

Project File Report

Schedule B Environmental Assessment Study

Hawthorne and McHugh Multi-Use Bridge Crossings over the Little River
Windsor, Ontario

Project # SWW187089/SWW187112

Prepared for:

The Corporation of the City of Windsor

2450 McDougall Avenue Windsor, Ontario N8X 3N6

29-Jan-19



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Mr. Duquette,

Please accept the following revised *Project File Report* for the Hawthorne and McHugh Multi-Use Bridge Crossings over the Little River project. This report has been developed and is consistent with requirements for a Schedule 'B' project under the Municipal Class Environmental Assessment (MCEA) process. Revisions to the original report (dated December 5, 2018) incorporate comments received during the 30-day review period. As noted by the Ontario Ministry of Environment, Conservation and Parks (MECP) a second Notice of Study Completion will be issued to stakeholders. Once all comments are satisfactorily addressed after the second 30-day review period, the project will be considered complete and will be filed with the MECP.

This report provides an introduction to the project, summarizes existing site conditions and the consultation process, identifies alternative designs considered, and recommends the most technically feasible design that was carried forward to detailed design and ultimate construction tender.

The complete Project File for this undertaking consists of other technical deliverables which should be read in conjunction with this report. These technical deliverables are referenced in the report below and are included in the appendices.

Sincerely,

Wood Environment & Infrastructure Solution.

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Senior Environmental Specialist

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Senior Environmental Scientist



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1.0 Introduction / Project Background

This project was undertaken in accordance with the provincial *Environmental Assessment Act* and Municipal Class Environmental Assessment (MCEA) process (October 2000, as amended in 2015). The MCEA defines four (4) schedules (Schedules A, A+, B & C) under which projects may be planned and describes the process required for each. The complexity of the project is identified by the level of community interest, technical considerations and environmental impacts that help to determine which schedule is followed. Based on these considerations and the direction provided by the MCEA Manual, the process for this project followed Schedule 'B' requirements. A Project File, meeting the Schedule 'B' process, has been compiled to document the evaluation of alternatives assessment for the detailed design of the Hawthorne and McHugh Multi-Use Bridge crossings over the Little River (Figure 1). The purpose of this project is to improve recreational access and connectivity along the Ganatchio Trail within the study area for neighbouring residents and the general public, while maximizing access and connectivity to existing infrastructure along the City of Windsor's (City) existing trail network system.

The City initiated an MCEA study for the design and construction of two (2) new bridges that will connect Multi-Use trails along Little River in May 2018 (herein referred to as the 'Study'). A Notice of Study Commencement and Public Information Centre (PIC) mailout was prepared to notify stakeholders of the project at the onset of the Study (Appendix A). A Notice of Study Completion was also prepared at the end of the study to notify stakeholders that the Project File, including this Project File Report, could be reviewed for a 30-day period. During the review period, respondents were encouraged to provide their comments related to the project. The review period ended on January 4, 2019. This Project File Report is being revised to address comments that were received during that time. A second Notice of Study Completion, including a 30-day review period, will be issued to stakeholders in order to address initial comments received. This Project File Report will be finalized and filed with the Ontario Ministry of Environment, Conservation and Parks (MECP) after the second review period ends and when all further comments have been addressed in a satisfactory manner.

1.1 Project Name

At the onset of the project, communication that was presented for the Study through a variety of means which described the bridges as Windsor Family Credit Union (WFCU) and Hawthorne Pedestrian Bridges. To provide clarity and demonstrate that the project was not affiliated with the WFCU, the WFCU Bridge name was changed to the McHugh Bridge. Nomenclature associated with the Hawthorne Bridge has remained consistent throughout the course of the Study.

To reflect the ultimate variety of bridge users, the original term Pedestrian was replaced with Multi-Use when used to describe the bridges. This change was made to better represent the overall utility of the bridge structures as opposed to be dedicated to pedestrians only.

For the purposes of the report and all future communications, the following naming terminology will be employed to describe the bridge locations:

McHugh Multi-Use Bridge (or simply the McHugh Bridge)

Hawthorne Multi-Use Bridge (or simply the Hawthorne Bridge)

