

**Southeast Quadrant Sanitary and
Water Servicing Study Schedule
'B' Municipal Class
Environmental Assessment for
the Town of Amherstburg**

Project File Report



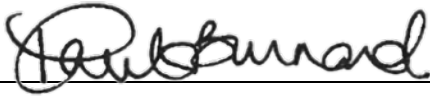
Prepared for:
Town of Amherstburg

Prepared by:
Stantec Consulting

January 9, 2019

Sign-off Sheet

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EXECUTIVE SUMMARY

The southeast quadrant of the Town of Amherstburg is not serviced by a municipal wastewater collection system. The existing watermain is not sufficiently sized to support future growth and development. Several developers in the area have requested that the necessary sanitary and water servicing infrastructure be constructed to ensure that orderly development of the land can be completed. The purpose of the Southeast Quadrant Sanitary and Water Servicing Municipal Class Environmental Assessment (EA) is to provide an environmentally sensitive and sustainable framework to assess the various water supply and wastewater collection alternatives within the study area to meet the long-term needs of Amherstburg.

Class EA Planning Process and Consultation

The study was undertaken in accordance with the requirements for Schedule B projects (Municipal Engineers Association, Municipal Class Environmental Assessment document, 2000 as amended in 2007, 2011, and 2015). A contact list was compiled and maintained throughout the study which included relevant federal and provincial ministries, local interest groups, review agencies, potentially interested Indigenous communities, and members of the public who expressed interest in the study. All project notifications (including a Notice of Study Commencement, Notice of Public Information Centre, and Notice of Completion) were mailed to the study contact list, posted to the Town's website (<https://www.amherstburg.ca/en/>) and advertised in the Rivertown Times newspaper. One Public Information Centre (PIC) was held in open house format on August 21, 2018 from 4:30pm-7:00pm at the Libro Credit Union Center (3295 Meloche Road).

Recommended Solution

In order to accommodate future development in the southeast quadrant, upgrades to the existing sanitary sewer system and water distribution system will be required. It is recommended that the Town implement improvements that will support future residential development, as well as the existing residences in the study area. The recommended infrastructure improvements include two new sanitary pumping stations, new forcemains and new sanitary trunk sewers. Additional upgrades to the size and length of existing watermains along Lowes Sideroad and Concession 2 South will also be considered to improve looping and water distribution for the five new developments.

Closing

This Project File represents the completion of the Municipal Class EA requirements for this project. No significant environmental impacts have been identified as a result of the implementation of the preferred servicing solution, provided the proposed mitigation measures identified are carried forward and developed further during detailed design and followed during construction. Further investigations may be required during detailed design and construction to confirm environmental conditions.

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1.0 INTRODUCTION AND BACKGROUND

The Town of Amherstburg retained Stantec Consulting Ltd. to complete a Municipal Class Environmental Assessment (MCEA) study to identify necessary upgrades and new infrastructure required to provide sanitary and water servicing for existing and future development in the southeast quadrant of the Town.

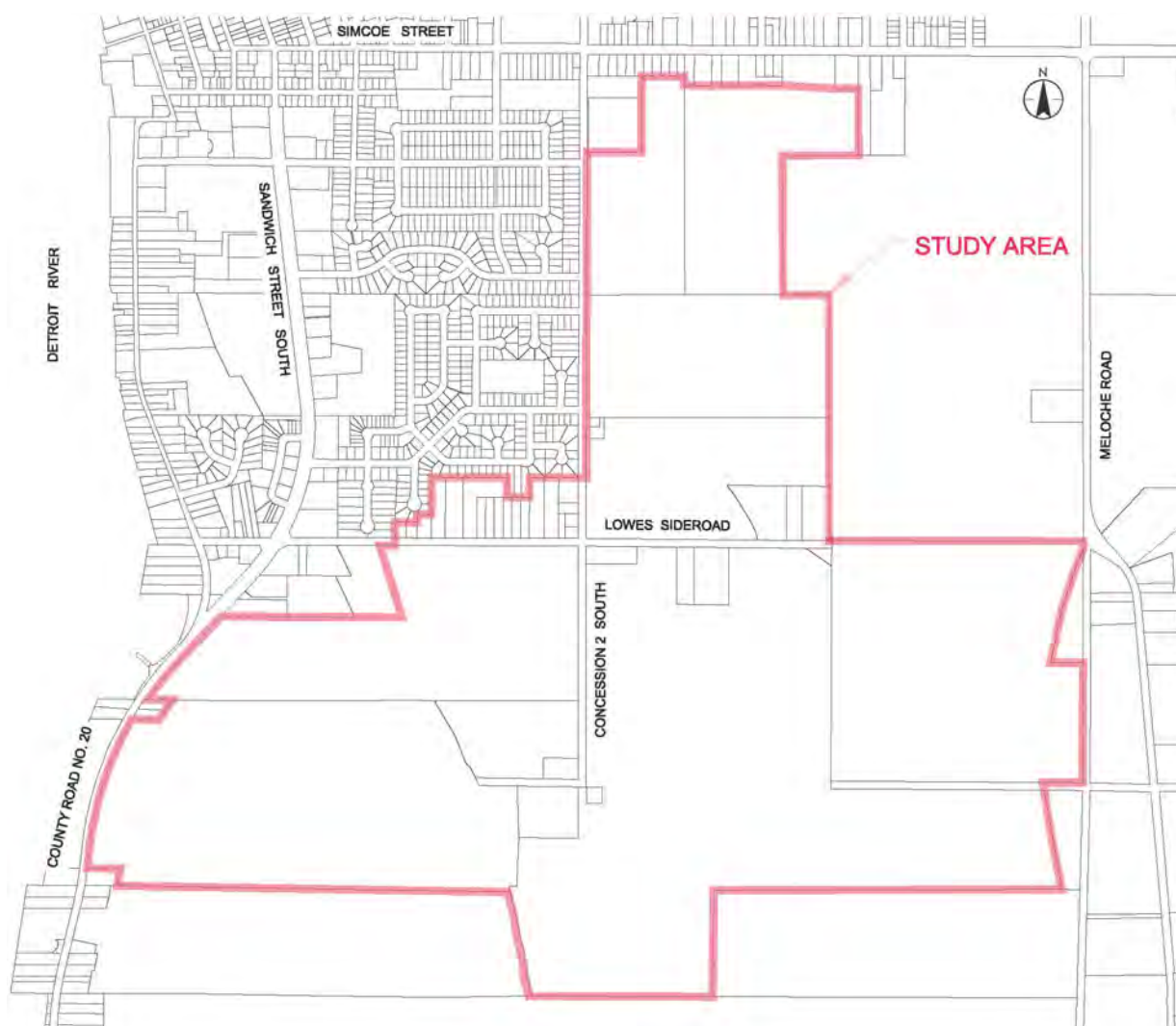


Figure 1: Study Area

Proposed new developments are expected in the Town of Amherstburg's southeast quadrant which covers approximately 289 hectares (ha), as identified in **Figure 1**. The southeast quadrant is comprised of rural agricultural land with small pockets of residential land use. The area is not

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presently serviced by an existing municipal wastewater collection system and the existing watermain system is not sized sufficiently to support future growth. Within the southeast quadrant, existing residential lots are generally serviced by private on-site sewage disposal systems, typically consisting of septic tanks and leaching beds, and watermains ranging from 50mm dia. to 300mm dia. in size.

A *Southeast Quadrant Master Servicing Study* was completed in 2008 by RC Spencer Associates Inc. to implement recommended solutions for servicing Simcoe Street (Fryer Street to Meloche Road) and Fryer Street (Simcoe Street to Pickering Drive). The construction of a 375mm dia. sanitary sewer on Simcoe Street and a 525mm dia. sanitary sewer on Fryer Street was completed in 2009. The 525mm dia. sanitary sewer on Fryer Street was installed to service future development in the southeast quadrant of the Town via a proposed new forcemain and pumping station.

In 2010, the Town of Amherstburg completed the removal and replacement of the Town's water tower (elevated storage tank) due to major structural issues documented in a *2005 Water Rate Study* (C.N. Watson Limited & CH2M Hill Canada Limited, 2005). The replacement of the tank was assessed again in a *2010 Water (Distribution) Master Plan and Water Tower Class EA* (Stantec Consulting Ltd.) and determined that providing more storage and capacity with a new tank would increase the level of service of the distribution system. However, the Town decided to maintain the current level of service, thus replacing the tank with one of similar volume and height.

In 2012, the Town completed watermain upgrades along Lowes Sideroad (Sandwich Street South to Fryer Street). A 300 mm dia. watermain was installed for adequate looping to service future development in the southeast quadrant, as recommended in the *2010 Water (Distribution) Master Plan and Water Tower Class EA* (Stantec Consulting Ltd.).

In 2014, the Town of Amherstburg completed upgrades and expansion of the existing Amherstburg Wastewater Treatment Plant (AWWTP) and upgrades to the Main Sewage Pumping Station (Pumping Station No. 2), located in the commercial plaza north of the AWWTP, to accommodate current and future wastewater flows. Wastewater generated by the proposed new developments in the southeast quadrant is to be conveyed to the Main Sewage Pump Station No. 2 and ultimately to the AWWTP.

Some developers have requested that the Town of Amherstburg install the necessary sanitary and water servicing infrastructure in the southeast quadrant to allow for the orderly development of the lands.

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1.1 REPORT FORMAT

This Project File provides the context in which the Schedule B MCEA process was carried out and documents the rationale leading to the preferred servicing solutions. The report contains the following:

- An overview of the MCEA process;
- An overview of applicable planning and policy documents;
- The public consultation plan followed throughout the project;
- A description of the need and justification for the study;
- An overview of the socio-economic, natural and cultural environments;
- A review of the existing water supply system;
- Identification and evaluation of alternative solutions;
- A description of the preferred solution;
- Recommendations for implementation; and
- Recommended mitigation measures based on the general scope of proposed works.

1.2 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PROCESS

All municipalities in Ontario are subject to the provisions of the *Environmental Assessment Act* (EA Act) and its requirements to prepare an Environmental Assessment (EA) for applicable public works projects. The Ontario Municipal Engineers Association (MEA) *Municipal Class Environmental Assessment* document (October 2000 as amended in 2007, 2011, and 2015) provides municipalities with a five-phase planning process approved under the EA Act to plan and undertake all municipal infrastructure projects, including works associated with water supply and storage, in a manner that protects the environment as defined in the Act.

Key components of the EA planning process include:

- Consultation with potentially interested parties early and throughout the process;
- Consideration for a reasonable range of alternative solutions;
- Consideration of effects on the environment and ways to avoid/reduce impacts (mitigation);
- Systematic evaluation of alternatives;
- Clear and transparent documentation; and
- Traceable decision-making.

1.2.1 Types of Projects

The MEA Class EA document provides a framework by which projects are classified as Schedule A, A+, B, or C. Classification of a project is based on a variety of factors including the general complexity of the project and level of investigation required, and the potential impacts on the environment that may occur. It is the responsibility of the proponent to identify the appropriate schedule for a given project, and to review the applicability of the chosen schedule at various

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stages throughout the project. Each of the schedules requires a different level of documentation and review to satisfy the requirements of the MCEA, and thus comply with the EA Act as noted below.

Schedule A projects are limited in scale, have minimal adverse impacts on the environment, and include the majority of municipal sewage operations, stormwater management, water operations, and maintenance activities. These projects are pre-approved and may be implemented without following the procedures outlined in the MCEA planning process or undertaking public consultation. Examples of Schedule A projects include watermain and sewer extensions where all such facilities are located within the Municipal road allowance or an existing utility corridor.

Schedule A+ projects are similarly pre-approved under the MCEA but require that potentially affected parties be notified prior to implementation. The public has a right to comment to municipal officials or their council on the project; however, considering that the projects are pre-approved, there is no appeal process to the Minister of the Environment, Conservation and Parks on these projects (Part II Order Requests as discussed below).

Schedule B projects have the potential for some adverse environmental and social effects. The proponent is required to undertake a screening process involving mandatory contact with potentially affected members of the public, Indigenous communities, and relevant review agencies to ensure that they are aware of the project and that their concerns are addressed.

Schedule B projects require that Phases 1 and 2 of the MCEA planning process be followed, and a Project File be prepared and submitted for a mandatory 30-day review by the public, agencies, and Indigenous communities. If all comments or concerns received within this 30-day review period can be addressed, the proponent may proceed to project implementation (Phase 5). If concerns are raised that cannot be resolved, then the Part II Order procedure may be invoked.

Schedule C projects have the potential for significant environmental impacts and must follow the full planning and documentation procedures specified in the MCEA document (Phase 1 to 4). An Environmental Study Report (ESR) must be prepared and filed for review by the public, review agencies and Indigenous communities. If concerns are raised that cannot be resolved, then the Part II Order procedure may be invoked. Projects generally include the construction of new facilities and major expansions to existing facilities.

As per the framework provided in the Class EA document, the Southeast Quadrant Sanitary and Water Servicing study is being undertaken in accordance with the requirements for Schedule B Projects.

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1.2.2 Class Environmental Assessment Planning Process

Figure 2 illustrates the MCEA planning process and identifies the steps considered mandatory for compliance with the requirements of the EA Act. An overview of the five-phase planning process is provided below.

- | | |
|----------------|---|
| Phase 1 | Identify the problem (deficiency) or opportunity, as well as the documentation which highlights the evidence that an improvement or change is necessary. This may include public consultation to confirm/review the problem or opportunity. |
| Phase 2 | Identify a reasonable range of alternative solutions to address the problem or opportunity. This Phase also includes an inventory of the existing environment to identify potential mitigation measures, and to assist in the evaluation of alternatives in terms of the identified evaluation criteria. A preferred solution is chosen based on the results of the evaluation and input from the public, review agencies, and Indigenous communities. It is at this point that the appropriate Schedule is chosen for the undertaking. If the project is classified as Schedule B, the process and decisions are documented in a Project File and made available to the public, review agencies and indigenous communities for a 30-day review period. Schedule C projects proceed through the following phases. |
| Phase 3 | (For Schedule "C" projects only) Examine the alternative methods for implementing the preferred solution (i.e., design alternatives). A detailed inventory of the natural, socio-economic, and technical environment is undertaken to assess the impacts of the alternative designs, in an attempt to avoid or minimize negative effects. |
| Phase 4 | (For Schedule "C" projects only) Document the MCEA process in an ESR, which includes a summary of the rationale and the planning, design, and consultation process completed for the project and make the documentation available for a 30-calendar day review period by the public, agencies, and Indigenous communities. |
| Phase 5 | Complete contract drawings and documents and proceed to construction and operation with monitoring to ensure adherence to environmental provisions and commitments. |

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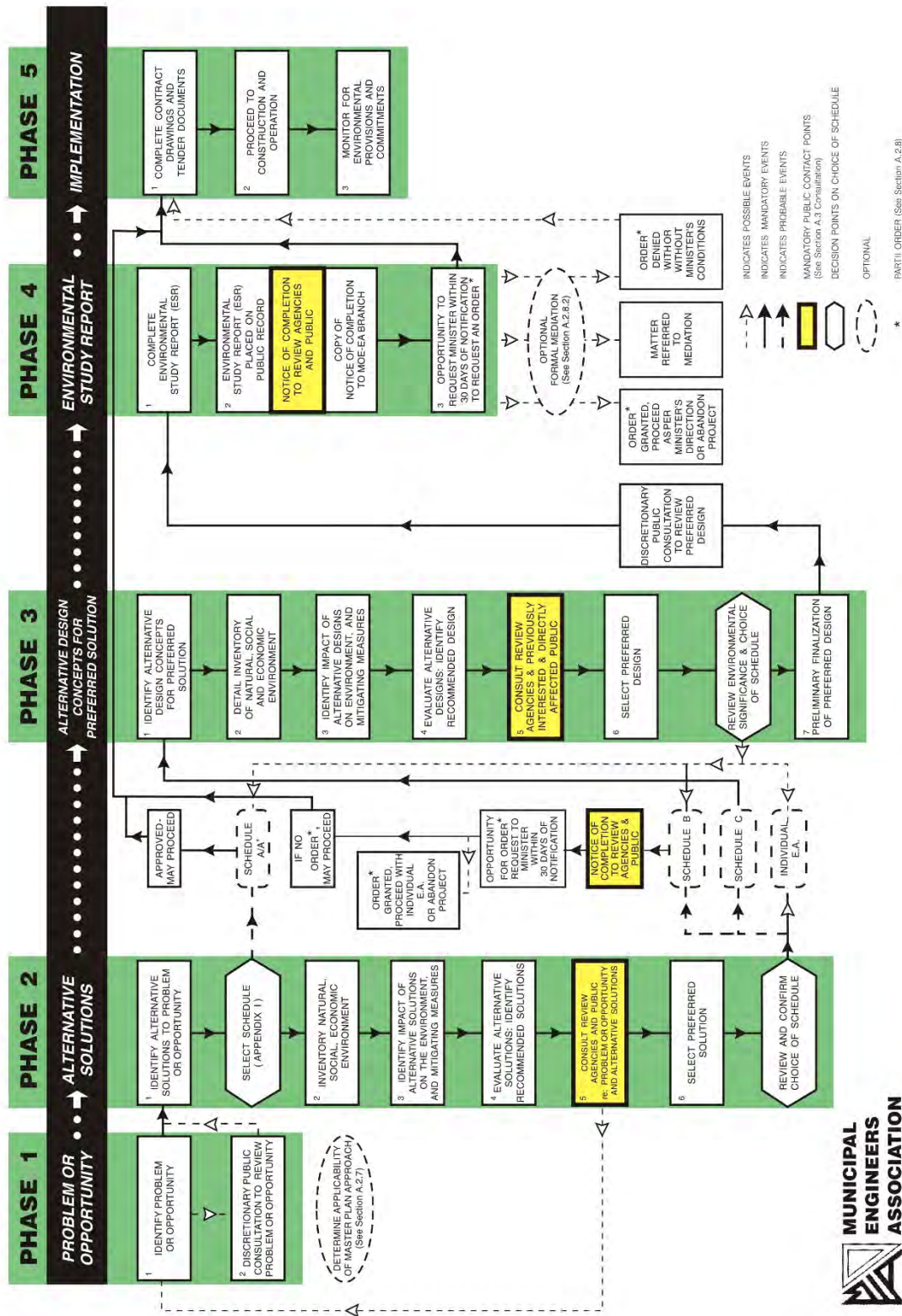


Figure 2: Municipal Class EA Planning Process

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1.2.3 Part II Order Process

The MCEA planning process encourages the identification and resolution of concerns early and throughout the project, and it is the obligation of the proponent to adequately address concerns raised by the public, Indigenous communities, and agencies.

If an interested party feels as though their concerns have not been adequately addressed, and that the proposed undertaking needs to be subject to a more in-depth planning process, a person or party may request that the Minister of the Environment, Conservation and Parks (MECP) order the project to comply with Part II of the EA Act (referred to as a Part II Order), which addresses Individual EAs. A Part II Order Request form is to be completed and sent to the Minister, the MECP and the Town.

Under the provisions of Section 16 of the EA Act, the Minister or delegate may require a proponent comply with Part II of the EA Act by completing an Individual Environmental Assessment before proceeding to implementation. The Minister may deny the request, impose conditions on the proposed undertaking, or for Schedule B projects, the Minister may elevate the status of the project to a Schedule C project, requiring the completion of the full MCEA planning process prior to implementation.

2.0 PROBLEM AND OPPORTUNITY STATEMENT

The Problem and Opportunity Statement is developed in Phase 1 of the MCEA process to provide a framework to outline the objectives of the study.

The southeast quadrant of the Town is not currently serviced by an existing municipal wastewater collection system and the existing watermains present in this area are not sufficiently sized to support future growth and development.

Residences in this area are currently serviced by private on-site sewage disposal systems, consisting primarily of septic tanks, leaching beds and small watermains. To ensure orderly development of the land in this area of the Town and to support future population growth in the area, the necessary sanitary and water servicing infrastructure is required.

The purpose of the Southeast Quadrant Sanitary and Water Servicing MCEA is to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town, and to meet the long-term needs of Amherstburg.

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3.0 CONSULTATION

Consultation is a vital part of the MCEA process. Active engagement with all potentially affected parties including government agencies, community members, special interest groups, and Indigenous communities ensures a transparent and responsible planning process.

3.1 PROJECT NOTIFICATIONS

A contact list was created and updated throughout the study to include relevant federal, provincial and local government agencies, Indigenous communities and all others who have expressed interest in the study. The contact list is included in **Appendix A**.

Project notifications were mailed to the contact list and property owners along Concession 2/Fryers Street and Lowes Sideroad, published in the Rivertown Times newspaper, and posted to the Town's website (<https://www.amherstburg.ca/en/index.aspx>). Project notifications are included in **Appendix A**.

Table 1 provides a summary of the project notification completed during the study.

Table 1: Project Notification Summary

Notice of Study Commencement	<ul style="list-style-type: none">• Uploaded to Town of Amherstburg website on February 7, 2018• Mailed to contact list/property owners on February 8, 2018• Published in Rivertown Times on February 7, 2018
Notice of Public Information Centre	<ul style="list-style-type: none">• Notice emailed to contact list/property owners on August 3, 2018• Published in the Rivertown Times on August 15, 2018• PIC display material posted to the Town's website
Notice of Study Completion	<ul style="list-style-type: none">• Uploaded to Town of Amherstburg website• Mailed to contact list/property owners• Published in the Rivertown Times on January 9, 2019 and January 16, 2019

3.2 AGENCY CONSULTATION

Comments from interested agencies were received throughout the study and have been included in **Appendix A**.

A letter dated February 23, 2018 was received from MECP to acknowledge the receipt of the Notice of Commencement for the project. MECP provided guidance on Indigenous community consultation requirements and a list of communities identified as potentially affected by the project.

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A letter dated February 26, 2018 was received from ERCA in response to the Notice of Study Commencement indicating an interest in reviewing the Project File.

A letter dated April 4, 2018 was received from ERCA. The purpose of the letter was to provide the study team with information resources available including digital mapping of regulated watercourses, groundwater recharge areas, source water protection features and natural heritage features.

An email dated July 25, 2018 from MNRF was received in response to an information request sent on March 12, 2018. MNRF provided information on natural features in the study area and records of species at risk.

3.3 INDIGENOUS COMMUNITY CONSULTATION

The following Indigenous communities were contacted throughout the study, based on the list provided by MECP on February 23, 2018, the location of traditional territory, and potential interests:

- Aamjiwnaang First Nation
- Bkejwanong Territory / Walpole Island First Nation
- Caldwell First Nation
- Chippewas of Kettle & Stony Point First Nation
- Chippewas of the Thames First Nation
- Moravian of the Thames (Delaware Nation)
- Oneida of the Thames First Nation
- Munsee-Delaware Nation
- Métis Nation of Ontario
- Tri-Tribal Monitoring Services

Project notices were mailed to communities and follow-up telephone calls were made to discuss the project and determine the best method of consultation. Comments were received from the Aamjiwnaang First Nations and the Chippewas of the Thames indicating minimal concern with this project. The communication log is provided in **Appendix A**.

3.4 PUBLIC CONSULTATION

3.4.1 Public Information Center

A Public Information Center (PIC) was held on August 21, 2018 at the Libro Credit Union Center in Amherstburg from 4:30 PM to 7:00 PM. A Notice of PIC was sent to Indigenous communities, agencies and potentially affected property owners on August 3, 2018. The Notice of PIC was published in the Rivertown Times on August 15, 2018.

The purpose of the PIC was to discuss the work completed to date and collect public input on:

- The study process;

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- Rationale for the project;
- Background information, including the existing socio-economic, cultural and natural environments;
- Summary of the alternatives reviewed and the recommended strategy; and
- Next steps.

Representatives from the Town of Amherstburg, as well as staff from Stantec Consulting Ltd. were present at the meeting to answer questions and present information about the project. There were 11 people from the general public and/or representatives of the developers that attended the PIC.

Although comments and input from the PIC were requested by Friday, September 21, 2018, consultation and coordination with the development community is ongoing. One comment form was received and related to environmental concerns within and adjacent to the study area. Specifically, it was noted that the study area contains several migration routes in the fall and spring seasons for several species of birds and monarch butterflies; segments of the Carolinian Forest, unique to Canada; SOCC (Species of Conservation Concern) and SAR (Species at Risk) habitats and wildlife that may be impacted by the proposed developments; and the study area is a drainage area which leads to a natural floodplain with great biodiversity.

4.0 OVERVIEW OF APPLICABLE PLANNING AND POLICY DOCUMENTS

4.1.1 The Planning Act

The *Planning Act* (2005) sets the framework for land use planning in Ontario. According to the provisions within the *Planning Act*, the Province of Ontario is the primary authority for planning matters in Ontario, and the Act enables the Province to delegate some of its planning authority to the upper-tier municipalities (i.e. counties and regional/district municipalities, and planning boards) while retaining control through the approval process. Municipalities must conform to approved policies of the Provincial government and its agencies. Provincial ministries, municipal councils, planners, and other stakeholders implement the Act when they undertake certain actions, including:

- Preparing Official Plans and planning policies that guide future development considering provincial interests, such as protecting and managing natural resources;
- Regulating and controlling land uses through zoning by-laws and minor variances; and
- Dividing land into separate lots for sale or development through Plans of Subdivision or a Land Severance.

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This study considers development applications approved under the *Planning Act* and associated conditions of approval along with lands designated for future development.

4.1.2 Provincial Policy Statement

The Provincial Policy Statement, 2014 (PPS), issued under Section 3 of the *Planning Act*, sets a policy foundation for regulating the development and use of land. It provides direction on matters of provincial interest and supports the enhancement of the quality of life for all citizens of Ontario. In accordance with Section 3 of the *Planning Act*, decisions affecting planning matters shall have regard for the PPS.

The PPS provides for enhanced protection of the environment by requiring the identification of the natural heritage system and water resources, including natural hazards, water quality, air quality, and energy use. The policies provide for intensification and Brownfield development to ensure the maximum use of sewer, water, and energy systems, roads, and transit.

The PPS identifies a servicing hierarchy in which municipal sewage and water services are the preferred form of servicing for settlement areas. With regards to the planning of sewage and water services, the PPS provides the following guidance (Section 1.6.6.1):

- Planning for sewage and water services shall:
 - Ensure that these systems are provided in a manner that can be sustained by the water resources upon which such services rely; is feasible, financially viable, and complies with all regulatory requirements; and protects human health and the natural environment; and
 - Promote water conservation and water use and efficiency.

Policy 2.1 provides direction for the protection of the natural heritage features, while guidance in this regard is provided through the Natural Heritage Reference Manual (MNRF, 2010). The natural heritage features to be considered in accordance with the PPS include:

- Significant wetlands (PSWs) and significant coastal wetlands;
- Significant habitat of endangered and threatened species;
- Significant woodlands;
- Significant valleylands;
- Significant areas of natural and scientific interest (ANSIs); and
- Fish habitat.

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In southern Ontario, development is not permitted in significant habitat of endangered and threatened species, PSWs or significant coastal wetlands. Development and site alteration may be permitted on lands adjacent to significant wetlands, and the habitat of endangered and threatened species if it is demonstrated that there will be no negative impacts on the natural features or the ecological functions for which the area was identified. The PPS, along with the MNRF Natural Heritage Reference Manual provide guidelines for the extent of 'adjacent lands' and allow for local municipalities to develop approaches that achieve the same objectives.

Development is not permitted within, or on lands adjacent to, the other significant natural heritage features unless the ecological function of these lands has been evaluated and it has been demonstrated that no negative impacts on the natural heritage features or their ecological function will occur. Development and site alteration is not permitted within fish habitat except in accordance with provincial and federal requirements.

The Amherstburg MCEA shall have regard for the policies and objectives of the PPS 2014 by identifying a preferred servicing solution that takes into consideration the socio-economic, cultural, natural and technical environments.

4.1.3 Conservation Authorities Act

The study area is located within the jurisdiction of the Essex Region Conservation Authority (ERCA). ERCA is responsible for approval of development or site alteration within hazardous areas adjacent to shorelines, watercourses and wetlands. These "Regulation Limit" areas are detailed in Ontario Regulation (O. Reg.)158/06: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, and its accompanying mapping. The purpose of the regulation is to ensure the protection of life and property from flooding, erosion, and unstable slopes. On-going consultation will be required during Detailed Design to obtain permits, as required.

4.1.4 Safe Drinking Water Act 2002

The *Safe Drinking Water Act, 2002* (SDWA) encompasses all the aspects and responsibilities for operating a drinking water system in Ontario and states:

The purposes of this Act are as follows:

1. *To recognize that the people of Ontario are entitled to expect their drinking water to be safe.*
2. *To provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing.*

Various regulations under the SDWA are in place to govern the application of the provisions of the Act. Key regulations include:

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- O. Reg. 169/03 Ontario Drinking Water Quality Standards - Provides the standards and compliance requirements for Ontario drinking water. These standards are broken into the different categories, referred to as schedules in the Act; microbiological, chemical, and radiological.
- O. Reg. 170/03 Drinking Water Systems – Regulates nearly all municipal and private water systems that provide potable water to public including year-round residential developments and designated facilities that serve vulnerable populations such as children and the elderly.
- O. Reg. 188/07 Licensing of Municipal Drinking Water Systems – Relates to licensing of drinking water systems on a municipal level along with the date as to when the application for renewal of the license or permit is due.

The Southeast Quadrant Sanitary and Water Servicing design must meet the water quality, treatment, reporting, and licensing requirements of the above noted regulations and policies of the Act.

4.1.5 Drinking Water Source Protection Area

Protecting municipal sources of drinking water from becoming contaminated or overused will ensure a sufficient supply of clean, safe drinking water. The *Clean Water Act* 2006 (CWA) is intended to protect existing and future sources of drinking water as part of the government's overall commitment to protecting human health and the environment. The CWA sets out a framework for source protection planning on a watershed basis with Source Protection Areas (SPAs) established based on the watershed boundaries of Ontario's 36 Conservation Authorities.

The Study Area is located within the Essex Region SPA, subject to the policies of the Essex Region SPA Source Protection Plan, approved in April 2015 (including policy updates approved in 2016), and supported by the approved Assessment Report (2015).

ERCA indicated that nutrient discharge into the Detroit River (and eventually Lake Erie); and Harmful Algal Blooms (HABs) have become a drinking water issues for all of Essex Region's Lake Erie drinking water intakes.

The area where the proposed sewer expansion is to take place is within the delineated Event Based Area (EBA). In this area, the above grade handling and storage of liquid fuel in volumes greater than 34,000 L is identified as a Significant Drinking Water Threat (SDWT). Fuel of this volume is not anticipated to be used or installed as a direct result of the proposed project.

The proposed improvements are not located within a Significant Ground Water Recharge Area (SGRA), Wellhead Protection Areas, Intake Protection Zones, Significant Groundwater Recharge Areas, or Highly Vulnerable Aquifers. It is not anticipated that the improvements being identified within the study area will impact existing vulnerable areas or create new vulnerable areas.

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4.2 CLIMATE CHANGE

The proposed improvements involve the sanitary and water servicing to allow capacity for future development. The infrastructure will be installed to service future residential developments. The future residential developments will comply with the requirements of the *Windsor/Essex Region Stormwater Management Standards Manual*. The manual discusses the requirements to address climate change.

4.3 SUMMARY OF POLICY IMPLICATIONS

The policies and guidelines summarized above should be considered within the context of evaluating water supply alternatives available to meet the long-term servicing needs of the Town of Amherstburg. The corresponding opportunities and constraints established by these policies and supporting guidelines are recognized and addressed through the development of alternatives and recommendations, including the identification of appropriate mitigation, restoration, and enhancement measures to offset potential negative impacts.

5.0 EXISTING CONDITIONS

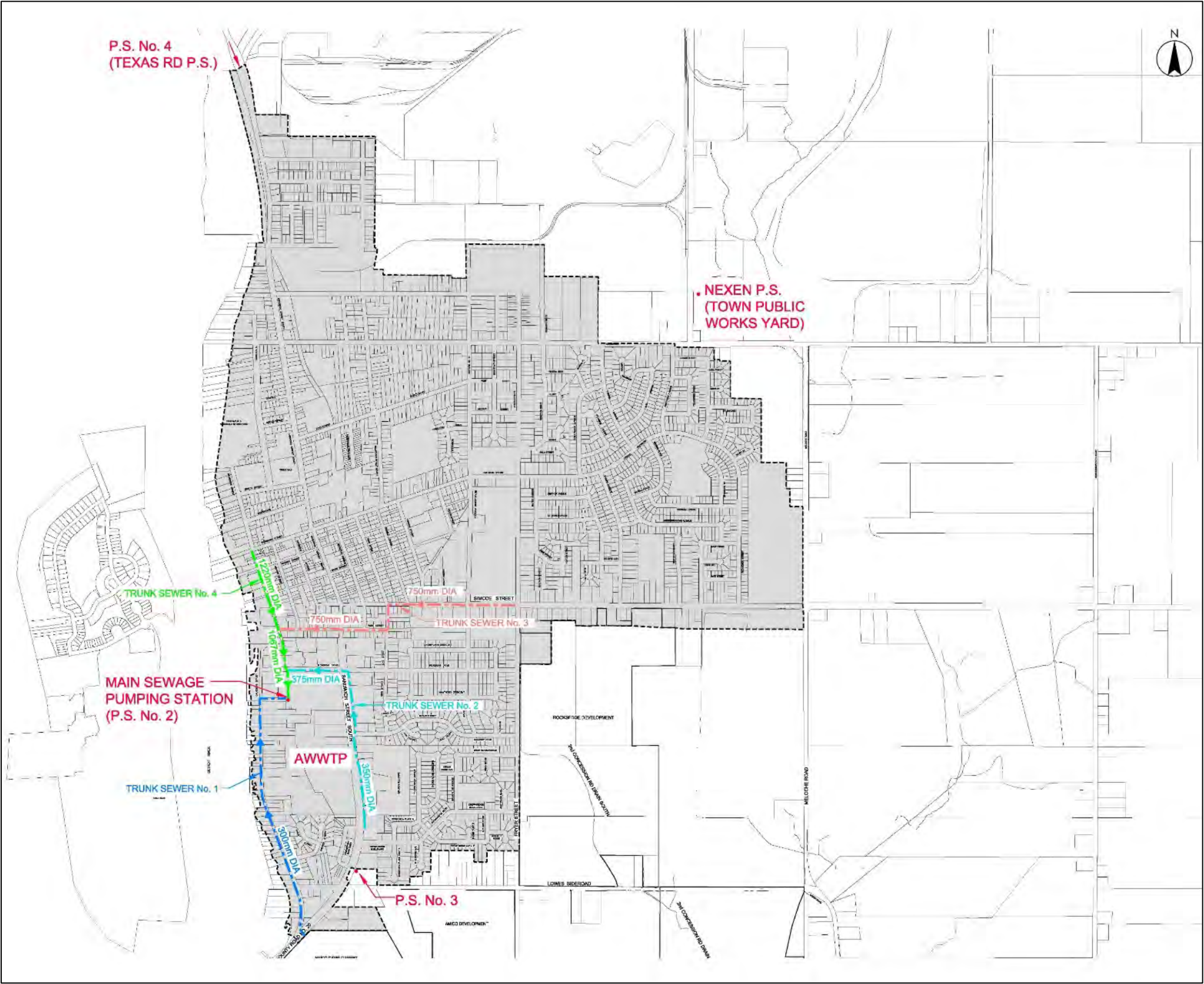
Phase 2 of the MCEA process involves reviewing the existing conditions within the study area. The identification of alternative solutions shall have regard for these existing conditions and seek to minimize impacts.

5.1 EXISTING SANITARY SERVICING

The existing sewage collection system in the Town's southeast quadrant consists of four sanitary trunk sewers, as illustrated on **Figure 3**. The sewers use gravity to collect wastewater from the surrounding 560 ha urban area and directs flows to the Main Sewage Pumping Station No. 2. Pumping Station No. 2 discharges to the Amherstburg Wastewater Treatment Plant. Trunk Sewer 1 (Dalhousie Street) and Trunk Sewer 2 (Pickering Drive) have insufficient capacity to service the study area. Trunk Sewer 3 (Park Street/Simcoe Street) and Trunk Sewer 4 (Dalhousie Street) have excess capacity to service the study area.

