



ONLINE PUBLIC OPEN HOUSE

SCHEDULE "B" MUNICIPAL CLASS
ENVIRONMENTAL ASSESSMENT
WOOLER ROAD CNR/CPR OVERPASS

April 21, 2023

McINTOSH PERRY



ONLINE PUBLIC OPEN HOUSE OBJECTIVES

Thank you for your interest in the project. The purpose of this Online Public Open House is to provide the public and stakeholders with an introduction to the study process, existing conditions, alternative solutions and provide opportunity for input and comments.

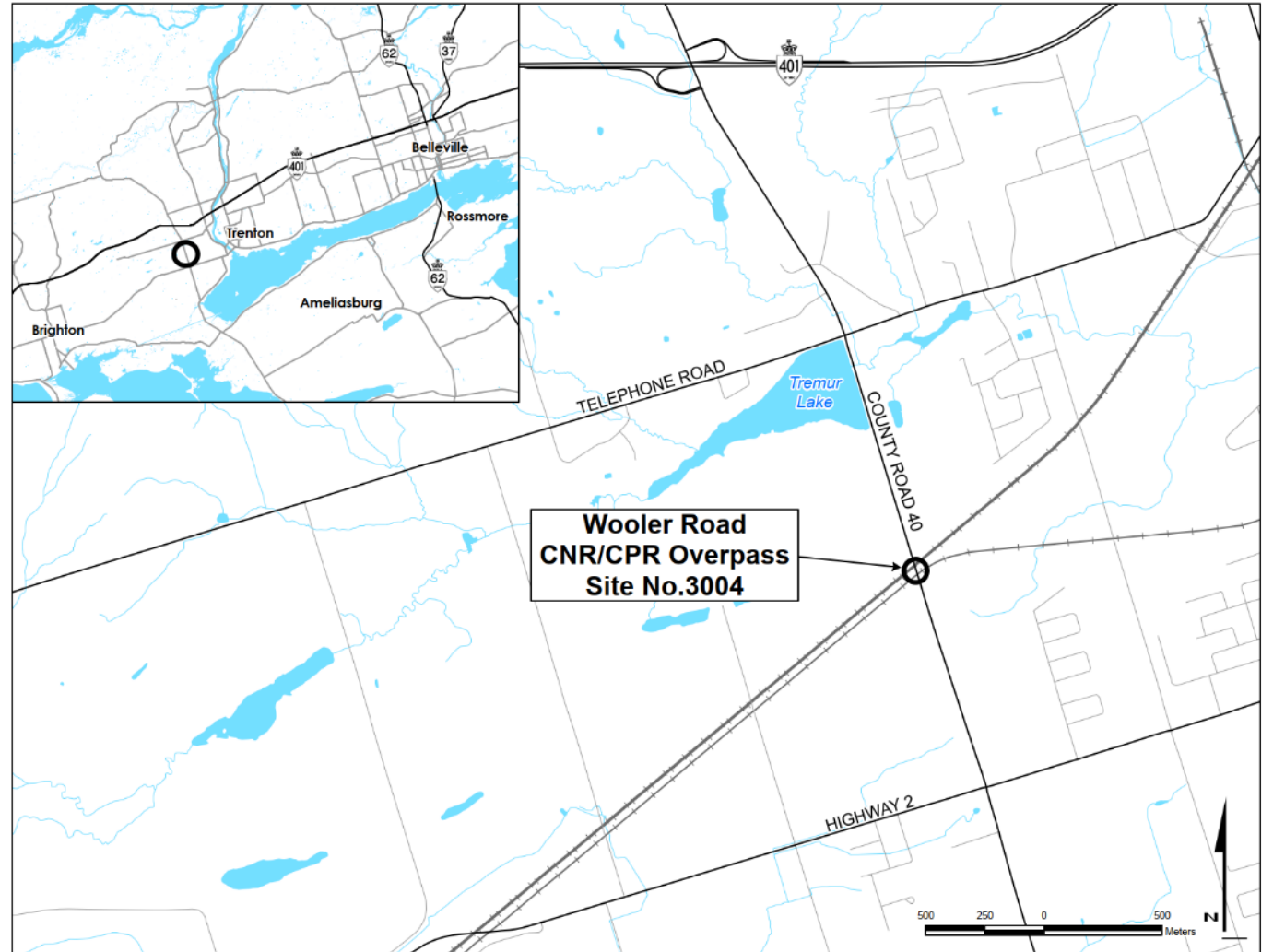
Once you have reviewed the materials, please submit any comments or questions directly online, via email or by phone to one of the contacts listed at the end of the presentation by May 5, 2023. A member of the project team will respond to you directly.