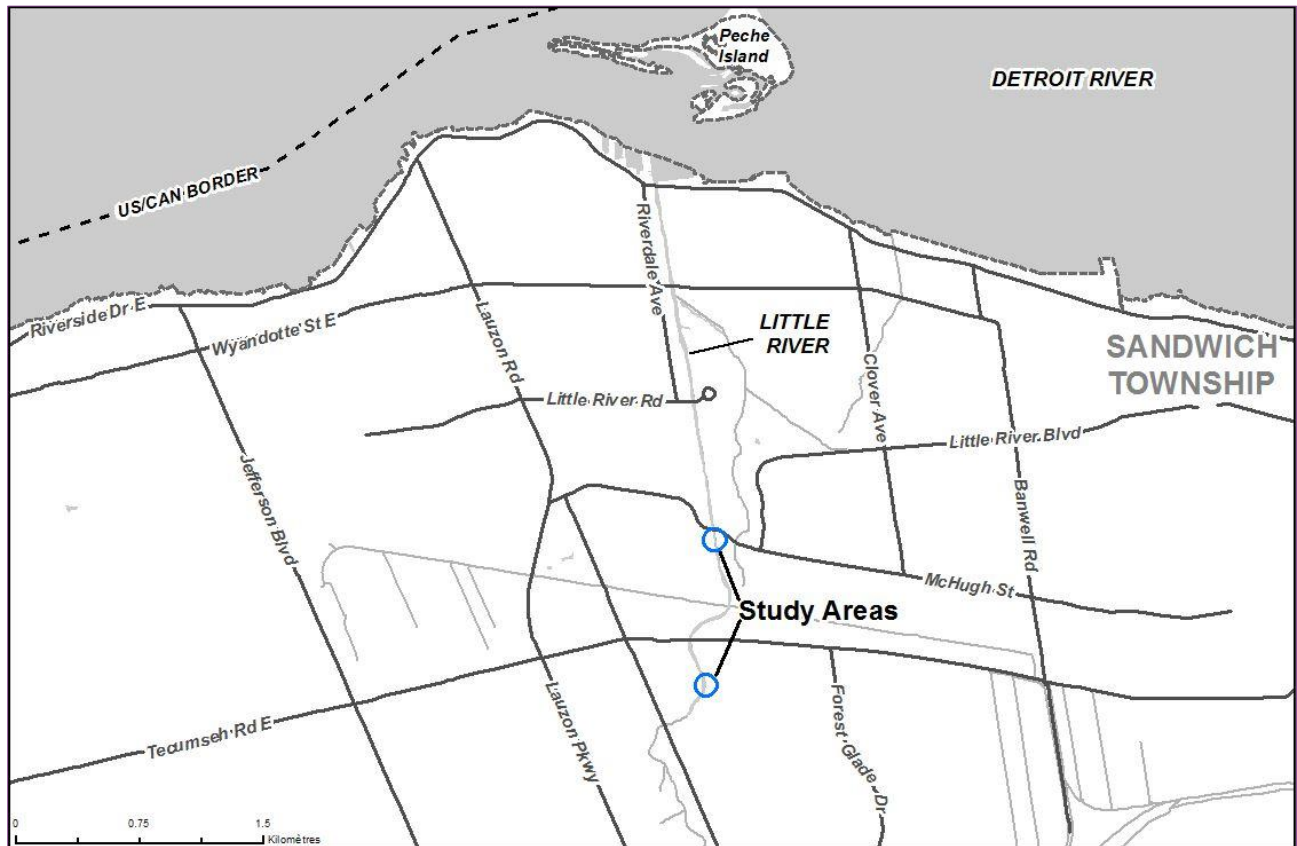


Figure 1: Project Study Area

1.2 Study Area

The proposed Hawthorne Bridge crosses the Little River between Esplanade Drive and Tecumseh Road immediately east of the Hawthorne Drive cul-de-sac. The proposed McHugh Bridge crosses the Little River approximately 60 metres (m) south of the McHugh Street crossing and immediately east of the WFCU Centre. The locations of the bridge crossings are also presented in Figure 2.

OVERVIEW



4687500

4687000

4686500

4686000

LEGEND

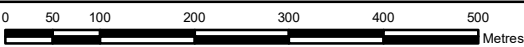
- Potential Bridge Location
- Railway
- Watercourse
- Waterbody

NOTES:
 - Aerial imagery extracted from Google Earth, 2017.



WINDSOR PEDESTRIAN BRIDGES

Project Location



PROJECT N^o: SWW187089
 SWW187112

FIGURE: 2

SCALE: 1:8,000

DATE: January 2019

2.0 Existing Environment

2.1 Official Plan and Bicycle Use Master Plan

The project is consistent with the City's Bicycle Use Master Plan (BUMP) at it promotes the City's "commitment to develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists" and continues the emphasis that has been placed on "integrating, enhancing and expanding Windsor's existing on- and off-road cycling network, facilitating the use of bicycles for commuting, leisure and tourism, and providing a genuine transportation alternative to the use of motor vehicles".

The project is also consistent with the ongoing Active Transportation Master Plan (Walk Wheel Windsor) development as it promotes active transportation throughout the City.

2.1.1 Existing Land Use

The lands surrounding the study area contain various types of land uses (Figure 3). The McHugh Bridge location is situated immediately east of the WFCU Center, within the Little River corridor which is designated as a combination of the Industrial, Open Space, Residential and Natural Heritage. East of this bridge, relatively recently developed residential areas now encompass historic agricultural lands.

An established residential area is located east and west of the proposed Hawthorne Bridge, with a Commercial Corridor to the north of the study area, running parallel to Tecumseh Road East.

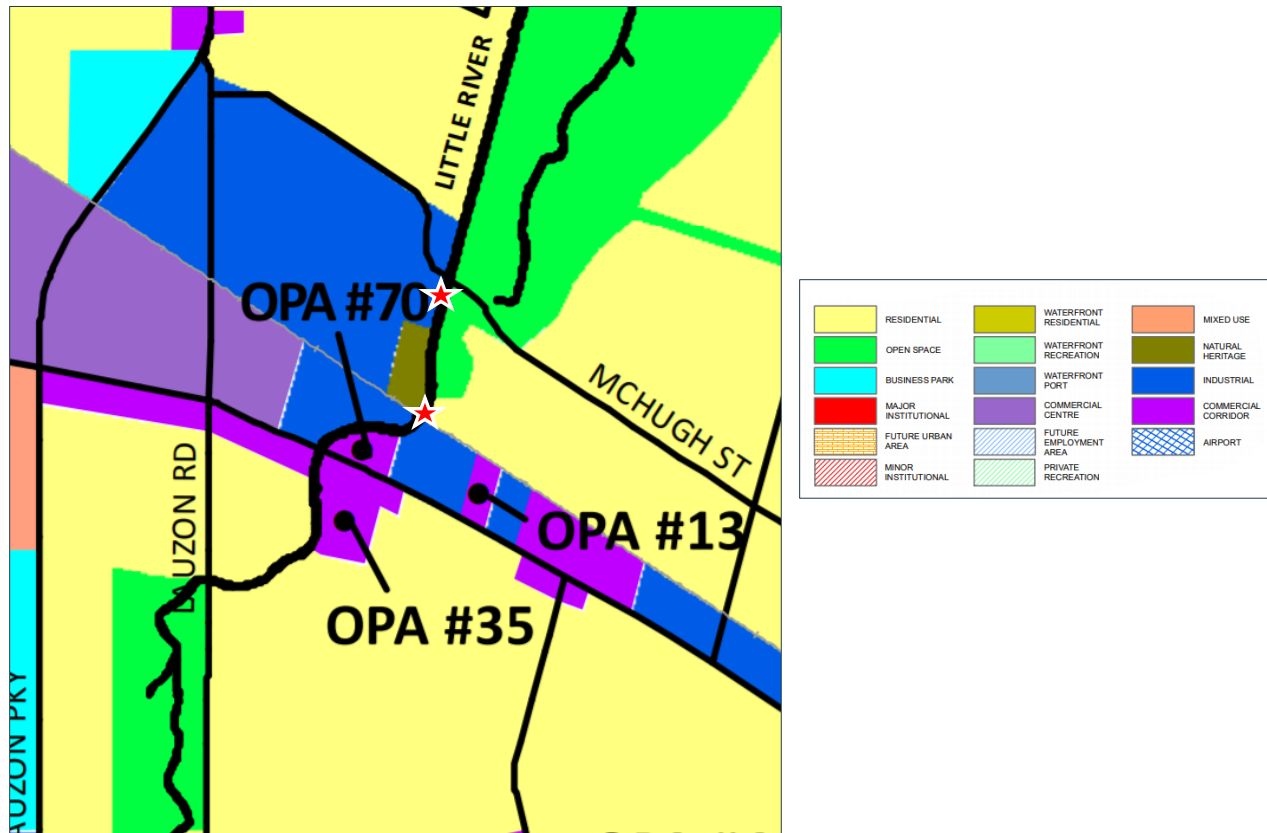


Figure 3: Local Land Use within the Project Study Area

2.2 Natural Environment

The Provincial Policy Statement (PPS, 2014) speaks to consideration which must be given for the protection of Natural Heritage Features. There are no natural heritage features identified in the City of Windsor Official Plan on or immediately adjacent to the subject property that would trigger the requirement for an Environmental Evaluation Report; however, the Little River valley corridor was identified as a regulated watercourse under the *Conservation Authorities Act*. The Essex Region Conservation Authority (ERCA), under Ontario Regulation (O. Reg.) 158/06, has jurisdiction for development within regulated areas. As part of the study, two (2) Environmental Impact Assessment (EIA) reports, one (1) for each bridge, was developed summarizing the existing natural heritage features as interpreted from field surveys and assessed project related impacts and recommends mitigation/protection measures to be implemented during construction. Of specific note, the Essex Region Natural Heritage System Strategy (ERCA, 2013) identifies an existing forested area situated approximately 100 m southeast of the McHugh Bridge footprint; however, given the nature of the work, no specific mitigation measures, beyond standard erosion and sediment controls during project execution, are anticipated to be implemented during project works. No such natural heritage features have been identified in proximity to the Hawthorne Bridge.

