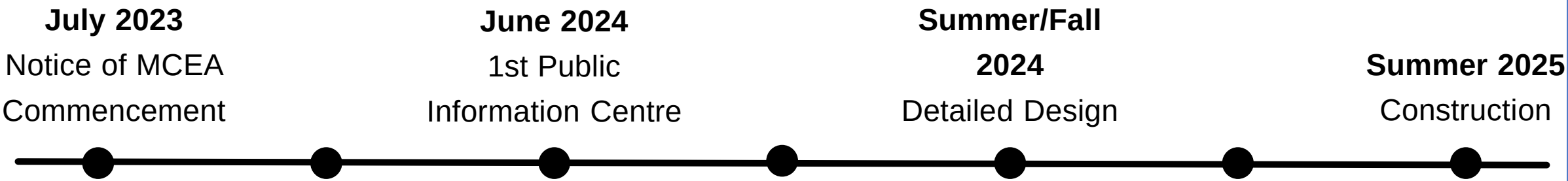
Environment Component	**Alternative 3:** Replacement with a single or narrow two-lane modular steel or wood span structure
Built	**Not Viable** - As this location along the Saugeen River experiences significant ice jams, wood or steel material are not suitable due to potential for impact damage to the face and barrel of structure.
Natural	The site is located within a wooded area; therefore, noise and air quality effects would be minimal. Some impacts to terrestrial and aquatic habitat would be anticipated as a result of construction, however, would be restored after completion. Erosion and sediment controls would be in place to mitigate impacts of excavation and regrading.
Economic	**Not Viable** - As this location along the Saugeen River experiences significant ice jams, wood or steel material are not suitable due to potential for impact damage to the face and barrel of structure resulting in higher Life Cycle costs.
Social	Continued access to Structure G-044 will maintain emergency response times and municipal services to residents. Standard construction mitigation measures ie; temporary detour, would be implemented to maintain access to all properties, during construction.
Cultural	The structure meets 1 of 9 criteria contained in Ontario Regulation 9/06 of the *Ontario Heritage Act.* Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment Report submitted to the Ministry of Citizenship and Multiculturism).

Preferred Alternative G-044

Alternative 2: Replacement with a single or narrow 2-lane concrete span structure

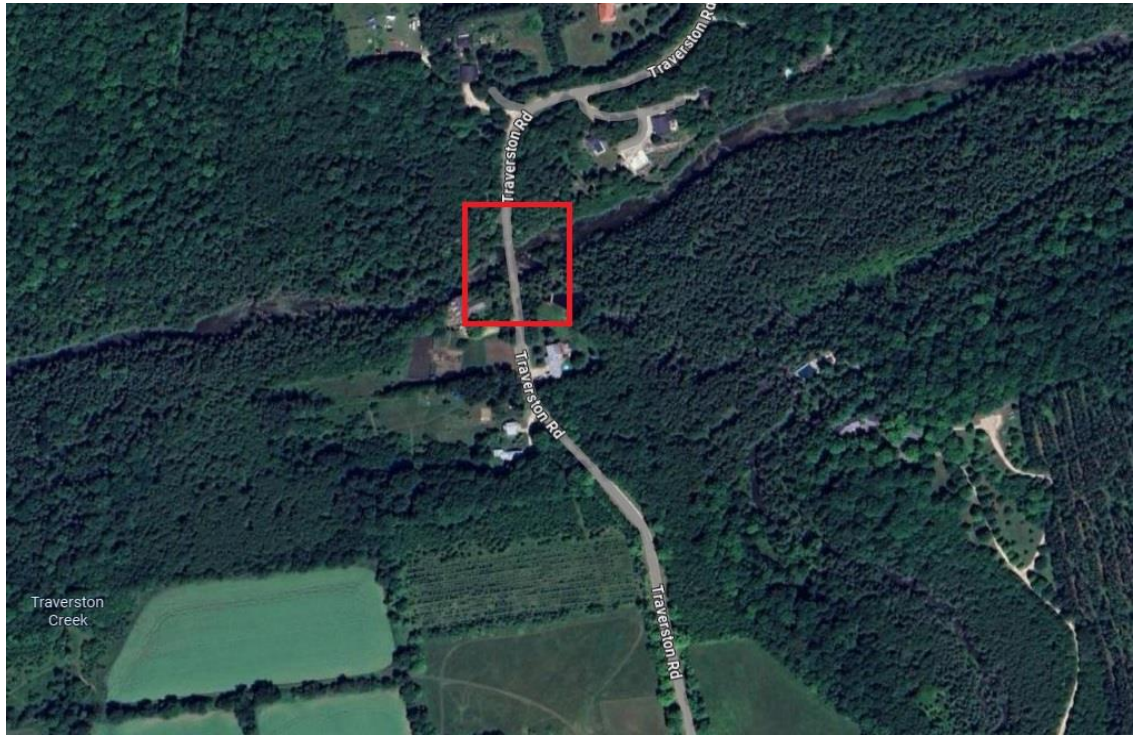
- Addresses the Problem Statement and allows for the continued use of Northline Road
- Less susceptible to damages/impacts caused by ice jams, a common occurrence at this location
- Design satisfies MTO/SVCA hydraulic design criteria