- 1 Project Location and Description
- 2 Purpose of the Study
- 3 Municipal Class Environmental Assessment Process
- 4 Problem and Opportunity Statement
- 5 Alternative Solutions
- 6 Project Studies
- 7 Existing Conditions
- 8 Evaluation and Recommended Alternative Solution
- 9 Upcoming Consultation Opportunities

PROJECT STUDY AREA

The Wooler Road CNR/CPR Overpass is located in the formal municipality of Murray within the City of Quinte West. The bridge crosses over both the Canadian National Railway (CNR) and the Canadian Pacific Railway (CPR) at approximately 2.3 km south of Highway 401 and 950 m north of Highway 2.



STUDY PURPOSE

Based on the existing condition of the bridge, as documented in the Detailed Bridge Condition Survey Report (2020) and Ontario Structural Inspection Manual (OSIM) Inspection Report (2019), it was determined that the bridge requires rehabilitation and/or replacement.

The existing Wooler Road CNR/CPR Overpass is currently two lanes. The City of Quinte has requested to include considerations for the opportunity to widen the bridge foundation in anticipation of future widening to four lanes.

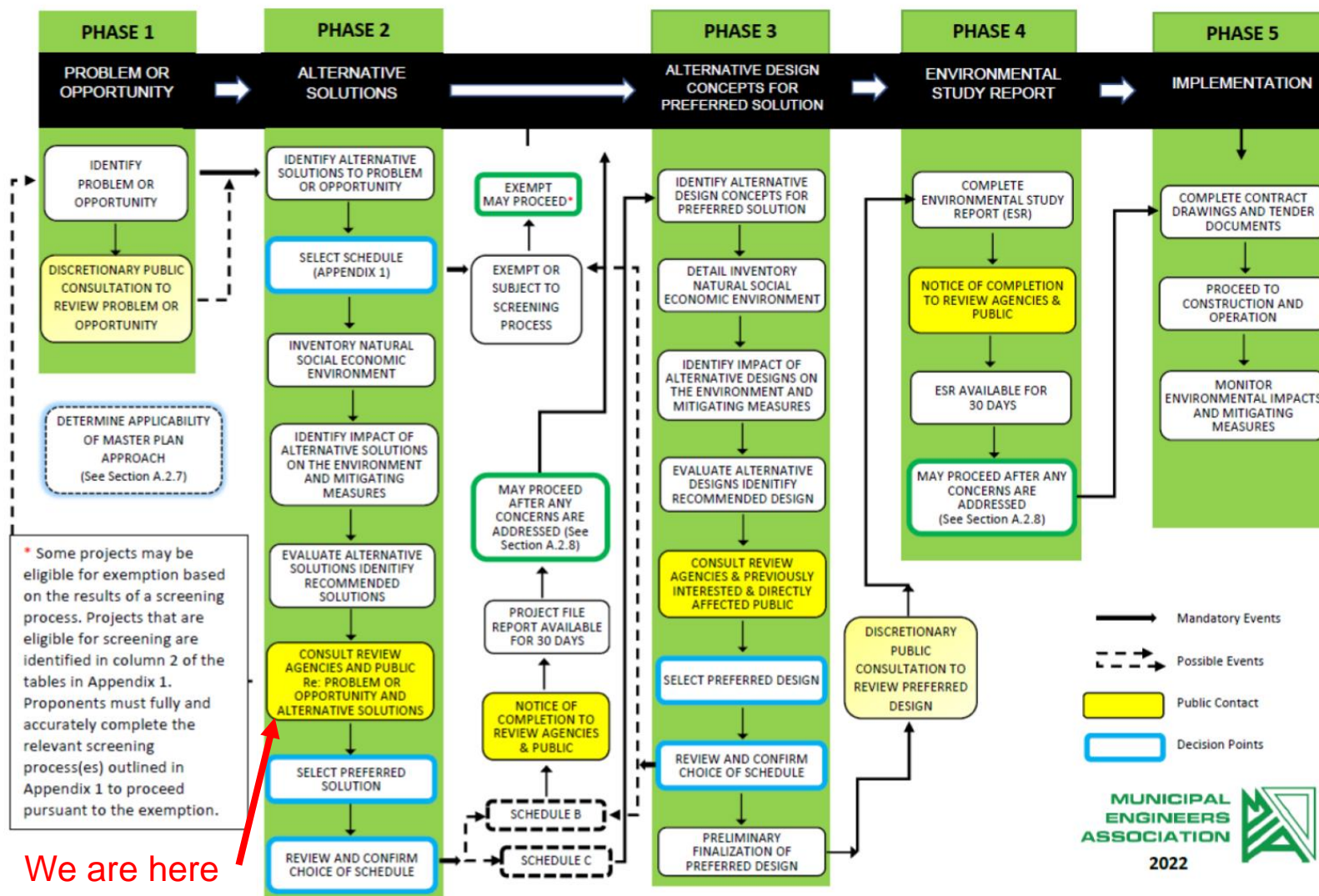
The City of Quinte West is undertaking this Schedule “B” Municipal Class Environmental Assessment Study to identify and evaluate alternative solutions to address the aging infrastructure and accommodate future growth.