A detailed summary of existing conditions based on the execution of a multi-season field survey program can be found in the respective EIA reports included in Appendix B.

2.2.1 Species at Risk

The Ontario Ministry of Natural Resources and Forestry (MNRF) was contacted at the onset of the project to determine if Species at Risk (SAR) were present within the study area and to determine project requirements under the *Endangered Species Act, 2007* (ESA). The MNRF identified the potential for nine (9) SAR to be present within the study area. Following the completion of the field survey program and an assessment of project related impacts it was determined that impacts to SAR would not likely result from the project and requirements for permitting approval under the ESA would not be required. MNRF provided confirmation and recommended a series of protection measures which will be incorporated into the tender contract and applicable drawings.

2.3 Archaeological and Cultural Resources

2.3.1 Archaeological Resources

Archaeological potential at both the McHugh and Hawthorne Bridges was reviewed through the City's Archaeological Potential Master Plan (WAMP). The review process provides for a pre-approved methodology to screen projects for requirements to undertake archaeological assessments under the *Ontario Heritage Act*. The results of this assessment determined that archaeological potential only existed at the McHugh Bridge and as such a formal Stage 1 archaeological assessment was required to be undertaken. A Stage 1 archaeological assessment was not undertaken at the Hawthorne Bridge as the footprint was not considered a High Potential Area under the WAMP. The Ontario Ministry of Tourism, Culture and Sport (MTCS) has been notified that the project footprint is not considered a "High Potential Area" under the WAMP and as such no further assessment is deemed to warranted. A copy of correspondence to MTCS is provided in Appendix A.

The Stage 1 archaeological assessment for the McHugh Bridge was carried out in accordance with the MTCS Standards and Guidelines for Consultant Archaeologists (2011). The archaeological assessment was triggered under the *Environmental Assessment Act* as per requirements of a Schedule B project of the MCEA process. On the basis of the Stage 1 property inspection and a review of recent land use history,

Wood has determined that the study area does not require further archaeological assessment. The above recommendation was provided to MTCS for review on May 8, 2018. MTCS provided notice on October 30, 2018 that the Stage 1 report was accepted and entered into the public register and that further assessments were not required. The Chippewas of the Thames First Nation (COTTFN) also reviewed and accepted without comment the Stage 1 report that was provided for review. A copy of all correspondence can be found in Appendix A while the Stage 1 report can be found in Appendix C.

2.4 Source Water Protection

Under the Essex Region Source Protection Area – Approved Source Water Protection Plan (October 2015), the project study area for both bridges was determined to occur within an identified Vulnerable Area Intake Protection Zone 3 (IPZ-3) (Figure 4). IPZ-3 are defined as covering larger watershed areas where travel time to the intake is generally within 24 hours. IPZ-3 includes all rivers and tributaries where modeling demonstrates that contaminant spills may reach the intake during an extreme rainfall or wind storm event. To ensure project planning and implementation adequately considered source water protection, ERCA, as the representative of the Source Protection Authority (SPA), was consulted during the Study (Appendix A).

ERCA noted in their correspondence that the area where both of the proposed bridges are to be installed is within the Event Based Area (EBA) for the A.H. Week's Water Treatment Plant. In this area, the above grade handling and storage of liquid fuel in volumes greater than 15,000 L is identified as a Significant Drinking Water Threat (SDWT). Based on the project information that was provided to ERCA for review, ERCA concluded that fuel of this volume will not be used or installed as a direct result of the proposed project. ERCA advised that should fuel of this volume be necessary during or as a result of the proposed project, a Risk Management Plan will be required, and the City and its agents would need to consult with the Risk Management Official.

2.5 Hydraulic Environment

A high-level hydraulic assessment was undertaken to determine if the proposed bridges would result in impacts to surface water flow and increased risk of flooding. The results of the review concluded that since the bridges minimally encroach (i.e. abutment footprint) below the top of bank that any negative effects of surface water passage under the bridges during a Regional Storm event would be negligible. A copy of this assessment can be found in Appendix D.

2.6 Geotechnical

Geotechnical investigations undertaken as part of this Study indicate the presence of a thin veneer of topsoil followed by silty clay. The silty clay layer was stratified between the weathered zone and the crust zone. The weathered zone extended in depths ranging from 2.1 m to 2.9 m below the ground surface at each bridge location. The crust zone extended in depths ranging from 3.7 m to 5.5 m below the ground surface. Underlying the crust was the grey zone where the boreholes terminated. The grey zone stratum was characterized by increases in natural moisture content and virtually no fissures as compared to stratum above. A total of five (5) sampled boreholes (three (3) at the McHugh Bridge and two (2) at the Hawthorne Bridge) were analyzed for this Study. Complete results of these evaluations can be found in the associated technical reports (Appendix E).