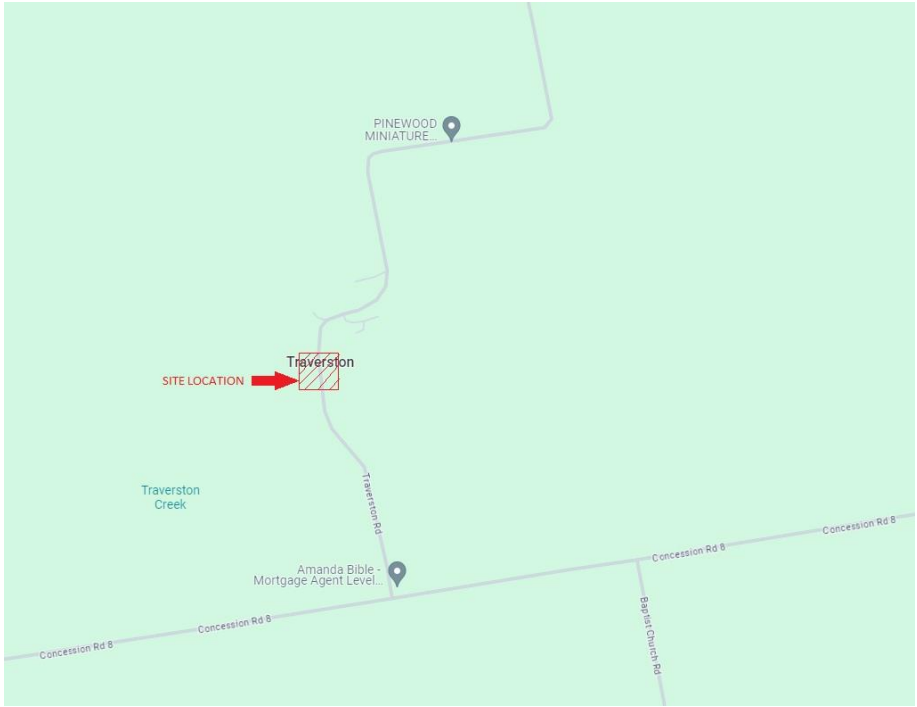
Project Timeline G-044



Structure G-033

G-033 is located on Traverston Road approximately 0.55 km north of Concession Road 8 and 18 km northeast of the community of Durham over Traverston Creek





Existing Conditions G-033
General Overview

Traverston is a narrow asphalt road with typically deep side slopes down into the roadside ditches. It is considered a local road, allowing traffic from arterial roads, Concession Road 8 and Grey Road 12, to access the few residential properties situated on Traverston Road. In the winter of 2023, Structure G-033 was removed due to structural deficiencies.

Existing Conditions G-033
Natural Environment

- The Structure G-033 site is within the Saugeen Valley Conservation Authority (SVCA) approximate screening area and is zoned as Natural Environment within the Municipality of West Grey Zoning By-Law 37-2006 (2017).

- The proposed alternatives could result in impacts to the existing natural features. If the structure is to be replaced, it is proposed to be replaced in the same location as the previous structure. Subject to future detailed design, through the implementation of proposed mitigation measures, **the impacts will be minor to none**.

- The alternatives will result in no significant long-term negative impacts to natural heritage features identified in the study area. The natural features within the study area will be protected and enhanced through mitigation and restoration recommendations. This will result in long-term positive effects on the natural heritage features within the study area.

Existing Conditions G-033
Key Considerations - Archaeological

Traverston Creek flows underneath Structure G-033, fencing, hydro and gravel are within or near this section of the Study Areas, indicating previously disturbed locations.