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PROCESS

The Municipal Class Environmental Assessment (MCEA) is a process by which municipal infrastructure projects are planned in accordance with the *Environmental Assessment Act*. The MCEA gives due regard to protect the environment, identify and mitigate negative impacts, and involves consultation with affected stakeholders in the decision-making process.

Please visit:

<https://municipalclassea.ca> for more information on the MCEA Process.



We are here

PHASE 1 – PROBLEM/OPPORTUNITY STATEMENT



The Wooler Road CNR/CPR Overpass is in a state of deterioration and requires rehabilitation or replacement. The existing bridge is currently carrying two lanes, with no ability to widen to four lanes, and no capacity for active transportation facilities. Therefore, the City of Quinte West has the opportunity to identify and evaluate alternative solutions and determine a preferred bridge solution in accordance with the MCEA Process.

PHASE 2 – ALTERNATIVE SOLUTIONS TO THE PROBLEM/OPPORTUNITY STATEMENT

To address the Problem/Opportunity Statement, the following preliminary Alternative Solutions have been developed, which will be evaluated after appropriate studies and consultation have been completed:

Alternative 1: Do Nothing

Involves leaving the existing bridge in place, in its deteriorating condition. Through the MCEA process this alternative acts as a benchmark for the other Alternative Solutions.

Alternative 2: Concrete Overlay with Girder Rehabilitation

Superstructure rehabilitation including removal and repair of deteriorated asphalt and concrete, repairing girder ends, diaphragms and bearing seats, repair deck soffit, link slab construction at the piers, new concrete deck overhang, concrete overlay and installation of expansion joints at abutments. Existing substructure would be maintained and repaired.

Alternative 3: Deck Replacement with Girder Rehabilitation

Due to the large area of deck removals identified during structural assessment, the rehabilitation scope of Alternative 3 includes a full replacement of the existing deck with a new concrete deck. Existing substructure would be maintained and repaired.

Alternative 4: Full Superstructure Replacement

Replacement of full superstructure, including deck and girders. Existing substructure would be maintained and repaired.

Alternative 5: Like-for-like Full Structure Replacement

To ensure a consistent comparison among the rehabilitation alternatives, a like-for-like full structure replacement with new NU precast girders was considered.



PROJECT STUDIES

The following project studies have been undertaken within the Wooler Road CNR/CPR Overpass study area as part of this MCEA Study:

Geotechnical Investigations

- Geotechnical Investigations for soils information

Archaeological Assessment

- Stage 1 & 2 Archaeological Assessment

Natural Environment

- Terrestrial Ecosystem Review

Contaminant Waste

- Designated Substances Survey

Transportation and Traffic

- Transportation Study
- Construction Staging Review

Cultural Heritage Landscapes & Built Heritage Resources

- Cultural Heritage Checklist

Socio Economic Environment

- Public Consultation
- Land Use Review

Structural Assessment

- Review of Suitable Structural Alternatives
- Life Cycle Cost Analysis and Qualitative Evaluation of Alternatives

Drainage Investigations

- Hydraulic Analysis

EXISTING STRUCTURAL CONDITION



Structural Condition

- The existing structure was constructed in 1970
- Three equal span (22.067 m) simply supported concrete slab (178 mm thick) on AASHTO Type III precast prestressed concrete girder bridge, with a total span of 66.2 m.
- The structure has an overall width of 11.07 m and the roadway width between concrete curbs is 9.14 m. The bridge carries two 4.57 m wide lanes and 0.9 m concrete safety curbs with a steel railing system.
- The bridge is supported on reinforced concrete abutments and piers. The abutment is founded on steel H-piles and the piers are supported on spread footings.
- In 2006, Wooler Road was resurfaced, including asphalt paving over the expansion joints at the bridge abutment and pier joints. Otherwise, it does not appear that the structure has undergone any major structural rehabilitations.
- The Detailed Bridge Condition Survey Report (2020) Ontario Structural Inspection Manual (OSIM) inspection in 2019 determined that the bridge is in generally fair to poor condition and requires rehabilitation and/or replacement.