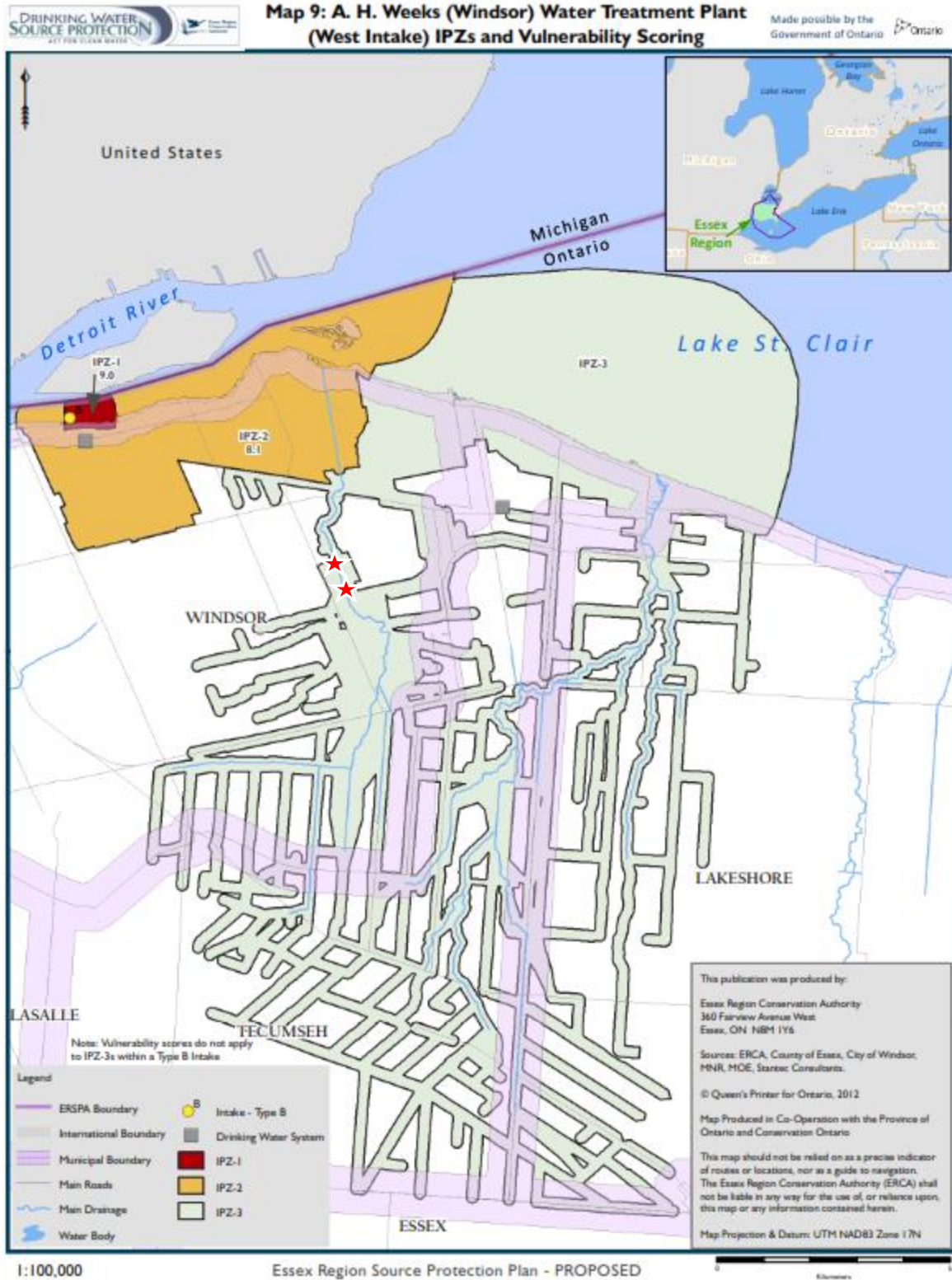


Figure 4: Vulnerable Area – Intake Protection Zone

2.6.1 Groundwater Conditions

Based on observed conditions during the completion for the borehole investigations and following review of the borehole strata, groundwater is expected to occur between 3.7 m and 5.5 m below grade at the Hawthorne Bridge and 4.6 m and 4.9 m below grade at the McHugh Bridge. Excavation for all bridge abutments have the potential to encounter groundwater given the depth of excavation required and estimations of groundwater levels observed from boreholes.

2.6.1.1 Dewatering

The project sites for the McHugh and Hawthorne Bridges are located within a geological formation known as Essex Clay Plain. The Essex Clay Plain is generally characterized by little topographic relief and poor natural drainage. The general low permeability characteristics of the clay deposit render this deposit as an aquitard where groundwater is stored in the soil pores and generally moves extremely slowly.

Excavation for the proposed foundations for the bridges will be at depths ranging from 3.25 m to 3.5 m below the ground surface into undisturbed native brown silty clay. Based on the generally low permeability characteristics of the native silty clay, groundwater flow into the excavation would be expected to be low. However, due to the proximity to the Little River, excavation below the water surface of the river could lead to seepage of surface water into the excavation in which dewatering may be required to maintain a dry excavation.

Dewatering pertaining to the removal of surface water to maintain a dry work area are exempt as described in Ontario Regulation (O. Reg). 64/16 of the OWRA where an active in-stream diversion exemption applies to both the diverted water in the water body and any water from the water body that is enclosed within the construction site. As such it is expected that this water taking would not require an Environmental Sector Activity Registration (EASR) or a Permit to Take Water (PTTW) from the MECP provided that the conditions of the exemption as described in Section 4.2 of the Regulation are adhered to.

2.7 Technical Environment

The proposed activity will tie into an existing Multi-Use trail network (Ganatchio Trail – Little River Extension) and will not affect any existing transportation infrastructure. Given that no effects on motorized vehicular traffic is anticipated, a traffic assessment was not required as part of this study.

3.0 Alternative Solutions

3.1 Alternative Evaluation

Project specific factors for the evaluation process were based on technical studies undertaken as part of the detail design assignment and following consultation with agencies, stakeholders and the public. Identified factors for the evaluation process include: Public Considerations, Engineering Considerations, Drainage/Hydraulics, Navigability, Natural Heritage and Archaeology. The evaluation process was undertaken separately for each bridge crossing.

The evaluation factors are defined as:

| | |
|----------------------------|--|
| Public Considerations | Ease of access, mobility requirements for various modes of transportation (walking, cyclist, etc.) and overall connectivity to the existing City public trail network. |
| Engineering Considerations | Technical merits of the design, including visuals, aesthetics and constructability. |
| Drainage/Hydraulics | Changes and alterations to flood risk and channel functioning at the bridge and upstream areas. |
| Navigability | Passage of non-motorized recreational watercraft under the bridge during low, normal and high-water events. |
| Natural Heritage | Permanent alterations and changes to natural heritage features, including both the aquatic and terrestrial ecosystem. |
| Archaeological | Permanent alterations to potential archaeological resources and artifacts. |

Identified alternatives for this assignment include the following three (3) options:

1. 'Do Nothing' approach;
2. Narrow Span Bridge; and,
3. Wide Span Bridge.