The Study Area meets the following criteria indicative of archaeological potential:

- Water sources: primary, secondary, or past water source (Saugeen River, Rocky Saugeen River, Traverston Creek)
- Proximity to early settlements (Saugeen Ojibway Nation's traditional territory - Treaty $45\frac{1}{2}$ Saugeen Tract Purchase 1836)
- Early historic transportation routes (Traverston Road, Saugeen River)

Existing Conditions G-033
Key Considerations - Archaeological

Stage 1 background research determined there are no previously registered archaeological sites located within one (1) kilometer of the Study Area. The property inspection determined that parts of the Study Areas could exhibit archaeological potential and may require further archaeological assessment.

The following recommendations are made:

1. Parts of the Study Areas exhibit archaeological potential. These lands could require Stage 2 archaeological assessment by test pit survey at five metre intervals, where appropriate. The alternatives presented **will not** encroach onto land that exhibits archaeological potential.

2. The remainder of the Study Areas do not retain archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment.

3. Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

Existing Conditions G-033

Key Considerations - Archaeological

Structure G-033

Yellow – Previously disturbed locations
Blue – Water course
Green – Undisturbed locations (archaeological potential)

Need & Justification G-033

- The purpose of this Schedule B - Class EA undertaking is to determine and evaluate alternatives to address the need for through access on Traverston Road.

- Severe corrosion, section loss and concrete spalling, coupled with impact damage throughout the structure led to the recommendation and decision to demolish and remove the bridge.

- With no structure in place to allow for through access, this Class EA will evaluate the need for replacement or permanent closure.

Need & Justification G-033

Medium to Wide Transverse Cracks Throughout Approach

Severe Corrosion and 100% Section Loss

Impact Damage on Diagonals

Severe Scouring and Disintegration Along Bottom of Abutment

Severe Spall with Exposed Reinforcement

Partial Foundation Exposed and Disintegrated, Undermined.

Need & Justification G-033

Corrosion and Impact Damage to Diagonals

Severed Member

View of Watercourse Downstream

Severe Corrosion at Ends on Floor Beam

Medium to Severe Corrosion Throughout Bearings

Severe corrosion and Severed Bottom Chord

Problem / Opportunity Statement
Structure G-033

Structure G-033 was removed due to concerns with its structural integrity as identified in a recent 2023 OSIM inspection report, leaving no through access on Traverston Road between Grey Road 12 and Concession Road 8.

West Grey is initiating a Schedule B - Class EA to identify alternative solutions and evaluate the alternative under the outlined list of “Evaluation Criteria”, to address the Problem Statement.

Alternative Solutions G-033

Reasonable alternatives being considered are:

1. Do nothing
2. Permanent closure
3. Replacement with a single lane bridge structure

Analysis & Evaluation

Environment Component	Alternative 1: Do Nothing
Built	Continued closure to through traffic on Traverston Road. Detour impacts to the local transportation network are minimal given the low volume of vehicles on Traverston Road.
Natural	Minimal impacts as the area of the former structure would be left as-is.
Economic	No cost associated with this alternative.
Social	No construction disruptions to quality of life. Minimal impacts to residents regarding emergency and municipal services and routes to the hospital.
Cultural	Structure G-033 had to be removed due to structural deficiencies. No other assets of cultural heritage significance were noted in the project area.

Analysis & Evaluation

Environment Component	Alternative 2: Permanent Closure
Built	Continued closure to through traffic on Traverston Road. Detour impacts are minimal to the local transportation network given the low volume of vehicles on Traverston Road.
Natural	Minimal impacts to vegetation, wildlife and air quality as the area of the former structure would be left as-is. Construction activities could potentially disturb some terrestrial habitats, however, would be restored after construction.
Economic	Capital Cost to accommodate municipal services (ie; Winter maintenance, grading, waste management) = $150,000 - $200,000. Life Cycle Cost = Typical Annual Maintenance
Social	Short construction period resulting in minimal disruptions to quality of life. Minimal impacts to residents regarding emergency response times and overall municipal services (ie; winter maintenance, grading, waste management).
Cultural	Structure G-033 had to be removed due to structural deficiencies. Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment report submitted to the Ministry of Citizenship and Multiculturism).