EXISTING TRAFFIC CONDITIONS

Year	Average Daily Traffic Forecasts	Level of Service
2021	10800	-
2023	11170	C
2028	12100	C
2033	13030	C
2043	14890	D



Existing Traffic and Operations

- Wooler Road, County Road 40, has a two-lane rural cross section and a posted speed limit of 80 km/h.
- Annual Daily Traffic data and projections were obtained through historical traffic data provided by the City, and data collected in summer 2021.
- Data showed 1.72% of annual traffic growth on Wooler Road.
- Data showed that 7% of the traffic on Wooler Road is made up of trucks and heavy vehicles.
- Operational analysis indicate that the existing Wooler Road corridor will continue to adequately serve future traffic forecasts beyond the 20+ year time frame.
- There are no active transportation facilities currently on Wooler Road.
- The City's Active Transportation Plan (2018) identifies this section of Wooler Road as a **"Candidate Route" for a buffered paved shoulder** to be phased in the long term, 20+ year time frame.
- 300 m to the south of the structure is an entrance to the Murray Centennial Public School
- 600 m to the north of the structure is an access road to Tremur Lake.
- Both approaches have a School Zone Maximum Speed When Flashing Sign, reducing the posted speed of Wooler Road to 60 km/h when flashing.

NATURAL ENVIRONMENT EXISTING CONDITIONS



Vegetation

- The study area is dominated by vegetation common to the Lake Simcoe-Rideau Ecoregion (Ecoregion 6E) of the Mixedwood Plains Ecozone.
- The majority of the vegetation to be impacted is dry-moist old field meadow, sumac cultural thickets and mixed forest in the laydown area. These areas do not comprise of sensitive vegetation communities, nor contain rare or SAR plant species.

Wildlife and Species at Risk

- The study area contains habitat that supports a variety of wildlife species characteristic of the Lake Simcoe-Rideau Ecoregion (Ecoregion 6E)
- No wildlife SAR were observed during the field investigations, however suitable habitat for the following wildlife SAR was observed within the study area: Monarch, Rusty-patched Bumble Bee, Blanding's Turtle, Midland Painted Turtle, Northern Map Turtle, Snapping Turtle (conservatively a travel corridor for all turtle species), Barn Swallow, Eastern Meadowlark, Golden Winged Warbler, Eastern Wood-Pewee, Northern Myotis, Little Brown Myotis and Tri-colored Bat.

Wetland Habitat and Designated Areas

- No major watercourses are present at the Wooler Road CNR/CPR Overpass. However, there is a small tributary of Mayhew Creek approximately 282 m SE of the railway overpass, flowing east-northeast.
- One unevaluated wetland (swamp) intersects with the northeastern border of the study area, according to LIO data. No PSWs exist within a 2 km radius from the study site.

SOCIAL/CULTURAL ENVIRONMENT EXISTING CONDITIONS

Archaeology

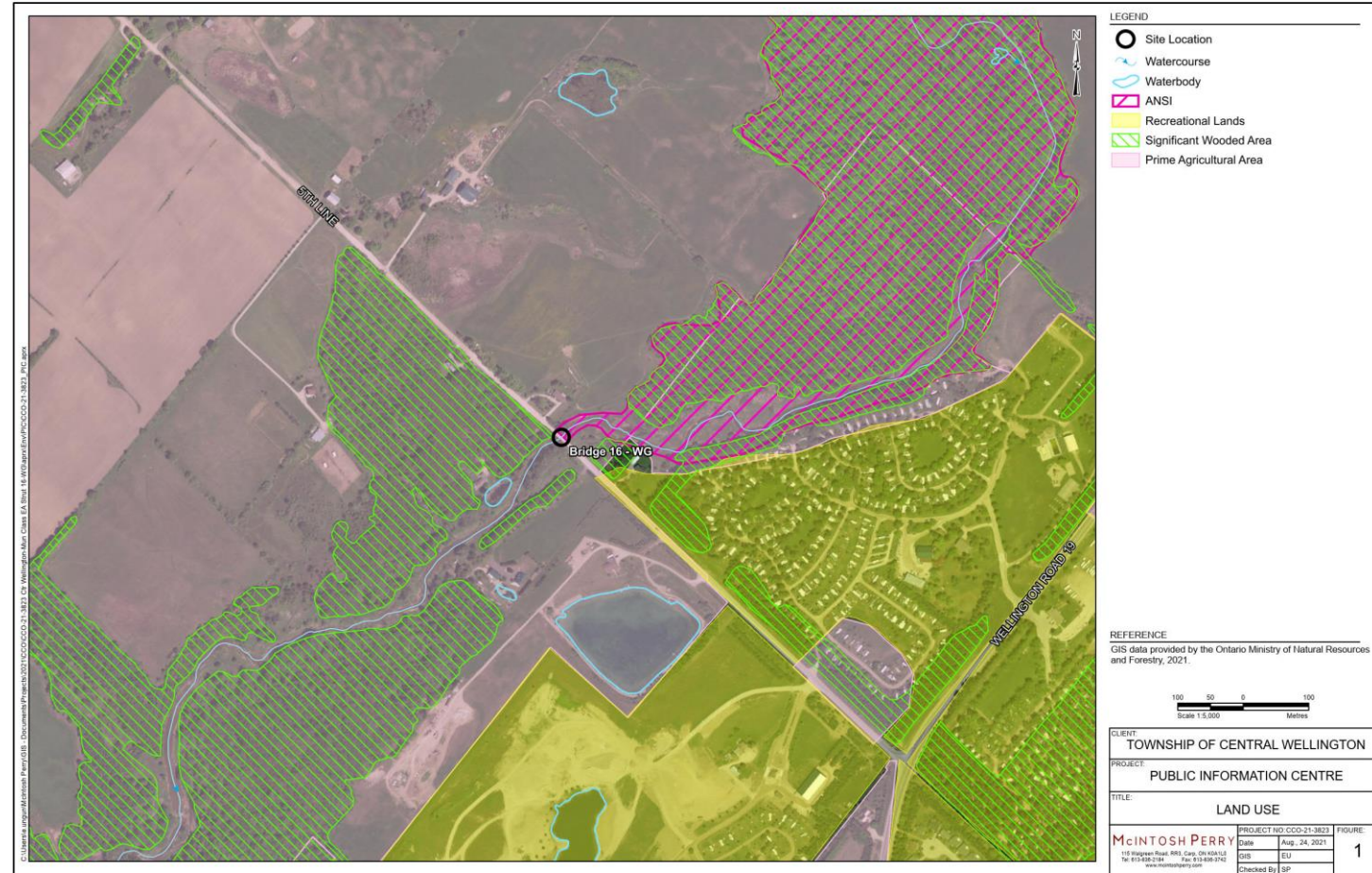
- A Stage 1 & 2 Archaeological Assessment identified no archaeological sites and concluded the study area does not warrant further archaeological assessment.