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Figure 3 Existing Sanitary Servicing



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5.2 TERRESTRIAL ENVIRONMENT

An inventory of the terrestrial features within the study area has been completed in order to inform the evaluation of alternative solutions and assess potential impacts. The following sections provide a general overview of the significance and sensitivity of the terrestrial environment within the study area.

5.2.1 Data Collection and Methodology

The information contained in the following sections was collected through a desktop review of available information, including:

- Consultation with the Ministry of Natural Resources and Forestry (MNRF);
- Natural Heritage Information Centre Biodiversity Explorer (NHIC) for Species at Risk records within the last 30 years;
- Land Information Ontario mapping of natural heritage features;
- Biodiversity Atlases (Breeding Birds of Ontario, Mammals of Ontario, Reptiles and Amphibian, and Butterfly);
- ERCA Fish Habitat Management Plan
- Essex Region Natural Heritage System Study (2013)

The subject area includes approximately 289.01 hectares (ha) of land within the southeast quadrant of the Town of Amherstburg. The area is primarily comprised of agricultural land, with small pockets of residential land use throughout. The southeast quadrant is located within the Big Creek watershed, which acts as an outlet for municipal, residential and agricultural runoff. The majority of the subject area lies within Essex Region Conservation Authority (ERCA) regulated land and includes numerous areas of Provincially Significant Wetland, Environmentally Significant Area, Carolinian Canada Signature Site and/or Important Bird Area.

5.2.2 Existing Natural Features

Natural features in the project study area were identified through LIO (MNRF 2018a) mapping and the Town of Amherstburg OP (2014) and were predominantly associated with Big Creek. Natural features identified through LIO mapping include:

- Wooded areas
- Provincially Significant Wetlands (PSW) – Big Creek Marsh
- Deer wintering areas
- Important Bird Areas – Lower Detroit River

Natural features identified in the Town of Amherstburg OP (2014) overlapped with the natural features identified through LIO (MNRF 2018a) mapping. Natural features identified in Schedules B-2 and B-3 in the OP (2014) include:

- Natural Environment (similar boundaries to wooded areas identified through LIO [MNRF 2018a] mapping)
- PSW – Big Creek Marsh

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5.2.3 Species at Risk and Species of Conservation Concern

Species at risk are those species given status rankings by the Federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and/or the provincial Committee on the Status of Species at Risk in Ontario (COSSARO), as threatened or endangered according to federal or provincial legislation. Endangered and threatened species in Ontario that are listed on the Species at Risk in Ontario (SARO) list (O. Reg. 230/08) receive general habitat protection under the *Endangered Species Act* (ESA 2007). Special concern species are not afforded habitat protection and have been summarized as species of conservation concern (SOCC). On federal lands (e.g. First Nations reserves), endangered and threatened species as well as their residence and critical habitat are protected under the federal *Species at Risk Act* (SARA 2002).

SOCC include species ranked as S1-S3 (critically imperiled-vulnerable), species provincially listed as special concern or species with a federal listing but without a provincial S1-S3 ranking or SARO listing.

Based on the background review, 17 SOCC and 16 SAR have ranges that overlap with the project study area. Only recent records (less than 30 years old) of SOCC and SAR were considered. For protection purposes, exact locations of species are not provided (only within a 1 km grid), and presence of the species in the study area are not definite. The potential for species to be present is limited by habitat suitability and availability in the study area. Through MNRF consultation, known records of SAR and SOCC were identified in the study area (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018). Plant and wildlife SAR and SOCC that are known to occur or have the potential to occur in or adjacent to the project study area as identified through the background review are listed in **Table 2**. Consideration and habitat assessment for each of these species are discussed in Wildlife and Wildlife Habitat (Section 5.2.7 of this report).

Table 2: Plant and Wildlife SAR and SOCC Potentially Occurring in the Study Area

Common Name	Scientific Name	National Status	Provincial Status	Provincial S-rank
Plants				
Dense Blazing Star	<i>Liatris spicata</i>	THR	THR	S2
Eastern Stiff-leaved Goldenrod	<i>Solidago rigida ssp. rigida</i>	-	-	S3
Nodding Onion	<i>Allium cernuum</i>	-	-	S2
Schweinitz's Flatsedge	<i>Cyperus schweinitzii</i>	-	-	S3
Squarrose Sedge	<i>Carex squarrosa</i>	-	-	S2
Swamp Rose-mallow	<i>Hibiscus moscheutos</i>	SC	SC	S3
Butterflies & Dragonflies				
Monarch	<i>Danaus plexippus</i>	SC	SC	S4
River Bluet	<i>Enallagma anna</i>	-	-	S2

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Table 2: Plant and Wildlife SAR and SOCC Potentially Occurring in the Study Area

Common Name	Scientific Name	National Status	Provincial Status	Provincial S-rank
Reptiles				
Blanding's Turtle	<i>Emydoidea blandingi</i>	THR	THR	S3
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	SC-NS	-	S5
Northern Map Turtle	<i>Graptemys geographica</i>	SC	SC	S3
Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	S3
Butler's Gartersnake	<i>Thamnophis butleri</i>	END	END	S2
Eastern Foxsnake (Carolinian)	<i>Pantherophis gloydi</i>	END	END	S3
Queensnake	<i>Regina septemvittata</i>	END	END	S2
Birds				
Bald Eagle	<i>Haliaeetus leucocephalus</i>	NAR	SC	S2B, S4N
Bank Swallow	<i>Riparia riparia</i>	THR	THR	S4B
Barn Swallow	<i>Hirundo rustica</i>	THR	THR	S4B
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	-	-	S3B
Black Tern	<i>Chlidonias niger</i>	-	SC	S3B
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	S4B
Common Nighthawk	<i>Chordeiles minor</i>	THR	SC	S4B
Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	S4B, S4N
Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	S4B
Eastern Wood-Pewee	<i>Contopus virens</i>	SC	SC	S4B
Great Egret	<i>Ardea alba</i>	-	-	S2B
Prothonotary Warbler	<i>Protonotaria citrea</i>	END	END	S1
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	THR	SC	S4B
Wood Thrush	<i>Hylocichla mustelina</i>	THR	SC	S4B
Mammals				
Small-footed Myotis	<i>Myotis leibii</i>	-	END	S2S4
Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	S4
Northern Myotis	<i>Myotis septentrionalis</i>	END	END	S3?
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	END	S3?

S1: Critically Imperiled—Critically imperiled in the province (often 5 or fewer occurrences)

S2: Imperiled—Imperiled in the province, very few populations (often 20 or fewer),

S3: Vulnerable—Vulnerable in the province, relatively few populations (often 80 or fewer)

S4: Apparently Secure—Uncommon but not rare

S5 – Secure and common

S#?: indicates uncertainty in the breeding rank

END: Endangered

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Table 2: Plant and Wildlife SAR and SOCC Potentially Occurring in the Study Area

Common Name	Scientific Name	National Status	Provincial Status	Provincial S-rank
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THR: Threatened

SC: Special Concern

NS: no schedule

5.2.4 Vegetation

5.2.4.1 Ecological Land Classification

Vegetation communities were delineated using the ELC system for Southern Ontario (Lee et al. 1998) and, where appropriate, the updated ELC Catalogue (2008). ELC mapping was completed to the finest level of resolution (vegetation type) where possible. Vegetation communities were first identified on aerial imagery and then checked in the field. Provincial significance of vegetation communities was based on the rankings assigned by the NHIC (MNRF 2018b).

The study area was predominantly agricultural fields. Single family residential areas were located west of Fryer Street, north of Lowes Sideroad. Big Creek intersected the study area in two locations: the east and south, where most of the naturally occurring vegetation communities in the study area were in close proximity to this watercourse. Areas of thicket, meadow and marsh occasionally occurred in the study area.

Two wetland communities were identified in the study area: MAMM1-12 and MASM1-12. Both wetland communities were dominated by phragmites. Due to property access constraints, wetland boundary delineations were not completed. Both wetland communities were located outside the project location, but in the study area.

None of the ELC communities identified in the project study area are considered rare in the province.

ELC mapping of the project study area is shown on Figure 2 of the Terrestrial Summary Memorandum (Appendix B). ELC community descriptions are provided in **Table 3**.

Table 3: ELC Communities in the Project Study Area

ELC Community	Community Description
Cultural	
Agriculture	
OAGM1 Annual Cover Crops	Predominantly corn crops in the east and south portion of the study area
OAGM2	Hay fields located at the southwest portion of the study area

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Table 3: ELC Communities in the Project Study Area

ELC Community	Community Description
Perennial Cover Crops	
Constructed	
CGL_4 Recreational	Recreational facility located in the west portion of the study area: A M A Sportsman Association
CVS_1 Education	Elementary school located in the north portion of the study area: École élémentaire catholique Saint-Jean-Baptiste
CVI_1 Transportation	Includes roads in rural residential areas, (e.g. Fryer Street, Lowes Sideroad)
CVR_3 Single Family Residential	Single family dwellings located primarily in the northwest portion of the study area
CVR_4 Rural Residential	Rural dwellings located adjacent to agricultural fields throughout the study area
Meadow	
Graminoid Meadow	
MEGM3 Dry-Fresh Graminoid Meadow	This meadow community was located adjacent to a deciduous thicket community at the east section of the study area. This community was comprised predominantly of grasses, and included timothy, orchard grass, fescues and quack grass. Common milkweed was occasionally observed in this community.
Forb Meadow	
MEFM1 Dry-Fresh Forb Meadow	Meadow community with occasional deciduous tree regeneration. Dense weedy vegetation cover, including various thistle species, wild carrot, reed canary grass, yellow sweet-clover, common milkweed, Canada goldenrod, Manitoba maple and Drummond's dogwood.
Mixed Meadow	
MEMM3 Dry-Fresh Mixed Meadow	This community was highly disturbed, with areas of open earthworks, and portions of the vegetated community mowed. A mix of grasses and herbaceous cover (milkweed, goldenrods, asters).
Thicket	
Deciduous Thicket	
THDM2-11 Hawthorn Deciduous Shrub Thicket	This community bordered Big Creek in the western portion of the study area and was comprised of mature hawthorns. Drummond's dogwood and phragmites were occasional in this community. Vegetation cover in this community was dense.
THDM5 Fresh-Moist Deciduous Thicket	This community was dominated by Drummond's dogwood, with occasional-abundant cover of white mulberry. Eastern cottonwood saplings were occasional, amongst white elm and Manitoba maple saplings.
Woodland	
Deciduous Woodland	

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Table 3: ELC Communities in the Project Study Area

ELC Community	Community Description
WODM4-4 Dry-Fresh Black Walnut Deciduous Woodland	Canopy cover in this community was comprised of black walnut, bur oak and hickories, where canopy height alternated between 10-20 metres. The understory supported young growth of black walnut, hickory, bur oak amongst Drummond's dogwood.
Forest	
Deciduous Forest	
FODM11 Naturalized Deciduous Hedgerow	This deciduous hedgerow separated agricultural fields in the east portion of the study area, where vegetation was a mix between tree and shrub cover. Dominant species could not be confirmed due to the distance away from the roadside.
Marsh	
Meadow Marsh	
MAMM1-12 Common Reed Graminoid Mineral Meadow Marsh	This community was dominated by Phragmites and was located in an agricultural field in the west portion of the study area. No standing water was observed.
Shallow Marsh	
MASM1-12 Common Reed Mineral Shallow Marsh	This community bordered Big Creek in the east section of the study area. Vegetation cover was densely dominated by Phragmites in areas of standing water.
Open Water	
OAO Open Aquatic	Open aquatic features associated with Big Creek. East and west portions of the study area overlap with Big Creek

5.2.4.2 Botanical Inventory

Flora nomenclature was based primarily on the Database of Vascular Plants of Canada (VASCAN) (Brouillet et al. 2010+) with updates to genera, specific epithets and family names as necessary to reflect recent taxonomic revisions. The primary source of revised nomenclature was VASCAN (2016).

The provincial status of all plant species was based on NHIC (MNRF 2018b). Identification of potentially sensitive native plant species was based on their assigned coefficient of conservatism (CC) value, as determined by Oldham et al. (1995). This CC value, ranging from 0 (low) to 10 (high), is based on a species' tolerance of disturbance and fidelity to a specific natural habitat. Species with a CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters.

A total of 93 species of vascular plants were recorded from the project study area, of which 51% were native. Thirty-nine species (82%) of these native plants have a rank of S5, indicating they are common and secure within Ontario. Eight species (17%) have a rank of S4 (apparently

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secure). One rare vascular plant species was observed in the project study area: honey locust. Honey Locust was found along Lowes Side Road adjacent to a rural property. This species is further discussed below as a SOCC.

5.2.5 Wildlife and Wildlife Habitat

Wildlife habitat assessments were conducted in the project study area to determine the presence of potential significant wildlife habitat features and SAR habitat. Habitat surveys included:

- Monarch butterfly habitat
- Turtle overwintering and nesting, specifically along Big Creek
- Snake hibernacula features
- Breeding bird habitat
- Bat roosting habitat

Monarch Butterfly Habitat

Monarch are commonly found in meadow habitats, abandoned farmland and roadsides where milkweed and wildflowers (such as goldenrods, asters and purple loosestrife) are abundant (COSEWIC 2010). Limited meadow habitat suitable for Monarch Butterfly occurred in the study area. Two meadow communities (MEGM3, MEFM1, MEMM3) were identified in the study area. Community MEGM3 did not support high numbers of forb cover, as the community was dominated by grasses; however, occasional individuals of common milkweed were observed in this community. Community MEFM1 was densely dominated by weedy cover, and supported goldenrod and milkweed cover. Community MEMM3 was highly disturbed with areas of open exposed earth amongst grassy areas that were recently mowed. Although limited forb vegetation cover was present for Monarch Butterfly, it is anticipated this species may occur along roadside ditches or in communities MEGM3 and MEFM1. However, as preferred habitat of abundant milkweed and preferred wildflowers was not identified in the study area for Monarch, candidate habitat for Monarch is not considered present in the study area.

Turtle Habitat

Turtle species, including Snapping Turtle, Midland Painted Turtle and Painted Turtle, may occur in Big Creek. In addition, records of Blanding's Turtle are known to occur in the Big Creek Marsh PSW in the west portion of the study area. The depth of Big Creek was not confirmed during site investigations; however, it is anticipated the depth is greater than 2 metres. The water was slow moving and supported a dense concentration of phragmites on both sides of the creek. No other large patches of emergent or submergent vegetation were observed in the study area. Big Creek has the potential to support turtle overwintering. Limited open gravel patches were observed on the road shoulders, as the road shoulders were predominantly mowed grass. No suitable nesting substrate of sandy or gravel banks were observed in the project footprint; however, suitable nesting habitat may occur in the study area in areas of exposed earth and gravel patches. The proposed project may potentially impact turtles and their habitat along Big

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Creek. To mitigate potential impacts, recommended mitigation measures are discussed in **Section 8.1**.

Snake Habitat

Snake species, including Butler's Gartersnake and Eastern Foxsnake are known to occur in the study area. The project study area supports a variety of habitats suitable for snakes, including meadow, thicket, marsh, woodland, riparian and drainage swales. Snakes will hibernate in features located below frost lines, and can occur in burrows, rock crevices and other natural locations to escape freezing temperatures (MNRF 2015). Approximately 100 terrestrial crayfish chimneys were identified in the marsh (MAMM1-12) and agricultural field (OAGM1) located in the west portion of the study area. Terrestrial crayfish chimneys may provide overwintering habitat for Butler's Gartersnake (MNRF 2018c). No other potential hibernacula features were identified in the project footprint; however, as areas in the study area could not be fully assessed due to limited property access, suitable hibernacula features may be present in the project study area. Potential presence of snake habitat may occur in the project study area. Snake species have the potential to be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed in **Section 8.1**.

Breeding Bird Habitat

As the project footprint is primarily located along an existing road allowance adjacent to residential areas and agricultural fields, minimal breeding bird habitat was identified. Agricultural areas were predominantly corn and soy. Areas of natural vegetation cover were mostly associated with Big Creek and Big Creek Marsh PSW; however, as the project is located in an existing road allowance, minimal disturbance is anticipated to these areas. Treed and woodland habitats in the study area were not identified to support SAR or SOCC woodland breeding bird species (Wood Thrush, Eastern Wood-pewee, Prothonotary Warbler, Red-headed Woodpecker). In addition, no stick nests were observed along Big Creek or in the remaining extent of the study area. Additionally, suitable habitat for Common Nighthawk, including open sandy habitats or recently cleared woodlands (Bringham et al. 2011) were not observed in the study area. At the west portion of the study area, the proposed project footprint transverses an agricultural field. At the time of the survey, this field was an annual row crop. Directly south of the project location, a hayfield was present in the project study area. Although no Bobolink or Eastern Meadowlark were observed in this field, this hay field has the potential to support grassland breeding bird habitat. As this field is located outside the project footprint, potential impacts to grassland breeding bird habitat is not anticipated.

Potential habitat for Barn Swallow may occur under bridges in the study area, specifically, the bridge under Big Creek; however, no nesting Barn Swallow were identified during Stantec's 2018 site investigations. Project activities are not anticipated to disturb the bridge structure.

Bat Roosting Habitat

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Roosting habitat for 4 SAR bats (Little Brown Myotis, Northern Myotis, Small-footed Myotis and Tri-coloured Bat) in the project study area may occur in the deciduous woodland along Big Creek, as well as in mature trees along the roadside and hedgerows. Potential occurrence of these 4 SAR bats may also be found in anthropogenic structures in the study area. No trees in the deciduous woodland feature are proposed for removal. No buildings are proposed for removal. All trees located in the project footprint were surveyed for habitat characteristics that may support bat roosting. Trees suitable to support bat roosting were not identified in the project footprint; however, as habitat assessments are most accurate when completed during leaf-off, suitable bat roosting trees may be present in the study area. As bat use of trees in the project location could not be confirmed during site investigations, potential impacts to roosting bats may occur if tree removal is required. To mitigate potential impacts, recommended mitigation measures are discussed in **Section 8.1**. No buildings are proposed for removal as a result of project activities.

5.2.6 Species at Risk and Species of Conservation Concern

Based on the ELC and wildlife habitat assessment, the project study area has the potential to support four SOCC and 10 SAR.

Honey Locust is ranked as S2 (imperiled). It is not designated provincially or federally. The study area is generally within honey locust's known natural range in Ontario; however, it is unknown if the four honey locust individuals occurring in the study area are of natural occurrence or if they were planted/escaped from cultivation. Honey locust typically occur on moist, rich bottomlands as scattered individuals mixed with other broadleaf trees (Farrar 1995). Due to their presence adjacent to a residence and part of a roadside hedgerow, it is expected that these four honey locust are not naturally occurring in the study area. As the natural occurrence of these individuals could not be confirmed during site investigations, recommended mitigation measures are discussed below in **Section 8.1**.

Snapping Turtle is ranked S3 (vulnerable) and is listed as special concern provincially and federally. Snapping Turtle is not afforded habitat protection under the ESA (2007). This species inhabits ponds, sloughs, streams, rivers, and shallow bays that are characterized by slow moving water, aquatic vegetation, and soft bottoms (COSEWIC 2008). It prefers to stay in shallow water, where it buries itself into mud and leaf litter and has easy access to the surface for air (MNRF 2018C). Females nest in sand or gravel, frequently using manmade surfaces such as road shoulders and aggregate pits. Nesting occurs in May and early June (MNRF 2018C; COSEWIC 2008). Suitable overwintering habitat for Snapping Turtle potentially occurs in Big Creek, located in the study area. Snapping Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in **Section 8.1**.

Northern Map Turtle is ranked S3 (vulnerable) and is listed as special concern provincially and federally. Northern Map Turtle is not afforded habitat protection under the ESA (2007). This species inhabits rivers and lakes with suitable basking sites such as deadheads, rocks and

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emergent vegetation (MNRF 2018C; COSEWIC 2002). It requires high-quality water with abundant mollusc populations, which are the preferred prey source (MNRF 2018C). The map turtle overwinters in slow-moving, deep sections of river (COSEWIC 2002). Suitable overwintering habitat for Northern Map Turtle potentially occurs in Big Creek, located in the study area. Northern Map Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in **Section 8.1**.

Midland Painted Turtle is listed as special concern federally and has not been assigned to a schedule. This species inhabits ponds, marshes, lakes and slow-moving creeks with a soft bottom, plentiful basking sites and abundant aquatic vegetation (Ontario Nature 2018). Suitable overwintering habitat for Midland Painted Turtle potentially occurs in Big Creek, located in the study area. Midland Painted Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in **Section 8.1**.

Blanding's Turtle is listed as threatened provincially and federally and is afforded habitat protection under the ESA (2007). This turtle species prefers shallow water in heavily vegetated, large wetlands and lakes (MNRF 2018C), and will also use streams, rivers and ponds. Nesting sites occur in a variety of loose substrates such as sand, gravel and cobblestone (COSEWIC 2005). Blanding's Turtles can often be found hundreds of metres from the nearest aquatic habitat during the active season, as they search for mates or nest sites (MNRF 2018c). Through correspondence with MNRF (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018), records of Blanding's Turtle were identified in the Big Creek Marsh Wetland Complex that runs through the western portion of the study area (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] August 20, 2018). Follow-up discussions with MNRF will be required to determine extent and location of Blanding's Turtle habitat in relation to the study area. It is anticipated potential habitat for Blanding's Turtle occurs in Big Creek located in the study area. Blanding's Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in **Section 8.1**.

Barn Swallow is listed as threatened provincially and federally and is afforded habitat protection under the ESA (2007). This species commonly nests on walls or ledges of barns, bridges, culverts or other man-made structures (Cadman et al. 2007). Where suitable nesting structures occur, Barn Swallow often form small colonies, sometimes mixed with other swallow species (COSEWIC 2011). The Barn Swallow feeds on aerial insects while foraging over a variety of open habitats such as pastures, lawns, meadows and fields (COSEWIC 2011). Occurrence of nesting Barn Swallow may occur on the bridge crossing Big Creek in the east portion of the study area. Alteration to this bridge is not anticipated during project activities. Impacts to Barn Swallow are not anticipated as a result of project activities.

Butler's Gartersnake is a known resident to the area (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018). This species is listed as endangered provincially and federally and is afforded habitat protection under the ESA (2007). Habitat

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preferences include moist, open habitats close to small wetlands, where the preferred food source is earthworms and leeches (MNRF 2018C). Hibernacula are usually found in old rodent or crayfish burrows but can also be located in stone walls and foundations (MNRF 2018C). The study area supports habitat features that may support Butler's Gartersnake, including thickets (THDM2-11, THDM5), meadows (MEGM3, MEMM3 and MAMM1-12), woodland (WODM4) and drainage swales. Potential hibernacula features such as crayfish chimneys were identified in the project study area. To mitigate impacts to this species and its habitat during construction activities, proposed mitigation is discussed in **Section 8.1**. Extent and confirmation of proposed mitigation and associated permitting requirements should be determined through consultation with MNRF.

Eastern Foxsnake is listed as endangered provincially and federally and has regulated habitat protection under the ESA (2007). This species prefers un-forested habitats, such as shorelines, prairies, savannahs, rock barrens and wetlands, and are most commonly found along shoreline edge habitats. In southern Ontario, this species will use a variety of altered or heavily modified habitats, such as drainage ditches, building foundations and hedgerows (Ontario Nature 2018). Through correspondence with MNRF (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018), regulated habitat for Eastern Foxsnake was identified on and adjacent to the study area. Follow-up communications with MNRF (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] August 20, 2018) confirmed the project study area is entirely located in regulated habitat for Eastern Foxsnake. Habitat features that may support Eastern Foxsnake in the study area include marsh (MAMM1-12, MASM1-12), thicket (THDM2-11, THDM5), hedgerow (FODM11), drainage and other riparian habitat (WODM4-4) adjacent to Big Creek. Eastern Foxsnake may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed in **Section 8.1**.

Bobolink is provincially and federally listed as a threatened species and is afforded habitat protection under the ESA (2007). The Bobolink is generally referred to as a "grassland species", where nesting occurs in grassland and forage crops with a mixture of grasses and broad-leaved forbs (COSEWIC 2010). This species has potential to occur in the southern portion of the study area in two hayfields. These hayfields are not in the project location; alteration or removal of these hayfields is not anticipated as a result of project activities. As such, this species and its habitat are not anticipated to be impacted by the project.

Eastern Meadowlark is provincially and federally listed as a threatened species and is afforded habitat protection under the ESA (2007). The Eastern Meadowlark is typically found in fields, meadows, golf courses, pastures, alfalfa fields, roadsides and other open areas (MNRF 2018C). Older sites with moderately tall grass, a substantial litter layer, low forb and shrub cover and dense grasses are preferred (COSEWIC 2011). Meadow habitats in the study area (MEGM3, MEFM1, MEMM3) were not considered suitable habitat for Eastern Meadowlark due to their small size and evidence of frequent habitat disturbance. Eastern Meadowlark has potential to occur in the southern portion of the study area in two hayfields. These hayfields are not included in the project location; alteration or removal of these hayfields are not anticipated as a result of

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project activities. As such, this species and its habitat are not anticipated to be impacted by the project.

Four SAR bats have the potential to occur in the study area, and include Little Brown Myotis, Northern Myotis, Small-footed Myotis and Tri-coloured Bat. Little Brown Myotis, Northern Myotis and Tri-coloured Bat are provincially and federally listed as an endangered species. Small-footed Myotis is provincially listed as an endangered species. The bat species are afforded habitat protection under the ESA (2007). The Little Brown Myotis roosts in tree cavities and abandoned buildings, and often forms roosting colonies in barns, attics and abandoned buildings (MNRF 2018C; COSEWIC 2013). They have been found in a wide variety of deciduous and coniferous tree stands (COSEWIC 2013). Hibernation typically occurs in caves and mines (MNRF 2018C), none of which were identified in the Study Area. The Northern Myotis roosts in colonies in tree cavities (COSEWIC 2013) in a wide variety of deciduous and coniferous forest stands. Small forest gaps, such as over streams or ponds, are used for foraging (COSEWIC 2013). The Tri-coloured Bat roosts in colonies in tree cavities (COSEWIC 2013) in a wide variety of deciduous and coniferous forest stands. Little is known about the effect of stand composition on maternity roost selection for this species, but it is strongly associated with forest watercourses and streamside vegetation (COSEWIC 2013). The Eastern Small-footed Myotis roosts in a variety of habitats, including hollow trees, under rocks or in rock outcrops, in buildings, caves, mines and under bridges. Different roosting sites may be selected each day. Hibernation occurs in abandoned mines and caves (MNRF 2018C).

Limited potential for natural roosting habitat (i.e. sang/cavity trees) was identified in the study area; however, as a habitat assessment was not completed during the leaf-off season, a conservative mitigation approach is recommended for tree removal in the study area. Proposed mitigation for SAR bats are discussed in **Section 8.1**.

Based on the ELC, botanical inventory and wildlife habitat assessments, 3 SOCC and 7 SAR and their habitat may potentially be impacted by the project:

- Northern Map Turtle
- Snapping Turtle
- Midland Painted Turtle
- Blanding's Turtle
- Butler's Gartersnake
- Eastern Foxsnake
- Little Brown Myotis
- Northern Myotis
- Small-footed Myotis
- Tri-colored Bat

Authorizations under the ESA (2007) may be required for some species and will be determined based on further consultation with MNRF. Proposed mitigation specific to SAR will be determined and confirmed through consultation with MNRF.

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5.2.7 Wildlife Habitat Assessments

Wildlife habitat assessments were conducted in the study area to determine the presence of significant wildlife habitat features and species at risk habitat. Some significant habitats assessed as part of this study, as well as their findings, include:

- Monarch Butterfly Habitat – Limited meadow habitat suitable for the Monarch Butterfly exists in the study area
- Turtle Overwintering and Nesting Habitats – Present, specifically along Big Creek
- Snake Habitat – The study area possesses a number of habitats suitable for snakes, including meadow, riparian and drainage swales
- Breeding Bird Habitat – There was minimal habitat identified within the study area suitable for breeding birds. The hay fields present have the potential to support grassland breeding bird habitat
- Bat Roosting Habitat – There were no trees identified in the study area suitable for bat roosting. However, bat use of trees in the study area is to be confirmed if tree removal is required

5.2.8 Summary

The required servicing infrastructure footprint is primarily located in existing road allowances. Consequently, the majority of construction will be completed in existing gravel road shoulders and regularly maintained grassy roadsides.

Based on the background review of the ELC, botanical inventory and wildlife habitat assessments, SOCC and SAR have been identified as potentially being present within the study area. A total of 3 SOCC and 7 SAR, as well as their habitats, may be affected by the project. The potential impacts to species and their surrounding habitats will be identified through the evaluation of servicing and storage solutions, and mitigation measures identified where needed. Permitting under the *Endangered Species Act, 2007* may be required for some species and is to be confirmed through further consultation with the MNRF.

5.3 FISH AND FISH HABITAT

5.3.1 Background Data Collection

Background data applicable to the study area were obtained through review of the following existing documents and online data sources:

- *Fish Habitat Management Plan for the Essex Region* (Hayman et al. 2005)
- *Big Creek Watershed Plan Natural Heritage Study* (ERCA 2010)

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- Natural Heritage Information Centre (NHIC) data (MNRF 2018a)
- Land Information Ontario (LIO) natural heritage mapping (MNRF 2018b)
- Fisheries and Oceans Canada (DFO) aquatic species at risk (SAR) maps (DFO 2018)

The Ministry of Natural Resources and Forestry (MNRF) was consulted to request records of terrestrial and aquatic SAR, vegetation communities, and fish communities known to occur in proximity to the study area. The information request was sent to the MNRF on March 12, 2018 followed by additional correspondence with respect to terrestrial SAR.

5.3.2 Field Investigations

The fish and fish habitat assessments were conducted on August 2 and September 12, 2018. The field investigations documented existing habitat conditions at the following locations:

- Crossing SC1 (Second Concession Road Drain South) - located approximately 500 m east of the intersection of Fryer Road and Lowes Sideroad
- Crossing SC2 (Unnamed Drain) - located approximately 650 m east of the intersection of Fryer Road and Lowes Sideroad
- Crossing SC3 (Lebert Drain) - located approximately 400 m south of the intersection of Fryer Road and Lowes Sideroad
- Crossing SC4 (Tributary of Big Creek) - located approximately 600 m southwest of the intersection of Fryer Road and Lowes Sideroad

The habitat assessments documented key fish habitat features (i.e., in-water cover, substrate characteristics) at each crossing location.

Fish community sampling was conducted on September 12, 2018. The fish community was sampled at Crossing SC1 only, using a backpack electrofishing unit. Fish were collected from both sides of Lowes Sideroad (approximately 50 m of stream). There was no water at Crossing SC2 and Crossing SC3. The watercourse at Crossing SC4 is directly connected to Big Creek, for which there are background fish community data; therefore, fish sampling was not conducted at this location.

5.3.3 Study Area Background Information

Land use surrounding the study area is mostly rural agricultural with occasional residential properties. The study area is located in the Big Creek watershed, within ERCA. The following 13 fish species have been recorded in the Big Creek watershed (Hayman et al. 2005):

- Black Bullhead (*Ameiurus melas*)
- Goldfish (*Carassius auratus*)
- Black Crappie (*Pomoxis nigromaculatus*)
- Green Sunfish (*Lepomis cyanellus*)

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- Brown Bullhead (*Ameiurus nebulosus*)
- Common Carp (*Cyprinus carpio*)
- Emerald Shiner (*Notropis atherinoides*)
- Fathead Minnow (*Pimephales promelas*)
- Gizzard Shad (*Dorosoma cepedianum*)
- Northern Pike (*Esox lucius*)
- Pumpkinseed (*Lepomis gibbosus*)
- Spottail Shiner (*Notropis hudsonius*)
- Yellow Perch (*Perca flavescens*)

More specifically, Fathead Minnow and Goldfish have been captured in the headwater areas; the remaining 11 species were limited to downstream areas closer to the mouth of Big Creek (Hayman et al. 2005). Fathead Minnow and Goldfish are tolerant of warmwater habitats with poor water quality and are consistent with warmwater habitats in southern Ontario (Holm et al. 2009; Scott and Crossman 1998).

There are no known aquatic SAR in the watercourses crossed by the proposed sewer and watermain (MNRF 2018b; MNRF 2018c). Aquatic SAR in the study area are limited to the Detroit River (MNRF 2018c), including Channel Darter (*Percina copelandi*) and Pugnose Minnow (*Opsopoeodus emiliae*) (DFO 2018). This information is consistent with available status reports for these species (COSEWIC 2016; COSEWIC 2012). Channel Darter is provincially and federally Threatened and protected by the provincial *Endangered Species Act* (ESA) and Schedule 1 of the federal *Species at Risk Act* (SARA). Pugnose Minnow is provincially Threatened and protected by the ESA.

Information specific to each watercourse, such as drain classification, thermal regime, flow regime, etc. obtained from the various data sources, is provided below with the site-specific information for the four watercourses in the study area.

5.3.4 Watercourse Crossings

5.3.4.1 Crossing SC1 - Second Concession Road Drain South

The proposed sewer and watermain crosses Second Concession Road Drain South at Crossing SC1. The watercourse is a constructed drain but has not been rated with a DFO Drain Class (MNRF 2018b). Online sources and the MNRF did not have information with respect to thermal regime, flow regime, or resident fish species (MNRF 2019b; MNRF 2018c; MNRF 2018d). On the south side of Lowes Sideroad, the watercourse is associated with the Big Creek Marsh Provincially Significant Wetland (PSW) (MNRF 2018b).

The drain originates to the northwest of SC1 in a combination of residential areas and agricultural fields. North of Lowes Sideroad, it flows in a straightened channel prior to flowing under Lowes Sideroad through a concrete box culvert and continuing to flow southeast through agricultural fields.

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Within the road right-of-way, channel morphology consisted of flats and substrates consisted of silt (50%), clay (30%), gravel (5%), cobble (5%), sand (5%), and detritus (5%). At the time of the August 2018 field investigations, the wetted width of the channel was 1.25 m with a depth of 0.15 m. In-water cover was provided by undercut banks, aquatic vegetation, and cobbles, with overhead cover provided by overhanging vegetation along the banks. The riparian vegetation consisted of a combination of cattails, grasses and shrubs providing shade to approximately 10% of the channel.

The following fish species were captured during the September 2018 field investigation:

- Banded Killifish (*Fundulus diaphanus*)
- Creek Chub (*Semotilus atromaculatus*)
- Fathead Minnow
- Goldfish
- Green Sunfish

Fathead Minnow, Goldfish and Green Sunfish were captured in fish community studies conducted in support of the *Fish Habitat Management Plan for the Essex Region* (Hayman et al. 2005). Banded Killifish and Creek Chub were not previously captured in the Big Creek watershed but, like other species in the watershed, they inhabit slow flowing watercourses with clear water and dense aquatic vegetation (Holm et al. 2009; Scott and Crossman 1998).

At Crossing SC1, Second Concession Road Drain South provides habitat for warmwater baitfish species.

5.3.4.2 Crossing SC2 – Unnamed Drain

The Unnamed Drain associated with Crossing SC2 is a Class F constructed drain (MNRF 2018b). Class F drains have an intermittent flow regime (Kavanagh et al. 2017). On-line information sources and the MNRF did not have information for this watercourse with respect to thermal regime, flow regime, or resident fish species (MNRF 2019b; MNRF 2018c; MNRF 2018d).

The Class F drain originates to the north of the crossing in active agricultural fields. North of Lowes Sideroad, it flows in a straightened channel prior to flowing under Lowes Sideroad through a culvert and eventually discharging into the watercourse associated with Crossing SC1 approximately 60 m south of Lowes Sideroad. No surface water feature was observed during field investigations.

The Unnamed Drain at Crossing SC2 does not provide fish habitat.

5.3.4.3 Crossing SC3 - Lebert Drain

The proposed sewer and watermain crosses the Lebert Drain at Crossing SC3. Lebert Drain is a Class F drain and is located in the roadside drainage on the west side of Concession Road 2

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South. On-line information sources and the MNRF did not have information for this watercourse with respect to thermal regime, flow regime, or resident fish species (MNRF 2019b; MNRF 2018c; MNRF 2018d).