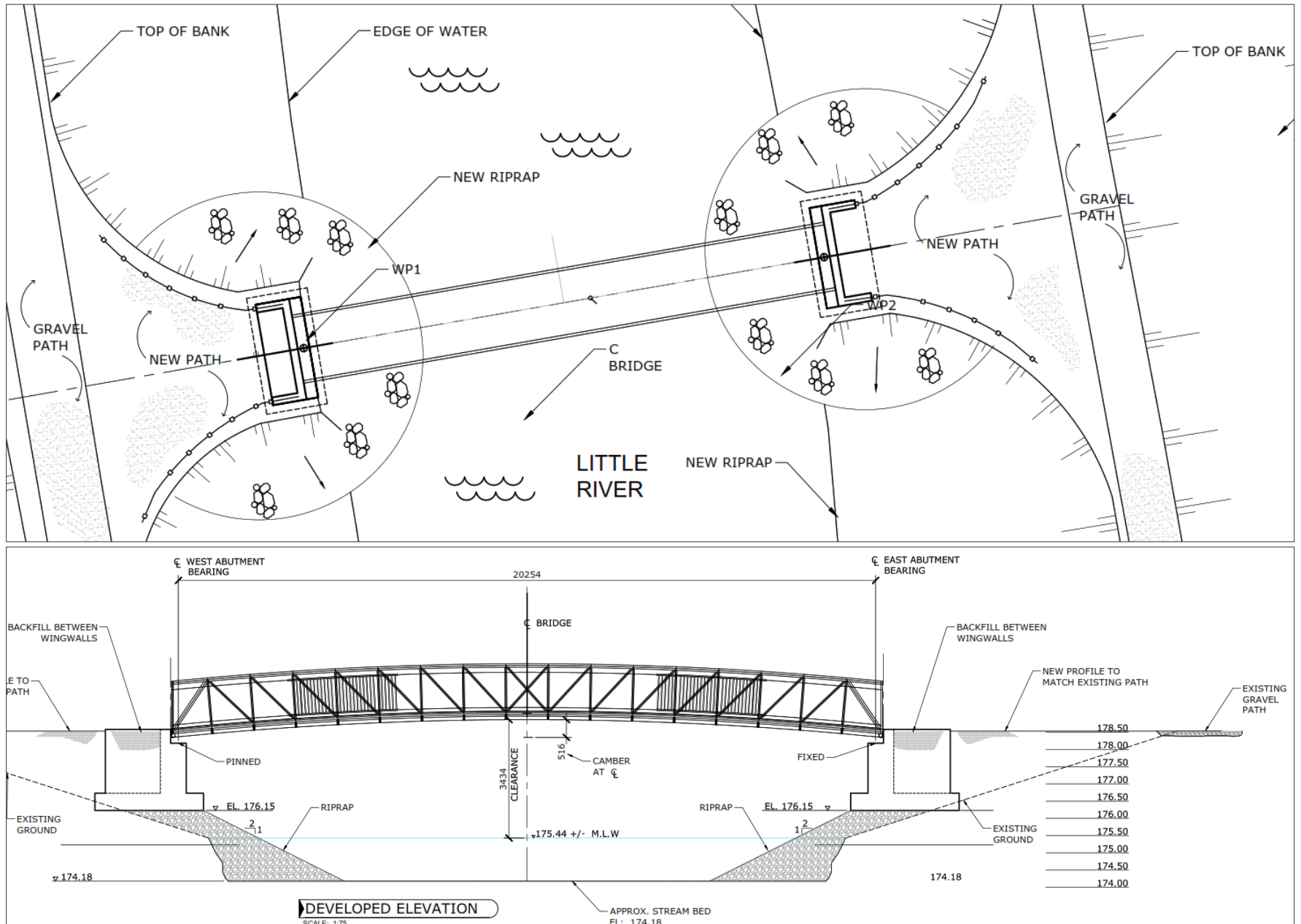
The 'Do Nothing' alternative assumes that the existing City trail system will remain unchanged.

The Narrow Span Bridge alternative provides for a bridge crossing with a reduced span over the Little River, with a slight encroachment into the Little River to accommodate supporting abutments. Rip-rap rock placement is specified as erosion protection over the embankment around the abutments. Clearance from the estimated stream bed elevation to the underside of the bridge for this alternative is 4.69 m.

The Wide Span Bridge alternative provides for a bridge crossing with a greater span than the Narrow Span Bridge. The offset of the abutments does not require any encroachment into the Little River. Clearance from the estimated stream bed elevation to the underside of the bridge for this alternative is 4.65 m

Illustrative representations of Options 2 and 3 are provided in Figure 5.