Cultural Heritage

- A MECP Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist was completed.
- The checklist has determined that no Cultural Heritage Evaluation Report is required for the bridge rehabilitation, based on bridge style (Precast with concrete deck).

Land Use

- The lands adjacent to the structure consist primarily of agricultural and forested regions.
- The City of Quinte West Official Plan designates the areas within and directly adjacent to the study area as rural and agricultural areas, as well as urban planning districts.
- An entrance on Wooler Road to Murray Centennial Public School is located approximately 300 m south of the structure, and an access road to Tremur Lake is located approximately 600 m north of the structure.



EVALUATION CRITERIA



Transportation

- Traffic Operations
- Active Transportation
- Future Traffic Needs



Structural

- Safety Considerations
- Extension of Service Life
- Durability



Natural Environment

- Species at Risk (SAR)
- Environmentally Sensitive Areas
- Wildlife Habitats



Socio-Economic

- Land Use Impacts
- Archaeological, Built Heritage & Cultural Heritage Features



Construction

- Construction Duration
- Impacts of Construction



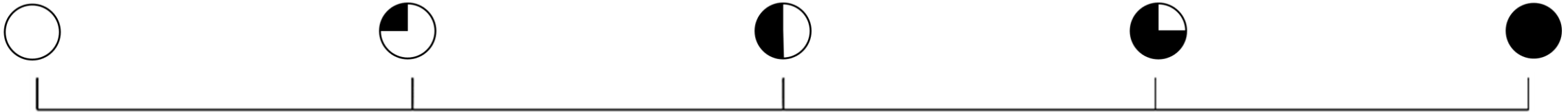
Cost

- Capital Costs
- Operational and Maintenance Costs

EVALUATION CRITERIA

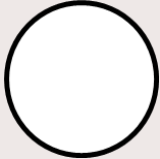




Least Preferred

Most Preferred

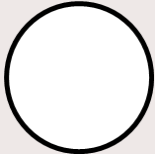
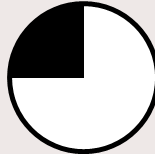
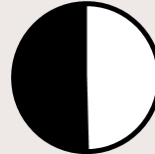
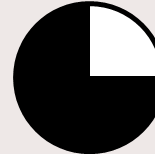
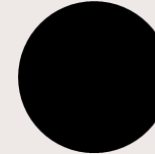


The purpose of this evaluation is to present the positive and negative impacts associated with the design alternatives in consideration of the criteria listed in the adjacent table. This evaluation is a relative comparison to be used to determine which alternative is preferred. Each criterion was given a score on a scale from least preferred (empty circle) to most preferred (solid circle).