Water flows south in the straightened channel; however, there was no water in the drain at the time of field investigations and a surface connection to downstream fish habitat was not observed. The straightened channel was densely vegetated with a combination of upland and marsh vegetation suggesting that flow is intermittent, which is consistent with the drain classification.

Lebert Drain at Crossing SC3 does not provide fish habitat.

5.3.4.4 Crossing SC4 – Tributary of Big Creek

The proposed sewer and watermain crosses the Tributary of Big Creek at Crossing SC4. The Tributary of Big Creek has a warmwater thermal regime and is associated with Big Creek Marsh (MNRF 2018b). No additional information was provided in MNRF correspondence regarding fish and fish habitat in Big Creek (MNRF 2018c; MNRF 2018d). The creek and wetland originate northwest of Crossing SC4 in a combination of residential areas and agricultural fields. Water flows southeast through the wetland in a wide channel, eventually discharging into the main branch of Big Creek approximately 3 km southeast of the proposed sewer and watermain crossing.

Within the proposed sewer and watermain ROW, channel morphology consisted of large open water habitat and substrates consisted of silt (50%), detritus (30%), and clay (20%). At the time of the August 2018 field investigations, the wetted width of the channel was approximately 85 m and the maximum depth was greater than 1 m. In-water cover was provided by dense submergent aquatic vegetation, deep pools, and organic debris, with overhead cover limited to the shoreline and provided by overhanging vegetation along the banks. The riparian vegetation consisted of a combination of grasses and shrubs providing shade to approximately 5% of the channel.

The Tributary of Big Creek is connected to Big Creek; therefore, fish species listed in the background information have the potential to occur in at Crossing SC4.

5.3.5 Summary

There were no surface water features at the Unnamed Drain at Crossing SC2; therefore, this crossing does not provide fish habitat. The Lebert Drain (at Crossing SC3) has an intermittent flow regime and lacks direct connection to downstream habitats; therefore, it does not provide fish habitat.

Fish species that occur at Crossing SC1 and Crossing SC4 are common to warmwater habitats throughout southern Ontario and are tolerant to impacts due to development activities (Holm et al. 2009; Scott and Crossman 1998). These two crossing locations support fish that are part of a

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Commercial, Recreational or Aboriginal (CRA) fishery. Sensitive or limiting habitats were not observed at Crossing SC1 or Crossing SC4.

5.4 CULTURAL ENVIRONMENT

5.4.1 Archaeological Resources

A Stage 1 archaeological assessment was completed and compiled available information concerning known and/or potential archaeological resources within the study area and determined that the study area retains potential for the identification and recovery of pre-contact Indigenous, post-contact Indigenous, and historic Euro-Canadian resources. As a result, a Stage 2 archaeological assessment was conducted on June 7, 2018. During the Stage 2 survey, Stantec archaeologists were joined by representatives from both Caldwell First Nation and Aamjiwnaang First Nation (via Tri-Tribal Monitoring Services).

A single area with archaeological resources was identified during the Stage 2 archaeological assessment, identified as Location 1 (AaHs-126). Location 1 (AaHs-126) is represented by six non-diagnostic artifacts recovered from a widely-distributed scatter. It is associated with two other nearby archaeological sites previously identified by CRM Group (2006), one of which was an isolated piece of chipping detritus manufactured from Jasper, an exotic raw material not commonly found on archaeological sites in Ontario. A Stage 3 archaeological assessment is recommended for Location 1 (AaHs-126). The full and detailed further work recommendations for Location 1 (AaHs-126) are provided in the archaeological report, provided in **Appendix C**.

An additional archaeological site (Location 12 / AaHs-43) previously studied by another consultant overlaps with the study area and requires further archaeological assessment (i.e., Stage 3 and, possibly, Stage 4 mitigation). It is understood that another archaeological consultant will be completing the necessary Stage 3 archaeological assessment and Stage 4 mitigation for Location 12 / AaHs-43. Prior to construction, archaeological concerns regarding the Location 12 / AaHs-43 site must be addressed and reviewed by the MTCS.

No further archaeological assessment is recommended for portions of the study area which have been determined to be disturbed or where no archaeological resources have been identified. Stage 3 archaeological assessment is recommended for Location 1 (AaHs-126) and Location 12 / AaHs-43.

The Stage 1-2 archaeological assessment was submitted to MTCS for review and has been accepted into the Ontario Public Register of Archaeological Reports.

5.4.2 Built Heritage Resources

As part of the Class EA a Cultural Heritage Assessment report (CHAR) was completed to identify cultural heritage resources, including built heritage and cultural heritage landscapes present within or adjacent to the study area. Potential cultural heritage resources were identified through consultation with the Town of Amherstburg planning staff, the Ontario Heritage Trust

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(OHT), the Ministry of Tourism, Culture and Sport (MTCS) and a pedestrian survey. Known and potential cultural heritage resources were inventoried and evaluated according to *Ontario Regulation* (O. Reg.) 9/06, which outlines the criteria for cultural heritage value or interest (CHVI) to identify heritage attributes upon which to base an assessment of potential project impacts. A land use history was completed to provide a cultural context for the study area and to provide a background upon which to base evaluations. Where CHVI was identified, the resource was mapped.

Three cultural heritage resources were identified in the study area, including one built heritage resource (early 20th century farm dwelling) and two cultural heritage landscapes (a farmscape and a streetscape):

- 441 Lowes Sideroad – Two-storey farmstead identified within the project location.
- 2568 Concession Road 2 South – One and a half storey farmstead adjacent to the project location.
- Streetscape along Concession Road 2 South – Gravel streetscape located where Big Creek crosses the study area.

A copy of the CHAR is included in **Appendix D**.

5.5 EXISTING WATER SUPPLY SYSTEM

The following sections provide an overview of the existing water distribution system and storage conditions within the Town of Amherstburg.

5.5.1 Distribution System

The existing water distribution system in the Town of Amherstburg consists of a water treatment plant (WTP), reservoir, water tower, and approximately 326 km of trunk and distribution watermains. Water is drawn from the Detroit River and treated at the Amherstburg WTP, which has a rated capacity of 18,184 m³ per day. The Town's distribution system is predominantly comprised of small diameter PVC pipes, usually less than or equal to 200 mm. Other pipe materials in the network include ductile iron, cast iron and asbestos cement.

The southeast quadrant of the Town lies within the Amherstburg WTP service area, although it is not currently serviced by a municipal wastewater collection system. The existing residential lots are serviced by the Town's WTP watermain network.

5.5.2 Water Storage

Storage within the distribution system consists of 14,800 m³ reservoir, as well as a 2,273 m³ water tower. The water tower is operated at 60-98% fill and is filled using three high lift Johnston Vertical Turbine pumps. A 2005 *Water Rate Study* (C.N. Watson Limited & CH2M Hill Canada Limited, 2005) identified structural issues with the elevated water tank (water tower) at the time of the

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study. It was recommended that the elevated water tank be replaced. A *Water (Distribution) Master Plan and Water Tower Class EA* was completed in 2010 (Stantec Consulting Ltd.), which determined that replacing the existing tank with a new higher capacity tank would increase the level of service of the distribution system. The Town decided to maintain the current level of service and replaced the tank with one of similar height and volume. The replacement of the water tower was completed in 2010.

5.6 SOCIO-ECONOMIC ENVIRONMENT

5.6.1 Existing Land Use

The Study Area is located in the Town of Amherstburg, a lower tier municipality within the County of Essex. The County of Essex Official Plan designates the study area as "Settlement Areas". The Town's Official Plan designates lands within the study area as "Low Density Residential" and "Medium Density Residential". Designated "Extraction Industrial" lands are located adjacent to the study area.

There are approximately 26 existing residential properties along Lowes Sideroad, Fryer Street and Concession Road 2 South.

5.6.2 Future Land Use

There are five main future residential development areas in the southeast quadrant of the Town, as described below.

5.6.2.1 Rocksedge Development

The Rocksedge Development is approximately 67.64 ha in area and fronts Simcoe Street, Fryer Street and Lowes Sideroad. A future population density of 500 residential lots was approximated based on existing residential areas of similar size to ensure that new proposed infrastructure is sufficiently sized. This value takes into consideration the possibility for future semi-detached housing.

5.6.2.2 Hunt Club Creek Development

The Hunt Club Creek development encompasses an area of approximately 86.42 ha. The developer provided a preliminary site layout which included approximately 700 residential lots. There is an area of approximately 10.0 ha to the west of Concession 2 South in which details were not provided. An estimated 150 lots were added to account for the development of this area, as well as an additional 50 lots to account for the possibility of additional semi-detached housing.

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5.6.2.3 Amico Development

The Amico development is split into 17.2 ha and 10.3 ha areas by the Big Creek wetlands. The developer provided a preliminary site layout which included an estimated 182 residential lots and two apartment complexes.

5.6.2.4 Capo D'Aqua Development

The Capo D'Aqua development is 42.67 ha in size. Only 30.36 ha of the area is proposed to be developed just north of the section of Big Creek that crosses through the property. The developer provided preliminary site layouts which included 110 single family residential lots.

5.6.2.5 Walker Aggregates Development

The Walker Aggregates development is 39.9 ha in size, which includes 13.17 ha of Big Creek wetland. The wetland splits the area into a 9.06 ha and 17.67 ha area. When contacted, the developer stated that there are currently no future development plans in the area. Although no plans currently exist for future development, the area is estimated to support 350 residential lots.

6.0 ALTERNATIVE SOLUTIONS

As part of Phase 2 of the MCEA process, alternative solutions were developed to address the problems and opportunities identified. Criteria for assessing alternatives were identified to determine the potential impacts to the surrounding socio-economic, natural, and cultural environment. Consultation with the landowners, public, agencies and Indigenous communities was completed to identify a preferred solution. Proposed mitigation measures have been identified to minimize potential impacts to the surrounding environment and are discussed in Section 8.

6.1 SANITARY SERVICING

A sanitary and water servicing study was completed in January 2018 to review the existing municipal infrastructure and identify upgrades or new infrastructure required to provide sanitary and water servicing for the proposed new developments, within the southeast quadrant of the Town of Amherstburg. The servicing study focused on solutions which maximize the use of the existing infrastructure and provides the necessary infrastructure for new growth in the designated growth areas within the Town.

Various development scenarios were analyzed to determine the appropriate sizing of new sanitary sewers, forcemains and pumping stations. The scenarios were examined assuming that all five proposed developments would not be developed at the same time. The proposed new forcemain and pumping station sizes, as well as the subsequent cost sharing schemes are dependent on the sequence in which the developers develop their land.

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The installation of all necessary infrastructure to service the ultimate buildout in the southeast quadrant was selected as the recommended strategy due to the following reasons:

- It is more cost effective for all proposed developments in the southeast quadrant to share the cost with the Town for installing the necessary infrastructure to service the ultimate buildout.
- If the necessary infrastructure is not installed to service the ultimate buildout, future upgrades would be required and would be costlier.

The ultimate buildout of all future developments requires the following:

- New sanitary pumping station with a firm capacity of 188.92 L/s along Lowes Sideroad near Concession Road 2, with three phase power and a diesel generator for backup power;
- 350mm diameter forcemain along Fryer Street and discharging to the existing 525 mm diameter sanitary sewer south of Simcoe Street;
- New 675 mm diameter sanitary trunk sewer installed on Lowes Sideroad, east of Fryer Street, which discharges to a new pumping station; and
- New forcemain from west side of Big Creek to Concession Road 2, new pumping station with three phase power and a diesel generator for backup power, located west of Big Creek.

The exact location of the two new pumping stations will be determined during the detailed design phase. Additional sanitary sewers would be constructed on sections of Lowes Sideroad and Concession Road 2 South to service existing development.

6.2 WATER SERVICING

A hydraulic analysis was carried out to identify needs for watermain upgrades to adequately service the proposed new developments. Upsizing the watermains along Lowes Sideroad (east of Fryer Street) and Concession Road 2 South (south of Lowes Sideroad) from 50 mm to 300 mm in diameter are recommended. It is also recommended to extend the watermains along Lowes Sideroad up to Meloche Road for improved looping and water distribution.

Hydraulic modeling results show the existing water distribution system along with the proposed watermains can provide the domestic demands of the proposed developments. Upon reviewing the existing watermain infrastructure surrounding the new developments, it is recommended that the watermains along Lowes Sideroad and Concession Road 2 South be upsized and extended. The existing 50 mm diameter is not sufficient to support the additional capacity of future growth in the southeast quadrant. As a result, it is recommended that the watermain diameters be increased to 300mm and extended to improve looping and fire flows for the five proposed developments.

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7.0 RECOMMENDED ALTERNATIVE

The recommended solution for sanitary servicing of the southeast quadrant of the Town is to implement a new 350 mm forcemain and 675mm sanitary trunk sewer. This, along with the remaining capacity of the existing Trunk Sewer 3 and Trunk Sewer 4, is sufficient to support the additional wastewater flows from all 5 new developments, as well as the existing residences. The locations of the proposed sanitary sewer infrastructure and pumping stations can be seen in **Figure 4**.

7.1 PROPOSED CONSTRUCTION METHODS

The proposed construction method for the improvements will be developed further during the detailed design phase but generally consist of the following:

Watermains, Sanitary Gravity Sewers, Sanitary Forcemain

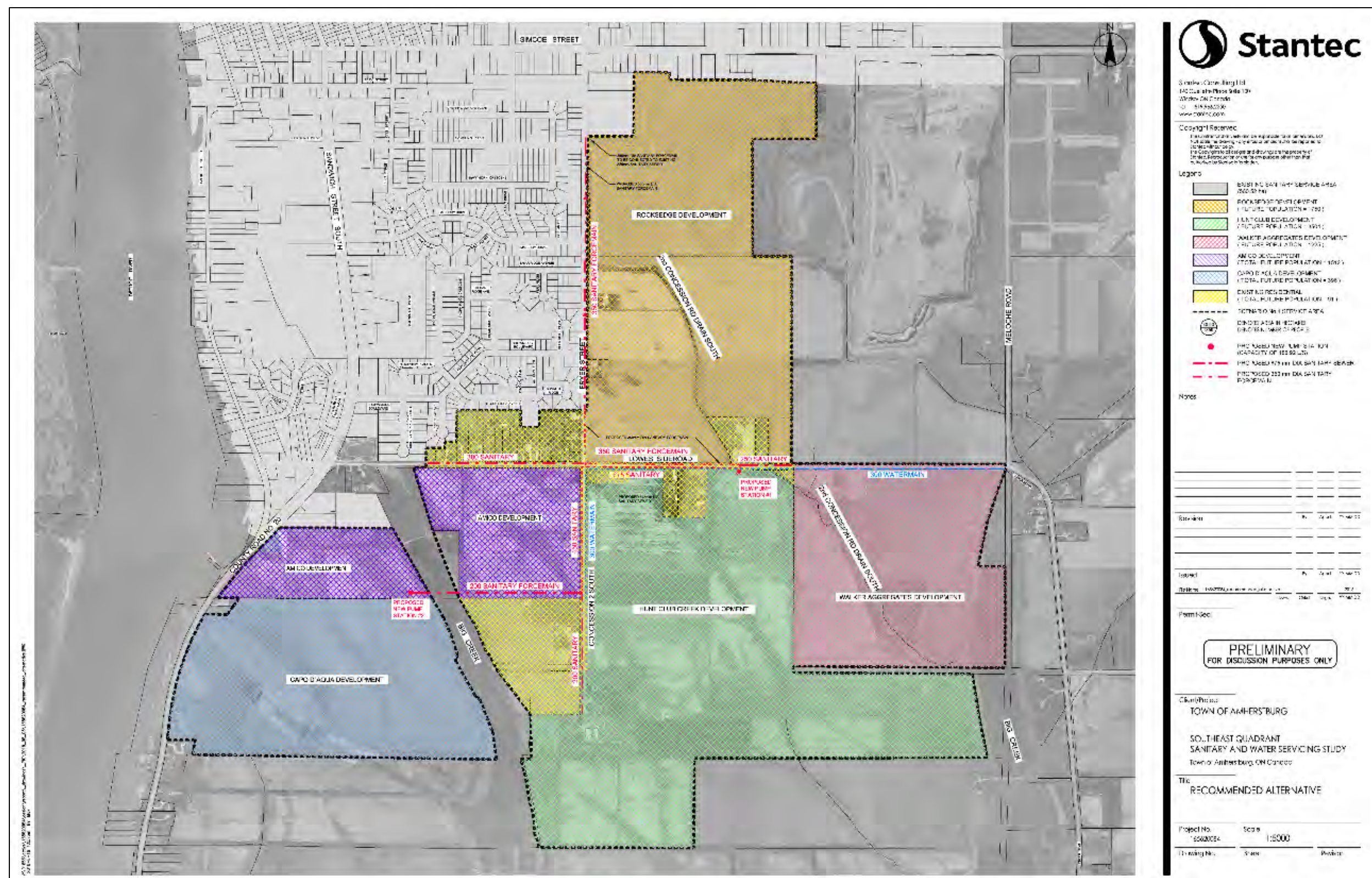
- Open-cut trench excavation using excavators and trench boxes depending on depth, complete with backfill of trench with specified material compacted using vibrating construction equipment such as a hoe pack. Complete with restoration.
- Trenchless installation by Horizontal Directional Drilling across roadways and under drains/creeks. May require excavated/structurally supported drill pits. Complete with restoration.
- Possible installation with protective steel casing across roadways, drains/creeks by jacking and boring method. May require excavated/structurally supported bore pits. Complete with restoration.

Pumping Stations

- Excavation for the pumping stations shall be carried out in an excavation protection system (i.e., cofferdam).
- Assessment of existing soil conditions and selection of proper piling driving equipment, if required, for a successful installation.
- Contractor to modify piling driving technique and equipment as required to maintain an acceptable level of ground vibration depending on the sensitivity of the surrounding area.
- Installation of structural steel wales, struts, bracings, and tie rods as required.
- Pouring concrete working mat on bottom of cofferdam excavation.
- Installation of dewatering facilities as required for cofferdams.

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Figure 4 Southeast Sanitary and Water Servicing Recommended Alternative



SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY SCHEDULE 'B' MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT FOR THE TOWN OF AMHERSTBURG

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7.2 PROJECT COSTS

Fair and equitable cost sharing formulae will be developed between the developers and the Town of Amherstburg for the provision of infrastructure, including all applicable construction, engineering, legal and financing costs. The total costs for providing the infrastructure is to be reduced by any subsidies or grants received for the project.

The capital cost sharing for the new sanitary sewer, forcemain and pumping station is based on the proportion of each developers' land holding to potentially utilize the infrastructure. Cost sharing for the proposed improvements will be based on the final value of construction. The cost to connect existing homes cannot be determined until later in the process, based on the final value of construction.

Compensation will be recovered during the development approval process and full compensation will be obtained upon full buildout of the sites. Table 4 outlines the respective owner's responsibility towards cost sharing the new infrastructure.

Table 4 Cost Sharing

Total Area including All Proposed Developments	264.13 ha
Proposed Developments Assessed	238.65 ha
Estimated Cost (2017\$)	\$9.011 M
Price per assessed hectare including all proposed developments	\$37.8 K

8.0 POTENTIAL IMPACTS AND PROPOSED MITIGATION

As part of the MCEA process, mitigation measures are identified to offset potential environmental impacts of the proposed undertaking. These measures have been identified based on the scope of work proposed in relation to the inventory of environmental conditions and should be consulted and updated during detailed design based on updated site-specific information.

8.1 TERRESTRIAL ENVIRONMENT

The project footprint is primarily located in an existing road allowance. Project activities will primarily take place in an existing road allowance and grassy roadside that is regularly maintained. Potential impacts to natural features and wildlife in the construction footprint include:

1. Vegetation removal will include loss of trees and shrubs in the project footprint along the roadside and portions of the existing grassy roadside. A portion of an agricultural field, thicket and riparian habitat will be altered or removed in the west portion of the study area.

SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY SCHEDULE 'B' MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT FOR THE TOWN OF AMHERSTBURG

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2. Where the project footprint overlaps with the existing natural features in the study area, potential alteration of existing natural features may occur, including a deer wintering area and the Big Creek PSW. As the proposed project is located in an existing road allowance, potential impacts to deer wintering area in the project footprint are not anticipated. As proposed works will overlap with the Big Creek PSW, further discussion and permitting will be required through the local Conservation Authority (Essex Region Conservation Authority).
3. Potential impacts to turtle species in Big Creek. The proposed watermain and sanitary sewer system crosses Big Creek, where the system is anticipated to be drilled/bored under the watercourse feature.
4. Temporary alteration of SAR snake habitat in the project footprint.
5. Temporary impacts to wildlife populations in the area due to construction noise and vibrations.
6. Direct mortalities from construction activities and/or animal-vehicle collisions due to increased construction traffic.

The following mitigation measures are recommended to mitigate potential impacts to wildlife and wildlife habitat during project activities:

1. Tree and vegetation removal will occur outside the migratory bird nesting season (April 3 and August 11, as per Zone C1 of Environment Canada's Bird Nesting Zones [Environment Canada, 2016]) to mitigate disturbance or destruction of nesting birds protected under the MBCA.
2. A conservative approach will be taken to mitigate potential impacts to roosting bats that may be using the trees in the project location. Removal of trees will occur outside of the bat roosting period of May 1 to August 31.
3. Exclusion fencing will be erected around the construction activity area and equipment storage area to exclude snakes and turtles from entering the construction zone during the snake and turtle active period. Exclusionary fencing will be erected along adjacent habitat features. Location, fence height and fence erection timing will be determined and confirmed through MNRF consultation and is recommended to follow the guidelines presented in MNRF's *Reptile and Amphibian Exclusion Fencing*.
4. No equipment or machinery will be permitted past the exclusionary fencing to mitigate soil compaction, destruction of nesting birds or reptiles in the area.
5. Where wetlands are adjacent to the construction areas, and High Directional Drill (HDD) is not to be implemented, Stantec recommends silt fencing to be installed to protect the adjacent wetland feature. In addition, the following mitigation is recommended to reduce impacts to wetlands during construction:
 - Staging areas to be located at least 30 m away from the edge of wetlands.
 - All activities, including equipment maintenance and refueling to be controlled to prevent entry of petroleum products or other deleterious substances, including any debris, waste, rubble, or concrete material, into a wetland.

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- In the unlikely event of a spill, spills containment and clean-up procedures to be implemented immediately. It is the responsibility of the contractor to contact the Ministry of Environment, Parks and Culture (MECP) Spills Action Centre. The MECP Spills Action Centre is the first point of contact for spills at the provincial and federal level.
 - Construction material, excess material, construction debris and empty containers to be stored away from adjacent wetlands.
 - Temporary work space width to be minimized when working within 30 m of wetlands, where practical.
 - Construction dewatering to be discharged to sediment removal basins if discharge to a well-vegetated dry area is not feasible. Locate the sediment removal basin in an area that maximizes the distance to the nearest surface water feature and minimize the slope of the surrounding buffer area. The basin to consist of a temporary enclosure constructed with hay bales, silt fence or both.
6. Appropriate sediment and erosion control measures to be applied during construction activities.
 7. Mitigation specific to Butler's Gartersnake, Eastern Foxsnake and Blanding's Turtle and their habitat will be considered through consultation with MNRF. Specific mitigation will consider proper storage, fencing and daily inspection of equipment, construction timing windows in or adjacent to specialized habitat, such as hibernacula, nesting or basking habitat. Proposed mitigation measures for these three species are considered to adequately protect other resident snake and turtle species in the area.
 8. Preparation and distribution of SAR and SOCC fact sheets, including identification and contact information and reporting protocols for any SAR observations and mortalities.
 9. Retain honey locust trees, when possible, during construction activities.
 10. Avoid construction activities where possible in identified existing natural features, including deer wintering areas and the Big Creek PSW.
 11. Posting of speed limits in the construction area to mitigate road or vehicle related wildlife mortalities.

Through the use and application of the above recommended mitigation measures, no significant adverse residual impacts on wildlife or wildlife habitats are anticipated. Therefore, the proposed location for the watermain and sanitary sewer system is anticipated to have no significant adverse environmental effects with respect to wildlife or wildlife habitat.

8.2 FISH AND FISH HABITAT

The proposed work will consist of installing a new 350 mm forcemain and 675mm sanitary trunk sewer using a combination of open trench and trenchless construction techniques. Project activities will primarily take place in an existing road allowance and grassy roadside that is regularly maintained.

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With respect to watercourse crossing locations, the proposed sewer and watermain will be located within existing road allowances, and will be constructed according to the following construction methods:

- Isolated open-trench techniques are proposed at Crossings SC1, SC2, and SC3.
- Trenchless techniques are proposed across Big Creek at Crossing SC4.

8.2.1 Potential Impacts

The federal *Fisheries Act* prohibits projects from causing serious harm to fish unless authorized by the Minister of Fisheries, Oceans and the Coast Guard. This applies to activities in or near waterbodies that support fish that are part of, or that support, a CRA fishery. The St. Clair River and Talfourd Creek support a CRA fishery. Since the watercourses associated with Crossing SC2 and Crossing SC3 do not support fish, construction at these crossings will not impact fish and fish habitat.

Potential effects of construction at Crossing SC1 include potential restrictions to habitat use and fish passage, changes to habitat such as substrate composition, changes in water quality (due to erosion, sedimentation, accidental spills), loss of in-stream cover and riparian shading. Excessive sediment introduced into a watercourse can adversely impact fisheries via clogging gills, sedimentation of spawning beds and alteration of habitat.

Potential effects of construction at Crossing SC4 include impacts to water quality due to an inadvertent release of drilling mud into the watercourse and impacts to habitat should the borehole collapse during drilling operations.

8.2.2 Mitigation and Protective Measures

The following mitigation measures are recommended for construction of the proposed sewer and watermain crossings at watercourse crossings SC1 and SC4. The measures presented are consistent with DFO's *Measures to Avoid Serious Harm* (DFO 2016).

8.2.2.1 Crossing SC1 – Second Concession Road Drain South

- Complete construction activities during the warmwater timing window for southwestern Ontario that allows work to be completed from July 15 to March 15 of any given year (MNR 2013).
- Use appropriate erosion and sediment control measures such as sediment fencing or filter logs (i.e., SiltSoxx™) around work areas and access roads.
- Install a waterproof coffer dam to isolate the work area during in-water water works.
- Before isolation and dewatering works commence, retain a qualified environmental professional to capture fish trapped within the isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters.

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- Equip intakes of pumping hoses with an appropriate device to avoid entraining and impinging fish (see DFO's Measures to Avoid Causing Serious Harm (<http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>)).
- Manage water from dewatering operations to reduce the risk of erosion and/or release of sediment laden or contaminated water to the waterbody by discharging to a settling basin, filter bag, or other energy dispersion measure at least 30 m from the watercourse, where feasible.
- Reduce the access and temporary work space to the extent possible to limit destabilization of soils near the work area.
- Following construction, restore disturbed bed and banks to pre-construction conditions to the extent possible.

8.2.2.2 Crossing SC4 – Tributary of Big Creek

- Standard erosion and sediment control measures should be implemented around tie-in, jacking, and receiving shaft staging areas.
- Prior to initiating microtunnelling, appropriate geotechnical data should be obtained to assist in determining the tunnel path.
- Tunneling equipment (e.g., rigs, support equipment, sump) should be set up a minimum of 30 m from the edge of watercourses, as feasible.
- Clearing of vegetation or grading of watercourse banks should not occur immediately adjacent to the edge of watercourses, as determined through consultation with the ERCA.
- A bentonite mud release contingency plan should be prepared and kept on-site.
- Monitor the watercourse for accidental mud release during tunneling activities.
- Bentonite mud should be used without the use of additives (except with approval from appropriate regulatory authorities).
- Suitable bentonite mud tanks or sumps should be installed to prevent contamination of the watercourse.
- Install berms and/or check dams, silt fencing, and secondary containment measures (i.e., plastic tarp) downslope from tie-in, jacking and receiving shafts to contain the release of drilling mud.
- Dispose drilling mud in accordance with the appropriate regulatory authority requirements.
- Clean up operational spills daily to prevent mobilization of drilling mud off site during rain events.
- Reduce slurry viscosity through appropriate filtering of drilled material to reduce the pressure gradient along the tunnel path due to frictional effects.

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- Contain drilling mud that escapes onto land and transfer it into an on-site containment system.
- Manage water from dewatering operations to reduce the risk of erosion and/or release of sediment laden or contaminated water to the waterbody by discharging to a settling basin, filter bag, or other energy dispersion measure at least 30 m from the watercourse, where feasible.
- Reduce the access and temporary work space to the extent possible to limit destabilization of soils near the work area.
- Maintain the following materials during tunneling operations and be prepared to employ them in the event of a bentonite mud spill:
 - Sand bags
 - Straw bales
 - Sediment fencing
 - Hydrovac truck

8.2.3 Permitting Requirements – Fisheries Act

Two watercourses within the study area that support CRA fisheries will be crossed by the proposed sewer and watermain at Crossing SC1 and Crossing SC4.

A self-assessment should be conducted during the detailed design phase of the project to determine the risk of the proposed work to cause serious harm to fish. If the self-assessment determines that the project may result in serious harm to fish, a Request for Project Review should be submitted to DFO to determine if authorization under the *Fisheries Act* is required for the project.

8.3 CULTURAL ENVIRONMENT

8.3.1 Archaeological Resources

In order to avoid any portion of the archaeological sites that retain further cultural heritage value or interest within the project's boundaries, temporary protective fencing shall be erected in the areas identified and explicit instruction will be provided to all construction staff to observe erected fencing and refrain from any ground alteration or impacts in areas beyond the fencing. Further, construction drawings will depict the "no-go" areas for construction personnel.

In addition to the above, a licensed archaeologist will be retained to monitor the installation of the protective fencing and to confirm that the fencing has been adequately installed. A licensed archaeologist will also be retained to monitor the areas to be avoided and protected, including the 50m Construction Monitoring zone, during and after soil disturbance activities. Following this, a report will be prepared by a licensed archaeologist and submitted to the MTCS to report on the effectiveness of the short-term protection measures. In order to limit impact to

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areas with archaeological potential within the study area, Stage 3 archaeological assessments should be completed as part of the property development plans.

8.3.2 Built Heritage Resources

Three cultural heritage resources were identified in the study area. The impacts, both direct and indirect, were evaluated according to *InfoSheet #5: Heritage Impact Assessments and Conservation Plans from the Heritage Resources in the Land Use Planning Process Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Government of Ontario 2006b). The following provides a summary of potential impacts and proposed mitigation measures.

8.3.2.1 441 Lowes SideRoad (BHR-1)

The property is located outside of the project location, but within at least 20 m of the proposed improvements. The potential for direct impacts resulting from construction, including vibration related impacts, was assessed by Stantec's Geotechnical Engineer. Ground movements induced by construction vibration are found to dissipate with distance from the source. The severity of soil movements depends primarily on type and compactness/ consistency of the surrounding soils particularly between the source, receiver, and groundwater levels. The source, duration, frequency of occurrences of vibration, and the foundation-footing interaction also contribute to the strains induced in structures. In the absence of in-situ soil data and considering the typical vibration levels induced by anticipated construction equipment associated with the proposed road construction, a 15 m buffer is recommended as an appropriate distance from construction activities. Vibration monitoring is recommended where cultural heritage resources are located within 15 m of the proposed work.

As detailed design for the location and alternatives for construction of the project has not been determined at this stage of the project to confirm the distance at which construction activities would be located from the residence, and as such mitigation measures may be required if that distance is less than 15 m. Where construction activities cannot be avoided within the 15 m buffer zone, as is anticipated to be the case with BHR-1, it is recommended that activities do not exceed maximum acceptable vibration levels, or peak particle velocity (PPV) levels, as determined by a qualified engineer. Establishing the PPV threshold should occur prior to any construction activities (pre-construction survey). A building condition specialist should make determinations on the appropriate approach to establish baseline conditions.

To minimize negative indirect impacts, the cultural heritage resources should be isolated from construction activities. This can be achieved through site plan controls put in place prior to construction which avoid potential indirect impacts as a result of the project. The site plan control methods may include construction fencing, traffic cone or pylon delineation, or taped off areas to indicate where Project activities will occur. These controls should be indicated on all construction mapping and communicated to the construction team leads.

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8.3.2.2 2568 Concession Road 2 South (CHL-1)

2568 Concession Road 2 South has been identified as a cultural heritage landscape, containing 19th century farm dwelling, outbuildings, and surrounding agricultural fields. The project improvements are planned through a section of agricultural fields more than 100 metres north of the residence and outbuildings. Heritage attributes of this cultural heritage landscape include the agricultural fields.

Alterations during the construction phase should be mitigated by restoring the property to its pre-construction condition. Photographic documentation should be undertaken prior to beginning construction in order to provide a record on which to base post-construction restoration.

8.3.2.3 Concession Road 2 South Streetscape (CHL-2)

Concession Road 2 South has been identified as a cultural heritage landscape as a representative rural streetscape including narrow gravel road, surrounding agricultural fields and farms. The project location includes a section of Concession Road 2 South, south of Lowes Sideroad, where linear infrastructure is proposed to be installed within the road right-of-way.

Alterations during the construction phase should be mitigated by documenting the pre-construction conditions of the cultural heritage landscape. Photographic documentation should be undertaken prior to beginning construction in order to provide a record of the cultural heritage landscape in anticipation of changes during this EA. While pre-construction conditions may be reestablished following the installation of linear infrastructure, it is recognized that future development plans in the area may result in changes to the streetscape and surrounding area. These changes are outside the scope of this EA and are therefore not assessed. However, given the pending changes to the landscape, photo documentation of the cultural heritage landscape is an appropriate mitigation measure as part of the EA process.

8.3.2.4 Construction Monitoring and Pre-Condition Restoration

Based on the adverse impacts identified to cultural heritage resources outlined above, it is recommended that the following mitigation measures be implemented:

- Prepare vibration studies for BHR-1 located within the study area by a qualified engineer to determine the maximum acceptable vibration levels, or peak particle velocity (PPV) levels and the appropriate buffer distance between Project activities and cultural heritage resources if construction activities are anticipated to be within 15 m of the residence
- Provide construction marking to define the areas around BHR-1 where construction should not occur, based on the results of the vibration study

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- Monitor construction within the defined area at appropriate points to confirm that acceptable PPV levels are not exceeded. All construction activities should cease if levels are exceeded until an acceptable solution can be identified
- Prepare pre-condition documentation for CHL-1. Following construction restore CHL-1 to pre-condition state based on pre-condition documentation

8.3.2.5 Deposit Copies

To assist in the retention of historic information, copies of this report and any future documentation reports should be deposited with local repositories of historic material and municipalities. Therefore, it is recommended that this report be deposited at the following locations:

Essex County Public Library
232 Sandwich Street South
Amherstburg, ON
N9V 2A4

Town of Amherstburg
271 Sandwich Street South
Amherstburg, ON
N9V 2A5

Amherstburg Heritage Committee
Libro Credit Union Centre
3295 Meloche Road
Amherstburg, ON
N9V 2Y8

8.4 SOCIO-ECONOMIC ENVIRONMENT

8.4.1 Property Impacts

The required right-of-way will be secured through the development process in areas of active development. Ongoing communications with property owners in the study area will continue through the detailed design phase to determine appropriate mitigation measures.

8.4.2 Noise

Noise generated through construction activities will be monitored by the contractor as outlined in the municipal noise control by-law. Keeping construction equipment in good working order and limiting idling time will be required by the contractor in order to keep construction noise levels at a minimum.

8.4.3 Traffic

A traffic management plan will be developed during detailed design to define the details and measures to reduce the need for/duration of temporary closures. The Town will work with adjacent property owners to maintain access to all properties during construction, although

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some short-term closures may be unavoidable. The required closures will be scheduled at times which reduce overall impact.

9.0 CLOSING

This Project File has been prepared following the Municipal Class EA process for Schedule B projects. It outlines the process which the Town of Amherstburg has undertaken to address the problems identified, and the potential solutions to be implemented. This process has involved mandatory contact with the directly affected public, Indigenous communities and review agencies to ensure that they were aware of the project and that their concerns have been addressed, and an evaluation of reasonable and feasible alternatives leading to the project recommendations. This represents the conclusion of Phase 1 and Phase 2 of the Class EA planning process as outlined in the MCEA document. Provided that no Part II Order requests are received, and provided all appropriate permitting is obtained, the Town may proceed with design and implementation.