OPTION 2 – Narrow Span Bridge –Multi-Use Bridge



OPTION 3 – Wide Span Bridge –Multi-Use Bridge

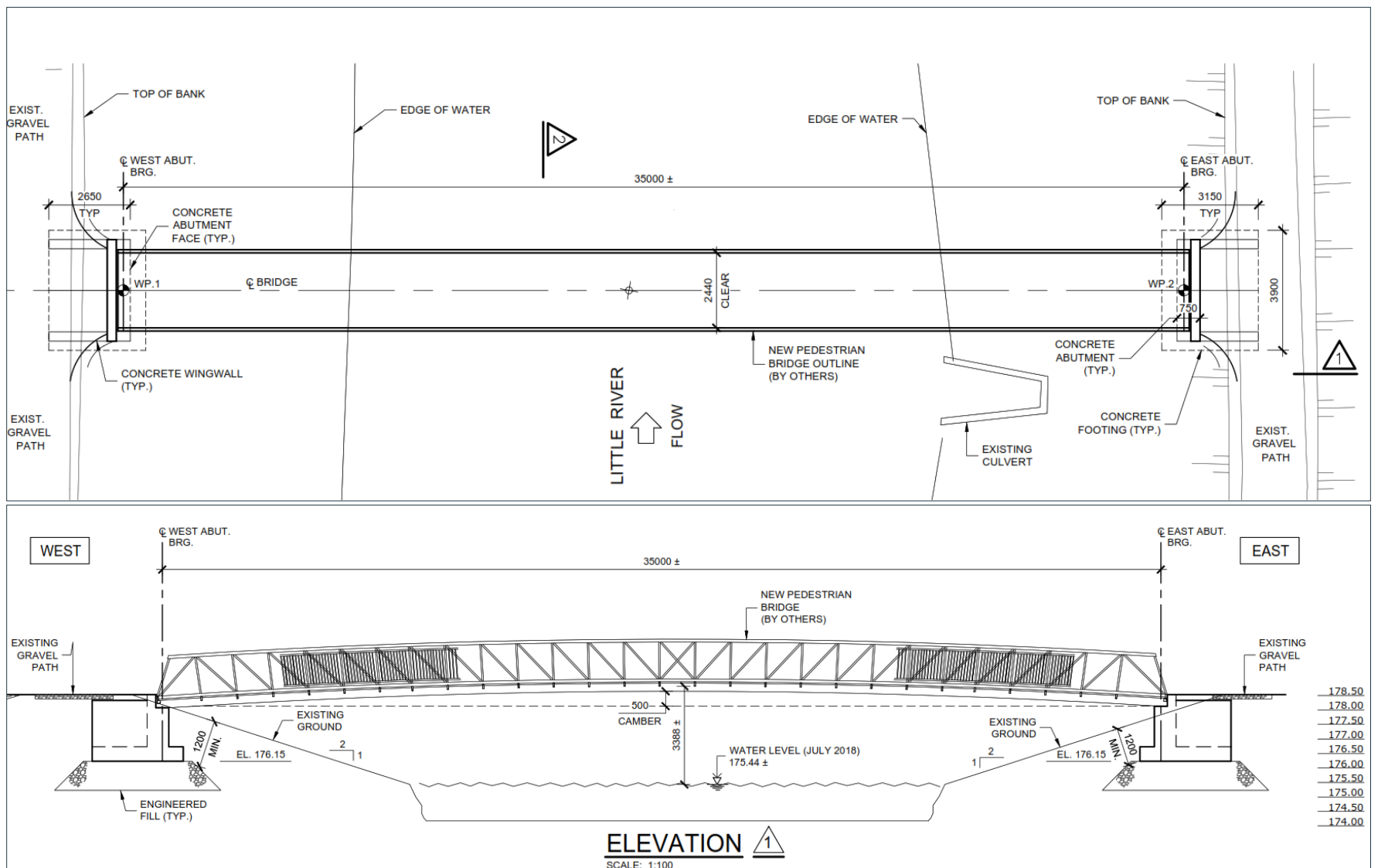



































Figure 5: Concept Evaluation of Option 2 and Option 3

3.1.1 Evaluation Process and Selection

A summary of the evaluation process is provided below and in Table 1. The size of the 'circle' within the evaluation matrix represents the degree of impacts, where a small circle denotes low impacts/most desirable and a large circle denoted high impacts/least desirable. It should be noted that the evaluation was subjective and was based on the information available relative to each factor. The evaluation considered results of field investigations, consultation with the City, stakeholders and agencies, feedback provided by the public and expected change in conditions based on past project experience. Technical assessments relative to each factor were undertaken by appropriate staff within their respective area of expertise.

Table 1: Evaluation Matrix for the Assessment of Bridge Alternatives

| Hawthorne Multi-Use Bridge | EVALUATION FACTOR | | | | | | Preferred Alternative |
|-------------------------------|---|---|---|---|---|-------------|---|
| | Public Considerations | Engineering Considerations | Drainage/ Hydraulics | Navigability | Natural Heritage | Archaeology | |
| Option 1 – Do Nothing |  | N/A |  |  |  | N/A | |
| Option 2 – Narrow Span Bridge |  |  |  |  |  | N/A | |
| Option 3 – Wide Span Bridge |  |  |  |  |  | N/A |  |

| McHugh Multi-Use Bridge | EVALUATION FACTOR | | | | | | Preferred Alternative |
|-------------------------------|---|---|---|---|---|---|---|
| | Public Considerations | Engineering Considerations | Drainage/H ydraulics | Navigability | Natural Heritage | Archaeology | |
| Option 1 – Do Nothing |  | N/A |  |  |  |  | |
| Option 2 – Narrow Span Bridge |  |  |  |  |  |  | |
| Option 3 – Wide Span Bridge |  |  |  |  |  |  |  |

3.1.1.1 Option 1 – Do Nothing

This option did not meet the requirements to serve as appropriate strategy that would enhance public use of the existing facilities. This option was not carried forward to detailed design.

3.1.1.2 Option 2 – Narrow Span Bridge

The encroachment of the bridge abutments and resulting erosion protection (i.e. rip-rap) was determined to negatively affect drainage, navigability and natural heritage features. Impacts to drainage resulting from constriction of the Little River at the bridge was determined to have the potential to result in localized flooding and creation of unwanted backwater effects during storm events. The resulting constriction may also restrict clearance under the span during particularly high-water events. Impacts to natural heritage features would result in the placement of permanent fill material into the Little River which would result in the direct and permanent loss of fish habitat. The resulting encroachment into the Little River would trigger further project review by ERCA under the *Conservation Authorities Act* and the Department of Fisheries and Oceans (DFO) under the *Fisheries Act*. This option was not carried forward to detail design.

3.1.1.3 Option 3 – Wide Span Bridge

A wide span bridge was selected as the most feasible or “preferred” alternative as it minimized footprint impacts to natural heritage features and was determined to have negligible impacts to drainage/hydraulics. Additionally, the accessibility as it relates to use of the structures was not affected by this design. The wide span bridge option was carried forward to detail design.

3.1.2 Other Design Considerations

Various bridge design options were explored at the onset of the project. Three (3) bridge structure type options were presented to the public at the PIC events. The identified bridge types included an I-beam structure, pre-fabricated steel structure and a pre-fabricated timber bridge. Based on cost, future maintenance requirements, durability and use at other crossing locations, the pre-fabricated steel structure was selected as the preferred bridge type. A copy of the PIC display boards which illustrate the bridge structure types is provided in Appendix A.

3.1.3 Description of Preferred Design

The preferred bridge designs are a single span pre-engineered steel superstructure founded on shallow foundations (Appendix F). The substructure was designed using design loads provided by the pre-engineered steel superstructure supplier and other applicable substructure loads. Based on information contained in the Wood Geotechnical Report (Appendix E), the concrete abutments will bear on a 1 m thick granular mat. The design ground water level was assumed to be at 1 m below grade due to the fluctuating water level observed in boreholes and the absence of a monitoring well.

Conventional excavation techniques and equipment will be used to excavate the soil for the proposed abutments. In addition, dewatering system and procedures will be required in conjunction with excavation and construction works. All excavation will comply with the *Occupational Health and Safety Act* and Regulations for construction projects. The abutments will be founded at a level approximately 2.25 m below grade for the Hawthorne Bridge and 2.35 m below grade for the McHugh Bridge.

Structural designs will conform to the following Codes and Standards: CSA S6, Canadian Highway and Bridge Design Code, CSA Standard A23.3, Design of Concrete Structures and CSA S16, Design of Steel Structures.

3.1.4 Climate Change Considerations

Consideration of Climate Change in Environmental Assessment in Ontario is a guide provided by the Ministry of the Environment and Climate Change (MOECC; now MECP) that sets out the Ministry's expectations for climate change considerations for provincial EA studies. Climate considerations include project planning that reduces greenhouse gas emissions and for resilient designs that maintain ecosystem integrity. Studies must also demonstrate consideration of appropriate mitigation and adaptation strategies to ensure project planning includes an adequate approach to mitigate, avoid, minimize, or offset predicated climate change impacts.

The City accounts for emissions and greenhouse gases through sustainable transportation infrastructure planning and implementation. The City's Active Transportation Master Plan (Walk Wheel Windsor) outlines policies which focuses on improving various means of active mobility options, and highlights the importance of safe, attractive and convenient active transportation options for people of all ages and abilities. The City's Bicycle User Master Plan (BUMP) highlights the City's commitment to develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists. This undertaking supports that commitment; while the recommendations within this EA support the City's initiatives by maintaining a key transportation link to accommodate different modes of active transportation with future population growth.

4.0 Follow-up Commitments

4.1 Essex Region and Conservation Authority

The EIA reports (Appendix B) will be submitted to ERCA for approval under the *Conservation Authorities Act*, O. Reg. 158/06. These reports document the existing natural heritage conditions, particularly the Little River, assess project related impacts and recommend mitigation/protection measures to be implemented during construction. The recommended mitigation/protection measures will be incorporated into the tender contract and on drawings.