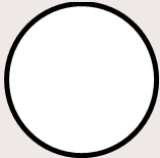

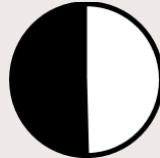
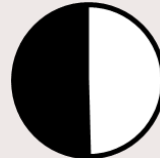
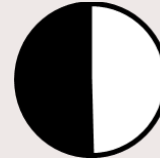
EVALUATION OF ALTERNATIVES

Criteria	Alternative 1: Do Nothing	Alternative 2: Concrete Overlay with Girder Rehabilitation	Alternative 3: Deck Replacement with Girder Rehabilitation	Alternative 4: Full Superstructure Replacement	Alternative 5: Like-for-like Full Structure Replacement
Transportation	<ul style="list-style-type: none"> Meets current and projected traffic needs to the 20+ year time frame. Unable to accommodate widening for planned active transportation infrastructure (i.e.. Buffered paved shoulder) Unable to accommodate future traffic needs such as road widening to four lanes. 	<ul style="list-style-type: none"> Meets current and projected traffic needs to the 20+ year time frame. Marginal widening possible to accommodate wider shoulders for active transportation infrastructure. May not meet requirements for a buffered paved shoulder. Unable to accommodate future traffic needs such as road widening to four lanes. 	<ul style="list-style-type: none"> Meets current and projected traffic needs to the 20+ year time frame. Marginal widening possible to accommodate wider shoulders for active transportation infrastructure. May not meet requirements for a buffered paved shoulder. Unable to accommodate future traffic needs such as road widening to four lanes. 	<ul style="list-style-type: none"> Meets current and projected traffic needs to the 20+ year time frame. Marginal widening possible to accommodate wider shoulders for active transportation infrastructure. May not meet requirements for a buffered paved shoulder. Unable to accommodated future traffic need such as road widening to four lanes. 	<ul style="list-style-type: none"> Meets current and projected traffic needs to the 20+ year time frame. Able to accommodate widening for planned active transportation infrastructure. Able to accommodate future traffic needs such as road widening to four lanes.
Evaluation					

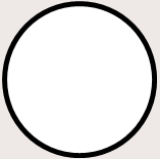


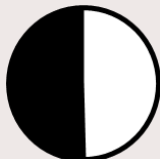
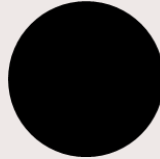
EVALUATION OF ALTERNATIVES

Criteria	Alternative 1: Do Nothing	Alternative 2: Concrete Overlay with Girder Rehabilitation	Alternative 3: Deck Replacement with Girder Rehabilitation	Alternative 4: Full Superstructure Replacement	Alternative 5: Like-for-like Full Structure Replacement
Structural	<ul style="list-style-type: none"> Does not address current deterioration in order to extend the service life of the structure. 	<ul style="list-style-type: none"> Significant areas of the deck remain with high corrosion potential and chloride ingress. Patching of girder ends is difficult due to limited access and poor bond. Rebuilding of bearing seats difficult with existing girders in place. Durability is considered to be poor. Risk of damage to existing girders. 	<ul style="list-style-type: none"> Full deck replacement to eliminate all chloride contamination in the deck. Patching of girder ends difficult due to limited access and poor bond. Rebuilding of bearing seats difficult with existing girders in place. Durability is considered to be moderate. Risk of damage to existing girders. 	<ul style="list-style-type: none"> Full deck and girder removal. Easier access to abutment and bearing seat reconstruction. Existing substructure will remain and require significant reconstruction. The overall service life of the structure would only be 50 years. Durability is considered to be moderate. 	<ul style="list-style-type: none"> Full structure removal. Easier access and construction for the replacement structure. Minimal future intervention aside from standard maintenance. Replacement with integral abutments which can provide higher durability as it eliminates expansion joints. Service life expected to be 75+ years. Durability is considered to be good.
Evaluation					