APPENDICES

**SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY SCHEDULE 'B' MUNICIPAL CLASS
ENVIRONMENTAL ASSESSMENT FOR THE TOWN OF AMHERSTBURG**

January 9, 2019

**APPENDIX A
CONSULTATION**

**(NOTICES, AGENCY CONTACT LIST,
AGENCY COMMENTS, PUBLIC COMMENTS,
INDIGENOUS COMMUNITY COMMENTS)**

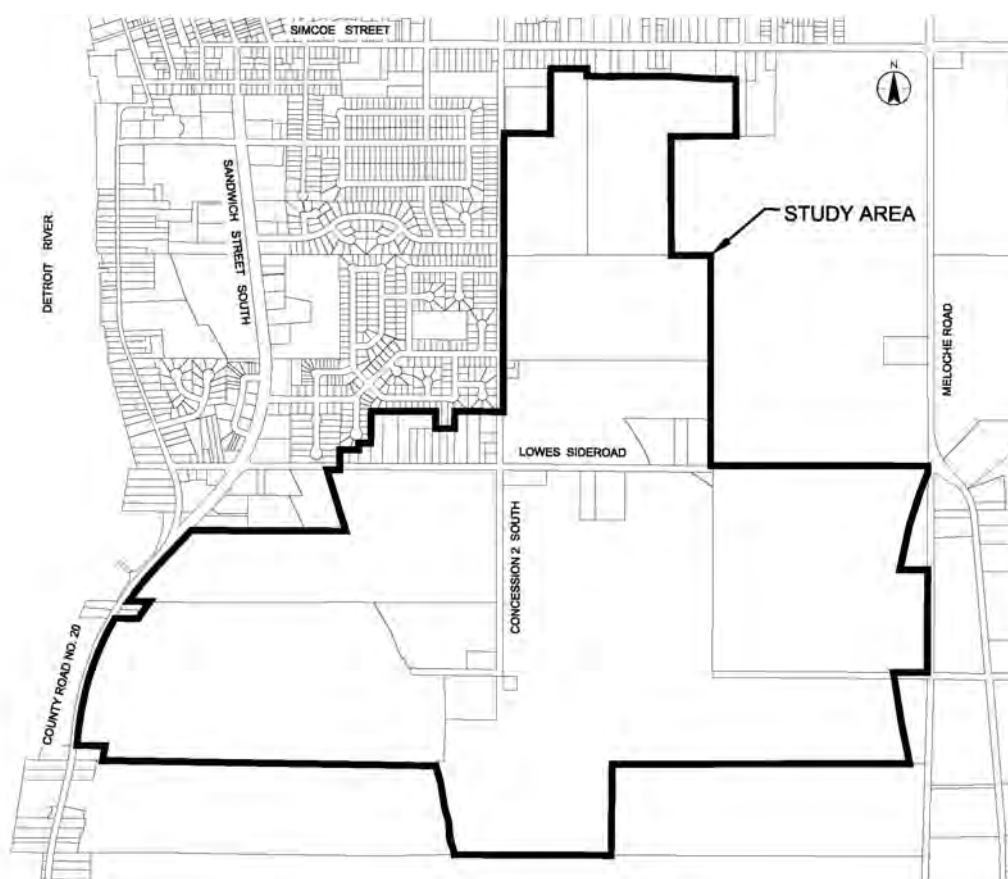


NOTICE OF STUDY COMMENCEMENT SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

TOWN OF AMHERSTBURG

The Town of Amherstburg has initiated a Municipal Class Environmental Assessment (Class EA) to provide proposed new developments in the southeast quadrant of the urban hub of the Town with adequate water and sanitary sewage servicing. The study area is outlined on the key plan below. Stantec Consulting Ltd. has been retained by the Town of Amherstburg to complete the study.

The southeast quadrant, approximately 289 hectares (ha), is comprised mostly of rural agricultural land with small pockets of residential land use. The area is not presently serviced by an existing municipal wastewater collection system and the existing watermain system is not sized sufficiently to support future growth. Within the southeast quadrant, existing residential lots are generally serviced by private on-site sewage disposal systems, typically consisting of septic tanks and leaching beds and small watermains. In 2014, the Town of Amherstburg completed upgrades and expansion of the existing Amherstburg Wastewater Treatment Plant (AWWTP) and upgrades to the main sewage pumping station, to accommodate current and future wastewater flows. Several developers have requested that the Town of Amherstburg install the necessary sanitary and water servicing infrastructure in the southeast quadrant to allow for the orderly development of the lands.



The study will address impacts to existing and surrounding lands and to the environment.

The study is being undertaken in accordance with the planning and design process for 'Schedule B' projects outlined in the Municipal Class Environmental Assessment (June 2000, as amended in 2007, 2011 and 2015) under the Ontario *Environmental Assessment Act*.

A key component of the study will be consultation with interested stakeholders. Two Public Information Centres (PIC) are currently planned for this project. The PICs will be held to present and discuss the need and justification for the requested municipal infrastructure servicing, the existing study area conditions, and assessment of alternative solutions and design concepts.

At this time, the study team is requesting comments regarding the existing conditions and related infrastructure in the study area. If a person wishes to comment on this project, have your name added to the project mailing list, or have any questions about this project, please contact one of the individuals identified below:

Mr. Clarence Jubenville, P.Eng.
Consultant Project Manager
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
Tel.: (519)-966-2250
E-mail:
clarence.jubenville@stantec.com

Mr. Michael Mastronardi, P.Eng.
Senior Project Engineer / EA Coordinator
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
Tel.: (519)-966-2250
E-mail:
michael.mastronardi@stantec.com

Mr. Todd Hewitt
Manager of Engineering and
Operations
Town of Amherstburg
512 Sandwich Street South
Amherstburg ON N9V 3R2
Tel.: (519) 736-3664
E-mail: thewitt@amherstburg.ca

Under the *Municipal Freedom of Information and Protection of Privacy Act* and the *Ontario Environmental Assessment Act*, unless otherwise stated in the submission, with the exception of personal information, all comments will become part of the public record and will be released, if requested, to any person.



NOTICE OF PUBLIC INFORMATION CENTRE SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

TOWN OF AMHERSTBURG

STUDY OVERVIEW

The Town of Amherstburg initiated a Municipal Class Environmental Assessment (Class EA) in January 2018 to provide proposed new developments in the southeast quadrant of the urban hub of the Town with adequate water and sanitary sewage servicing. The study area is outlined on the key plan below. Stantec Consulting has been retained by the Town of Amherstburg to complete the study.

The southeast quadrant, approximately 289 hectares (ha), is comprised mostly of rural agricultural land with small pockets of residential land use. The area is not presently serviced by an existing municipal wastewater collection system and the existing watermain system is not sized sufficiently to support future growth.

Within the southeast quadrant, existing residential lots are generally serviced by private on-site sewage disposal systems, typically consisting of septic tanks and leaching beds and small watermains. In 2014, the Town of Amherstburg completed upgrades and expansion of the existing Amherstburg Wastewater Treatment Plant (AWWTP) and upgrades to the main sewage pumping station, to accommodate current and future wastewater flows. Several developers have requested that the Town of Amherstburg install the necessary sanitary and water servicing infrastructure in the southeast quadrant to allow for the orderly development of the lands.

The study is being undertaken in accordance with the planning and design process for 'Schedule B' projects outlined in the *Municipal Class Environmental Assessment* document (June 2000, as amended in 2007, 2011 and 2015) under the *Ontario Environmental Assessment Act* (EA Act). The study will address impacts to existing and surrounding lands and to the environment.

PUBLIC INFORMATION CENTRE

Members of the public and stakeholders are invited to attend a Public Information Centre (PIC) to meet with the project team to discuss the need and justification for the requested municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The PIC will be a drop-in format, with members of the project team available to discuss the project. The PIC will be held:

Date: August 21, 2018
Time: 4:30 PM to 7:00 PM
Location: Libro Credit Union Centre
3295 Meloché Road, Amherstburg ON N9V 2Y8

Project information, including the PIC material will be available on the Town of Amherstburg website (<https://www.amherstburg.ca/>) following the PIC. If concerns arise regarding this project, which cannot be resolved in discussion with the Town, a person or party may request that the Minister of the Environment, Culture and Parks (MOECP) order the project comply with Part II of the EA Act (referred to as a Part II Order), which addresses Individual Environmental Assessments. A Part II Order Request form is to be completed and sent to the Minister, the MOECP and the Town. Instructions will be provided within the Notice of Completion.

COMMENTS

To have your name added to the project mailing list, or if you have any questions or comments about this project, please contact one of the individuals identified below:

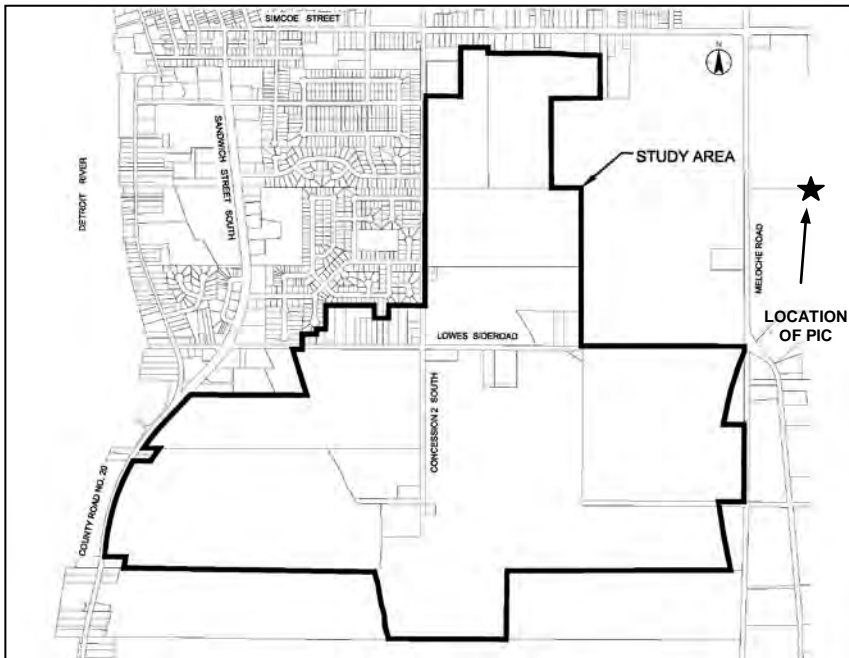
Mr. Clarence Jubenville, P.Eng.
Consultant Project Manager
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
(519)-966-2250
clarence.jubenville@stantec.com

Mr. Michael Mastronardi, P.Eng.
Senior Project Engineer / EA Coordinator
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michael.mastronardi@stantec.com

Mr. Todd Hewitt
Manager of Engineering and Operations
Town of Amherstburg
512 Sandwich Street South
Amherstburg ON N9V 3R2
(519) 736-3664
thewitt@amherstburg.ca

Under the *Municipal Freedom of Information and Protection of Privacy Act* and the *Ontario Environmental Assessment Act*, unless otherwise stated in the submission, with the exception of personal information, all comments will become part of the public record and will be released, if requested, to any person.

This notice issued August 8th and August 15th, 2018.



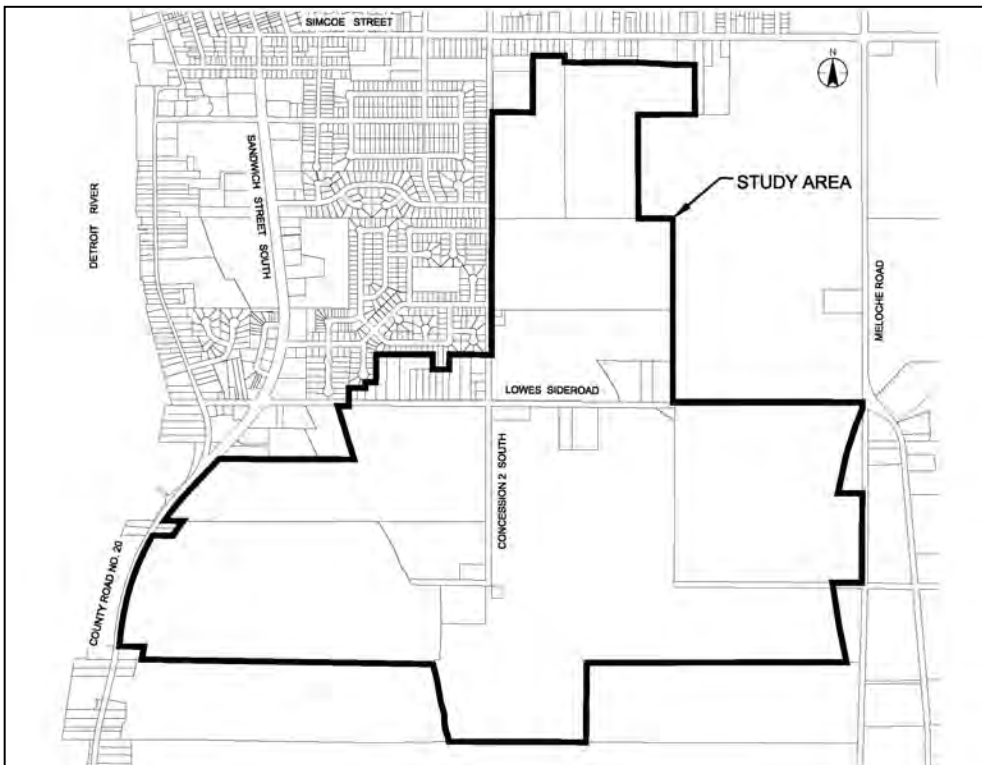


NOTICE OF STUDY COMPLETION SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY TOWN OF AMHERSTBURG

The Town of Amherstburg recently completed the Municipal Class Environmental Assessment (Class EA) to provide proposed new developments in the southeast quadrant of the urban hub of the Town with adequate water and sanitary sewage servicing. The study has been undertaken in accordance with the requirements of 'Schedule B' of the *Municipal Class Environmental Assessment* document (June 2000, as amended in 2007, 2011 and 2015).

The preferred solution was presented at the Public Information Centre on August 21, 2018. The timing of the recommended plan will be determined during detailed design.

The Project File Report that has been completed for this project is available for a 30-day public review period from **January 9, 2019 until February 7, 2019** online at <https://www.amherstburg.ca/> and at the following locations during regular business hours:



Town of Amherstburg Public Works
512 Sandwich Street South
Amherstburg, ON
N9V 2A4

Town of Amherstburg – Clerk's Office
271 Sandwich Street South
Amherstburg, ON
N9V 2A5

Libro Credit Union Centre
3295 Meloché Road
Amherstburg, ON
N9V 2Y8

If concerns arise regarding the EA component of this project, which cannot be resolved in discussion with the Town, a person or party may request that the Minister of the Environment, Conservation and Parks (MECP) order the project comply with Part II of the EA Act (referred to as a Part II Order), which addresses Individual Environmental Assessments. A Part II Order Request form is to be completed and sent to the Minister, the MECP and the Town. Requests must be received by the Minister at the following address by **February 7, 2019**: Minister of the Environment, Conservation and Parks, 77 Wellesley Street West, 11th Floor, Ferguson Block, Toronto, ON M7A 2T5. A copy of the request must also be sent to one of the contacts below:

Mr. Clarence Jubenville, P.Eng.
Consultant Project Manager
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
(519)-966-2250
clarence.jubenville@stantec.com

Mr. Michael Mastronardi, P.Eng.
Senior Project Engineer / EA Coordinator
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
(519)-966-2250
michael.mastronardi@stantec.com

Mr. Todd Hewitt
Manager of Engineering
Town of Amherstburg
512 Sandwich Street South
Amherstburg ON N9V 3R2
(519) 736-3664
thewitt@amherstburg.ca

If there is no request received by **February 7, 2019**, the Town will proceed with design and construction as presented in the Project File Report.

This notice issued January 9 and January 16, 2019.

Class Environmental Assessment - Schedule B Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study Contact List											
Title	Surname	First Name	Organization	Department	Job Title	Address	City/Prov	Postal Code	Tel.	Fax	E-Mail
Municipal											
Mr.	DiCarlo	Aldo	Town of Amherstburg		Mayor	271 Sandwich Street South	Amherstburg, ON	N9V 2A5	519-736-0012 x2244	519-736-5403	adicarlo@amherstburg.ca
Mr.	Miceli	Giovanni	Town of Amherstburg		Chief Administrative Officer	271 Sandwich Street South	Amherstburg, ON	N9V 2A5	519-736-0012 x2228	519-736-5403	gmiceli@amherstburg.ca
Mr.	Hewitt	Todd	Town of Amherstburg	Public Works	Manager of Engineering and Operations	512 Sandwich Street South	Amherstburg, ON	N9V 3R2	519-736-3664 x2313	519-736-7080	thewitt@amherstburg.ca
Ms.	Giofu	Antonietta	Town of Amherstburg	Public Works	Director of Engineering and Public Works	512 Sandwich Street South	Amherstburg, ON	N9V 3R2	519-736-3664 x2320	519-736-7080	agiofu@amherstburg.ca
Mr.	Grondin	Dwayne	Town of Amherstburg	Public Works	Manager of Environmental Services	512 Sandwich Street South	Amherstburg, ON	N9V 3R2	519-736-3664 x2314	519-736-7080	dgrondin@amherstburg.ca
Conservation Authority											
Ms.	Pavan	Lisa	Essex Region Conservation Authority		Administrative Associate: Watershed Management Services	360 Fairview Avenue West, Suite 311	Essex, ON	N8M 1Y6	519-776-5209 x346	519-776-8688	lpavan@erca.org
Mr.	Wyma	Richard	Essex Region Conservation Authority		General Manager	360 Fairview Avenue West, Suite 311	Essex, ON	N8M 1Y6	519-776-5209 x353	519-776-8688	rwyma@erca.org
Mr.	Byrne	Tim	Essex Region Conservation Authority		Director, Watershed Management Services	360 Fairview Avenue West, Suite 311	Essex, ON	N8M 1Y6	519-776-5209 x 50	519-776-8688	tbyrne@erca.org
Mr.	Michael	Nelson	Essex Region Conservation Authority		Watershed Planner	360 Fairview Avenue West, Suite 311	Essex, ON	N8M 1Y6	519-776-5209 x347	519-776-8688	mnelson@erca.org
Mr.	Lebedyk	Dan	Essex Region Conservation Authority		Biologist/Ecologist	360 Fairview Avenue West, Suite 311	Essex, ON	N8M 1Y6	519-776-5209 x409	519-776-8688	dlebedyk@erca.org
Ms.	Chiasson	Corinne	Essex Region Conservation Authority		Resource Planner	360 Fairview Avenue West, Suite 311	Essex, ON	N8M 1Y6	519-776-5209 x330	519-776-8688	cchiasson@erca.org
Emergency Services											
Mr.	Montone	Bruce	Town of Amherstburg	Fire Services	Fire Chief	271 Sandwich Street South	Amherstburg, ON	N9V 2A5	519-736-0012 x2241		bmontone@amherstburg.ca
Mr.	Grant	Chris	Essex-Windsor EMS	Planning & Physical Resources	Deputy Chief	920 Mercer Street	Windsor, ON	N9A 1N6	519-256-1315	519-256-2053	cgrant@countyofessex.on.ca
Mr.	Berthiaume	Tim	Town of Amherstburg	Police Services	Police Chief	532 Sandwich Street South	Amherstburg, ON	N9V 3R2	519-736-8559		apsgen@amherstburgpolice.ca
			Ontario Provincial Police	Essex Detachment		44 King Street, P.O. Box 939	Harrow, ON	N0R 1G0	519-738-3796	519-738-0528	jeff.coulter@opp.ca
			Ontario Provincial Police	Essex County Detachment		1219 Hicks Road, P.O. Box 910	Essex, ON	N8M 2Y2	519-723-2491	519-723-2497	opp.essex@opp.ca
Interest Groups											
Mr.	Bateman	Tom	County of Essex	Engineering Department	County Engineer	360 Fairview Avenue West, Suite 201	Essex, Ontario	N8M 1Y6	519-776-6441 x316		tbateman@countyofessex.on.ca
Mr.	Bryant	James	County of Essex	Engineering Department	Environmental Assessment Coordinator	360 Fairview Avenue West, Suite 201	Essex, Ontario	N8M 1Y6	519-776-6441		jbryant@countyofessex.on.ca
Ms.	Mustac	Jane	County of Essex	Engineering Department	Manager of Transportation Planning & Development	360 Fairview Avenue West, Suite 201	Essex, Ontario	N8M 1Y6	519-776-6441 x1397		jmustac@countyofessex.on.ca
Mr.	Maodus	Eli	Essex Windsor Solid Waste Authority		General Manager	360 Fairview Avenue West, Suite 211	Essex, Ontario	N8M 1Y6	519-776-6441	519-776-6370	emaodus@ewswa.org
Mr.	Le Clair	Ron	Greater Essex County District School Board		Trustee, Town of Amherstburg	470 Donlon Street	LaSalle, Ontario	N9J 3Y2	519-995-2277		ron.leclair@publicboaRoadca
Mr.	DiTomasso	Frank	Windsor-Essex Catholic District School Board		Trustee, Town of Amherstburg	1325 California Avenue	Windsor, ON	N9B 3Y6	519-734-1136		frank_ditomasso@wecdsb.on.ca
			Claude G. Pearson Buses			2675 Jefferson Boulevard, Suite 100	Windsor, ON	N8T 3C7	226-674-3301	226-674-3303	info@cgpearson.com
Mr.	Stevenson	Pat	G. & L. Stevenson Transportation			1244 County Road 22, P.O. Box 84	Emeryville, ON	N0R 1C0	519-7273478		pat@stevensonbus.com
			First Student			4575 Fourth Street	Windsor, ON	N9E 4M9	519-969-0184		emma.hussy@firststudentgroup.com
	Furtado	Haley	Sharp Bus Lines			448 Alma Street, P.O. Box 69	Amherstburg, ON	N9V 2Z2	519-736-0933	519-736-3224	haley@sharpbus.com
Mr.	Jubenville	Dave	Ontario Clean Water Agency	Essex Region Hub Office	Regional Hub Manager	276 Rourke Line Road, RR #3	Belle River, ON	N0R 1J0	519-727-6256		djubenville@ocwa.com
Utilities											
Mr.	Cowing	David	Bell Canada	Access Network Project Management	Access Network Coordinator	1149 Goyeau Street, Floor 1	Windsor, ON	N9A 1H9	519-973-6702	519-258-4543	david.cowing@bell.ca
Mr.	Sorrell	Bill	Cogeco Cable Services		Planning Leadhand	2225 Dougall Avenue	Windsor, ON	N8X 5A7	519-972-4013	519-972-6688	bill.sorrell@cogeco.com
Mr.	Alzner	Mark	Essex Power		Engineering & Asset Manager	2199 Blackacre Drive Suite 2	Oldcastle, ON	N0R 1L0	519-737-6640		malzner@essexpower.ca
Mr.	Riddiford	Brandon	Hydro One		Operations Manager	125 Irwin Avenue	Essex, ON	N8M 2T3			brandon.riddiford@hydroone.com
	Western Planning		Hydro One			420 Welham Road	Barrie, ON	L4N 8Z2			westernplanning@hydroone.com
Mr.	Ceccacci	Will	Union Gas		Construction Manager	3840 Rhodes Drive	Windsor, ON	N9A 6N9	519-251-6810		wceccacci@uniongas.com
Mr.	Zadorsky	Tom	Canada Post	Delivery Planning	Officer Delivery Services	955 Highbury Avenue	London, ON	N5Y 1A3	519-808-9632	519-457-5412	tom.zadorsky@canadapost.ca
Federal Agencies											
Ms.	Eddy	Sara	Fisheries and Oceans Canada - Central and Arctic Region	Fisheries Protection Program	Fish Habitat Biologist	867 Lakeshore Road, PO Box 5050	Burlington, ON	L7R 4A6	(905) 336-4535	(905) 336-4447	Sara.Eddy@dfo-mpo.gc.ca
Mr.	Gibson	Dave	Fisheries Protection Program	Fisheries and Oceans Canada	Fish Protection Biologist	867 Lakeshore Drive	Burlington, ON	L7S 1A1			dave.gibson@dfo-mpo.gc.ca
Provincial Agencies											
Ms.	Barboza	Karla	Ministry of Tourism, Culture and Sport	Heritage Program Unit	Team Lead	401 Bay Street, Suite 1700	Toronto, ON	M7A 0A7	416-314-7120		karla.barboza@ontario.ca
Mr.	Winger	Darren	Ministry of Citizenship, Immigration/ Ministry of Tourism, Culture & Sport	Windsor Office	Regional Advisor	221 Mill Street	Windsor, ON	N9C 2R1	519-973-1445	519-973-1414	darren.winger@ontario.ca
Mr.	Morrison	Sean	Ministry of the Environment, Conservation and Parks	Sarnia Office	District Manager	1094 London Rd.	Sarnia, ON	N7S 1P1	519-383-3780	(519) 336-4280	sean.morrison@ontario.ca
Ms.	Corda	Mary Jane	Ministry of the Environment, Conservation and Parks	Sarnia Office	Supervisor	1094 London Rd.	Sarnia, ON	N7S 1P1	519-383-3795	(519) 336-4280	maryjane.corda@ontario.ca
Ms.	Eckert	Anneleis	Ministry of the Environment, Conservation and Parks	Southwestern Region, London Regional Office	Environmental Planner -Technical Support Section	733 Exeter Road	London, ON	N6E 1L3	519-873-5115	519-873-5020	anneleis.eckert@ontario.ca
Mr.	Newton	Craig	Ministry of the Environment, Conservation and Parks	Southwestern Region, London Office	Regional Environmental Planner/EA	733 Exeter Road	London, ON	N6E 1L3	519-873-5014		craig.newton@ontario.ca

Class Environmental Assessment - Schedule B Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study Contact List											
Title	Surname	First Name	Organization	Department	Job Title	Address	City/Prov	Postal Code	Tel.	Fax	E-Mail
Mr.	Oliver	Scott	Ministry of Municipal Affairs and Housing	Community Planning and Development	Manager	659 Exeter Road, 2nd Floor	London, ON	N6E 1L3	(519) 873-4033	(519) 873-4018	scott.oliver@ontario.ca
Ms.	Kathryn	Markham	Ministry of Natural Resources and Forestry	Aylmer District	Resources Management Supervisor (Acting)	615 John Street North	Aylmer, ON	N5H 2S8	519-773-4780		kathryn.markham@ontario.ca
Ms.	Cerniavskaja	Karina	Ministry of Natural Resources and Forestry	Aylmer District	District Planner	615 John Street North	Aylmer, ON	N5H 2S8	519-773-4757	519-773-9014	karina.cerniavskaja@ontario.ca
Ms.	Switzman	Allyson	Ministry of Municipal Affairs and Housing	Ontario Growth Secretariat	Manager (Acting) - Growth, Planning, and Analysis	777 Bay Street, 23rd Floor, Suite 2304	Toronto, ON	M5G 2E5	416-325-7327	416-325-7327	allyson.switzman@ontario.ca

Class Environmental Assessment - Schedule B

Town of Amherstburg

Southeast Quadrant Sanitary and Water Servicing Study

Contact List

Title	Surname	First Name	Organization	Department	Job Title	Address	City/Prov	Postal Code	Tel.	Fax	E-Mail
Indigenous Communities/Métis Groups											
Ms.	James	Christine	Aamjiwnaang First Nation		Environment Worker	978 Tashmoo Avenue	Sarnia, ON	N7T 7H5	519-336-8410	519-336-0382	crogers@aamjiwnaang.ca
Chief	Plain	Chris	Aamjiwnaang First Nation		Chief	978 Tashmoo Avenue	Sarnia, ON	N7T 7H5	519-336-8410 x236	519-336-0382	***cant find email anywhere, call ***
Mr.	Jacobs	Dean	Bkejwanong Territory / Walpole Island First Nation	Heritage Center	Consultation Manager	2185 River Road RR #3	Wallaceburg, ON	N8A 4K9	519-627-1475	519-627-1530	dean.jacobs@wifn.org
Chief	Miskokomon	Daniel	Bkejwanong Territory / Walpole Island First Nation		Chief	117 Tahgahoning Road RR #3	Wallaceburg, ON	N8A 4K9	519-627-1481	519-627-0440	drskoke@wifn.org
	Nikki	Orosz	Caldwell First Nation		Director of Operations	14 Orange Street	Leamington, ON	N8H 1P5	519-322-1766	519-322-1533	nikki.orosz@caldwellfirstnation.ca
Ms.	George	Valerie	Chippewas of Kettle & Stony Point First Nation		Consultation Coordinator	6247 Indian Lane RR #2	Kettle Point, ON	N0N 1J1	519-786-2125	519-786-2108	valerie.george@kettlepoint.org
Chief	Bressette	Thomas	Chippewas of Kettle & Stony Point First Nation		Chief	6247 Indian Lane RR #2	Kettle Point, ON	N0N 1J1	519-786-2125	519-786-2108	fdesk@kettlepoint.org
Mr.	Riley	Kelly	Chippewas of the Thames First Nation		Acting Lands Director	324 Chippewa Road	Muncey, ON	N0L 1Y0	519-289-5241 x249		kriley@cottfn.com
Ms.	Smith	Rochelle	Chippewas of the Thames First Nation		Acting Consultation Coordinator	324 Chippewa Road	Muncey, ON	N0L 1Y0	519-289-5241 x252		rsmith@cottfn.com
Chief	Henry	Myeengun	Chippewas of the Thames First Nation		Chief	324 Chippewa Road	Muncey, ON	N0L 1Y0	519-289-5241 x228		myeengun@cottfn.com info@cottfn.com
Chief	Stonefish	Denise	Moravian of the Thames (Delaware Nation)		Chief	14760 School House Line, RR #3	Thamesville, ON	N0P 2K0	519-692-3936	519-692-5522	denise.stonefish@delawarenation.on.ca
Chief	Hill	Jessica	Oneida of the Thames First Nation		Chief	2212 Elm Avenue	Southwold, ON	N0L 2G0			jessica.hill@oneida.on.ca
Mr.	Forrest	Glenn	Munsee-Delaware Nation		Band Manager	289 Jubilee Road RR #1	Muncey, ON	N0L 1Y0	519-289-5396		glenn@munsee.ca
Chief	Thomas	Roger	Munsee-Delaware Nation		Chief	289 Jubilee Road RR #1	Muncey, ON	N0L 1Y0	519-289-5396		chief@munsee.ca
Ms.	Grayer	Donna	Métis Nation of Ontario	Windsor-Essex-Kent Métis Council	President	145-600 Tecumseh Road East	Windsor, ON	N8X 4X9	1-888-243-5148 x2		windsorsexmetiscouncil@gmail.com
	Meyer	Joanne	Métis Nation of Ontario		Chief Operating Officer	222 - 75 Sherbourne Street	Toronto, ON	M5A 2P9	416-977-9881 x101		joannem@metisnation.org ; joannem@metisnation.ca
Mr.	Barty	Alden	Métis Nation of Ontario	Métis Consultation Unit		355 Cranston Crescent, PO Box 4	Midland, ON	L4R 4K6	705-526-6335 x 210		aldenb@metisnation.org
Hon.	Rickford	Greg	Ministry of Energy, Northern Development and Mines/ Minister of Indigenous Affairs		Minister	160 Bloor Street East, Suite 400	Toronto, ON	M7A 2E6	416-327-4464		greg.rickfordco@pc.ola.org
Ms.	Maness	Wanda	Tri-Tribal Monitoring Services			1106 Tashmoo Avenue	Sarnia, ON	N7T 7H5	519-344-0655		wmaness@outlook.com
Developers											
Mrs.	Dipierdominico	Pat	Capo D'Aqua Development			883 Front Road South	Amherstburg, ON	N9V 2M4	519-990-9346		pat.dipier@gmail.com
Mrs.	Muir	Melanie	Dillon Consulting Ltd.		Project Manager	3200 Deziel Drive Suite 608	Windsor, ON	N8W 5K8	519-948-5000	519-948-5054	mmuir@dillon.ca
Mr.	Tanner	Karl	Dillon Consulting Ltd.		Partner	3200 Deziel Drive Suite 608	Windsor, ON	N8W 5K8	519-948-4243 x3227	519-948-5054	ktanner@dillon.ca
Mr.	Wall	Ryan	Walker Industries Inc.		General Manager Essex/Southwestern Ontario	6871 North Sideroad	McGregor, ON	N0R 1J0	519-796-7215		rwall@walkerind.com
Ms.	Walker	Alanna	Walker Industries Inc.		Properties Manager	6871 North Sideroad	McGregor, ON	N0R 1J0			awalker@walkerind.com
Mr.	Smith	Ed	Rocksedge Development Inc.			8400 Disputed Road	LaSalle, ON	N9A 6Z6			eds.rocksedge@gmail.com
Mr.	Lucente	Rocco	R. Lucente Engineering Inc.			3514 Walker Road	Windsor, ON	N8W 3S4	519-966-4008		rlucente@bellnet.ca
Mr.	Valente	Peter	Valente Development Corporation		President	2985 Dougall Avenue	Windsor, ON	N9E 1S1	519-946-3080		pvalente@valentecorp.com
Mr.	White	Harry	Dillon Consulting Ltd.			3200 Deziel Drive Suite 608	Windsor, ON	N8W 5K8	519-948-5000 x3217	519-948-5054	hwhite@dillon.ca

From: [Burnard, Paula](#)
Cc: [Todd Hewitt](#); [Mastronardi, Mike](#); [Burnard, Paula](#)
Subject: Town of Amherstburg SE Quadrant Servicing Study Environmental Assessment - Notice of Public Meeting
Date: Friday, August 03, 2018 11:41:26 AM
Attachments: [notice_pic_amherstburg_southeast-quadrant.pdf](#)

Good morning,

The Town of Amherstburg has retained Stantec Consulting to undertake a Schedule 'B' Municipal Class Environmental Assessment to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town. A Public Information Centre will be held on Tuesday, August 21, 2018 to discuss the need and justification for the municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The details of the meeting are provided in the attached notice.

The notice will also appear in the River Town Times on August 8, 2018 and August 15, 2018.

Thank you and regards,
Paula

Paula Burnard, MScPI, MCIP, RPP
Senior Environmental Planner
Stantec
600-171 Queens Avenue London ON N6A 5J7
Phone: 519-675-6666
paula.burnard@stantec.com

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From: [Mastronardi, Mike](#)
To: pat.dipier@gmail.com
Cc: [Todd Hewitt](#); [Burnard, Paula](#); [Jubenville, Clarence](#)
Subject: Re: Amherstburg Southeast Quadrant Sanitary and Water Servicing Study Environmental Assessment
Date: Friday, August 03, 2018 12:35:11 PM
Attachments: [notice_pic_amherstburg_southeast-quadrant.pdf](#)

Hello Pat, as you are aware, the Town of Amherstburg has retained Stantec Consulting to undertake a Schedule 'B' Municipal Class Environmental Assessment to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town. A Public Information Centre (PIC) will be held on Tuesday, August 21, 2018 to discuss the need and justification for the municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The details of the meeting are provided in the attached notice.

The notice will also appear in the River Town Times on August 8, 2018 and August 15, 2018.

We encourage you to attend the PIC. We would also like to extend an offer to arrange a meeting with you following the PIC to discuss project specifics, if desired. Please let me know if you would like to set a meeting up and I will coordinate the team.

Thank You,
Mike

Michael Mastronardi P. Eng.
Senior Project Engineer

Direct: 519-966-2250 ext 250
Mobile: 519-965-1705
Fax: 519-966-5523
michael.mastronardi@stantec.com

Stantec
100-140 Ouellette Place
Windsor ON N8X 1L9 CA

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From: [Mastronardi, Mike](#)
To: cprince@triamico.com; patty.fraize@triamico.com
Cc: [Todd Hewitt](#); [Burnard, Paula](#); [Jubenville, Clarence](#)
Subject: Re: Amherstburg Southeast Quadrant Sanitary and Water Servicing Study Environmental Assessment
Date: Friday, August 03, 2018 12:23:03 PM
Attachments: [notice_pic_amherstburg_southeast-quadrant.pdf](#)

Hello Cindy, as you are aware, the Town of Amherstburg has retained Stantec Consulting to undertake a Schedule 'B' Municipal Class Environmental Assessment to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town. A Public Information Centre (PIC) will be held on Tuesday, August 21, 2018 to discuss the need and justification for the municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The details of the meeting are provided in the attached notice.