Analysis & Evaluation

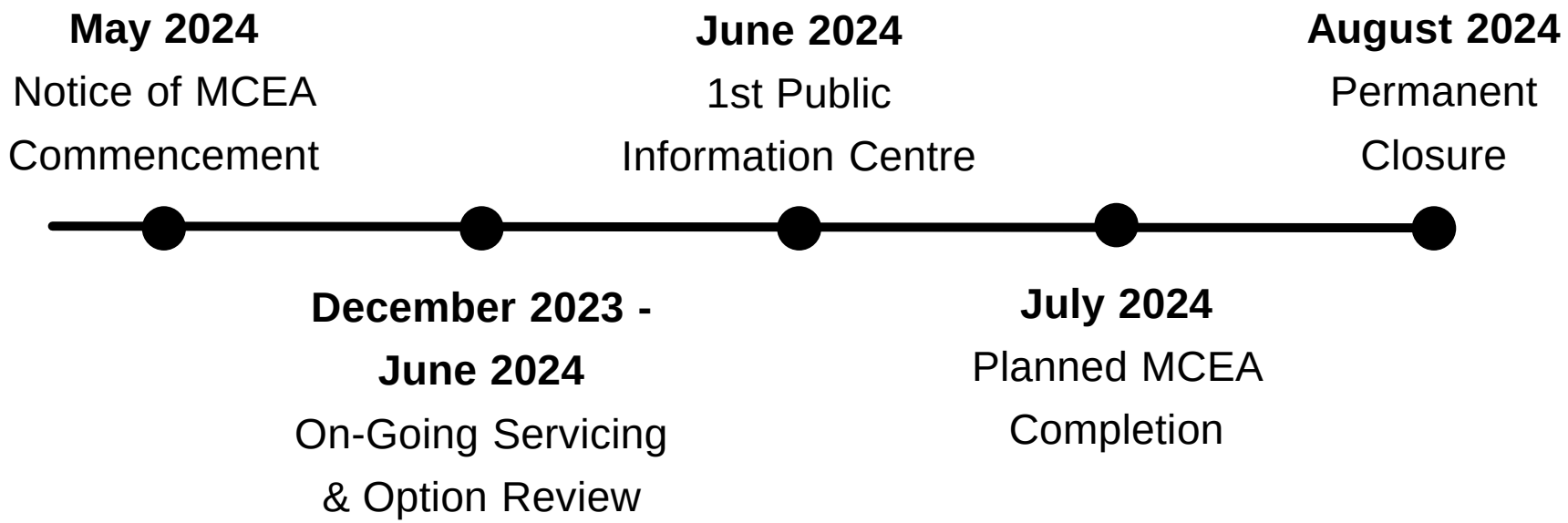
Environment Component	Alternative 3: Replacement with a Single Lane Bridge Structure
Built	Allows for the use of the structure and the opening of Traverston Road for through traffic.
Natural	The site is located within a wooded area; therefore, noise and air quality effects would be minimal. Some impacts to terrestrial and aquatic habitat are anticipated as a result of construction, however, would be restored after completion. Erosion and sediment controls would be in place to mitigate impacts of excavation and regrading.
Economic	Capital Cost = $4.6 - $4.8 million Life Cycle Cost = Typical Annual Maintenance
Social	Regained access to Structure G-033 could marginally increase emergency response times and efficiency of municipal services. Standard construction mitigation measures would be implemented to minimize disturbances to residents.
Cultural	Structure G-033 had to be removed due to structural deficiencies. Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment report submitted to the Ministry of Citizenship and Multiculturism).

Preferred Alternative G-033

Alternative 2: Permanent Closure

- Structure G-033 was deemed to be an asset with insignificant value to the Municipality in a study completed by WSP in 2018, and therefore there is no need for through access on Traverston (Problem Statement). This study factored in emergency services response time, traffic volume, overall municipal services, detour impact, bridge condition and historical significance.
- Given the narrow road width, a possibility is to implement a turn-around, which could be beneficial to larger vehicles as well as emergency vehicles.
- This alternative has a low capital cost and short construction period.

Project Timeline G-033



Current Status & Next Steps

Following this PIC period, we will:

- Collect and respond to public comments
- Compile the Project File
- 30-day review period of the Project File
- Publish a Notice of Study Completion to be made available to review agencies and the public
- Commence Detailed Design

How you can remain involved in the study:

- Request that your name/email be added to the mailing list
- Provide a completed comment sheet
- Contact the Municipality or the Consultant at any time

Thank You!

TRITON ENGINEERING SERVICES LIMITED
Consulting Engineers

We welcome your comments and questions.

Please provide your comments and questions by
July 6th, 2024

West Grey

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