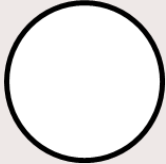



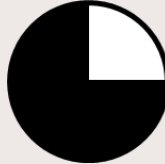
EVALUATION OF ALTERNATIVES

Criteria	Alternative 1: Do Nothing	Alternative 2: Concrete Overlay with Girder Rehabilitation	Alternative 3: Deck Replacement with Girder Rehabilitation	Alternative 4: Full Superstructure Replacement	Alternative 5: Like-for-like Full Structure Replacement
Natural Environment	<ul style="list-style-type: none"> Continued deterioration of Wooler Road CNR/CPR Overpass may pose significant impacts to the natural environment. Potential impacts to SAR can be mitigated. No anticipated impacts to groundwater or surface water. No anticipated climate change impacts. 	<ul style="list-style-type: none"> Moderate/temporary impacts to the natural environment during construction Minor impacts to terrestrial wildlife may be required through vegetation removal activities for construction. Potential impacts to SAR can be mitigated. No anticipated impacts to groundwater or surface water. No anticipated climate change impacts. 	<ul style="list-style-type: none"> Moderate/temporary impacts to the natural environment during construction Minor impacts to terrestrial wildlife may be required through vegetation removal activities for construction. Potential impacts to SAR can be mitigated. No anticipated impacts to groundwater or surface water. No anticipated climate change impacts. 	<ul style="list-style-type: none"> Moderate/temporary impacts to the natural environment during construction Minor impacts to terrestrial wildlife may be required through vegetation removal activities for construction. Potential impacts to SAR can be mitigated. No anticipated impacts to groundwater or surface water. No anticipated climate change impacts. 	<ul style="list-style-type: none"> Moderate/temporary impacts to the natural environment during construction Minor impacts to terrestrial wildlife may be required through vegetation removal activities for construction. Potential Impacts to SAR can be mitigated. No anticipated impacts to groundwater or surface water. Increased greenhouse gas emissions may be incurred due to detours during construction. GHG emissions will ultimately be reduced due to less traffic congestion.
Evaluation					

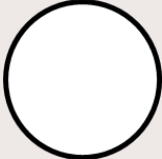




EVALUATION OF ALTERNATIVES

Criteria	Alternative 1: Do Nothing	Alternative 2: Concrete Overlay with Girder Rehabilitation	Alternative 3: Deck Replacement with Girder Rehabilitation	Alternative 4: Full Superstructure Replacement	Alternative 5: Like-for-like Full Structure Replacement
Socio-Economic	<ul style="list-style-type: none"> Continued deterioration of Wooler Road CNR/CPR Overpass may pose a health and safety concerns, leading to eventual closure. Operational issues for rail traffic due to potential debris and deterioration. No anticipated cultural heritage impacts. No anticipated impacts to archaeological resources. No construction related impacts. 	<ul style="list-style-type: none"> Wooler Road CNR/CPR Overpass would remain open to the public. No operational concerns for rail traffic. No anticipated cultural heritage impacts. No anticipated impacts to archaeological resources. No construction related impacts. Moderate construction related impacts anticipated. Local residents may experience an increase in noise during the construction. 	<ul style="list-style-type: none"> Wooler Road CNR/CPR Overpass would remain open to the public. No operational concerns for rail traffic. No anticipated cultural heritage impacts. No anticipated impacts to archaeological resources. No construction related impacts. Moderate construction related impacts anticipated. Local residents may experience an increase in noise during the construction. 	<ul style="list-style-type: none"> Wooler Road CNR/CPR Overpass would remain open to the public. No operational concerns for rail traffic. No anticipated cultural heritage impacts. No anticipated impacts to archaeological resources. No construction related impacts. Moderate construction related impacts anticipated. Local residents may experience an increase in noise during the construction. 	<ul style="list-style-type: none"> Wooler Road CNR/CPR Overpass would remain open to the public. No operational concerns for rail traffic. No anticipated cultural heritage impacts. No anticipated impacts to archaeological resources. No construction related impacts. Moderate construction related impacts anticipated. Local residents may experience an increase in noise during the construction.
Evaluation					