The notice will also appear in the River Town Times on August 8, 2018 and August 15, 2018.

We encourage you to attend the PIC. We would also like to extend an offer to arrange a meeting with you following the PIC to discuss project specifics, if desired. Please let me know if you would like to set a meeting up and I will coordinate the team.

Thank You,
Mike

Michael Mastronardi P. Eng.
Senior Project Engineer

Direct: 519-966-2250 ext 250
Mobile: 519-965-1705
Fax: 519-966-5523
michael.mastronardi@stantec.com

Stantec
100-140 Ouellette Place
Windsor ON N8X 1L9 CA

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From: [Mastronardi, Mike](#)
To: eds.rockledge@gmail.com; rlucente@bellnet.ca
Cc: [Todd Hewitt](#); [Burnard, Paula](#); [Jubenville, Clarence](#)
Subject: Re: Amherstburg Southeast Quadrant Sanitary and Water Servicing Study Environmental Assessment
Date: Friday, August 03, 2018 12:15:08 PM
Attachments: [notice_pic_amherstburg_southeast-quadrant.pdf](#)

Hello Ed, as you are aware, the Town of Amherstburg has retained Stantec Consulting to undertake a Schedule 'B' Municipal Class Environmental Assessment to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town. A Public Information Centre (PIC) will be held on Tuesday, August 21, 2018 to discuss the need and justification for the municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The details of the meeting are provided in the attached notice.

The notice will also appear in the River Town Times on August 8, 2018 and August 15, 2018.

We encourage you to attend the PIC. We would also like to extend an offer to arrange a meeting with you following the PIC to discuss project specifics, if desired. Please let me know if you would like to set a meeting up and I will coordinate the team.

Thank You,
Mike

Michael Mastronardi P. Eng.
Senior Project Engineer

Direct: 519-966-2250 ext 250
Mobile: 519-965-1705
Fax: 519-966-5523
michael.mastronardi@stantec.com

Stantec
100-140 Ouellette Place
Windsor ON N8X 1L9 CA

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From: [Mastronardi, Mike](#)
To: pvalente@valentecorp.com
Cc: [Todd Hewitt](#); [Burnard, Paula](#); [Jubenville, Clarence](#)
Subject: FW: Re: Amherstburg Southeast Quadrant Sanitary and Water Servicing Study Environmental Assessment
Date: Friday, August 03, 2018 12:32:47 PM
Attachments: [notice_pic_amherstburg_southeast-quadrant.pdf](#)

Hello Peter, as you are aware, the Town of Amherstburg has retained Stantec Consulting to undertake a Schedule 'B' Municipal Class Environmental Assessment to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town. A Public Information Centre (PIC) will be held on Tuesday, August 21, 2018 to discuss the need and justification for the municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The details of the meeting are provided in the attached notice.

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We encourage you to attend the PIC. We would also like to extend an offer to arrange a meeting with you following the PIC to discuss project specifics, if desired. Please let me know if you would like to set a meeting up and I will coordinate the team.

Thank You,
Mike

Michael Mastronardi P. Eng.
Senior Project Engineer

Direct: 519-966-2250 ext 250
Mobile: 519-965-1705
Fax: 519-966-5523
michael.mastronardi@stantec.com

Stantec
100-140 Ouellette Place
Windsor ON N8X 1L9 CA

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Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor ON N8X 1L9
Tel: (519) 966-2250
Fax: (519) 966-5523

February 8, 2018
165620092

**Attention: Dean Jacobs, Heritage Centre Director
Consultation Manager, Heritage Centre
Bkejwanong Territory / Walpole Island First Nation
2185 River Road, R. R. # 3
Wallaceburg, Ontario N8A 4K9**

Dear Mr. Jacobs:

**Reference: Notice of Study Commencement
Class Environmental Assessment – Southeast Quadrant Sanitary and Water Servicing
Study – Town of Amherstburg**

The Town of Amherstburg has initiated a Municipal Class Environmental Assessment (Class EA) to provide proposed new developments in the southeast quadrant of the urban hub of the Town with adequate water and sanitary sewage servicing. The study area is outlined on the key plan below. Stantec Consulting Ltd. has been retained by the Town of Amherstburg to complete the study.

The southeast quadrant, approximately 289 hectares (ha), is comprised mostly of rural agricultural land with small pockets of residential land use. The area is not presently serviced by an existing municipal wastewater collection system and the existing watermain system is not sized sufficiently to support future growth. Within the southeast quadrant, existing residential lots are generally serviced by private on-site sewage disposal systems, typically consisting of septic tanks and leaching beds and small watermains. In 2014, the Town of Amherstburg completed upgrades and expansion of the existing Amherstburg Wastewater Treatment Plant (AWWTP) and upgrades to the main sewage pumping station, to accommodate current and future wastewater flows. Several developers have requested that the Town of Amherstburg install the necessary sanitary and water servicing infrastructure in the southeast quadrant to allow for the orderly development of the lands.

A copy of the Notice of Study Commencement for the project is attached, which also includes a key map of the study area.

This study is being carried out in accordance with the planning and design process for Schedule 'B' projects outlined in the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011 and 2015), which is approved under the Ontario Environmental Assessment Act. The Class EA planning process includes public and agency consultation, an assessment of the potential effects of the proposed improvements, and the identification of measures required to mitigate any adverse effects. Upon completion of the study, a Phase 1 and 2 Study File Report will be issued.

On behalf of the Town of Lakeshore, we are inviting the Walpole Island First Nation/ Bkejwanong Territory to participate in this project and to assist us in identifying any existing transportation or environmental (natural, socio/economic or cultural) conditions within the Study Area that you may have or know of and to identify any issues, concerns or approval requirements that your organization may have. A reply to the undersigned or one of other individuals named on the attached notice by March 2, 2018 would be appreciated so that we may consider your comments early in the design stage.



February 8, 2018
Dean Jacobs, Heritage Centre Director
Page 2 of 2

Reference: **Notice of Study Commencement**
Class Environmental Assessment – Southeast Quadrant Sanitary and Water Servicing
Study – Town of Amherstburg

Regards,

STANTEC CONSULTING LTD.

Senior Project Engineer / EA Coordinator
Stantec Consulting Ltd.
Tel: (519) 966-2250
E-mail: michael.mastronardi@stantec.com

Attachment: Notice of Study Commencement

- c. Todd Hewitt, Manager of Engineering and Operations, Town of Amherstburg
Clarence Jubenville, Project Manager, Stantec Consulting Ltd.
Paula Burnard, Senior Environmental Planner

Sample letter sent to contact list

From: Todd Hewitt
To: [Mastronardi, Mike](#); [Burnard, Paula](#)
Subject: FW: Request for materials
Date: Tuesday, September 04, 2018 8:25:04 AM

Mike / Paula,

Please include on the project mailing list. I will mail her a hard copy of the PIC panels.

Todd

Todd Hewitt

Manager of Engineering and Operations

Town of Amherstburg

512 Sandwich St South, Amherstburg, ON, N9V 3R2

Tel: 519-736-3664 ext 2313 Fax: 519-736-7080 TTY: 519-736-9860



The information in this e-mail is confidential, privileged and is subject to copyright and authorized solely for the addressee(s) named. The Town of Amherstburg is not responsible for any loss or damage arising from the use of this email or attachments.

From:
Sent: September-02-18 7:04 PM
To: Todd Hewitt
Subject: Request for materials

Hello Mr. Hewitt;

I spoke with yourself and Stantec representatives at the recent PIC on August 21/18 regarding the Southeast Quadrant Sanitary and Water Servicing MECA.

I would like to be added to the project mailing list if I may, please. Would it be possible to also include hard copies of the PIC materials in the mailing?

My postal address is;

Amherstburg, Ontario

N9V 1W3

With my thanks,



Southeast Quadrant Sanitary and Water Servicing Study
Municipal Class Environmental Assessment

Public Information Centre – August 21, 2018

COMMENT SHEET

Name:	
Mailing Address:	AMHERSTBURG, ONT N9V 1W3
Email Address:	
Interest (i.e. property owner, agency):	PROPERTY OWNER IN BIG CREEK FLOODPLAIN
Comments:	Re: HYDROLOGICAL IMPACTS OF PROPOSED SUBDIVISION DEVELOPMENTS WITHIN THE BIG CREEK WATERSHED. • clay soils - classed as Perth clay which has a natural drainage noted as poor and belongs in the hydrological group of soils considered to be slow draining and flood prone. - development will increase impervious sub ground structures and impervious ground surfaces adding to water run off problems that can lead to: a) decrease wildlife habitat b) increase water pollution c) increase susceptibility and spread of biological invasions d) increase insecticide, herbicide and fertilizer use e) adversely affect human health f) downstream flooding The June 7, 2016 ERCA update of the Implementation of the Big Creek Management Plan Section 8.3 speaks to our hydrological situation.

Please place comments in the comment box provided
or submit comments to the following by Friday, September 21, 2018:

Michael Mastronardi, P.Eng.
Senior Project Engineer / EA Coordinator
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor, ON, N8X 1L9
Phone: (519) 966-2250
Email: michael.mastronardi@stantec.com



**Southeast Quadrant Sanitary and Water Servicing Study
Municipal Class Environmental Assessment**

Public Information Centre – August 21, 2018

COMMENT SHEET

Name:	
Mailing Address:	AMHERSTBURG, ONT N9V 1W3
Email Address:	
Interest (i.e. property owner, agency):	PROPERTY OWNER IN BIG CREEK FLOODPLAIN
Comments:	<p>re: CLIMATE CHANGE IMPACTS d/t GLOBAL WARMING</p> <ul style="list-style-type: none">• extreme weather events more likely• wetter areas becoming wetter• flooding events will likely be more frequent and more severe. (evidence - Amherstburg, Tecumseh flooding)• insurance companies altering risk profiles and premiums in light of climate changes. <p>2016 Aviva insurance company doubled premiums post Amherstburg town flooding in response to the increasing corporate risks of insuring property in sensitive drainage areas.</p> <p>ECRA and the Town of Amherstburg are partners in both the Big Creek Watershed Plan and in the actionable implementation guidelines of the Big Creek Management Plan of June 2016. The Essex County Official Plan has incorporated these documents as well.</p>

Please place comments in the comment box provided
or submit comments to the following by Friday, September 21, 2018:

Michael Mastronardi, P.Eng.
Senior Project Engineer / EA Coordinator
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor, ON, N8X 1L9
Phone: (519) 966-2250
Email: michael.mastronardi@stantec.com

Climate changes are discussed & addressed.



**Southeast Quadrant Sanitary and Water Servicing Study
Municipal Class Environmental Assessment**

Public Information Centre – August 21, 2018

COMMENT SHEET

Name:	
Mailing Address:	AMHERSTBURG, ONT N9V1W3
Email Address:	
Interest (i.e. property owner, agency):	PROPERTY OWNER IN BIG CREEK FLOODPLAIN
Comments:	<p>RE: NATURAL ENVIRONMENT AND ECOLOGICAL DIVERSITY IMPACTS OF THE PROPOSED REAL ESTATE DEVELOPMENTS WITHIN THE BIG CREEK WATERSHED.</p> <ul style="list-style-type: none">• staging area of the Mississippi migratory flyway on spring and fall migrations for a long list of birds rivaling the internationally acclaimed Point Pelee migratory bird showcase.• monarch butterflies migratory route• vestige of Carolinian forest unique to Canada• SOCC and SAR habitat & possible inhabitants <p>Altering the environment in a process driven by housing development will have consequential circumstances arising downstream. The South east quadrant is a drainage area leading to a natural delta/floodplain environment of great biodiversity. ECA's update June 2016 outlines many</p>

**Please place comments in the comment box provided
or submit comments to the following by Friday, September 21, 2018:**

Michael Mastronardi, P.Eng.
Senior Project Engineer / EA Coordinator
Stantec Consulting Ltd.
140 Ouellette Place, Suite 100
Windsor, ON, N8X 1L9
Phone: (519) 966-2250
Email: michael.mastronardi@stantec.com

*actionable guidelines
and continues
to issue updates
for implementation
to the Town of Amherstburg
partners in the
Big Creek Management
Plan.*



Stantec Consulting Ltd.
100-140 Ouellette Place, Windsor ON N8X 1L9

November 8, 2018
File: 165620084

Attention: |

Amherstburg, ON
N9V 1W3

bjgardner@outlook.com

Dear ,

Reference: Southeast Quadrant Sanitary and Water Servicing Study – Municipal Class Environmental Assessment

Thank you for taking the time to attend the Public Information Centre and to submit your written comments. The project team agrees that impacts of proposed developments within any watershed could have detrimental effects if there is no proper planning and insufficient mitigation strategies to protect the watershed.

As you noted in your comment form, the soils type, development type, existing flora/fauna, potential pollutants, potential flooding, and climate change are important things to consider when preparing a proper stormwater management plan for a proposed development. Essex Region Conservation Authority (ERCA), Ministry of Natural Resources and Forestry (MNRF) and Department of Fisheries and Oceans (DFO) have evaluated the existing flora and fauna throughout the county and have strict requirements with respect to protecting any threatened or endangered species and their habitat.

Throughout Ontario, design engineers are required to comply with the *Ministry of the Environment Stormwater Management Planning and Design Manual* that was issued in March 2003. This design manual provides general guidelines for the design engineers to follow to address most of the concerns you raised (except climate change) and to provide appropriate mitigation methods. In the past, the municipalities in Essex County and ERCA have seen various standards of design since some design engineers have used less conservative designs to meet absolute minimums while other design engineers are more conservative with their approach.

The Ministry of the Environment, Conservation and Parks (MECP) currently does not have guidelines regarding climate change but requests that the design engineer reasonably account for climate change. Since MECP currently has no guidelines to address climate change, this has further produced various standards of design.

Moreover, the municipalities throughout Essex County and ERCA have decided to band together and develop more stringent and consistent stormwater management standards to better protect the public, property owners and the environment. Essex County and ERCA are working together to finalize the Windsor/Essex Region Stormwater Management Standards Manual. The manual will put forward much more stringent guidelines with respect to stormwater management and will also provide guidelines to

November 8, 2018

Page 2 of 2

Reference: Southeast Quadrant Sanitary and Water Servicing Study – Municipal Class Environmental Assessment

account for climate change. All new developments will be required to comply with the regional standards manual.

The installation of a new watermain and sanitary sewer system in this area does not grant approval for future development to proceed. Prior to proceeding with any proposed development, the developer must comply with the requirements of the above-noted review agencies among others.

We trust this addresses your comments. If you would like to discuss further, please contact me using the information provided below or Todd Hewitt by telephone (519-736-3664 extension 2313) or by email (thewitt@amherstburg.ca).

Regards,

Stantec Consulting Ltd.



Michael Mastronardi P. Eng.
Senior Municipal Project Manager

Phone: (519) 966-2250
michael.mastronardi@stantec.com

- c. Todd Hewitt, Town of Amherstburg
Clarence Jubenville, Stantec Consulting Ltd.
Paula Burnard, Stantec Consulting Ltd.



regs@erca.org

P.519.776.5209

F.519.776.8688

360 Fairview Avenue West
Suite 311, Essex, ON N8M 1Y6

February 26, 2018

Town of Amherstburg
512 Sandwich Street South
Amherstburg, Ontario
N9V 3R2

Attention: Mr. Todd Hewitt

RE: Southeast Quadrant Sanitary and Water Servicing Study Municipal Class EA Notice of Study Commencement

This letter is in response to our receipt and review of the following Notice of Study Commencement for the Southeast Quadrant Sanitary and Water Servicing Study. It is our understanding that this process is following the Municipal Class EA in accordance with the planning and design process for "Schedule B" projects as outlined in the Municipal Class Environmental Assessment (June 2000, as amended in 2007, 2011 and 2015) under the Ontario Environmental Assessment Act.

The Essex Region Conservation Authority (ERCA) agrees with the principles of successful environmental assessment planning under the *Environmental Assessment Act*. Further, ERCA shares this intent and interest in furthering its program of conservation and protection of natural resources through watershed planning and providing comments on environmental assessment undertakings.

In order to advance this shared interest, ERCA intends to provide input towards the review of environmental assessment projects on a cost recovery basis. Beginning in 2018, the ERCA Board of Director's has directed that a fee for service be collected for the review of these types of undertakings (ERCA BD27/17). The following key areas and disciplines will inform our review:

- Providing information upon receipt of a request for data (e.g., mapping, species records, floodplain hazard locations, flood line maps, etc.);
- Providing comments at an early stage of the process (e.g., respond to the notice of study commencement, attending public open house meetings, etc.);
- Providing detailed comments through the review of the detailed technical report (e.g., Environmental Study Report or alternative applicable report); and,
- Offering to participate in meetings with in-house staff to discuss any comments in detail.

ERCA comments on environmental assessment and related undertakings will reflect our role in the environmental assessment process as outlined in appropriate provincial guidance documents. In addition, the most up to date ERCA Board policy and program direction will inform our comments within areas of natural hazards management, watershed planning and floodplain management, natural heritage and natural heritage systems planning, and other areas as applicable.

February 15, 2018

We look forward to providing comments and offering our review of this this important study.

Per the direction in the attached ERCA Board Report, the appropriate fee is located in the 'Municipal Infrastructure' category. Should you wish for ERCA to provide these services, please remit payment of \$1750 to the attention of planning@erca.org referencing the "Southeast Quadrant Sanitary and Water Servicing Study". It should be noted that this fee may be adjusted later to reflect the additional levels of staff input. It should also be noted that this fee does not include future ERCA permit application fees for activities occurring within the Limit of the Regulated Area that may be required during the implementation phase.

If you have any questions, please contact me directly.

Thank you,



Mike Nelson
Watershed Planner
/mn

CC: Clarence Jubenville, Stantec Consulting Ltd.
Michael Mastronardi, Stantec Consulting Ltd.
Tim Byrne, Director Watershed Management Services, ERCA

Attachment:

- **ERCA BD27/17** "Draft ERCA 2018 Fee Schedule"



regs@erca.org

P.519.776.5209

F.519.776.8688

360 Fairview Avenue West
Suite 311, Essex, ON N8M 1Y6

April 4, 2018

Clarence Jubenville, P.Eng.
Stantec Consulting Limited
140 Ouellette Place, Suite 100
Windsor, ON N8X 1L9

**RE: Southeast Quadrant Sanitary and Water Servicing Study Municipal Class EA
Request for Information**

Attention: Mr. Jubenville

The purpose of this letter is to follow up with you on a previously circulated letter (dated February 26, 2018). Please contact Tim Byrne to discuss the nature of our further input into this study.

Information Request

We note that there are a number of regulated watercourses in the study area. If you would like to obtain digital mapping of the respective watercourses and their associated regulated areas, please contact our office directly. ERCA will require permits for any works in and around water and in particular, within regulated areas.

We note that there the study area contains a significant Groundwater Recharge Areas as identified in the County of Essex Official Plan. This area as associated with the results of the 2004 Dillon Report titled "Essex Region/Chatham-Kent Region Groundwater Study - volumes I and II". If you would like to obtain a copy of these reports and the associated mapping, please contact our office.

Within the study area, there are a number of identified source water protection features - including the delineated Event Based Area. For more information, please visit the Essex Source Protection Area webpage: www.essexregionsourcewater.org.

There are a number of natural heritage features that have been identified in the study area. These features are to the most part, identified in the County of Essex and Town of Amherstburg Official Plan schedules. In addition, they have been identified in the Essex Region Natural Heritage System Study (ERNHSS, 2013). This study is available online: <http://erca.org/resource-info/resources/>. If you wish to obtain a copy of the digital mapping of the natural heritage features in the study area please contact our office. In addition, the ERNHSS report identified a proposed natural heritage system. The consideration of the existing natural heritage features and of the potential to establish a natural heritage system should be a component of the study considerations.

ERCA completed a Fish Habitat Management Plan to identify potential instream restoration works. It may be worth reviewing this

April 04, 2018

plan to consider instream restoration works as components of the study considerations. This study is available online: <http://erca.org/resource-info/resources/>

Sincerely,



Michael Nelson
Watershed Planner

CC: Michael Mastronardi, P.Eng., Stantec Consulting Limited
Tim Byrne, Director Watershed Management Services
Todd Hewitt, Town of Amherstburg



February 23, 2018

Town of Amherstburg
512 Sandwich St. S
Amherstburg ON
N9V 3R2

Attention: Todd Hewitt, Manager of Engineering and Operations

Re: Class EA for the southeast sanitary sewer and water servicing study

Dear Todd Hewitt:

This letter acknowledges this ministry's receipt of the Notice of Commencement for the above noted project.

It is this ministry's understanding that the Town of Amherstburg is initiating a Class EA process to conduct a servicing study for water and sewer for the southeast quadrant.

As you know, the Class Environmental Assessment (Class EA) planning process includes consultation with interested stakeholders, evaluation of alternatives, assessment of the effects of the proposed works and identification of measures to mitigate any adverse impacts. In addition to consultation with public agencies and the general public, consultation with Aboriginal communities is required.

Aboriginal Consultation

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

Your proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to your proposed project, **the MOECC is delegating the procedural aspects of rights-based consultation to you through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information you have provided to date and the Crown's preliminary assessment you are required to consult with the following communities who have been identified as potentially affected by your proposed project:

Nation	Contact Information
Aamjiwnaang First Nation	<p>Aamjiwnaang First Nation 978 Tashmoo Ave. Sarnia, ON N7T 7H5 519-336-8410 Chief Joanne Rogers chief@aamjiwnaang.ca <u>Other Contacts:</u> Sharilyn Johnston, Environment Coordinator sjohnston@aamjiwnaang.ca Christine Rogers, Environment Worker crogers@aamjiwnaang.ca (same mailing address for all)</p>
Bkejwanong Territory (Walpole Island First Nation)	<p>Bkejwanong Territory 117 Tahgahoning Road R.R.#3 Wallaceburg, ON N8K 4K9 519-627-1481 Chief Dan Miskokomon drskoke@wifn.org <u>Other Contacts:</u> Dean Jacobs, Consultation Manager Walpole Island Heritage Centre 2185 River Road R.R.#3 Wallaceburg, ON N8K 4K9 519-627-1475 dean.jacobs@wifn.org and Janet Macbeth, Project Review Coordinator janet.macbeth@wifn.org</p>
Chippewas of Kettle and Stony Point First Nation	<p>Chippewas of Kettle and Stony Point First Nation 6247 Indian Lane, R.R.#2 Forest, ON N0N 1J1 519-786-2125 Chief Tom Bressette thomas.bressette@kettlepoint.org Other Contact: Valerie George Consultation Coordinator valerie.george@kettlepoint.org</p>
Chippewas of the Thames First Nation	<p>Chippewas of the Thames First Nation 320 Chippewa Rd., Muncey, ON N0L 1Y0 519-289-5555 Chief Myeengun Henry myeengun@cottfn.com <u>Other Contacts:</u> Kelly Riley, Acting Director - Lands & Environment kriley@cottfn.com 519-289-2662 ext. 209 Rochelle Smith, Consultation Coordinator rsmith@cottfn.com 519-289-2662 ext 213</p>
Caldwell First Nation	<p>Caldwell First Nation P.O. Box 388 Leamington, ON N8H 3W3 519-322-1766 or 1-800-206-7522 Chief Mary Duckworth chief.duckworth@caldwellfirstnation.ca Director of Operations, Allen Deleary allen.deleary@caldwellfirstnation.ca</p>
Oneida Nation of the Thames ONYOTA'A:KA	<p>Oneida Nation of the Thames 2212 Elm Ave. Southwold, ON N0L 2G0 519-652-3244 Chief Randall Phillips randall.phillips@oneida.on.ca Other Contact: Political Chief Assistant: Catherine Cornelius catherine.cornelius@oneida.on.ca</p>

Steps that you may need to take in relation to Aboriginal consultation for your proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process" which can be found at the following link:

<https://www.ontario.ca/document/consultation-ontarios-environmental-assessment-process>

Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

You must contact the Director of Environmental Approvals Branch under the following circumstances subsequent to initial discussions with the communities identified by MOECC:

- aboriginal or treaty rights impacts are identified to you by the communities;
- you have reason to believe that your proposed project may adversely affect an aboriginal or treaty right;
- consultation has reached an impasse;
- a Part II Order request or elevation request is expected.

The Director of the Environmental Approvals Branch can be notified either by email with the subject line "Potential Duty to Consult" to EAASIBgen@ontario.ca or by mail or fax at the address provided below:

Email:	EAASIBgen@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Approvals Branch 135 St. Clair Avenue West, 1 st Floor Toronto, ON, M4V 1P5

The MOECC will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play in them.

Source Water Protection

As per the recent amendments to the Municipal Engineers Association (MEA) Class Environmental Assessment parent document approved October 2015, proponents undertaking a Municipal Class EA project must identify early in the process whether a project is occurring within a source water protection vulnerable area. This must be clearly documented in a Project File report or ESR. If the project is occurring in a vulnerable area, then there may be policies in the local Source Protection Plan (SPP) that need to be addressed (requirements under the Clean Water Act). The proponent should contact and consult with the appropriate Conservation Authority/Source Protection Authority (CA/SPA) to discuss potential considerations and policies in the SPP that apply to the project.

Please include a section in the report on Source Water Protection. Specifically, it should discuss whether or not the project is located in a vulnerable area or changes or creates new vulnerable areas, and provide applicable details about the area. If located in a vulnerable area, proponents should document whether any project activities are a prescribed drinking water threat and thus pose a risk to drinking water (this should be consulted on with the appropriate CA/SPA). Where an activity poses a risk to drinking water, the proponent must document and discuss in the Project File Report/ESR how the project adheres to or has regard to applicable policies in the local SPP. If creating or changing a vulnerable area, proponents should document whether any existing uses or activities may potentially be affected by the implementation of source protection policies. This section should then be used to inform and should be reflected in other sections of the report, such as the identification of net positive/ negative effects of alternatives, mitigation measures, evaluation of alternatives etc. As a note, even if the project activities in a vulnerable area are deemed not to be a drinking water risk, there may be other policies that apply and so consultation with the local CA/SPA is important.

Climate Change

The Municipality is strongly encouraged to include climate change in this EA. Climate change should be considered in the context of mitigation and the context of adaptation. The Ministry has recently released a guidance document to support proponents in including climate change in environmental assessments. The guide can be found online: <https://www.ontario.ca/page/considering-climate-change-environmental-assessment-process>. It should be noted that Climatic Features is identified in Appendix 2 of the Municipal Class EA page 2-7 (2015).

Other

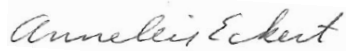
Please ensure that all notices contain the necessary information, including the date a notice is issued, and that all notices sent to the appropriate office as per Appendix 6-1 of the Municipal Class EA.

Conclusion

Thank you for the opportunity to comment on this project. Please keep this office fully informed of the status of this project as it proceeds through the Class EA process.

Please send all future correspondence with respect to this project to my attention, as I am this ministry's one window contact for this project: Anneleis Eckert, Regional Environmental Planner / Regional EA Coordinator at the address below; email address: anneleis.eckert@ontario.ca; telephone number: 519-873-5115.

Yours truly,



Anneleis Eckert
Regional Environmental Planner / Regional EA Coordinator
Ministry of Environment and Climate Change
733 Exeter Road
London ON, N6E 1L3
519 873-5115

Copy:
Mark Smith
Michele Vandenheuvel

From: [Christine James](#)
To: [Burnard, Paula](#)
Cc: [Todd Hewitt](#); [Mastronardi, Mike](#)
Subject: RE: Town of Amherstburg SE Quadrant Servicing Study Environmental Assessment - Notice of Public Meeting
Date: Thursday, August 09, 2018 10:12:07 AM

Good morning, I just wanted to confirm that we have received this notice it will be discussed at the environment committee meeting on August 14, 2018 and our committee. I will respond with any comments after this meeting.

Sincerely,

Christine James

Environment Consultation Worker
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T7H5
Phone: 519-336-8410 ext 222
cjames@aamjiwnaang.ca
www.aamjiwnaangenvironment.ca
www.facebook.com/AamjiwnaangEnvironment

"This email, including any attachments, is for the sole use of the intended recipient and may contain confidential information. If you are not the intended recipient, please immediately notify us by reply email or by telephone, delete this email and destroy any copies. Thank you."

From: Burnard, Paula <Paula.Burnard@stantec.com>
Sent: Friday, August 3, 2018 11:41 AM
Cc: Todd Hewitt <thewitt@amherstburg.ca>; Mastronardi, Mike <michael.mastronardi@stantec.com>; Burnard, Paula <Paula.Burnard@stantec.com>
Subject: Town of Amherstburg SE Quadrant Servicing Study Environmental Assessment - Notice of Public Meeting

Good morning,

The Town of Amherstburg has retained Stantec Consulting to undertake a Schedule 'B' Municipal Class Environmental Assessment to identify upgrades or new infrastructure required to provide sanitary and water servicing for future development in the southeast quadrant of the Town. A Public Information Centre will be held on Tuesday, August 21, 2018 to discuss the need and justification for the municipal infrastructure servicing, the existing conditions, assessment of alternatives, and the recommended solution. The details of the meeting are provided in the attached notice.

The notice will also appear in the River Town Times on August 8, 2018 and August 15, 2018.

Thank you and regards,
Paula

Paula Burnard, MScPI, MCIP, RPP

Senior Environmental Planner

Stantec

600-171 Queens Avenue London ON N6A 5J7

Phone: 519-675-6666

paula.burnard@stantec.com

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 Please consider the environment before printing this email.

Vacation Alert – Please note that I will be out of the office from Monday August 6th returning Monday August 13th.



CHIPPEWAS OF THE THAMES FIRST NATION

March 21, 2018

Todd Hewitt
Manager of Engineering and Operations
Town of Amherstburg
512 Sandwich St. South,
Amherstburg, ON N9V 3R2

**RE: Southeast Quadrant Sanitary and Water Servicing Study
Town of Amherstburg**

Mr. Hewitt,

We have received information concerning the abovementioned project, dated February 8, 2018. The proposed work will be conducted within the McKee Treaty (1790) area to which Chippewas of the Thames First Nation (COTTFN) is a signatory. The proposed work is also located within the Big Bear Creek Additions to Reserve (ATR) land selection area, as well as COTTFN Traditional territory.

At this time, with the information that has been provided to us, we have minimal concern with this project. We do request a copy of the Class EA upon completion. However, if there are any substantive changes to this project, we ask that you keep us informed. As well, if there is an Archaeological Assessment conducted, we require notification and the opportunity to actively participate by sending First Nation monitors on behalf of this First Nation.

We look forward to continuing this open line of communication. To implement meaningful consultation, COTTFN has developed its own protocols — a document and a process that will guide positive working relationships. We would be happy to meet with you to review COTTFN's Consultation Protocols.

Please do not hesitate to contact me if you need further clarification of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Rochelle Smith", is written over the word "Sincerely,".

Rochelle Smith
Consultation Coordinator
Chippewa of the Thames First Nation
(519) 289-5555 Ext. 252
rsmith@cottfn.com

cc: Michael Mastonardi, P.Eng., Stantec Consulting

Indigenous Communities Contacted and Subsequent Interactions

Indigenous Community and Contact Information	Interaction
<p>Ms. Christine James Aamjiwnaang First Nation</p> <p>978 Tashmoo Avenue Sarnia, ON N7T 7H5</p> <p>crogers@aamjiwnaang.ca Phone: 519-336-8410</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and spoke to reception. Reception noted Christine is out of the office today but will be back tomorrow and asked I follow up then. • Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and left a voicemail message for Christine James. • Christine James responded via email on August 9, 2018 confirming she received the notice and would be discussing it at the environment committee meeting on August 14, 2018. She will respond with comments after the meeting.
<p>Chief Chris Plain Aamjiwnaang First Nation</p> <p>978 Tashmoo Avenue Sarnia, ON N7T 7H5</p> <p>Phone: 519-336-8410 x236</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and spoke to Chief Plain who stated he received the notice. He has no initial comments but if there are any they will be forwarded on through their process by Christine James.
<p>Mr. Dean Jacobs Bkejwanong Territory / Walpole Island First Nation</p> <p>2185 River Road, RR #3 Wallaceburg, ON N8A 4K9</p> <p>dean.jacobs@wifn.org Phone: 519-627-1475</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and left a voicemail for Mr. Dean Jacobs.
<p>Chief Daniel Miskokomon Bkejwanong Territory / Walpole Island First Nation</p> <p>117 Tahgahoning Road, RR #3 Wallaceburg, ON N8A 4K9</p> <p>drskoke@wifn.org Phone: 519-627-1481</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and left a voicemail message with the Chief's assistant.
<p>Mr. Allen Deleary Caldwell First Nation</p> <p>14 Orange Street Leamington, ON N8H 1P5</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018.

allen.deleary@caldwellfirstnation.ca Phone: 519-322-1766	<ul style="list-style-type: none"> • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and spoke to reception who noted Allen no longer works their and Nikki Orosz has taken his place. Contact list has been updated to reflect these changes.
Ms. Nikki Orosz Caldwell First Nation 14 Orange Street Leamington, ON N8H 1P5 nikki.orosz@caldwellfirstnation.ca Phone: 519-322-1766	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and left a voicemail for Ms. Nikki Orosz.
Ms. Valerie George Chippewas of Kettle & Stony Point First Nation 6247 Indian Lane, RR #2 Kettle Point, ON N0N 1J1 valerie.george@kettlepoint.org Phone: 519-786-2125	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and left a voicemail for Ms. Valerie George.
Chief Thomas Bressette Chippewas of Kettle & Stony Point First Nation 6247 Indian Lane, RR #2 Kettle Point, ON N0N 1J1 fdesk@kettlepoint.org Phone: 519-786-2125	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 8, 2018 and left a voicemail for Chief Thomas Bressette.
Mr. Kelly Riley Chippewas of the Thames First Nation 324 Chippewa Road Muncey, ON N0L 1Y0 kriley@cottfn.com Phone: 519-289-5241 x249	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and spoke to Mr. Riley, who noted he received the notice and he would be developing a response as Rochelle is on leave.
Ms. Rochelle Smith Chippewas of the Thames First Nation 324 Chippewa Road Muncey, ON N0L 1Y0 rsmith@cottfn.com Phone: 519-289-5241 x252	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Kelly Riley noted during the phone call that Rochelle Smith is currently on leave and he would be handling any comments as he and Rochelle are the primary contacts for matters regarding development.
Chief Henry Myeengun Chippewas of the Thames First Nation 324 Chippewa Road Muncey, ON	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018.

<p>NOL 1Y0</p> <p>myeengun@cottfn.com info@cottfn.com Phone: 519-289-5241 x228</p>	<ul style="list-style-type: none"> The Chief was not contacted as Kelly Riley noted he and Rochelle are the primary contacts for matters regarding development and that he would be developing a response to the notice.
<p>Chief Denise Stonefish Moravian of the Thames (Delaware Nation)</p> <p>14760 School House Line, RR #3 Thamesville, ON N0P 2K0</p> <p>denise.stonefish@delawarenation.on.ca Phone: 519-692-3936</p>	<ul style="list-style-type: none"> Notice of Study Commencement dated February 8, 2018 and sent to the address listed. Notice of PIC #1 sent via email on August 3, 2018. Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and left a voicemail for Chief Denise Stonefish.
<p>Chief Randall Phillips Oneida of the Thames First Nation</p> <p>2212 Elm Avenue Southwold, ON N0L 2G0</p> <p>randall.phillips@oneida.on.ca Phone: 226-926-8973</p> <p>** New Chief: Jessica Hill ** Oneida of the Thames First Nation</p> <p>jessica.hill@oneida.on.ca</p>	<ul style="list-style-type: none"> Notice of Study Commencement dated February 8, 2018 and sent to the address listed. Notice of PIC #1 sent via email on August 3, 2018. Madeline Benner called for follow up on the PIC Notice on August 9, 2018, number is no longer in service. Jessica Hill was recently elected as Chief in July however could not find contact information. Contacted the political office to obtain contact information but they didn't know. A voicemail was left on her phone after speaking with reception although the voicemailbox was still for Chief Randall Phillips.
<p>Mr. Glenn Forrest Munsee-Delaware Nation</p> <p>289 Jubilee Road, RR #1 Muncey, ON N0L 1Y0</p> <p>glenn@munsee.ca Phone: 519-289-5396</p>	<ul style="list-style-type: none"> Notice of Study Commencement dated February 8, 2018 and sent to the address listed. Notice of PIC #1 sent via email on August 3, 2018. Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and left a message with his receptionist as his voicemailbox was full.
<p>Chief Roger Thomas Munsee-Delaware Nation</p> <p>289 Jubilee Road, RR #1 Muncey, ON N0L 1Y0</p> <p>chief@munsee.ca Phone: 519-289-5396</p>	<ul style="list-style-type: none"> Notice of Study Commencement dated February 8, 2018 and sent to the address listed. Notice of PIC #1 sent via email on August 3, 2018. Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and spoke with the Chief who noted he did not have any comments.
<p>Ms. Donna Grayer Métis Nation of Ontario</p> <p>145-600 Tecumseh Road East Windsor, ON N8X 4X9</p> <p>windsorsexmetiscouncil@gmail.com Phone: 1-888-243-5148 x2</p>	<ul style="list-style-type: none"> Notice of Study Commencement dated February 8, 2018 and sent to the address listed. Notice of PIC #1 sent via email on August 3, 2018. Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and left a voicemail message at the main desk.