4.2 Ontario Ministry of Natural Resources and Forest

As indicated above, the MNRF provided a series of recommendations to ensure continued project compliance with the ESA. These recommendations will be incorporated into the tender contract and on drawings. A copy of the complete recommendations is provided in Appendix A. Key recommendations are provided below:

- Any SAR encountered during construction must be protected from all harm and harassment.
- If a SAR species must be moved, a qualified Biologist should be contacted for advice/help before it is moved.
- Any SAR individual that is present at the project site should be reported to the MNRF within 48 hours of the observation or the next working day.
- Prior to project commencement, temporary snake barrier fencing should be installed along the limits of the construction footprint in order to exclude snakes from entering the area.
- Construction equipment that is left idle for over one (1) hour or is parked overnight on the property should be surveyed for the presence of SAR snakes before (re)ignition.

4.3 Ministry of Tourism, Culture and Sport

MTCS provided comments on January 4, 2019 during the initial 30-day review period. Comments provided by MTCS have been incorporated into this revised report. Details of the correspondence are summarized below in Section 5.0 A copy of the response letter provided to MTCS of which addresses their comments is included in Appendix A.

4.4 Ministry of the Environment, Conservation and Parks

MECP provided comments on January 4, 2019 during the initial 30-day review period. Comments provided by MECP have been incorporated into this revised report. Details of the correspondence are summarized below in Section 5.0 A copy of the response letter provided to MECP of which addresses their comments is included in Appendix A.

4.5 Noise By-law

Construction work operations will be undertaken with respect to restrictions for noise under By-law 6716. All work operations will be undertaken in conformance to Table 3-1 (Section 3 - Prohibitions by Time and Place).

5.0 Consultation Summary

The following provides a summary of pertinent consultation and correspondence undertaken to date for this Study. The summary provided below includes only consultation where specific action or input was required to be provided. All consultation received throughout the course of the study is included in Appendix A. Consultation and correspondence with agencies, stakeholders and the public that only included acknowledgement of any notice where no action was required is not discussed any further in this report.

5.1 Notice of Study Commencement and PIC

5.1.1 Ontario Ministry of Environment, Conservation and Parks

At the onset of the project a copy of the Notice of Study Commencement and PIC with a key plan of the study area was prepared to notify stakeholders of the Study (Appendix A). A key component of the Study involved consultation with interested stakeholders, the public and regulatory agencies including two (2) PIC events. Correspondence was hand delivered to neighbouring property owners, provided to Indigenous communities, submitted to relevant regulatory agencies, and made available through the City of Windsor’s Environmental Assessment Studies website:

<https://www.citywindsor.ca/residents/Construction/Environmental-Assessments-Master-Plans/Pages/default.aspx>

Two (2) PIC events were held, one for each bridge crossing. The first was specific to the Hawthorne Bridge and was held on May 15, 2018 from 5:00 pm to 7:00 pm at the Forest Glade Community Centre. The second PIC was specific to the McHugh Bridge and was held May 17, 2018 from 5:00 pm to 7:00 pm at the WFCU Centre. Panels were prepared to inform stakeholders of the relevant information associated with the proposed bridges, including information on archaeology, natural heritage and potential bridge structure designs.

A response from MECP (letter dated May 1, 2018) was received following distribution of the Notice of Study Commencement and PIC letter. A summary of the responses to the comments provided at that time are provided in Table 2. A copy of the letter received from MOECC is included in Appendix A.

Table 2: Comments Received from MECP (formerly MOECC) During the Study (May 1, 2018)

| Comment | Response |
|---|---|
| The Project File Report should include a section on Source Water Protection as per Municipal Engineers Association (MEA) Class Environmental Assessment parent document approved October 2015. | As noted in Section 2.4, the project study area does occur in a Source Water Protection area. ERCA will be consulted to ensure impacts to Source Water Protection areas are minimized as part of the design and during construction. |
| The City should consider climate change consideration when undertaken the study. | Improving accessibility to promote alternative modes of transportation (non-motorized transport) are anticipated to reduce vehicular emissions. |
| Should an archaeological assessment be conducted as part of this project or archaeological resources be identified or discovered during the planning and implementation of this project, the following First Nation communities (see Appendix A for list) may have an interest and should be appropriately engaged. | The identified First Nation communities were included in the project contact list developed at the onset of the project. To date, no response from any First Nation community has been received. Appropriate First Nation communities will be engaged should archaeological artifacts be encountered during the course of construction. |

5.1.2 Ontario Ministry of Natural Resources and Forestry & Essex Region Conservation Authority

Detailed consultation summaries from ERCA and MNRF are provided in the associated EIA reports (Appendix B) for each bridge crossing. Response provided these agencies include summaries of existing natural heritage conditions and direction to ensure compliance with applicable legislation.

5.1.3 Chippewas of the Thames First Nation

A letter dated November 9, 2018 was received from the Chippewas of the Thames First Nation (COTTFN) of which acknowledge that the project was located in the McKee Treaty (1790) area and the Big Bear Creek Additions to Reserve (ATR) land selection area as well as COTTFN Traditional Territory.

The letter further stated that COTTFN did not have any current concerns with the project and requested active involvement for any archaeological assessments that may be required for the project.

A response to this letter was provided by the City on November 27, 2018. The letter provided COTTFN with a summary of consultation with MTCS and the results of the archaeological assessment that was undertaken at the McHugh Bridge. The letter also included a draft copy of the Stage 1 Archaeological Assessment Report.

5.2 Notice of Study Completion

5.2.1 Ontario Ministry of Environment, Conservation and Parks

During the 30-day review period following the distribution of the Notice of Study Completion, the MECP provided a response (letter dated January 4, 2019). A response was provided to MTCS on January 29, 2019. Table 3 includes a summary of the comments received and responses provided to MECP. A copy of the correspondence is provided in Appendix A.