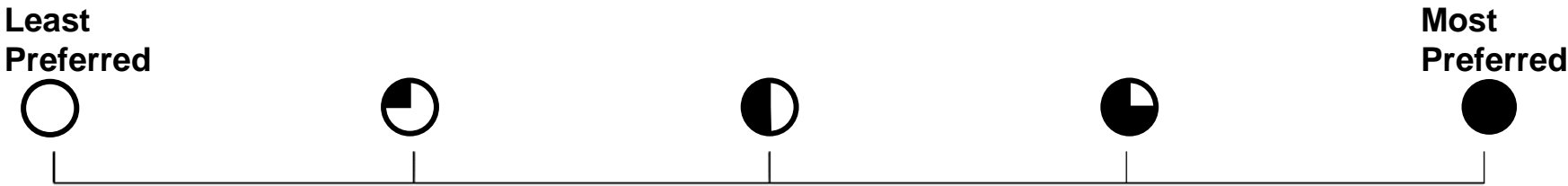
EVALUATION OF ALTERNATIVES































Criteria	Alternative 1: Do Nothing	Alternative 2: Concrete Overlay with Girder Rehabilitation	Alternative 3: Deck Replacement with Girder Rehabilitation	Alternative 4: Full Superstructure Replacement	Alternative 5: Like-for-like Full Structure Replacement
Construction	<ul style="list-style-type: none"> No construction is required. 	<ul style="list-style-type: none"> Construction duration is anticipated to be approximately 150 days over 2 seasons. Traffic to be reduced to a single lane managed with portable temporary traffic signals. Additional delay and queueing expected for the public. 	<ul style="list-style-type: none"> Construction duration is anticipated to be approximately 150 days over 2 seasons. Traffic to be reduced to a single lane managed with portable temporary traffic signals. Additional delay and queueing expected for the public. 	<ul style="list-style-type: none"> Construction duration is anticipated to be approximately 135 days over 2 seasons. Traffic to be reduced to a single lane managed with portable temporary traffic signals. Additional delay and queueing expected for the public. 	<ul style="list-style-type: none"> Construction duration is anticipated to be approximately 205 days over 2 seasons. Traffic to be reduced to a single lane managed with portable temporary traffic signals. Additional delay and queueing expected for the public.
Evaluation					

EVALUATION OF ALTERNATIVES

Criteria	Alternative 1: Do Nothing	Alternative 2: Concrete Overlay with Girder Rehabilitation	Alternative 3: Deck Replacement with Girder Rehabilitation	Alternative 4: Full Superstructure Replacement	Alternative 5: Like-for-like Full Structure Replacement
Cost	<ul style="list-style-type: none"> No cost, due to no proposed works. 	<ul style="list-style-type: none"> Lowest capital costs due to minimal project scope. Life cycle cost, including operational and maintenance costs are high when future 4-lane widening is anticipated in 10-20 years. 	<ul style="list-style-type: none"> Second lowest capital costs due to minimal project scope. Life cycle cost, including operational and maintenance costs are high when future 4-lane widening is anticipated in 10-20 years. 	<ul style="list-style-type: none"> Second highest capital costs due to more detailed project scope relative to Alternatives 2 and 3. Life cycle cost, including operational and maintenance costs are high when future 4-lane widening is anticipated in 10-20 years. 	<ul style="list-style-type: none"> Highest capital costs due to largest project scope. Life cycle cost, including operational and maintenance costs are the lowest when future 4-lane widening is anticipated in 10-20 years.
Evaluation					

EVALUATION SUMMARY



Evaluation Criteria	Alternative Design Concept 1	Alternative Design Concept 2	Alternative Design Concept 3	Alternative Design Concept 4	Alternative Design Concept 5
Transportation					
Structural					
Natural Environment					
Socio-Cultural Environment					
Construction					
Cost					
Summary					Technically Preferred Alternative

TECHNICALLY PREFERRED ALTERNATIVE

The Technically Preferred Alternative Solution to the Problem/Opportunity Statement is Alternative 5 – Like-for-like Full Structure Replacement of the Wooler Road CNR/CPR Overpass in the current location.

The key benefits of the Recommended Alternative are:

- Low engineering risks as all bridge components would be new, with an anticipated service life of approximately 75 years.
- The new bridge would be constructed to accommodate future widening and increased active transportation facilities.
- Lowest life cycle cost
- Minimizes future maintenance interventions

Anticipated impacts and mitigation of the Recommended Alternative are:

- During construction, Wooler Road will be reduced to single lane of traffic and use a one-lane, two-way operation managed with the use of portable temporary traffic signals. The public can expect to experience delays and queueing on Wooler Road during construction.
- Any wildlife and vegetation, including SAR that may be disturbed during construction will be considered and mitigation for migratory bird nesting window restrictions, reestablishment of vegetation removal areas, etc. will be included in the Contract Documents and adhered to by the Contractor.
- The Contractor will be required to carry out activities in a manner that minimizes noise levels.



UPCOMING CONSULTATION OPPORTUNITIES

The following consultation is being conducted as part of this MCEA Study:

Consultation	Timeline
Notice of Online Public Open House mailout and advertisement on the City of Quinte West's website.	April 21, 2023
Online Public Open House	April 21, 2023 to May 5, 2023
Advertise Project File Report for a 30-day public review and comment period	May 14, 2023

Following the Project File Report 30-day public review and comment period, if there are no outstanding comments that need to be addressed, the project will proceed to Detail Design and Construction. Timing of construction is to be determined pending funding and approvals.

IF YOU WOULD LIKE MORE INFORMATION, PLEASE CONTACT:

Mr. Curtis Stewart, P.Eng.
Consultant Project Manager
McIntosh Perry Consulting Engineers
Tel: 1-289-351-0367
Email: c.stewart@mcintoshperry.com

Mr. Tim Colasante
Manager of Engineering
City of Quinte West
Tel: 613-392-2841 x4408
Email: timc@quintewest.ca

Please submit any questions or comments directly online, email or by phone to the contacts listed above by May 5, 2023.

Thank you for participating in the Online Public Open House. Information is being collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record. If you have accessibility requirements in order to participate in this project, please contact one of the project team members listed above.