<p>Mr. Alden Barty Métis Nation of Ontario</p> <p>355 Cranston Crescent, PO Box 4 Midland, ON L4R 4K6</p> <p>aldenb@metisnation.org Phone: 705-526-6335 x 210</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and left a voicemail message for Alden Barty.
<p>Ms. Wanda Maness Tri-Tribal Monitoring Services</p> <p>1106 Tashmoo Avenue Sarnia, ON N7T 7H5</p> <p>wmaness@outlook.com Phone: 519-344-0655</p>	<ul style="list-style-type: none"> • Notice of Study Commencement dated February 8, 2018 and sent to the address listed. • Notice of PIC #1 sent via email on August 3, 2018. • Madeline Benner called for follow up on the PIC Notice on August 9, 2018 and spoke with Wanda who noted she won't be attending the PIC but would like to be added to the project mailing list to ensure monitors can attend the project.

**SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY SCHEDULE 'B' MUNICIPAL CLASS
ENVIRONMENTAL ASSESSMENT FOR THE TOWN OF AMHERSTBURG**

January 9, 2019

**APPENDIX B
NATURAL ENVIRONMENT MEMOS**

To:	Paula Burnard, Mike Mastronardi	From:	Natalie Taylor
	London ON, Windsor ON		Guelph, ON
File:	165620084	Date:	September 5, 2018

**Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report**

The Town of Amherstburg initiated a Municipal Class Environmental Assessment (Class EA) study to provide proposed new developments in the southeast quadrant of the urban hub of the Town with adequate water and sanitary sewage servicing. The study is being undertaken in accordance with the planning and design process for 'Schedule B' projects outlined in the *Municipal Class Environmental Assessment* document (June 2000, as amended in 2007, 2011 and 2015) under the Ontario *Environmental Assessment Act* (EA Act). The study will address impacts to existing and surrounding lands and to the environment to provide water and sanitary sewage servicing to the southeast urban hub of the Town of Amherstburg. The existing watermain system is undersized to support future growth and a municipal wastewater collection system is currently absent. Multiple parties have requested the necessary sanitary and water servicing infrastructure to be installed to allow for future development of these lands. The Town of Amherstburg has retained Stantec Consulting Ltd. to conduct the Class EA.

This memo summarizes the data collected for the project study area, which includes the proposed watermain and sanitary sewer system location (the "project location") and a 120 m buffer on each side, as shown on **Figure 1** (attachment 1). The southeast urban hub quadrant is approximately 289 hectares (ha) and is comprised mostly of rural agricultural land with small pockets of residential land use,

Data collected in support of this Class EA includes background data through various wildlife atlases and agency consultation, and site investigations (vegetation and wildlife surveys). Surveys were conducted by Stantec Consulting Ltd. on July 12, 2018. Surveys were completed along the roadside. Where property access was permitted in this study area, ELC and wildlife habitat assessments were conducted.

Vegetation and wildlife survey summaries and discussion points include the following:

- Ecological Land Classification (ELC) – mapping of vegetation communities
- Botanical (vascular plant) inventory
- Wildlife habitat assessments
- Species at risk (SAR) habitat assessments for: plants, butterflies, turtles, snakes, birds and bats
- Discussion of potential impacts to vegetation, wildlife and wildlife habitat, including SAR and SAR habitat and Stantec's recommended mitigation

I. BACKGROUND DATA COLLECTION

Background data applicable to the project study area were obtained through review of existing documents and information available online. Background resources reviewed included:

- Land Information Ontario Natural Heritage Mapping [LIO] (MNRF 2018a)
- Natural Heritage Information Centre Data [NHIC] (MNRF 2018b)

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

- The Corporation of The Town of Amherstburg Official Plan [OP] (2014)
- Ontario Breeding Bird Atlas (Cadman et al. 2007)
- Ontario Mammal Atlas (Dobbyn 1994)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2018)

AGENCY CONSULTATION

The Ministry of Natural Resources and Forestry (MNRF) was consulted to request records of SAR and provincially rare species known to occur in proximity to the project study area. An information request was sent on March 12, 2018. A response was received on July 25, 2018 providing additional detail on SAR records in and adjacent to the study area, as well as details on the wetland evaluation for the Big Creek Marsh PSW. Follow-up information was requested for the SAR that may occur in the study area, and a response was received on August 20, 2018 with the requested information.

A Notice of Study Commencement was sent to Essex Region Conservation Authority (ERCA) on February 8, 2018. Two responses were received from ERCA dated February 26, 2018 and April 4, 2018.

EXISTING NATURAL FEATURES

Natural features in the project study area were identified through LIO (MNRF 2018a) mapping and the Town of Amherstburg OP (2014), and were predominantly associated with Big Creek. Natural features identified through LIO mapping are shown on **Figure 2**, and include:

- Wooded areas
- Provincially Significant Wetlands (PSW) – Big Creek Marsh
- Deer wintering areas
- Important Bird Areas – Lower Detroit River

Natural features identified in the Town of Amherstburg OP (2014) overlapped with the natural features identified through LIO (MNRF 2018a) mapping. Natural features identified in Schedules B-2 and B-3 in the OP (2014) include:

- Natural Environment (similar boundaries to wooded areas identified through LIO [MNRF 2018a] mapping)
- PSW – Big Creek Marsh

SPECIES AT RISK AND SPECIES OF CONSERVATION CONCERN

Species at risk are those species given status rankings by the Federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and/or the provincial Committee on the Status of Species at Risk in Ontario (COSSARO), as threatened or endangered according to federal or provincial legislation. Endangered and threatened species in Ontario that are listed on the Species at Risk in Ontario (SARO) list (O. Reg. 230/08) receive general habitat protection under the *Endangered Species Act* (ESA 2007). Special concern species are not afforded habitat protection and have been summarized as species of conservation

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

concern (SOCC). On federal lands (e.g. First Nations reserves), endangered and threatened species as well as their residence and critical habitat are protected under the federal Species at Risk Act (SARA 2002).

SOCC include species ranked as S1-S3 (critically imperiled-vulnerable), species provincially listed as special concern or species with a federal listing but without a provincial S1-S3 ranking or SARO listing.

Based on the background review, 17 SOCC and 16 SAR have ranges that overlap with the project study area. Only recent records (less than 30 years old) of SOCC and SAR were considered. For protection purposes, exact locations of species are not provided (only within a 1 km grid), and presence of the species in the study area are not definite. The potential for species to be present is limited by habitat suitability and availability in the study area. Through MNRF consultation, known records of SAR and SOCC were identified in the study area (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018). Plant and wildlife SAR and SOCC that are known to occur or have the potential to occur in or adjacent to the project study area as identified through the background review are listed in **Table 1**. Consideration and habitat assessment for each of these species are discussed in Section II.

Table 1: Plant and Wildlife SAR and SOCC potentially occurring in the study area

Common Name	Scientific Name	National Status	Provincial Status	Provincial S-rank
Plants				
Dense Blazing Star	<i>Liatris spicata</i>	THR	THR	S2
Eastern Stiff-leaved Goldenrod	<i>Solidago rigida ssp. rigida</i>	-	-	S3
Nodding Onion	<i>Allium cernuum</i>	-	-	S2
Schweinitz's Flatsedge	<i>Cyperus schweinitzii</i>	-	-	S3
Squarrose Sedge	<i>Carex squarrosa</i>	-	-	S2
Swamp Rose-mallow	<i>Hibiscus moscheutos</i>	SC	SC	S3
Butterflies & Dragonflies				
Monarch	<i>Danaus plexippus</i>	SC	SC	S4
River Bluet	<i>Enallagma anna</i>	-	-	S2
Reptiles				
Blanding's Turtle	<i>Emydoidea blandingi</i>	THR	THR	S3
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	SC-NS	-	S5
Northern Map Turtle	<i>Graptemys geographica</i>	SC	SC	S3
Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	S3
Butler's Gartersnake	<i>Thamnophis butleri</i>	END	END	S2
Eastern Foxsnake (Carolinian)	<i>Pantherophis gloydi</i>	END	END	S3
Queensnake	<i>Regina septemvittata</i>	END	END	S2

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

Table 1: Plant and Wildlife SAR and SOCC potentially occurring in the study area

Common Name	Scientific Name	National Status	Provincial Status	Provincial S-rank
Birds				
Bald Eagle	<i>Haliaeetus leucocephalus</i>	NAR	SC	S2B, S4N
Bank Swallow	<i>Riparia riparia</i>	THR	THR	S4B
Barn Swallow	<i>Hirundo rustica</i>	THR	THR	S4B
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	-	-	S3B
Black Tern	<i>Chlidonias niger</i>	-	SC	S3B
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	S4B
Common Nighthawk	<i>Chordeiles minor</i>	THR	SC	S4B
Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	S4B, S4N
Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	S4B
Eastern Wood-Pewee	<i>Contopus virens</i>	SC	SC	S4B
Great Egret	<i>Ardea alba</i>	-	-	S2B
Prothonotary Warbler	<i>Protonotaria citrea</i>	END	END	S1
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	THR	SC	S4B
Wood Thrush	<i>Hylocichla mustelina</i>	THR	SC	S4B
Mammals				
Small-footed Myotis	<i>Myotis leibii</i>	-	END	S2S4
Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	S4
Northern Myotis	<i>Myotis septentrionalis</i>	END	END	S3?
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	END	S3?

S1: Critically Imperiled—Critically imperiled in the province (often 5 or fewer occurrences)

S2: Imperiled—Imperiled in the province, very few populations (often 20 or fewer),

S3: Vulnerable—Vulnerable in the province, relatively few populations (often 80 or fewer)

S4: Apparently Secure—Uncommon but not rare

S5 – Secure and common

S#?: indicates uncertainty in the breeding rank

END: Endangered

THR: Threatened

SC: Special Concern

NS: no schedule

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

II. 2018 TERRESTRIAL SITE INVESTIGATIONS

VEGETATION

Ecological Land Classification

Vegetation communities were delineated using the ELC system for Southern Ontario (Lee et al. 1998) and, where appropriate, the updated ELC Catalogue (2008). ELC mapping was completed to the finest level of resolution (vegetation type) where possible. Vegetation communities were first identified on aerial imagery and then checked in the field. Provincial significance of vegetation communities was based on the rankings assigned by the NHIC (MNR 2018b).

The study area was predominantly agricultural fields. Single family residential areas were located west of Fryer Street, north of Lowes Sideroad. Big Creek intersected the study area in two locations: the east and south, where most of the naturally occurring vegetation communities in the study area were in close proximity to this watercourse. Areas of thicket, meadow and marsh occasionally occurred in the study area.

Two wetland communities were identified in the study area: MAMM1-12 and MASM1-12. Both wetland communities were dominated by phragmites. Due to property access constraints, wetland boundary delineations were not completed. Both wetland communities were located outside the project location, but in the study area.

None of the ELC communities identified in the project study area are considered rare in the province.

ELC mapping of the project study area is shown on **Figure 2** (attachment 1). ELC community descriptions are provided in **Table 2**.

Table 2: ELC Communities in the Project Study Area

ELC Community	Community Description
CULTURAL	
AGRICULTURE	
OAGM1 Annual Cover Crops	Predominantly corn crops in the east and south portion of the study area
OAGM2 Perennial Cover Crops	Hay fields located at the southwest portion of the study area
CONSTRUCTED	
CGL_4 Recreational	Recreational facility located in the west portion of the study area: A M A Sportsman Association
CVS_1 Education	Elementary school located in the north portion of the study area: École élémentaire catholique Saint-Jean-Baptiste
CVI_1 Transportation	Includes roads in rural residential areas, (e.g. Fryer Street, Lowes Sideroad)
CVR_3	Single family dwellings located primarily in the northwest portion of the study area

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

Table 2: ELC Communities in the Project Study Area

ELC Community	Community Description
Single Family Residential	
CVR_4 Rural Residential	Rural dwellings located adjacent to agricultural fields throughout the study area
MEADOW	
GRAMINOID MEADOW	
MEGM3 Dry-Fresh Graminoid Meadow	This meadow community was located adjacent to a deciduous thicket community at the east section of the study area. This community was comprised predominantly of grasses, and included timothy, orchard grass, fescues and quack grass. Common milkweed was occasionally observed in this community.
FORB MEADOW	
MEFM1 Dry-Fresh Forb Meadow	Meadow community with occasional deciduous tree regeneration. Dense weedy vegetation cover, including various thistle species, wild carrot, reed canary grass, yellow sweet-clover, common milkweed, Canada goldenrod, Manitoba maple and Drummond's dogwood.
MIXED MEADOW	
MEMM3 Dry-Fresh Mixed Meadow	This community was highly disturbed, with areas of open earthworks, and portions of the vegetated community mowed. A mix of grasses and herbaceous cover (milkweed, goldenrods, asters).
THICKET	
DECIDUOUS THICKET	
THDM2-11 Hawthorn Deciduous Shrub Thicket	This community bordered Big Creek in the western portion of the study area, and was comprised of mature hawthorns. Drummond's dogwood and phragmites were occasional in this community. Vegetation cover in this community was dense.
THDM5 Fresh-Moist Deciduous Thicket	This community was dominated by Drummond's dogwood, with occasional-abundant cover of white mulberry. Eastern cottonwood saplings were occasional, amongst white elm and Manitoba maple saplings.
WOODLAND	
DECIDUOUS WOODLAND	
WODM4-4 Dry-Fresh Black Walnut Deciduous Woodland	Canopy cover in this community was comprised of black walnut, bur oak and hickories, where canopy height alternated between 10-20 metres. The understory supported young growth of black walnut, hickory, bur oak amongst Drummond's dogwood.
FOREST	
DECIDUOUS FOREST	
FODM11 Naturalized Deciduous Hedgerow	This deciduous hedgerow separated agricultural fields in the east portion of the study area, where vegetation was a mix between tree and shrub cover. Dominant species could not be confirmed due to the distance away from the roadside.

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

Table 2: ELC Communities in the Project Study Area

ELC Community	Community Description
MARSH	
MEADOW MARSH	
MAMM1-12 Common Reed Graminoid Mineral Meadow Marsh	This community was dominated by Phragmites, and was located in an agricultural field in the west portion of the study area. No standing water was observed.
SHALLOW MARSH	
MASM1-12 Common Reed Mineral Shallow Marsh	This community bordered Big Creek in the east section of the study area. Vegetation cover was densely dominated by Phragmites in areas of standing water.
OPEN WATER	
OA0 Open Aquatic	Open aquatic features associated with Big Creek. East and west portions of the study area overlap with Big Creek

Botanical Inventory

Flora nomenclature was based primarily on the Database of Vascular Plants of Canada (VASCAN) (Brouillet et al. 2010+) with updates to genera, specific epithets and family names as necessary to reflect recent taxonomic revisions. The primary source of revised nomenclature was VASCAN (2016).

The provincial status of all plant species was based on NHIC (MNR 2018b). Identification of potentially sensitive native plant species was based on their assigned coefficient of conservatism (CC) value, as determined by Oldham et al. (1995). This CC value, ranging from 0 (low) to 10 (high), is based on a species' tolerance of disturbance and fidelity to a specific natural habitat. Species with a CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters.

A total of 93 species of vascular plants were recorded from the project study area (attachment 2), of which 51% were native. Thirty-nine species (82%) of these native plants have a rank of S5, indicating they are common and secure within Ontario. Eight species (17%) have a rank of S4 (apparently secure). One rare vascular plant species was observed in the project study area: honey locust. Honey Locust was found along Lowes Side Road adjacent to a rural property. This species is further discussed below as a SOCC.

WILDLIFE AND WILDLIFE HABITAT

Wildlife habitat assessments were conducted in the project study area to determine the presence of potential significant wildlife habitat features and SAR habitat. Habitat surveys included:

- Monarch butterfly habitat
- Turtle overwintering and nesting, specifically along Big Creek
- Snake hibernacula features

Reference: SE Amherstburg – Municipal Class EA
Existing Conditions and 2018 Terrestrial Summary Report

- Breeding bird habitat
- Bat roosting habitat

Monarch Butterfly Habitat

Monarch are commonly found in meadow habitats, abandoned farmland and roadsides where milkweed and wildflowers (such as goldenrods, asters and purple loosestrife) are abundant (COSEWIC 2010). Limited meadow habitat suitable for Monarch Butterfly occurred in the study area. Two meadow communities (MEGM3, MEFM1, MEMM3) were identified in the study area. Community MEGM3 did not support high numbers of forb cover, as the community was dominated by grasses; however, occasional individuals of common milkweed were observed in this community. Community MEFM1 was densely dominated by weedy cover, and supported goldenrod and milkweed cover. Community MEMM3 was highly disturbed with areas of open exposed earth amongst grassy areas that were recently mowed. Although limited forb vegetation cover was present for Monarch Butterfly, it is anticipated this species may occur along roadside ditches or in communities MEGM3 and MEFM1. However, as preferred habitat of abundant milkweed and preferred wildflowers was not identified in the study area for Monarch, candidate habitat for Monarch is not considered present in the study area.

Turtle Habitat

Turtle species, including Snapping Turtle, Midland Painted Turtle and Painted Turtle, may occur in Big Creek. In addition, records of Blanding's Turtle are known to occur in the Big Creek Marsh PSW in the west portion of the study area. The depth of Big Creek was not confirmed during site investigations; however, it is anticipated the depth is greater than 2 metres. The water was slow moving and supported a dense concentration of phragmites on both sides of the creek. No other large patches of emergent or submergent vegetation were observed in the study area. Big Creek has the potential to support turtle overwintering. Limited open gravel patches were observed on the road shoulders, as the road shoulders were predominantly mowed grass. No suitable nesting substrate of sandy or gravel banks were observed in the project footprint; however, suitable nesting habitat may occur in the study area in areas of exposed earth and gravel patches. The proposed project may potentially impact turtles and their habitat along Big Creek. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

Snake Habitat

Snake species, including Butler's Gartersnake and Eastern Foxsnake are known to occur in the study area. The project study area supports a variety of habitats suitable for snakes, including meadow, thicket, marsh, woodland, riparian and drainage swales. Snakes will hibernate in features located below frost lines, and can occur in burrows, rock crevices and other natural locations to escape freezing temperatures (MNR 2015). Approximately 100 terrestrial crayfish chimneys were identified in the marsh (MAMM1-12) and agricultural field (OAGM1) located in the west portion of the study area, as shown on **Figure 4**. Terrestrial crayfish chimneys may provide overwintering habitat for Butler's Gartersnake (MNR 2018c). No other potential hibernacula features were identified in the project footprint; however, as areas in the study area could not be fully assessed due to limited property access, suitable hibernacula features may be present in the project study area. Potential presence of snake habitat may occur in the project study area. Snake species have the potential to be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

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Breeding Bird Habitat

As the project footprint is primarily located along an existing road allowance adjacent to residential areas and agricultural fields, minimal breeding bird habitat was identified. Agricultural areas were predominantly corn and soy. Areas of natural vegetation cover were mostly associated with Big Creek and Big Creek Marsh PSW; however, as the project is located in an existing road allowance, minimal disturbance is anticipated to these areas. Treed and woodland habitats in the study area were not identified to support SAR or SOCC woodland breeding bird species (Wood Thrush, Eastern Wood-pewee, Prothonotary Warbler, Red-headed Woodpecker). In addition, no stick nests were observed along Big Creek or in the remaining extent of the study area. Additionally, suitable habitat for Common Nighthawk, including open sandy habitats or recently cleared woodlands (Bringham et al. 2011)) were not observed in the study area. At the west portion of the study area, the proposed project footprint transverses an agricultural field. At the time of the survey, this field was an annual row crop. Directly south of the project location, a hayfield was present in the project study area. Although no Bobolink or Eastern Meadowlark were observed in this field, this hay field has the potential to support grassland breeding bird habitat. As this field is located outside the project footprint, potential impacts to grassland breeding bird habitat is not anticipated.

Potential habitat for Barn Swallow may occur under bridges in the study area, specifically, the bridge under Big Creek; however, no nesting Barn Swallow were identified during Stantec's 2018 site investigations. Project activities are not anticipated to disturb the bridge structure.

Bat Roosting Habitat

Roosting habitat for 4 SAR bats (Little Brown Myotis, Northern Myotis, Small-footed Myotis and Tri-colored Bat) in the project study area may occur in the deciduous woodland along Big Creek, as well as in mature trees along the roadside and hedgerows. Potential occurrence of these 4 SAR bats may also be found in anthropogenic structures in the study area. No trees in the deciduous woodland feature are proposed for removal. No buildings are proposed for removal. All trees located in the project footprint were surveyed for habitat characteristics that may support bat roosting. Trees suitable to support bat roosting were not identified in the project footprint; however, as habitat assessments are most accurate when completed during leaf-off, suitable bat roosting trees may be present in the study area. As bat use of trees in the project location could not be confirmed during site investigations, potential impacts to roosting bats may occur if tree removal is required. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III. No buildings are proposed for removal as a result of project activities.

SPECIES AT RISK AND SPECIES OF CONSERVATION CONCERN

Based on the ELC and wildlife habitat assessment, the project study area has the potential to support 4 SOCC and 10 SAR.

Honey Locust is ranked as S2 (imperiled). It is not designated provincially or federally. The study area is generally within honey locust's known natural range in Ontario; however, it is unknown if the 4 honey locust individuals occurring in the study area are of natural occurrence or if they were planted/escaped from cultivation. Honey locust typically occur on moist, rich bottomlands as scattered individuals mixed with other broadleaf trees (Farrar 1995). Due to their presence adjacent to a residence and part of a roadside hedgerow, it is expected that these four honey locust are not naturally occurring in the study area. The location of these 4 individuals are shown on **Figure 4**. As the natural occurrence of these individuals could not be confirmed during site investigations, recommended mitigation measures are discussed below in Section III.

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Snapping Turtle is ranked S3 (vulnerable) and is listed as special concern provincially and federally. Snapping Turtle is not afforded habitat protection under the ESA (2007). This species inhabits ponds, sloughs, streams, rivers, and shallow bays that are characterized by slow moving water, aquatic vegetation, and soft bottoms (COSEWIC 2008). It prefers to stay in shallow water, where it buries itself into mud and leaf litter and has easy access to the surface for air (MNRF 2018C). Females nest in sand or gravel, frequently using manmade surfaces such as road shoulders and aggregate pits. Nesting occurs in May and early June (MNRF 2018C; COSEWIC 2008). Suitable overwintering habitat for Snapping Turtle potentially occurs in Big Creek, located in the study area and is shown on **Figure 4**. Snapping Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

Northern Map Turtle is ranked S3 (vulnerable) and is listed as special concern provincially and federally. Northern Map Turtle is not afforded habitat protection under the ESA (2007). This species inhabits rivers and lakes with suitable basking sites such as deadheads, rocks and emergent vegetation (MNRF 2018C; COSEWIC 2002). It requires high-quality water with abundant mollusc populations, which are the preferred prey source (MNRF 2018C). The map turtle overwinters in slow-moving, deep sections of river (COSEWIC 2002). Suitable overwintering habitat for Northern Map Turtle potentially occurs in Big Creek, located in the study area, and is shown on **Figure 4**. Northern Map Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

Midland Painted Turtle is listed as special concern federally, and has not been assigned to a schedule. This species inhabit ponds, marshes, lakes and slow-moving creeks with a soft bottom, plentiful basking sites and abundant aquatic vegetation (Ontario Nature 2018). Suitable overwintering habitat for Midland Painted Turtle potentially occurs in Big Creek, located in the study area, and is shown on **Figure 4**. Midland Painted Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

Blanding's Turtle is listed as threatened provincially and federally and is afforded habitat protection under the ESA (2007). This turtle species prefers shallow water in heavily vegetated, large wetlands and lakes (MNRF 2018C), and will also use streams, rivers and ponds. Nesting sites occur in a variety of loose substrates such as sand, gravel and cobblestone (COSEWIC 2005). Blanding's Turtles can often be found hundreds of metres from the nearest aquatic habitat during the active season, as they search for mates or nest sites (MNRF 2018c). Through correspondence with MNRF (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018), records of Blanding's Turtle were identified in the Big Creek Marsh Wetland Complex that runs through the western portion of the study area (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] August 20, 2018). Follow-up discussions with MNRF will be required to determine extent and location of Blanding's Turtle habitat in relation to the study area. It is anticipated potential habitat for Blanding's Turtle occurs in Big Creek located in the study area and is shown on **Figure 4**. Blanding's Turtle may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

Barn Swallow is listed as threatened provincially and federally and is afforded habitat protection under the ESA (2007). This species commonly nests on walls or ledges of barns, bridges, culverts or other man-made structures (Cadman et al. 2007). Where suitable nesting structures occur, Barn Swallow often form small colonies, sometimes mixed with other swallow species (COSEWIC 2011). The Barn Swallow feeds on aerial insects while foraging over a variety of open habitats such as pastures, lawns, meadows and fields (COSEWIC 2011). Occurrence of nesting Barn Swallow may occur on the bridge crossing Big Creek in the

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east portion of the study area. Alteration to this bridge is not anticipated during project activities. Impacts to Barn Swallow are not anticipated as a result of project activities.

Butler's Gartersnake is a known resident to the area (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018). This species is listed as endangered provincially and federally and is afforded habitat protection under the ESA (2007). Habitat preferences include moist, open habitats close to small wetlands, where the preferred food source is earthworms and leeches (MNRF 2018C). Hibernacula are usually found in old rodent or crayfish burrows but can also be located in stone walls and foundations (MNRF 2018C). The study area supports habitat features that may support Butler's Gartersnake, including thickets (THDM2-11, THDM5), meadows (MEGM3, MEMM3 and MAMM1-12), woodland (WODM4) and drainage swales. Potential hibernacula features such as crayfish chimneys were identified in the project study area. Habitat features that may support Butler's Gartersnake in the study area is illustrated on **Figure 4**. To mitigate impacts to this species and its habitat during construction activities, proposed mitigation is discussed below in Section III. Extent and confirmation of proposed mitigation and associated permitting requirements should be determined through consultation with MNRF.

Eastern Foxsnake is listed as endangered provincially and federally and has regulated habitat protection under the ESA (2007). This species prefers un-forested habitats, such as shorelines, prairies, savannahs, rock barrens and wetlands, and are most commonly found along shoreline edge habitats. In southern Ontario, this species will use a variety of altered or heavily modified habitats, such as drainage ditches, building foundations and hedgerows (Ontario Nature 2018). Through correspondence with MNRF (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] July 25, 2018), regulated habitat for Eastern Foxsnake was identified on and adjacent to the study area. Follow-up communications with MNRF (personal communication with Emilee Hines [MNRF] and Natalie Taylor [Stantec] August 20, 2018) confirmed the project study area is entirely located in regulated habitat for Eastern Foxsnake. Habitat features that may support Eastern Foxsnake in the study area are shown on **Figure 4**, and include marsh (MAMM1-12, MASM1-12), thicket (THDM2-11, THDM5), hedgerow (FODM11), drainage and other riparian habitat (WODM4-4) adjacent to Big Creek. Eastern Foxsnake may potentially be impacted during project activities. To mitigate potential impacts, recommended mitigation measures are discussed below in Section III.

Bobolink is provincially and federally listed as a threatened species and is afforded habitat protection under the ESA (2007). The Bobolink is generally referred to as a "grassland species", where nesting occurs in grassland and forage crops with a mixture of grasses and broad-leaved forbs (COSEWIC 2010). This species has potential to occur in the southern portion of the study area in two hayfields. These hayfields are not in the project location; alteration or removal of these hayfields is not anticipated as a result of project activities. As such, this species and its habitat are not anticipated to be impacted by the project.

Eastern Meadowlark is provincially and federally listed as a threatened species and is afforded habitat protection under the ESA (2007). The Eastern Meadowlark is typically found in fields, meadows, golf courses, pastures, alfalfa fields, roadsides and other open areas (MNRF 2018C). Older sites with moderately tall grass, a substantial litter layer, low forb and shrub cover and dense grasses are preferred (COSEWIC 2011). Meadow habitats in the study area (MEGM3, MEFM1, MEMM3) were not considered suitable habitat for Eastern Meadowlark due to their small size and evidence of frequent habitat disturbance. Eastern Meadowlark has potential to occur in the southern portion of the study area in two hayfields. These hayfields are not included in the project location; alteration or removal of these hayfields are not anticipated as a result of project activities. As such, this species and its habitat are not anticipated to be impacted by the project.

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Four SAR bats have the potential to occur in the study area, and include Little Brown Myotis, Northern Myotis, Small-footed Myotis and Tri-coloured Bat. Little Brown Myotis, Northern Myotis and Tri-coloured Bat are provincially and federally listed as an endangered species. Small-footed Myotis is provincially listed as an endangered species. All four bat species are afforded habitat protection under the ESA (2007). The Little Brown Myotis roosts in tree cavities and abandoned buildings, and often forms roosting colonies in barns, attics and abandoned buildings (MNRF 2018C; COSEWIC 2013). They have been found in a wide variety of deciduous and coniferous tree stands (COSEWIC 2013). Hibernation typically occurs in caves and mines (MNRF 2018C), none of which were identified in the Study Area. The Northern Myotis roosts in colonies in tree cavities (COSEWIC 2013) in a wide variety of deciduous and coniferous forest stands. Small forest gaps, such as over streams or ponds, are used for foraging (COSEWIC 2013). The Tri-coloured Bat roosts in colonies in tree cavities (COSEWIC 2013) in a wide variety of deciduous and coniferous forest stands. Little is known about the effect of stand composition on maternity roost selection for this species, but it is strongly associated with forest watercourses and streamside vegetation (COSEWIC 2013). The Eastern Small-footed Myotis roosts in a variety of habitats, including hollow trees, under rocks or in rock outcrops, in buildings, caves, mines and under bridges. Different roosting sites may be selected each day. Hibernation occurs in abandoned mines and caves (MNRF 2018C).

Limited potential for natural roosting habitat (i.e. sang/cavity trees) was identified in the study area; however, as a habitat assessment was not completed during the leaf-off season, a conservative mitigation approach is recommended for tree removal in the study area. Proposed mitigation for SAR bats are discussed in Section III.

Based on the ELC, botanical inventory and wildlife habitat assessments, 3 SOCC and 7 SAR and their habitat may potentially be impacted by the project: Northern Map Turtle, Snapping Turtle, Midland Painted Turtle, Blanding's Turtle, Butler's Gartersnake, Eastern Foxsnake, Little Brown Myotis, Northern Myotis, Small-footed Myotis and Tri-colored Bat. Authorizations under the ESA (2007) may be required for some species and will be determined based on further consultation with MNRF. Proposed mitigation specific to SAR will be determined and confirmed through consultation with MNRF.

III. POTENTIAL IMPACTS AND PROPOSED MITIGATION

The project footprint is primarily located in an existing road allowance. Project activities will primarily take place in an existing road allowance and grassy roadside that is regularly maintained. Potential impacts to natural features and wildlife in the construction footprint include:

1. Loss of vegetation. Vegetation removal will include loss of trees and shrubs in the project footprint along the roadside and portions of the existing grassy roadside. A portion of an agricultural field, thicket and riparian habitat will be altered or removed in the west portion of the study area.
2. Where the project footprint overlaps with the existing natural features in the study area, potential alteration of existing natural features may occur, including a deer wintering area and the Big Creek PSW. As the proposed project is located in an existing road allowance, potential impacts to deer wintering area in the project footprint are not anticipated. As proposed works will overlap with the Big Creek PSW, further discussion and permitting will be required through the local Conservation Authority (Essex Region Conservation Authority).
3. Potential impacts to turtle species in Big Creek. The proposed watermain and sanitary sewer system crosses Big Creek, where the system is anticipated to be drilled/bored under the watercourse feature.

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4. Temporary alteration of SAR snake habitat in the project footprint.
5. Temporary impacts to wildlife populations in the area due to construction noise and vibrations.
6. Direct mortalities from construction activities and/or animal-vehicle collisions due to increased construction traffic.

Stantec recommends the following mitigation measures to mitigate potential impacts to wildlife and wildlife habitat during project activities:

1. Tree and vegetation removal will occur outside the migratory bird nesting season (April 3 and August 11, as per Zone C1 of Environment Canada's Bird Nesting Zones [Environment Canada, 2016]) to mitigate disturbance or destruction of nesting birds protected under the MBCA.
2. A conservative approach will be taken to mitigate potential impacts to roosting bats that may be using the trees in the project location. Removal of trees will occur outside of the bat roosting period of May 1 to August 31.
3. Exclusion fencing will be erected around the construction activity area and equipment storage area to exclude snakes and turtles from entering the construction zone during the snake and turtle active period. Exclusionary fencing will be erected along adjacent habitat features identified on **Figure 4**. Location, fence height and fence erection timing will be determined and confirmed through MNRF consultation and is recommended to follow the guidelines presented in MNRF's *Reptile and Amphibian Exclusion Fencing*.
4. No equipment or machinery will be permitted past the exclusionary fencing to mitigate soil compaction, destruction of nesting birds or reptiles in the area.
5. Where wetlands are adjacent to the construction areas, and High Directional Drill (HDD) is not to be implemented, Stantec recommends silt fencing to be installed to protect the adjacent wetland feature. In addition, the following mitigation is recommended to reduce impacts to wetlands during construction:
 - Staging areas to be located at least 30 m away from the edge of wetlands.
 - All activities, including equipment maintenance and refueling to be controlled to prevent entry of petroleum products or other deleterious substances, including any debris, waste, rubble, or concrete material, into a wetland.
 - In the unlikely event of a spill, spills containment and clean-up procedures to be implemented immediately. It is the responsibility of the contractor to contact the Ministry of Environment, Parks and Culture (MECP) Spills Action Centre. The MECP Spills Action Centre is the first point of contact for spills at the provincial and federal level.
 - Construction material, excess material, construction debris and empty containers to be stored away from adjacent wetlands.
 - Temporary work space width to be minimized when working within 30 m of wetlands, where practical.
 - Construction dewatering to be discharged to sediment removal basins if discharge to a well-vegetated dry area is not feasible. Locate the sediment removal basin in an area that maximizes the

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distance to the nearest surface water feature and minimize the slope of the surrounding buffer area.
The basin to consist of a temporary enclosure constructed with hay bales, silt fence or both.

6. Appropriate sediment and erosion control measures to be applied during construction activities.
7. Mitigation specific to Butler's Gartersnake, Eastern Foxsnake and Blanding's Turtle and their habitat will be considered through consultation with MNR. Specific mitigation will consider proper storage, fencing and daily inspection of equipment, construction timing windows in or adjacent to specialized habitat, such as hibernacula, nesting or basking habitat. Proposed mitigation measures for these three species are considered to adequately protect other resident snake and turtle species in the area.
8. Preparation and distribution of SAR and SOCC fact sheets, including identification and contact information and reporting protocols for any SAR observations and mortalities.
9. Retain honey locust trees, when possible, during construction activities.
10. Avoid construction activities where possible in identified existing natural features, including deer wintering areas and the Big Creek PSW.
11. Posting of speed limits in the construction area to mitigate road or vehicle related wildlife mortalities.