Table 3: Comments Received from MECP During the Study

| Comment | Response |
|---|--|
| The name of the Windsor Family Credit Union Bridge (WFCU) changed to McHugh between the Notice of Commencement and the Project File & Notice of Completion. | The name was changed from Windsor Family Credit Union (WFCU) to McHugh to remove any potential implied affiliation conflicts with WFCU and the study. The change in the use of the bridges from Pedestrian to Multi-Use was due in part to the involvement of the local bicycle community. The change was to reflect the ultimate use of the bridges by all types of users, not just pedestrians. |
| The Notice of Commencement did not include the new Part II Order request form... Please include this on future Notices of Completion. | A revised Notice of Study Completion has been issued of which includes a statement to direct the reader to the new Part II Order Request forms. |
| The Project File identifies that the study area is within a Source Water Protection area, but does not describe further the vulnerable area or any possible impacts... The Project File indicates that the Conservation Authority will be consulted as the project progresses but does not demonstrate that the Conservation Authority was consulted early in the project planning or the outcome of those consultations, if they have occurred. Potential impacts to drinking water should | Additional clarification regarding source water protection, impacts to vulnerable areas and consultation with the Conservation Authority has been added to the revised Project File Report. |

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| be assessed by reviewing the source protection plans. Special attention should be given to fuel and pesticide use on site both during construction and long term maintenance as risk management plans and/or permits may be required. | |
| The only reference to climate change was in a response table to comments provided by MECP. Climate Change discussion should be in the body of the report and address both adaptation and mitigation. | Additional clarification regarding climate change impacts and considerations have been added to the revised Project File Report. |
| There was no assessment work provided for the Hawthorne site, nor an explanation for the absence. The Ministry of Tourism, Culture, and Sport (MTCS), in correspondence dated January 4, 2019, requested the proponent advise MTCS of whether a separate archaeological assessment is being undertaken for the Hawthorne Bridge and to submit the screening table if no archaeological resources were identified. A copy of the built heritage resources and cultural heritage landscapes checklists was also requested. | A response to MTCS from correspondence dated January 4, 2019 has been provided. Completed archaeological and cultural heritage forms have been included in the MTCS letter. Additional clarification has been included in the revised Project File Report to address these concerns. |

5.2.2 Ontario Ministry of Tourism, Culture and Sport

During the 30-day review period following the distribution of the Notice of Study Completion, the MTCS provided a response (letter dated January 4, 2019). A response was provided to MTCS on January 29, 2019. Table 4 includes a summary of the comments received and responses provided to MTCS. A copy of the correspondence is provided in Appendix A.

Table 4: Comments Received from MTCS During the Study

| Comment | Response |
|---|--|
| ...suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. | <p>Consultation with Indigenous communities has been undertaken as part of this study. Consultation solicited input related to the identification of known or potential resources (cultural heritage or archaeological) of which the community may have an interest.</p> <p>The Chippewas of the Thames First Nation (COTTFN) has provided interest in this project and has been in correspondence with the project team. COTTFN has reviewed the Project File, including the Stage 1 Archaeological Assessment Report, and has not noted any concerns with respect to archaeological or cultural heritage resources. The latest correspondence, dated January 9, 2019, provided a recommendation that during construction “work be halted and COTTFN be notified if any archaeological resources are encountered during the course of construction”.</p> <p>The City agrees with the recommendation from COTTFN and will adopt this provision within the tender document being prepared for construction.</p> |
| ...the report does not cover the study area for the proposed Hawthorne Multi-Use Bridge. If the Hawthorne Multi-Use Bridge study area exhibits | Pre-screening for archaeological potential for the Hawthorne Multi-Use Bridge study area was undertaken by the City. The City has issued a letter (dated January |

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| archaeological potential, then an AA should be undertaken for this study area by an archaeologist licenced under the OHA... | 17, 2019) to seek confirmation and acceptance that the site does not have archaeological potential based on screening through the City's Archaeological Potential Master Plan (WAMP). A copy of this letter is provided as Attachment 1. |
| The MTCS Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes should be completed to help determine whether this EA project may impact cultural heritage resources. | Please find as Attachment 2 a completed <i>Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes</i> form for the Hawthorne and McHugh Bridges of which determined that no cultural heritage resources or features exists within the project footprint/construction area. |

5.2.3 Chippewas of the Thames First Nation

Following receipt of the Notice of Study Completion, COTTFN provided a second response in a letter dated January 9, 2019. The letter acknowledged receipt and review of the Project File Report and the Stage 1 Archaeological Assessment Report. The letter provided a series of recommendations, including: immediate cessation of work and notification should any archaeological resources be encountered during the course of construction, incorporation of pollinator gardens, replacement of trees removed at a 3:1 ratio and ensuring any landscaping/re-vegetation include only native species.

A summary of the response is provided in Table 5 below. Copies of correspondence with COTTFN can be found in Appendix A. A response was provided to COTTFN on January 29, 2019.

Table 5: Comments Received from COTTFN During the Study

| Comment | Response |
|---|--|
| If during construction an archaeological artifact is uncovered, we would like an immediate hold on the project and immediate notification to this First Nation. | The bid package for construction will be issued later this spring and will include instructions that Chippewas of the Thames First Nation (COTTFN) shall be notified immediately should any archaeological artifacts be encountered during construction activities. Additionally, all project works will cease until such time that an agreeable path forward is obtained to the satisfaction of all parties involved. |
| Pollinator Gardens be incorporated into the design and rehabilitation of the project to provide habitat for pollinator species. | At this time, site disturbances from construction and restoration activities are expected to be minimal and use of a specialized seed mix is not warranted. Restoration will be undertaken following Ontario Provincial Standard Specification (OPSS) 804, which includes the application of topsoil and a seed mix suited to the general area and site conditions. The OPSS prescribed 'Old Field Mix' seed mix consists only of the following native species: Flat-topped Aster, New England Aster, Purple-stemmed Aster, Canada Goldenrod, Panicked Aster, Heath Aster/Frost Aster, Grey-stemmed Goldenrod and Grass-leaved Goldenrod. If construction and restoration activities result in site disturbances greater than those anticipated, the City will engage COTTFN to identify a preferred seed mix. |
| 3-1 ratio for rehabilitation of trees and ensure the life for 2 years. | As noted above, the extent of site disturbance is expected to be minimal and as such the City is not considering replacing any trees that are removed |



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| | during construction. Select trees will be removed only at the Hawthorne Bridge. This watercourse is a Municipal Drain, which requires a regular maintenance program including the removal of woody vegetation to maintain sufficient capacity for water flow. Through future maintenance works in the area, the City will consider additional tree plantings. |
| Native species be planted near the river. | As identified above in Response 2, the OPSS prescribed 'Old Field Mix' seed mix consists only of native species. |

5.3 Revised Notice of Study Completion

A revised Notice of Study Completion is being issued to satisfy comments received from MECP. The revised notice includes the website address for the Part II Order Request Form. The Part II Order Request Form can be found at:

<https://www.ontario.ca/page/class-environmental-assessments-part-ii-order>

A copy of the revised Notice of Study Completion can be found in Appendix A. The revised Notice of Study Completion was issued on January 29, 2019.

6.0 Closure

This revised Project File Report has been prepared by Wood in consultation with the City of Windsor to satisfy requirements of a Schedule B project under the MCEA process. Following the second mandatory 30-day review period and providing an agreeable resolution to all comments received during that time, the Project File Report will be filed with the MECP. The proposed project as outline above will then be considered acceptable and will move to the implementation phase.

If you should have any questions regarding this submittal or require further project related information, please contact the undersigned.

Sincerely,

**Wood Environment & Infrastructure Solutions,
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