Through the use and application of the above recommended mitigation measures, no significant adverse residual impacts on wildlife or wildlife habitats are anticipated. Therefore, the proposed location for the watermain and sanitary sewer system is anticipated to have no significant adverse environmental effects with respect to wildlife or wildlife habitat.

Stantec Consulting Ltd.



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Terrestrial Ecologist

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Attachment 1: Figure 1: Study Area and Project Location
Figure 2: Existing Natural Features
Figure 3: Ecological Land Classification
Figure 4: Wildlife Habitat, Species of Conservation Concern and Species at Risk Habitat

Attachment 2: Vascular Plant List

c. Mike Mastronardi, Stantec
Sean Stuart, Stantec
Nicole Kopysh, Stantec

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September 5, 2018

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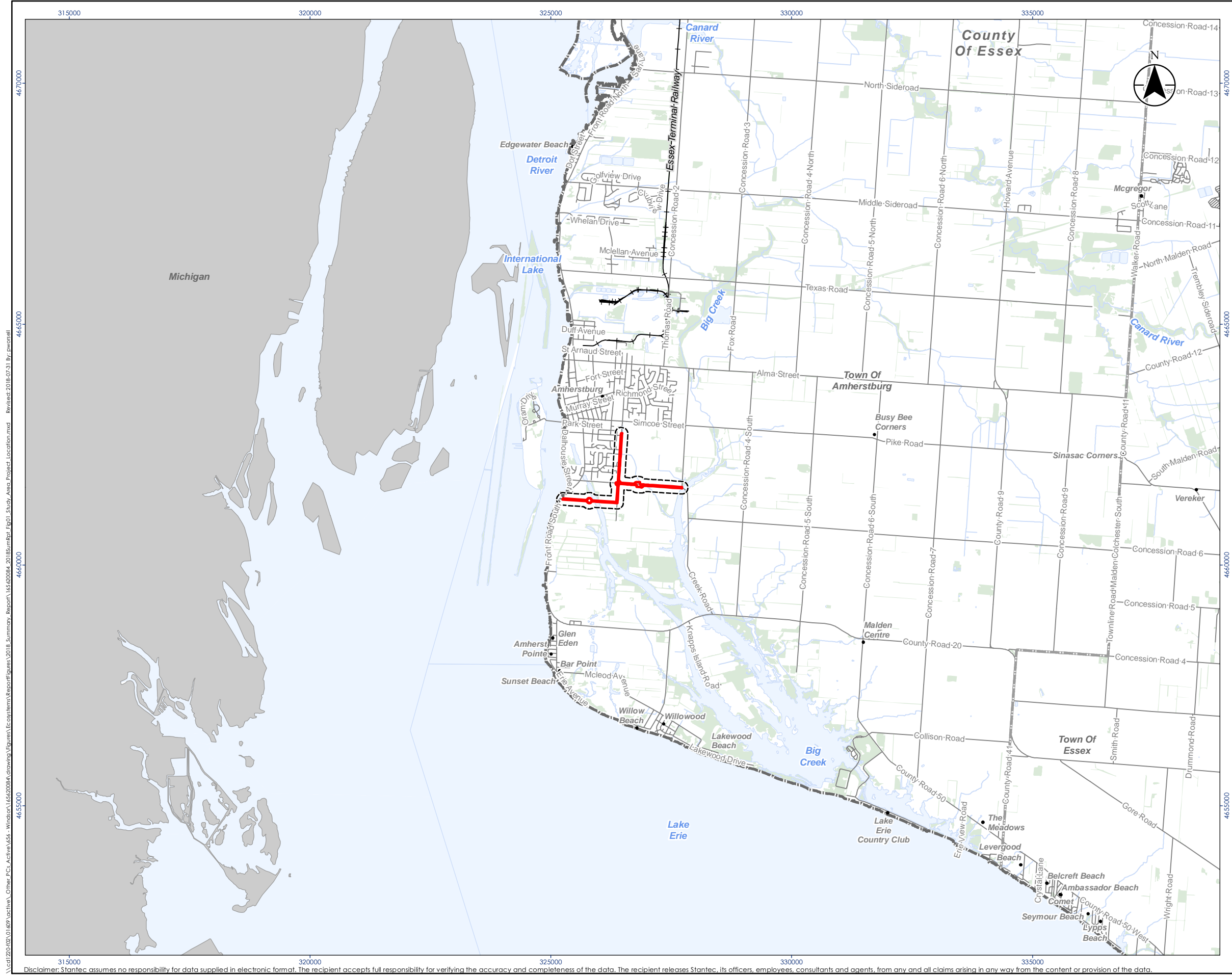
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Attachment 1: Figures

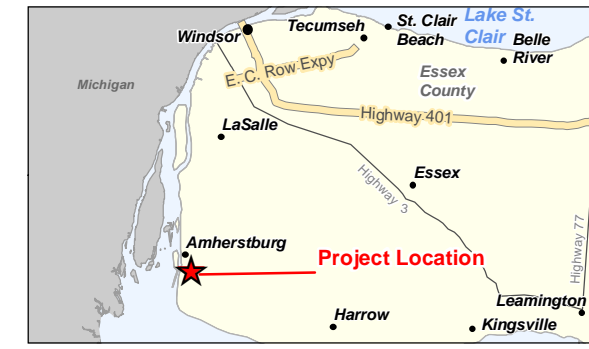


- Legend
- Study Area
 - Project Location
 - Road
 - Railway
 - Watercourse
 - Municipal Boundary, Lower
 - Municipal Boundary, Upper
 - Waterbody
 - Wooded Area



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- Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.



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County of Essex

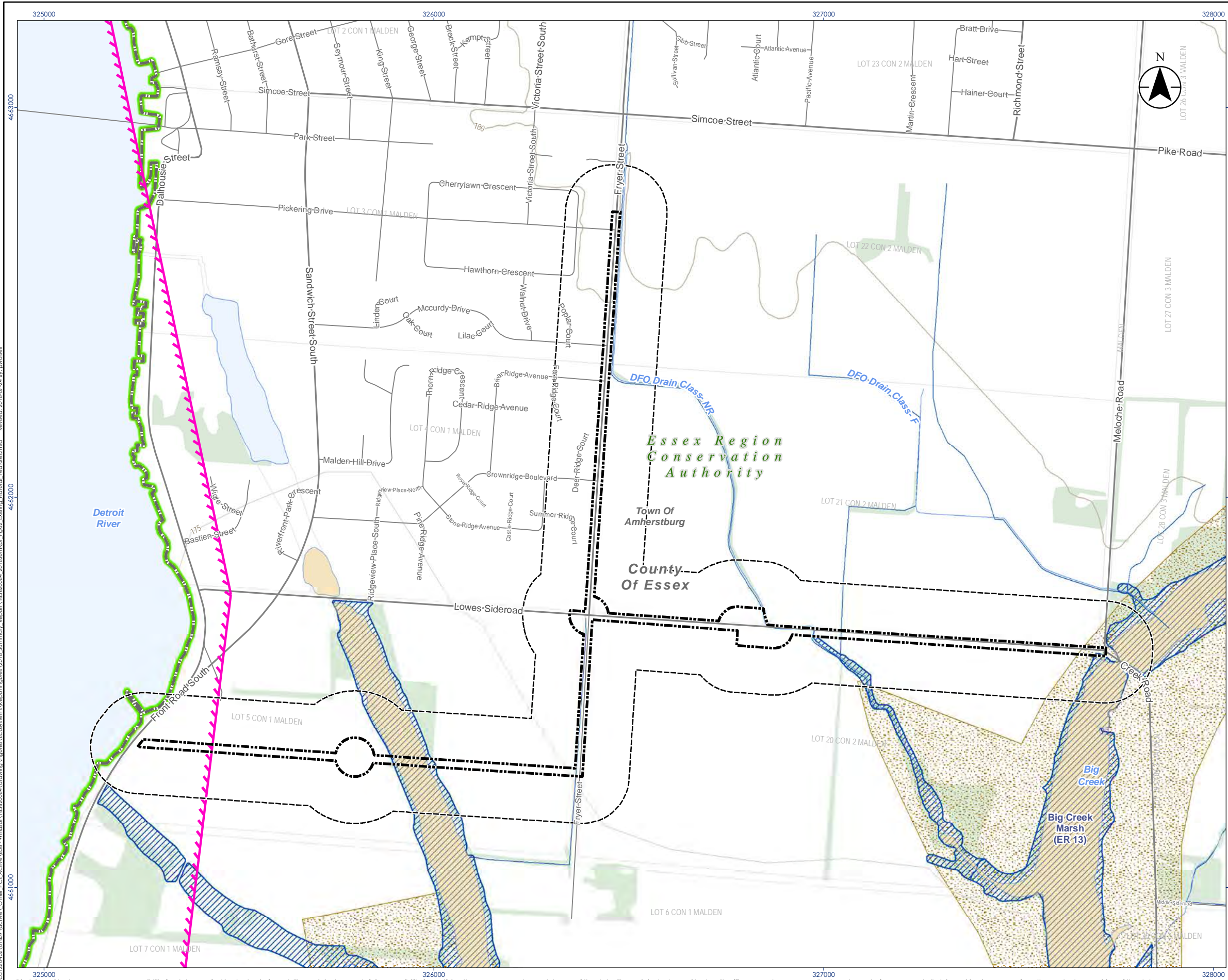
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Prepared by PW on 2018-07-31
Technical Review by SE on 2018-07-18

Client/Project
TOWN OF AMHERSTBURG
SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT - SOUTHEAST
QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
1

Title
Study Area and Project Location

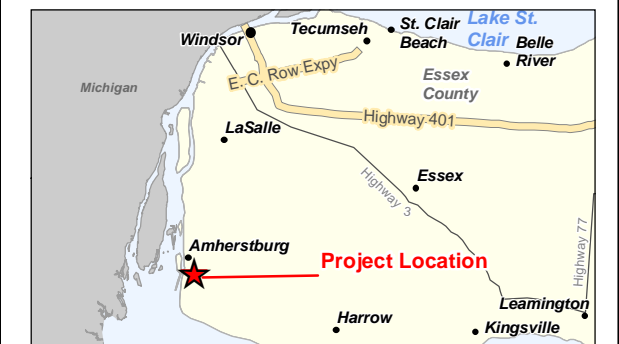
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- Legend
- Project Location
 - Study Area
 - Constructed Drain
 - Major Road
 - Minor Road
 - Watercourse (Permanent)
 - Aquatic Species at Risk
 - Conservation Area Administrative Boundary
 - Deer Wintering Area
 - Important Bird Area
 - Lot
 - Municipal Boundary, Upper
 - Thermal Regime, Warm
 - Waterbody
 - Wetland, Provincially Significant
 - Wooded Area

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Notes
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Prepared by PW on 2018-07-24
Technical Review by SE on 2018-07-18

Client/Project
TOWN OF AMHERSTBURG
SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT - SOUTHEAST
QUADRANT SANITARY AND WATER SERVICING STUDY

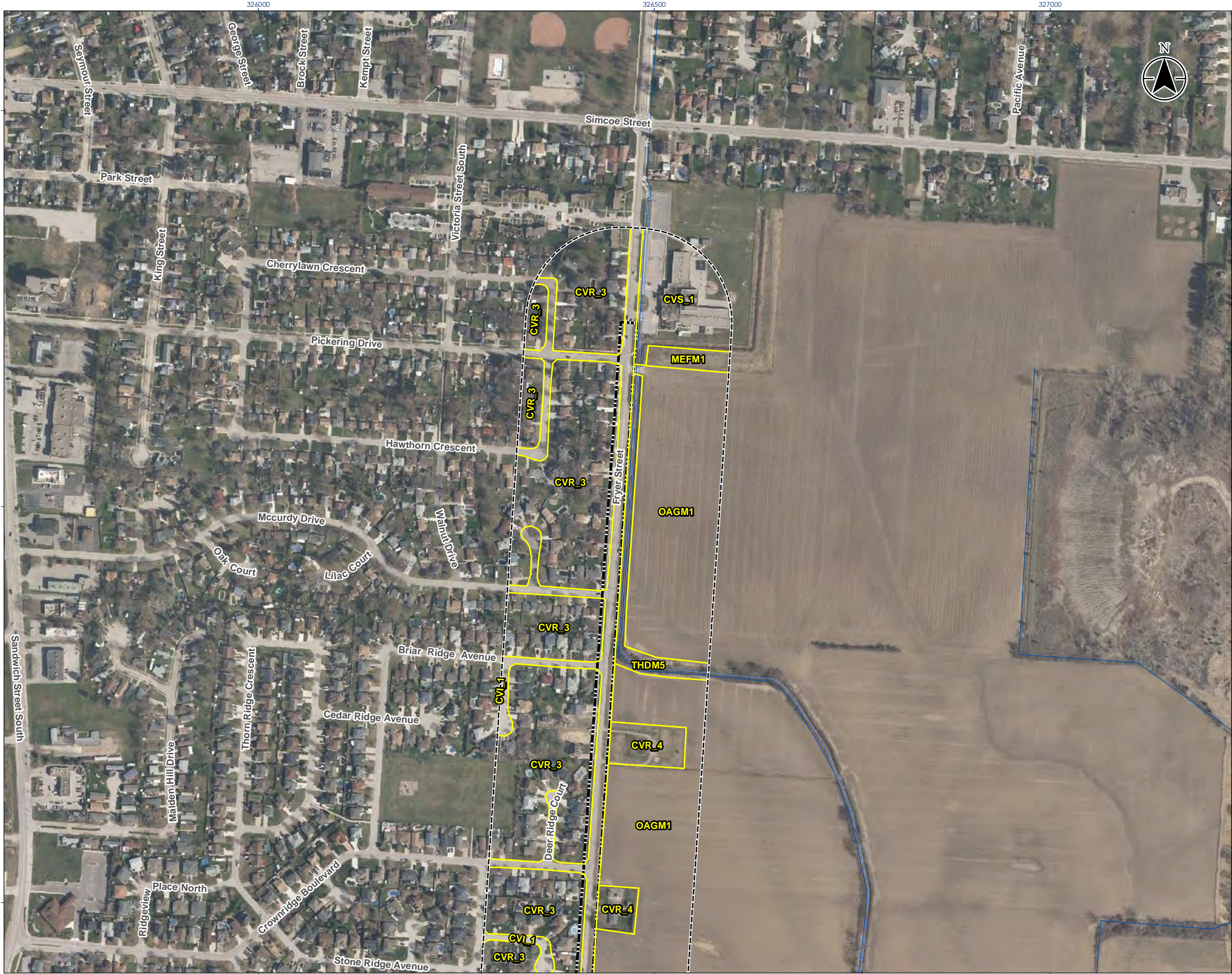
Figure No.

2

Title

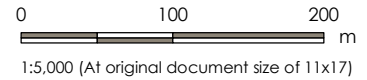
Existing Natural Features

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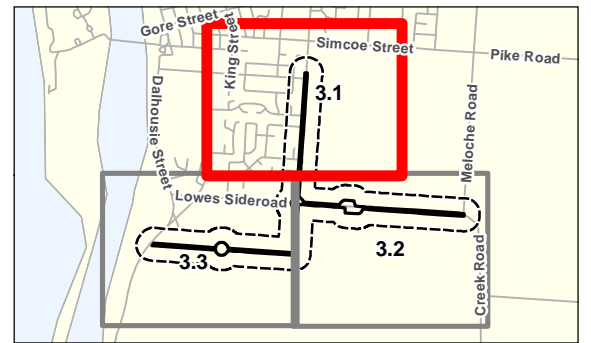


Legend

- Project Location
 - Study Area
 - Constructed Drain
 - Watercourse (Permanent)
 - Ecological Land Classification Boundary
- ELC Codes and Description
- CGL_4 - Recreational
 - CVL_1 - Transportation
 - CVR_3 - Single Family Residential
 - CVR_4 - Rural Property
 - CVS_1 - Education
 - FODM11 - Naturalized Deciduous Hedgerow
 - MAMM1-12 - Common Reed Graminoid Mineral Meadow Marsh
 - MASM1-12 - Common Reed Mineral Shallow Marsh
 - MEFM1 - Dry - Fresh Forb Meadow
 - MEGM3 - Dry - Fresh Graminoid Meadow
 - MEMM3 - Dry - Fresh Mixed Meadow
 - OAGM1 - Annual Row Crops
 - OAGM2 - Perennial Cover Crops
 - OAO - Open Aquatic
 - THDM2-11 - Hawthorn Deciduous Shrub Thicket
 - THDM5 - Fresh - Moist Deciduous Thicket
 - WODM4-4 - Dry - Fresh Black Walnut Deciduous Woodland



- Notes
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Project Location
County of Essex

165620084 REVA
Prepared by PW on 2018-08-07
Technical Review by SE on 2018-07-18

Client/Project
TOWN OF AMHERSTBURG
SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT - SOUTHEAST
QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
3.1

Title
Ecological Land Classification

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Legend

- Project Location
- Study Area
- Constructed Drain
- Ecological Land Classification Boundary
- Waterbody
- Wetland, Provincially Significant

ELC Codes and Description

- CGL_4 - Recreational
- CVL_1 - Transportation
- CVR_3 - Single Family Residential
- CVR_4 - Rural Property
- CVS_1 - Education
- FODM11 - Naturalized Deciduous Hedgerow
- MAMM1-12 - Common Reed Graminoid Mineral Meadow Marsh
- MASM1-12 - Common Reed Mineral Shallow Marsh
- MEFM1 - Dry - Fresh Forb Meadow
- MEGM3 - Dry - Fresh Graminoid Meadow
- MEMM3 - Dry - Fresh Mixed Meadow
- OAGM1 - Annual Row Crops
- OAGM2 - Perennial Cover Crops
- OAO - Open Aquatic
- THDM2-11 - Hawthorn Deciduous Shrub Thicket
- THDM5 - Fresh - Moist Deciduous Thicket
- WODM4-4 - Dry - Fresh Black Walnut Deciduous Woodland

0 100 200 m

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Notes

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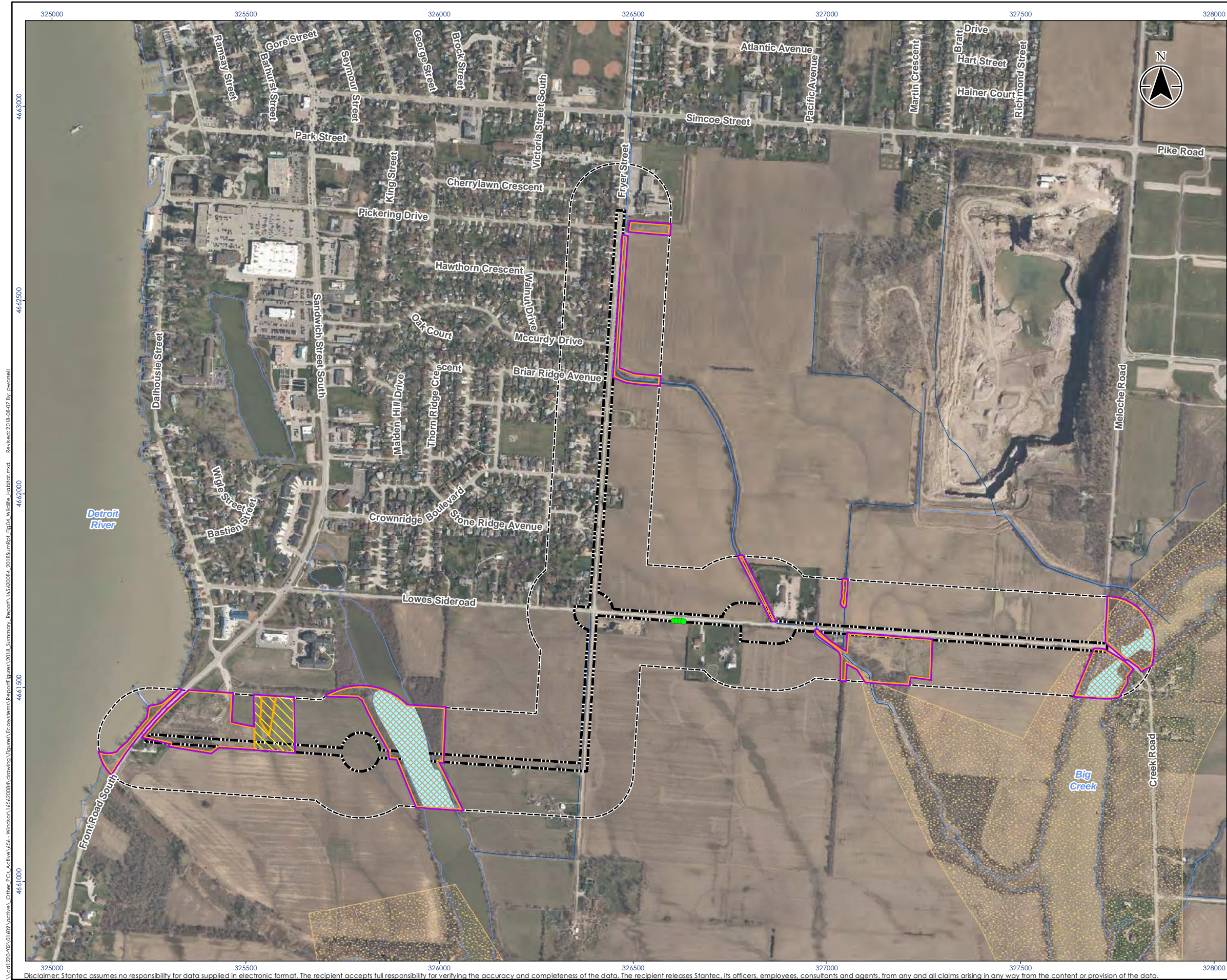
Project Location
County of Essex

165620084 REVA
Prepared by PW on 2018-08-07
Technical Review by SE on 2018-07-18

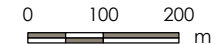
Client/Project
TOWN OF AMHERSTBURG
SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT - SOUTHEAST
QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
3.3

Title
Ecological Land Classification

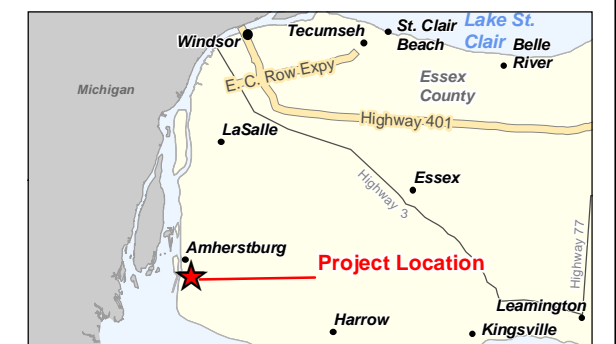


- Legend
- Project Location
 - Study Area
 - Constructed Drain
 - Watercourse (Permanent)
 - Deer Wintering Area
 - Waterbody
 - Wildlife Habitat
 - Terrestrial Crayfish Chimney
 - Turtle Wintering
 - Species at Risk
 - Blanding's Turtle *
 - Butler's Gartersnake *
 - Eastern Foxsnake *
 - Species of Conservation Concern
 - Midland Painted Turtle, Snapping Turtle, Northern Map Turtle *
 - Honey Locust
 - * Potential Habitat



1:10,000 (At original document size of 11x17)

- Notes
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Project Location
County of Essex

165620084 REVA
Prepared by PW on 2018-08-07
Technical Review by SE on 2018-07-18

Client/Project
TOWN OF AMHERSTBURG
SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT - SOUTHEAST
QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.

4

Title

Wildlife Habitat and Potential Habitat for
Species of Conservation Concern and
Species at Risk

Attachment 2: Vascular Plant List

VASCULAR PLANT LIST - Amherstburg Southeast Quadrant Servicing Class EA

Plant species observed by Brian Miller on July 12, 2018 along focused study area

Scientific Name	Common Name	Establishment Means	Coefficient of Conservatism	OWES Wetland Plant Species	Provincial Status (S-rank)
GYMNOSPERMS (CONIFERS)					
<i>Juniperus virginiana</i>	eastern red cedar	native	4		S5
<i>Picea abies</i>	Norway spruce	introduced			SE3
<i>Picea pungens</i>	blue spruce	introduced			SE1
<i>Thuja occidentalis</i>	eastern white cedar	native	4	T	S5
ANGIOSPERMS (DICOTS)					
<i>Abutilon theophrasti</i>	velvetleaf	introduced			SE5
<i>Acer xfreemanii</i>	Freeman maple	native	5	I	S5
<i>Acer negundo</i>	Manitoba maple	native	0	T	S5
<i>Acer platanoides</i>	Norway maple	introduced			SE5
<i>Agrimonia parviflora</i>	swamp agrimony	native	4		S4
<i>Alliaria petiolata</i>	garlic mustard	introduced			SE5
<i>Ambrosia artemisiifolia</i>	common ragweed	native	0		S5
<i>Ambrosia trifida</i>	great ragweed	native	0		S5
<i>Apocynum cannabinum</i> var. <i>hypericifolium</i>	hemp dogbane	native	3		S5
<i>Arctium minus</i>	common burdock	introduced			SE5
<i>Asclepias syriaca</i>	common milkweed	native	0		S5
<i>Bidens</i> sp.	beggarticks species				
<i>Celtis occidentalis</i>	common hackberry	native	8		S4
<i>Cichorium intybus</i>	wild chicory	introduced			SE5
<i>Circaea canadensis</i>	enchanter's nightshade	native	3		S5
<i>Cirsium arvense</i>	Canada thistle	introduced			SE5
<i>Convolvulus arvensis</i>	field bindweed	introduced			SE5
<i>Cornus drummondii</i>	rough-leaved dogwood	native	4		S4
<i>Crataegus</i> sp.	hawthorn species				
<i>Crataegus crus-galli</i>	cockspur hawthorn	native	4		S5
<i>Daucus carota</i>	wild carrot	introduced			SE5
<i>Dipsacus fullonum</i>	common teasel	introduced			SE5
<i>Elaeagnus umbellata</i>	autumn olive	introduced			SE3
<i>Epilobium</i> sp.	willowherb species				
<i>Erigeron annuus</i>	annual fleabane	native	0		S5
<i>Frangula alnus</i>	glossy buckthorn	introduced		T	SE5
<i>Geum canadense</i>	white avens	native	3	T	S5
<i>Gleditsia triacanthos</i>	honey locust	native	3		S2

VASCULAR PLANT LIST - Amherstburg Southeast Quadrant Servicing Class EA

Plant species observed by Brian Miller on July 12, 2018 along focused study area

Scientific Name	Common Name	Establishment Means	Coefficient of Conservatism	OWES Wetland Plant Species	Provincial Status (S-rank)
<i>Juglans nigra</i>	black walnut	native	5		S4
<i>Lactuca serriola</i>	prickly lettuce	introduced			SE5
<i>Lonicera morrowii</i>	Morrow's honeysuckle	introduced			SE3
<i>Lotus corniculatus</i>	bird's-foot trefoil	introduced			SE5
<i>Lythrum salicaria</i>	purple loosestrife	introduced		I	SE5
<i>Malus pumila</i>	common apple	introduced			SE4
<i>Melilotus albus</i>	white sweet-clover	introduced			SE5
<i>Melilotus officinalis</i>	yellow sweet-clover	introduced			SE5
<i>Morus alba</i>	white mulberry	introduced			SE5
<i>Parthenocissus cf. vitacea</i>	thicket creeper	native	3		S5
<i>Pastinaca sativa</i>	wild parsnip	introduced			SE5
<i>Persicaria maculosa</i>	spotted lady's-thumb	introduced		T	SE5
<i>Plantago lanceolata</i>	English plantain	introduced			SE5
<i>Plantago major</i>	common plantain	introduced			S5
<i>Populus deltoides ssp. deltoides</i>	eastern cottonwood	native	4	T	S5
<i>Prunella vulgaris ssp. lanceolata</i>	lance-leaved self-heal	native	5	T	S5
<i>Prunus americana</i>	American plum	native	6		S4
<i>Prunus virginiana</i>	chokecherry	native	2		S5
<i>Quercus macrocarpa</i>	bur oak	native	5	T	S5
<i>Rhus typhina</i>	staghorn sumac	native	1		S5
<i>Robinia pseudoacacia</i>	black locust	introduced			SE5
<i>Rosa sp.</i>	rose species				
<i>Rubus occidentalis</i>	black raspberry	native	2		S5
<i>Rumex crispus</i>	curled dock	introduced		T	SE5
<i>Salix interior</i>	sandbar willow	native	3	T	S5
<i>Sanicula canadensis</i> var. <i>canadensis</i>	Canada sanicle	native	7		S4
<i>Saponaria officinalis</i>	bouncing-bet	introduced			SE5
<i>Securigera varia</i>	purple crown-vetch	introduced			SE5
<i>Solanum dulcamara</i>	bittersweet nightshade	introduced		T	SE5
<i>Solidago cf. altissima</i>	tall goldenrod	native	1		S5
<i>Sonchus cf. arvensis</i>	field sow-thistle	introduced			SE5
<i>Symphyotrichum novae-angliae</i>	New England aster	native	2		S5
<i>Syringa vulgaris</i>	common lilac	introduced			SE5
<i>Taraxacum officinale</i>	common dandelion	introduced			SE5
<i>Toxicodendron radicans</i>	poison ivy	native	5	T	S5

VASCULAR PLANT LIST - Amherstburg Southeast Quadrant Servicing Class EA

Plant species observed by Brian Miller on July 12, 2018 along focused study area

Scientific Name	Common Name	Establishment Means	Coefficient of Conservatism	OWES Wetland Plant Species	Provincial Status (S-rank)
Trifolium hybridum	alsike clover	introduced			SE5
Trifolium pratense	red clover	introduced			SE5
Trifolium repens	white clover	introduced			SE5
Ulmus americana	white elm	native	3	T	S5
Verbascum thapsus	common mullein	introduced			SE5
Vitis riparia	riverbank grape	native	0		S5
Xanthium strumarium	rough cocklebur	native	2	T	S5
Zanthoxylum americanum	common prickly-ash	native	3		S5
ANGIOSPERMS (MONCOTS)					
Alisma cf. triviale	northern water-plantain	native	3	I	S5
Asparagus officinalis	garden asparagus	introduced			SE5
Bromus inermis	smooth brome	introduced			SE5
Carex hyalinolepis	shoreline sedge	native	4	I	S4
Carex cf. molesta	troublesome sedge	native	5	T	S4SS5
Cyperus sp.	flatsedge species				
Dactylis glomerata	orchard grass	introduced			SE5
Echinochloa sp.	barnyard grass species				
Eleocharis obtusa	blunt spikerush	native	5	I	S5
Elymus repens	quackgrass	introduced			SE5
Hemerocallis fulva	orange daylily	introduced			SE5
Hordeum judatum	foxtail barley	native		T	S5?
Juncus articulatus	jointed rush	native	5	I	S5
Juncus dudleyi	Dudley's rush	native	1	T	S5
Juncus torreyi	Torrey's rush	native	3	T	S5
Lemna minor	small duckweed	native	2	I	S5
Phalaris arundinacea	reed canarygrass	native	0	T	S5
Phleum pratense	common timothy	introduced			SE5
Phragmites australis ssp. australis	European reed	introduced		T	SE5
Poa compressa	Canada bluegrass	introduced			SE5
Poa pratensis	Kentucky bluegrass	introduced			SE5
Sagittaria latifolia	broad-leaved arrowhead	native	4	I	S5
Scirpus atrovirens	dark-green bulrush	native	3	T	S5
Smilax sp.	carriionflower species				
Typha latifolia	broad-leaved cattail	native	3	I	S5

VASCULAR PLANT LIST - Amherstburg Southeast Quadrant Servicing Class EA

Plant species observed by Brian Miller on July 12, 2018 along focused study area

Scientific Name	Common Name	Establishment Means	Coefficient of Conservatism	OWES Wetland Plant Species	Provincial Status (S-rank)
-----------------	-------------	---------------------	-----------------------------	----------------------------	----------------------------

FLORISTIC SUMMARY	TOTAL
Total Species	93
Native Species	47
Introduced (exotic) species	46
Species at Risk in Ontario (END, THR or SC)	0
Rare in Ontario (S1, S2 or S3)	1
Uncommon to common in Ontario (S4)	8
Common to very common in Ontario (S5)	39
Highly sensitive plant species with C value greater than 7	1
Wetland Tolerant (T) Plant Species as identified in OWES Manual	21
Wetland Indicator (I) Plant Species as identified in OWES Manual	9

To:	Paula Burnard, Mike Mastronardi	From:	Sean Stuart
	Stantec London ON, Windsor ON		Stantec Markham ON
File:	165620084	Date:	November 9, 2018

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

The Town of Amherstburg (the Town) initiated a Municipal Class Environmental Assessment (Class EA) study to provide proposed new developments in the southeast quadrant of the urban hub of the Town with adequate water and sanitary sewage servicing. The study is being undertaken in accordance with the planning and design process for 'Schedule B' projects outlined in the *Municipal Class Environmental Assessment* document (June 2000, as amended in 2007, 2011 and 2015) under the Ontario *Environmental Assessment Act* (EA Act). The study will address impacts to existing and surrounding lands and to the environment to provide water and sanitary sewage servicing to the southeast urban hub of the Town of Amherstburg. The existing watermain system is undersized to support future growth and there is no municipal wastewater collection system. Multiple parties have requested the necessary sanitary and water servicing infrastructure to be installed to allow for future development of these lands. The Town of Amherstburg has retained Stantec Consulting Ltd. (Stantec) to conduct the Class EA.

The study area for the project is the proposed route for the watermain and sanitary sewer lines (**Figure 1, Attachment 1**). This memo summarizes fisheries and aquatic habitat data collected for watercourses crossed by the proposed watermain and sanitary sewer.

Data collected in support of this Class EA study includes background data through agency consultation and site investigations (fish habitat and fish community surveys). The data are presented below, followed by potential impacts to fish and fish habitat and Stantec's recommended mitigation measures.

1 METHODS

1.1 BACKGROUND DATA COLLECTION

Background data applicable to the study area were obtained through review of the following existing documents and online data sources:

- *Fish Habitat Management Plan for the Essex Region* (Hayman et al. 2005)
- *Big Creek Watershed Plan Natural Heritage Study* (ERCA 2010)
- Natural Heritage Information Centre (NHIC) data (MNRF 2018a)
- Land Information Ontario (LIO) natural heritage mapping (MNRF 2018b)
- Fisheries and Oceans Canada (DFO) aquatic species at risk (SAR) maps (DFO 2018)

The Ministry of Natural Resources and Forestry (MNRF) was consulted to request records of terrestrial and aquatic SAR, vegetation communities, and fish communities known to occur in proximity to the study area. The information request was sent to the MNRF on March 12, 2018 followed by additional correspondence with respect to terrestrial SAR.

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

1.2 FIELD INVESTIGATIONS

The fish and fish habitat assessments were conducted on August 2 and September 12, 2018. The field investigations documented existing habitat conditions at the following locations (**Figure 1**):

- Crossing SC1 (Second Concession Road Drain South) - located approximately 500 m east of the intersection of Fryer Road and Lowes Sideroad
- Crossing SC2 (Unnamed Drain) - located approximately 650 m east of the intersection of Fryer Road and Lowes Sideroad
- Crossing SC3 (Lebert Drain) - located approximately 400 m south of the intersection of Fryer Road and Lowes Sideroad
- Crossing SC4 (Tributary of Big Creek) - located approximately 600 m southwest of the intersection of Fryer Road and Lowes Sideroad

The habitat assessments documented key fish habitat features (i.e., in-water cover, substrate characteristics) at each crossing location.

Fish community sampling was conducted on September 12, 2018. The fish community was sampled at Crossing SC1 only, using a backpack electrofishing unit. Fish were collected from both sides of Lowes Sideroad (approximately 50 m of stream). There was no water at Crossing SC2 and Crossing SC3. The watercourse at Crossing SC4 is directly connected to Big Creek, for which there are background fish community data; therefore, fish sampling was not conducted at this location.

2 RESULTS

2.1 STUDY AREA BACKGROUND INFORMATION

Land use surrounding the study area is mostly rural agricultural with occasional residential properties. The study area is located in the Big Creek watershed, within Essex Region Conservation Authority (ERCA) (**Figure 1**). The following 13 fish species have been recorded in the Big Creek watershed (Hayman et al. 2005):

- | | |
|---|---|
| • Black Bullhead (<i>Ameiurus melas</i>) | • Goldfish (<i>Carassius auratus</i>) |
| • Black Crappie (<i>Pomoxis nigromaculatus</i>) | • Green Sunfish (<i>Lepomis cyanellus</i>) |
| • Brown Bullhead (<i>Ameiurus nebulosus</i>) | • Northern Pike (<i>Esox lucius</i>) |
| • Common Carp (<i>Cyprinus carpio</i>) | • Pumpkinseed (<i>Lepomis gibbosus</i>) |
| • Emerald Shiner (<i>Notropis atherinoides</i>) | • Spottail Shiner (<i>Notropis hudsonius</i>) |
| • Fathead Minnow (<i>Pimephales promelas</i>) | • Yellow Perch (<i>Perca flavescens</i>) |
| • Gizzard Shad (<i>Dorosoma cepedianum</i>) | |

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

More specifically, Fathead Minnow and Goldfish have been captured in the headwater areas; the remaining 11 species were limited to downstream areas closer to the mouth of Big Creek (Hayman et al. 2005). Fathead Minnow and Goldfish are tolerant of warmwater habitats with poor water quality and are consistent with warmwater habitats in southern Ontario (Holm et al. 2009; Scott and Crossman 1998).

There are no known aquatic SAR in the watercourses crossed by the proposed sewer and watermain (MNR 2018b; MNR 2018c). Aquatic SAR in the study area are limited to the Detroit River (MNR 2018c), including Channel Darter (*Percina copelandi*) and Pugnose Minnow (*Opsopoeodus emiliae*) (DFO 2018). This information is consistent with available status reports for these species (COSEWIC 2016; COSEWIC 2012). Channel Darter is provincially and federally Threatened and protected by the provincial *Endangered Species Act* (ESA) and Schedule 1 of the federal *Species at Risk Act* (SARA). Pugnose Minnow is provincially Threatened and protected by the ESA.

Information specific to each watercourse, such as drain classification, thermal regime, flow regime, etc. obtained from the various data sources, is provided below with the site-specific information for the four watercourses in the study area.

2.2 WATERCOURSE CROSSINGS

Crossing SC1 - Second Concession Road Drain South

The proposed sewer and watermain crosses Second Concession Road Drain South at Crossing SC1. The watercourse is a constructed drain but has not been rated with a DFO Drain Class (MNR 2018b). Online sources and the MNR did not have information with respect to thermal regime, flow regime, or resident fish species (MNR 2019b; MNR 2018c; MNR 2018d). On the south side of Lowes Sideroad, the watercourse is associated with the Big Creek Marsh Provincially Significant Wetland (PSW) (MNR 2018b).

The drain originates to the northwest of SC1 in a combination of residential areas and agricultural fields. North of Lowes Sideroad, it flows in a straightened channel prior to flowing under Lowes Sideroad through a concrete box culvert and continuing to flow southeast through agricultural fields.

Within the road right-of-way (ROW), channel morphology consisted of flats and substrates consisted of silt (50%), clay (30%), gravel (5%), cobble (5%), sand (5%), and detritus (5%). At the time of the August 2018 field investigations, the wetted width of the channel was 1.25 m with a depth of 0.15 m. In-water cover was provided by undercut banks, aquatic vegetation, and cobbles, with overhead cover provided by overhanging vegetation along the banks. The riparian vegetation consisted of a combination of cattails, grasses and shrubs providing shade to approximately 10% of the channel.

Stantec captured the following fish species during the September 2018 field investigation:

- Banded Killifish (*Fundulus diaphanus*)
- Creek Chub (*Semotilus atromaculatus*)
- Fathead Minnow
- Goldfish
- Green Sunfish

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

Fathead Minnow, Goldfish and Green Sunfish were captured in fish community studies conducted in support of the *Fish Habitat Management Plan for the Essex Region* (Hayman et al. 2005). Banded Killifish and Creek Chub were not previously captured in the Big Creek watershed but, like other species in the watershed, they inhabit slow flowing watercourses with clear water and dense aquatic vegetation (Holm et al. 2009; Scott and Crossman 1998).

At Crossing SC1, Second Concession Road Drain South provides habitat for warmwater baitfish species.

Crossing SC2 – Unnamed Drain

The Unnamed Drain associated with Crossing SC2 is a Class F constructed drain (MNRF 2018b). Class F drains have an intermittent flow regime (Kavanagh et al. 2017). On-line information sources and the MNRF did not have information for this watercourse with respect to thermal regime, flow regime, or resident fish species (MNRF 2019b; MNRF 2018c; MNRF 2018d).

The Class F drain originates to the north of the crossing in active agricultural fields. North of Lowes Sideroad, it flows in a straightened channel prior to flowing under Lowes Sideroad through a culvert and eventually discharging into the watercourse associated with Crossing SC1 approximately 60 m south of Lowes Sideroad. No surface water feature was observed during field investigations.

The Unnamed Drain at Crossing SC2 does not provide fish habitat.

Crossing SC3 - Lebert Drain

The proposed sewer and watermain crosses the Lebert Drain at Crossing SC3. Lebert Drain is a Class F drain and is located in the roadside drainage on the west side of Concession Road 2 South. On-line information sources and the MNRF did not have information for this watercourse with respect to thermal regime, flow regime, or resident fish species (MNRF 2019b; MNRF 2018c; MNRF 2018d).

Water flows south in the straightened channel; however, there was no water in the drain at the time of field investigations and a surface connection to downstream fish habitat was not observed. The straightened channel was densely vegetated with a combination of upland and marsh vegetation suggesting that flow is intermittent, which is consistent with the drain classification.

Lebert Drain at Crossing SC3 does not provide fish habitat.

Crossing SC4 – Tributary of Big Creek

The proposed sewer and watermain crosses the Tributary of Big Creek at Crossing SC4. The Tributary of Big Creek has a warmwater thermal regime and is associated with Big Creek Marsh (MNRF 2018b). No additional information was provided in MNRF correspondence regarding fish and fish habitat in Big Creek (MNRF 2018c; MNRF 2018d). The creek and wetland originate northwest of Crossing SC4 in a combination of residential areas and agricultural fields. Water flows southeast through the wetland in a wide channel, eventually discharging into the main branch of Big Creek approximately 3 km southeast of the proposed sewer and watermain crossing.

Within the proposed sewer and watermain ROW, channel morphology consisted of large open water habitat and substrates consisted of silt (50%), detritus (30%), and clay (20%). At the time of the August 2018 field investigations, the wetted width of the channel was approximately 85 m and the maximum depth was greater

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

than 1 m. In-water cover was provided by dense submergent aquatic vegetation, deep pools, and organic debris, with overhead cover limited to the shoreline and provided by overhanging vegetation along the banks. The riparian vegetation consisted of a combination of grasses and shrubs providing shade to approximately 5% of the channel.

The Tributary of Big Creek is connected to Big Creek; therefore, fish species listed in Section 2.1 have the potential to occur in at Crossing SC4.

3 SUMMARY

There were no surface water features at the Unnamed Drain at Crossing SC2; therefore, this crossing does not provide fish habitat. The Lebert Drain (at Crossing SC3) has an intermittent flow regime and lacks direct connection to downstream habitats; therefore, it does not provide fish habitat.

Fish species that occur at Crossing SC1 and Crossing SC4 are common to warmwater habitats throughout southern Ontario and are tolerant to impacts due to development activities (Holm et al. 2009; Scott and Crossman 1998). These two crossing locations support fish that are part of a Commercial, Recreational or Aboriginal (CRA) fishery. Sensitive or limiting habitats were not observed at Crossing SC1 or Crossing SC4.

4 PROPOSED WORK

The proposed work will consist of installing a new 350 mm forcemain and 675mm sanitary trunk sewer using a combination of open trench and trenchless construction techniques. Project activities will primarily take place in an existing road allowance and grassy roadside that is regularly maintained.

With respect to watercourse crossing locations, the proposed sewer and watermain will be located within existing road allowances, and will be constructed according to the following construction methods:

- Isolated open-trench techniques are proposed at Crossings SC1, SC2, and SC3.
- Trenchless techniques are proposed across Big Creek at Crossing SC4.

5 POTENTIAL IMPACTS AND PROPOSED MITIGATION

5.1 POTENTIAL IMPACTS

The federal *Fisheries Act* prohibits projects from causing serious harm to fish unless authorized by the Minister of Fisheries, Oceans and the Coast Guard. This applies to activities in or near waterbodies that support fish that are part of, or that support, a CRA fishery. The St. Clair River and Talfourd Creek support a CRA fishery. Since the watercourses associated with Crossing SC2 and Crossing SC3 do not support fish, construction at these crossings will not impact fish and fish habitat.

Potential effects of construction at Crossing SC1 include potential restrictions to habitat use and fish passage, changes to habitat such as substrate composition, changes in water quality (due to erosion, sedimentation, accidental spills), loss of in-stream cover and riparian shading. Excessive sediment introduced into a watercourse can adversely impact fisheries via clogging gills, sedimentation of spawning beds and alteration of habitat.

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

Potential effects of construction at Crossing SC4 include impacts to water quality due to an inadvertent release of drilling mud into the watercourse and impacts to habitat should the borehole collapse during drilling operations.

5.2 MITIGATION AND PROTECTIVE MEASURES

The following mitigation measures are recommended for construction of the proposed sewer and watermain crossings at watercourse crossings SC1 and SC4. The measures presented are consistent with DFO's Measures to Avoid Serious Harm (DFO 2016).

Crossing SC1 – Second Concession Road Drain South

- Complete construction activities during the warmwater timing window for southwestern Ontario that allows work to be completed from July 15 to March 15 of any given year (MNR 2013).
- Use appropriate erosion and sediment control measures such as sediment fencing or filter logs (i.e., SiltSoxx™) around work areas and access roads.
- Install a waterproof coffer dam to isolate the work area during in-water water works.
- Before isolation and dewatering works commence, retain a qualified environmental professional to capture fish trapped within the isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters.
- Equip intakes of pumping hoses with an appropriate device to avoid entraining and impinging fish (see DFO's Measures to Avoid Causing Serious Harm (<http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>)).
- Manage water from dewatering operations to reduce the risk of erosion and/or release of sediment laden or contaminated water to the waterbody by discharging to a settling basin, filter bag, or other energy dispersion measure at least 30 m from the watercourse, where feasible.
- Reduce the access and temporary work space to the extent possible to limit destabilization of soils near the work area.
- Following construction, restore disturbed bed and banks to pre-construction conditions to the extent possible.

Crossing SC4 – Tributary of Big Creek

- Standard erosion and sediment control measures should be implemented around tie-in, jacking, and receiving shaft staging areas.
- Prior to initiating microtunnelling, appropriate geotechnical data should be obtained to assist in determining the tunnel path.
- Tunneling equipment (e.g., rigs, support equipment, sump) should be set up a minimum of 30 m from the edge of watercourses, as feasible.

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

- Clearing of vegetation or grading of watercourse banks should not occur immediately adjacent to the edge of watercourses, as determined through consultation with the ERCA.
- A bentonite mud release contingency plan should be prepared and kept on-site.
- Monitor the watercourse for accidental mud release during tunneling activities.
- Bentonite mud should be used without the use of additives (except with approval from appropriate regulatory authorities).
- Suitable bentonite mud tanks or sumps should be installed to prevent contamination of the watercourse.
- Install berms and/or check dams, silt fencing, and secondary containment measures (i.e., plastic tarp) downslope from tie-in, jacking and receiving shafts to contain the release of drilling mud.
- Dispose drilling mud in accordance with the appropriate regulatory authority requirements.
- Clean up operational spills daily to prevent mobilization of drilling mud off site during rain events.
- Reduce slurry viscosity through appropriate filtering of drilled material to reduce the pressure gradient along the tunnel path due to frictional effects.
- Contain drilling mud that escapes onto land and transfer it into an on-site containment system.
- Manage water from dewatering operations to reduce the risk of erosion and/or release of sediment laden or contaminated water to the waterbody by discharging to a settling basin, filter bag, or other energy dispersion measure at least 30 m from the watercourse, where feasible.
- Reduce the access and temporary work space to the extent possible to limit destabilization of soils near the work area.
- Maintain the following materials during tunneling operations and be prepared to employ them in the event of a bentonite mud spill:
 - Sand bags
 - Straw bales
 - Sediment fencing
 - Hydrovac truck

6 PERMITTING REQUIREMENTS

6.1 FISHERIES ACT

Two watercourses within the study area that support CRA fisheries will be crossed by the proposed sewer and watermain at Crossing SC1 and Crossing SC4.

Reference: Town of Amherstburg Southeast Quadrant Sanitary and Water Servicing Study (Municipal Class EA Study) – Fish and Fish Habitat

A self-assessment should be conducted during the detailed design phase of the project to determine the risk of the proposed work to cause serious harm to fish. If the self-assessment determines that the project may result in serious harm to fish, a Request for Project Review should be submitted to DFO to determine if authorization under the *Fisheries Act* is required for the project.

Prepared by:

Reviewed by:

Stantec Consulting Ltd.



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Attachment 1: Figure 1: Watercourse Crossing Locations

c. C.C.

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November 9, 2018

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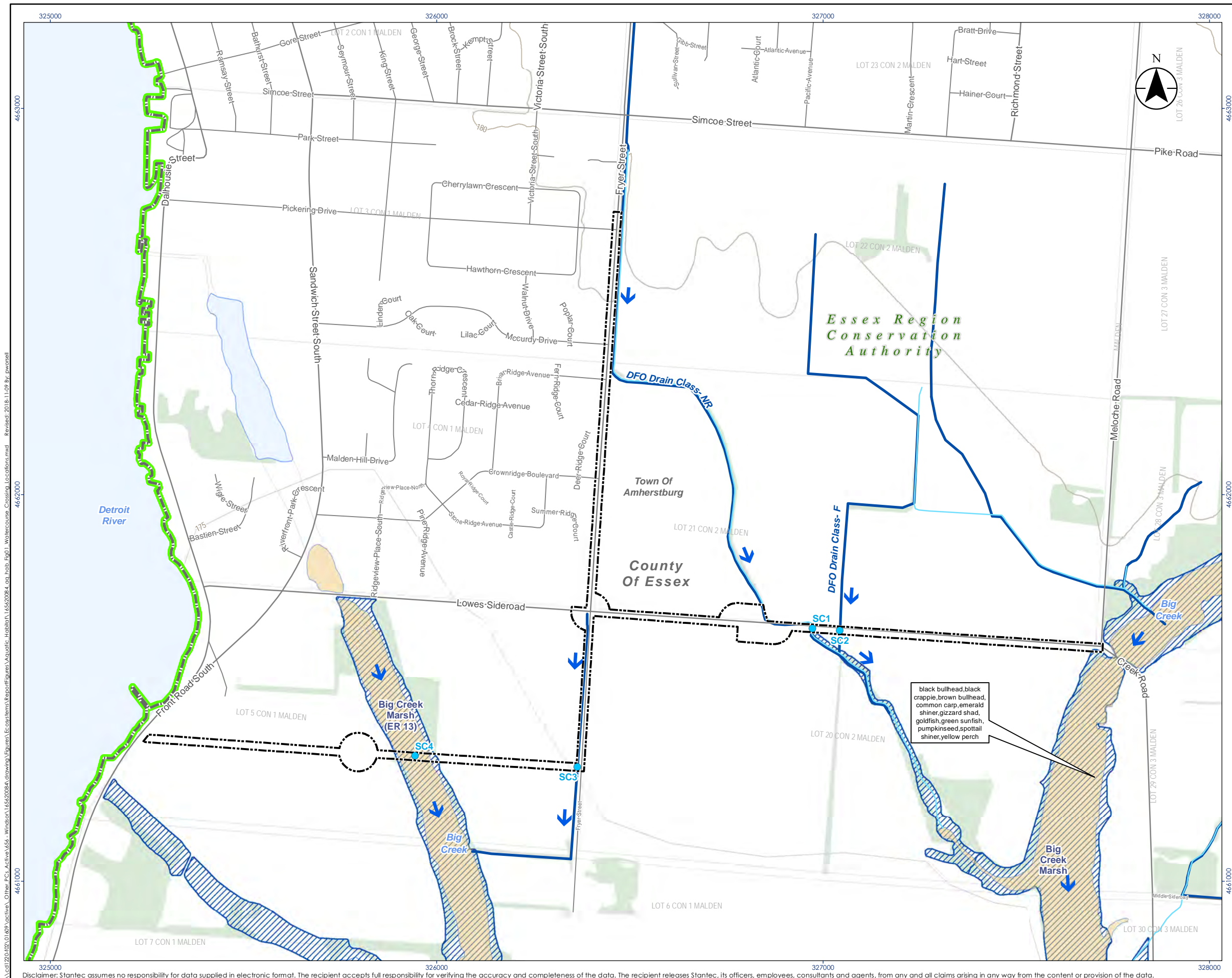
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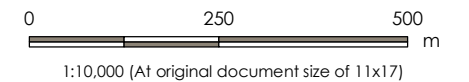
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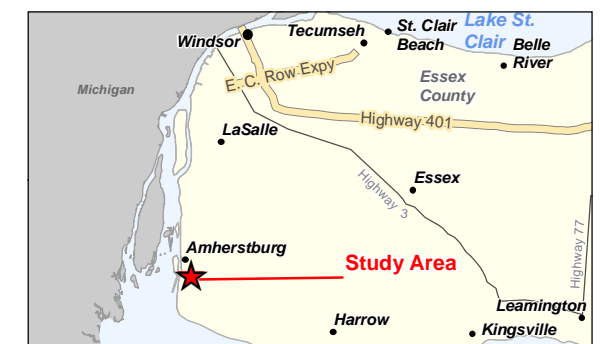
Legend

-
- Study Area
- Flow Direction
- Watercourse Crossing
- Constructed Drain
- Watercourse (Permanent)
- Aquatic Species at Risk
- Conservation Area Administrative Boundary
- Lot
- Municipal Boundary, Upper
- Municipal Boundary, Lower
- Thermal Regime, Warm
- Waterbody
- Wetland, Provincially Significant
- Wooded Area



Notes

2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018; © Fisheries and Oceans Canada, 2018.



Project Location
County of Essex

165620084 REVA
Prepared by PW on 2018-11-09
Technical Review by SE on 2018-07-18

Client/Project
TOWN OF AMHERSTBURG
SCHEDULE 'B' CLASS ENVIRONMENTAL ASSESSMENT - SOUTHEAST
QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.

1

Title

Watercourse Crossing Locations

\\cd1220-02\01609\active\Other_PCs_Active\656 - Windsor\165620084\drawing\Figures\Ecosystems\Report\Figures\Aquatic_Habitat\165620084_aq_hab_Fig01_Watercourse_Crossing_Locations.mxd Revised: 2018-11-09 By: pworstell

**SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY SCHEDULE 'B' MUNICIPAL CLASS
ENVIRONMENTAL ASSESSMENT FOR THE TOWN OF AMHERSTBURG**

January 9, 2019

**APPENDIX C
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT**



**Stage 1-2 Archaeological Assessment:
Amherstburg Southeast Quadrant
Servicing Municipal Class
Environmental Assessment**

Various Lots and Concessions,
Geographic Township of Malden,
now Town of Amherstburg,
Essex County, Ontario

December 10, 2018

Prepared for:

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Prepared by:

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License Number: P256
PIF Number: P256-0532-2018
Project Number: 165620084

REVISED REPORT

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**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING
MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO**

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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by the Town of Amherstburg (the Town) to complete a Stage 1-2 archaeological assessment for the Amherstburg Southeast Quadrant Servicing Municipal Class Environmental Assessment (Class EA; the Project). The Stage 1-2 archaeological assessment was undertaken by Stantec, on behalf of the Town, in the preliminary planning and design process for a Municipal Class Environmental Assessment (Class EA) for the Project under the Ontario *Environmental Assessment Act* (Government of Ontario 1990a). The study area for the Project is located in various lots and concessions, Geographic Township of Malden, now Town of Amherstburg, Essex County, Ontario. The Town is undertaking the Class EA to review the existing municipal infrastructure and identify upgrades or new infrastructure required to provide sanitary and water servicing for the proposed new developments within the southeast quadrant of the Town of Amherstburg. The proposed sanitary and water servicing infrastructure includes upsizing the watermains along Lowes Sideroad (east of Fryer Street) and Concession Road 2 South (south of Lowes Sideroad) from 50 millimetre (mm) to 300 mm in diameter and extending the watermains along Lowes Side road up to Meloche Road for improved water distribution. The proposed water infrastructure will generally follow existing road allowances. Overall, the study area for the Project comprises approximately 9.72 hectares.

The Stage 1 archaeological assessment compiled available information concerning known and/or potential archaeological resources within the study area and determined that the study area retains potential for the identification and recovery of pre-contact Indigenous, post-contact Indigenous, and historic Euro-Canadian resources. As a result, a Stage 2 archaeological assessment was required. The Stage 2 archaeological assessment was conducted on June 7, 2018 under Project Information Form # P256-0532-2018 issued to Parker Dickson, MA, of Stantec by the Ministry of Tourism, Culture and Sport (MTCS). During the Stage 2 survey, Stantec archaeologists were joined by representatives from both Caldwell First Nation and Aamjiwnaang First Nation (via Tri-Tribal Monitoring Services).

A single area with archaeological resources was identified during the Stage 2 archaeological assessment, identified as Location 1 (AaHs-126). Location 1 (AaHs-126) is represented by six non-diagnostic artifacts recovered from a widely-distributed scatter. It is associated with two other nearby archaeological sites previously identified by CRM Group (2006), one of which was an isolated piece of chipping detritus manufactured from Jasper, an exotic raw material not commonly found on archaeological sites in Ontario. Stantec has determined that Location 1 (AaHs-126) fulfils the criteria for a Stage 3 archaeological assessment as per Section 2.2 Standard 1.b.ii and Section 2.2 Guideline 3 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). Thus, **a Stage 3 archaeological assessment is recommended for Location 1 (AaHs-126)**. The full and detailed further work recommendations for Location 1 (AaHs-126) are provided in the archaeological report.

Further, Stantec's Stage 1-2 archaeological assessment of the Project has determined that an additional archaeological site, i.e., Location 12 / AaHs-43, may overlap with the study area and requires further archaeological assessment. It is Stantec's understanding that additional archaeological assessment (i.e., Stage 3 and, possibly, Stage 4 mitigation) is required for Location 12 / AaHs-43. Stantec was not provided permission to access this portion of the study area as part of the current Stage 1-2 archaeological assessment. It is understood that another archaeological consultant will be completing the necessary Stage 3 archaeological assessment and Stage 4



STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

mitigation for Location 12 / AaHs-43. Stantec recommends that the Town of Amherstburg consult with the individual landowners, proponents, and archaeological consultants associated with the properties containing archaeological site Location 12 / AaHs-43 to confirm that archaeological concerns regarding the site have been addressed and reviewed by the MTCS prior to the start of the current Project.

If any additional lands outside of the current study area are to be impacted by construction of the Project or any future development, a Stage 1, and possibly a Stage 2, archaeological assessment is required. The objective of the Stage 1 archaeological assessment will be to gather information about the study area's geography, history, current land conditions, any previous archaeological research within the vicinity, and determine the potential for archaeological resources to exist. The objective of further Stage 2 archaeological assessment will be to document archaeological resources within the applicable lands and to determine whether these archaeological resources require further assessment. The Stage 2 archaeological assessment will consist of pedestrian survey and test pit survey as applicable for the environmental context. The pedestrian survey of agricultural fields will entail the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). Areas to be subjected to test pit survey that are within woodlots, scrubland, residential lawn, or areas that cannot be ploughed will be assessed according to Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). If the archaeological field team judges any lands to be low and wet, steeply sloped, or disturbed during the course of the Stage 2 field work, those areas will not require assessment, but will be photographically documented instead in accordance with Section 2.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a).

The MTCS is asked to review the results presented and accept this report into the *Ontario Public Register of Archaeological Reports*. Additional archaeological assessment is still required and so the archaeological site recommended for further archaeological fieldwork remains subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

The Executive Summary highlights key points from the report only; for complete information and findings, the reader should examine the complete report.



Project Personnel

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Caldwell First Nation :	Ian Duckworth, Nikki Orosz
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STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

Project Context
December 10, 2018

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

Stantec Consulting Ltd. (Stantec) was retained by the Town of Amherstburg (the Town) to complete a Stage 1-2 archaeological assessment for the Amherstburg Southeast Quadrant Servicing Municipal Class Environmental Assessment (Class EA; the Project). The Stage 1-2 archaeological assessment was undertaken by Stantec, on behalf of the Town, in the preliminary planning and design process for a Municipal Class Environmental Assessment (Class EA) for the Project under the Ontario *Environmental Assessment Act* (Government of Ontario 1990a).

The study area for the Project is located in various lots and concessions, Geographic Township of Malden, now Town of Amherstburg, Essex County, Ontario (Figure 1). The Town is undertaking the Class EA to review the existing municipal infrastructure and identify upgrades or new infrastructure required to provide sanitary and water servicing for the proposed new developments within the southeast quadrant of the Town of Amherstburg. The proposed sanitary and water servicing infrastructure includes upsizing the watermains along Lowes Sideroad (east of Fryer Street) and Concession Road 2 South (south of Lowes Sideroad) from 50 millimetre (mm) to 300 mm in diameter and extending the watermains along Lowes Side road up to Meloche Road for improved water distribution. The proposed water infrastructure will generally follow existing road allowances (Figure 2). Overall, the study area for the Project comprises approximately 9.72 hectares.

1.1.1 Objectives

In compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a), the objectives of the Stage 1 Archaeological Overview/Background Study are as follows:

- To provide information about the study area's geography, history, previous archaeological fieldwork, and current land conditions;
- To evaluate the study area's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

To meet these objectives, Stantec archaeologists employed the following research strategies:

- A review of relevant archaeological, historic, and environmental literature pertaining to the study area;
- A review of the land use history, including historical atlases; and
- An examination of the *Ontario Archaeological Sites Database* to determine the presence of known archaeological sites in and around the study area.

The objective of the Stage 2 assessment was to provide an overview of archaeological resources on the property and to determine whether any of the resources might be archaeological sites with cultural heritage value or interest and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a), the objectives of the Stage 2 Property Assessment are as follows:



STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

Project Context

December 10, 2018

- To document archaeological resources within the study area;
- To determine whether the study area contains archaeological resources requiring further assessment; and
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

Permission to enter the study area to conduct the archaeological assessment was provided by the Town in conjunction with individual landowner consents, where possible. Access to certain properties was denied by various landowners (see Section 1.3.3 for further information).

1.2 HISTORICAL CONTEXT

The study area is located within the Town of Amherstburg, Essex County, Ontario. The study area spans a portion of the Geographic Township of Malden in Lots 3 to 5, Concession 1 and Lots 20 to 22, Concession 2, as well as the municipal road right-of-ways (ROWs) for Fryer Street and Lowes Sideroad.

1.2.1 Post-contact Indigenous Resources

To define post-contact Indigenous resources, the term “contact” is typically used as a chronological benchmark in discussing Indigenous archaeology in Canada and describes the contact between Indigenous and European cultures. The precise moment of contact is a constant matter of discussion. Contact in what is now the province of Ontario is broadly assigned to the 16th century (Loewen and Chapdelaine 2016).

The post-contact Indigenous occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking communities by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17th century and beginning of the 18th century (Konrad 1981; Schmalz 1991). By 1690, Algonkian speakers from the north appear to have begun to repopulate Bruce County (Rogers 1978:761). This is the period in which the Mississaugas are known to have moved into southern Ontario and the lower Great Lakes watersheds (Konrad 1981). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Odawa, and Potawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779).

In Essex County, and specifically in the Windsor region, a splinter group of Odawa settled in the area (Cultural Resources Management [CRM] Group Limited *et al.* 2005:2-14 to 2-15). Also, the surviving remnants of the Huron and Petun were settling in the Windsor region as the Wyandot, exhibiting continuities with their 16th and 17th century predecessors from the Midland and Blue Mountain regions (Garra 2014; Steckley 2014). Given the amalgamated nature of the Wyandot people, sometimes one of the contributing Indigenous peoples were recognized over another, hence the Wyandot were known as Huron in the Windsor region (Garra 2014:16-54). Therefore, the Wyandot settlement in the Windsor region is commonly referred to as a “Huron Village” and related place names survive in Windsor today, such as Huron Church Road (but also note Wyandotte Street). A 1749 French map of the Detroit River region depicts one such Huron Village on the shores of the Detroit River near the study area. In the legend of the 1749 map this village is noted as abandoned by 1748 (Chaussegros de Lery 1752) (Figure 3).

Despite the dispersal and movement of Indigenous groups throughout southern Ontario during the 17th and 18th centuries, the archaeology of these groups can still be characterized by continuity with their pre-contact Indigenous counterparts. These peoples still maintained a Terminal Woodland archaeological culture albeit with some features of European material culture. While there was cultural and social change occurring due to contact with European



STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

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explorers and immigrants, there was equally a definite persistence of Indigenous socio-cultural practices since these groups were not so profoundly affected by European contact that they left their former lifeways behind (Ferris 2009).

Since contact with European explorers and immigrants, and, later, with the establishment of provincial and federal governments (the Crown), the lands within Ontario and the Essex County region have been included in various treaties, land claims, and land cessations. In 1790, the Ojibwa and Wyandot groups present within the Essex County region surrendered majority of the land they settled on to the Euro-Canadian inhabitants through Treaty Number 2 (Jacobs 1983:61-68). Following the surrender, the remainder of the Wyandot groups moved south from the Windsor Region and settled into the tract of land that was proposed and surveyed in 1790 to be designated as the Huron Reserve within Treaty Number 2 (Lajeunesse 1960:cvi) (Figure 4). The tract of land of the Huron Reserve spanned the area of Anderdon Township and Malden Township; now covering the present-day area of where the Towns of LaSalle and Amherstburg are situated (Morris 1943:27). A map from 1790 redrawn in Lajeunesse (1960) depicts this tract of Reserve land north of the study area, along with a Huron village and nearby expanse of corn fields on the south side of the mouth of the Canard River approximately seven kilometres north of the study area (Figure 4).

In 1833, the Wyandot group in the Huron Reserve later surrendered the remaining land to the Euro-Canadian inhabitants in through Treaty Number 35, within which the study area falls in. Treaty Number 35:

... was an Indenture made on the 13th August, 1833, between Indians of the Wyandot or Huron Tribe and His Majesty King William the Fourth whereby the Indians surrender that tract of land known as the Huron Reserve, shown on compiled plan as Letter "U" situated in the Western District of the Province of Upper Canada, butted and bounded as follows:

Commencing at a post or point on the River Detroit being the boundary between the said Huron Reserve and the Military Ground attached to Fort Amherst in the Township of Malden; thence running east seven miles more or less, until you strike the west lined of the Township of Colchester; thence North along the said line until you strike the south line of the Township of Sandwich; thence west along the said line seven miles more or less to the River Detroit; thence following the course of the River Detroit to the place of beginning," together with all the woods, etc.

(Morris 1943:27)

Though not an exhaustive list, Morris (1943) provides a general outline of some of the treaties within the Province of Ontario from 1783 to 1923. While it is difficult to exactly delineate treaty boundaries today, Figure 5 provides an approximate outline of the area encompassed by Treaty Number 35 (identified by the letter "U"), based on Morris (1943).

The expansion of the fur trade led to increased interaction between European and Indigenous people, and ultimately intermarriage between European men and Indigenous women. During the 18th century the progeny of these marriages began to no longer identify with either their paternal or maternal cultures, but instead as Métis. The ethnogenesis of the Métis progressed with the establishment of distinct Métis communities along the major waterways in the Great Lakes of Ontario. Métis communities were primarily focused around the upper Great Lakes and along Georgian Bay, however, Métis people have historically lived throughout Ontario (Métis Nation of Ontario 2016; Stone and Chaput 1978:607-608).



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The nature of Indigenous settlement size, population distribution, and material culture shifted as European settlers encroached upon their territory. However, despite this shift, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to...systems of ideology and thought” (Ferris 2009:114). As a result, Indigenous peoples have left behind archaeologically significant resources throughout southern Ontario which show continuity with past peoples, even if they have not been recorded in Euro-Canadian documentation.

1.2.2 Euro-Canadian and Afro-Canadian Resources

Initial Euro-Canadian settlement along both sides of the Detroit River began in 1701 when France established a settlement at modern-day Detroit. The fur trade was the primary economic driver of the new settlement (Lejeunesse 1960: xlii-xliii). As tensions with Great Britain increased, the area took on a strategic importance to block Britain’s encroachment upon New France (Lejeunesse 1960:liii). At the conclusion of the Seven Years War in 1763, New France was ceded to Great Britain as per the terms of the Treaty of Paris.

British settlement of the future site of Malden Township and the study area began in 1783, when Captains Matthew Elliot and William Caldwell took tracts of land on the east side of the Detroit River opposite of Bois Blanc Island (Figure 4). Elliot and Caldwell were United Empire Loyalists who fought alongside Indigenous groups allied with Britain. Other European settlers soon took tracts of land along the river, including other British officers and translators who worked with Indigenous groups. As mentioned in Section 1.2.1, the 1790 map illustrates a tract of land reserved for the Huron and other Indigenous groups, just north of the study area. It also illustrates a Huron village and fields at the mouth of the Canard River, approximately seven kilometres north of the study area. In January 1793, Lieutenant Governor John Graves Simcoe instructed a new township, Malden Township, be surveyed at the mouth of the Detroit River (Lajeunesse 1960:ciii). The township was surveyed by Abraham Iredell. Iredell’s survey is dated April 17, 1796 and divided Malden Township into 103 lots, with 19 of the lots situated along the east side of the Detroit River. Simcoe instructed that Elliot and Caldwell be responsible for recommending who should receive land grants in Malden Township. Elliot would amass 3,000 acres in the township and worked the land with slaves he imported from his former plantation in Virginia (Lajeunesse 1960:civ).

In 1794, Great Britain and the United States signed Jay’s Treaty to settle outstanding issues from the American Revolutionary War. Britain was to relinquish all American territory it still occupied by 1796, including its fortifications at Detroit (Library of Congress 2017). The British constructed Fort Malden, a new fort on the east side of the Detroit River at Amherstburg, just north of the study area. Amherstburg straddled the border between Malden Township and Anderdon Township. The British garrison brought prosperity to the area and the population of Amherstburg and the two townships (i.e., Malden and Anderdon) soon exceeded Sandwich Township (present day Windsor). In 1817, the population of Amherstburg, Anderdon, and Malden Townships stood at 675 people (Belden 1881).

A major demographic group in Malden Township during the early 19th century was African Canadians, who comprised 20% of Malden’s population in the 1820s and 1830s. A portion of this population comprised escaped slaves from the American south and Free Blacks from the American north who believed they would face less overt discrimination in Upper Canada (Clarke 2010:81-82). A large part of the Afro-Canadian population of Malden Township had roots in Virginia, Maryland, and Kentucky. Many of the Afro-Canadian farmers in the township grew



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tobacco, a crop they were familiar with cultivating in the southern United States (Amherstburg Bicentennial Book Committee [ABBC] 1996:64-65).

In 1850, Amherstburg was separated from the Township of Malden and became a village. A visitor to Amherstburg in 1850 described the town as appearing "...old fashioned...most of the houses being built in the old French style" (Anderson 1869:26). By this time, the population of the Village of Amherstburg had reached 1,000 inhabitants. The population of Malden Township in 1850 was 1,552 and approximately 5,000 acres of land were under cultivation (Belden 1881). In 1852, 29% of Malden's farmers were tenants rather than landowners (Clarke 379:2010). Besides agriculture, maritime industries were an important part of Malden Township's and Amherstburg's economy. Fishing was bountiful on the Detroit River (ABBC 1996:66) and shipbuilding took place in Amherstburg and Malden Township (ABBC 1996:69).

The completion of the Great Western Railway to the north of Amherstburg in 1854 marked the beginning of a period of decline for Amherstburg and Malden Township. The importance of Malden Township and Amherstburg as a port diminished as shipping moved north to Windsor (ABBC 1996:81). In 1861, the population of Malden Township was 1,546, with Canadian-born residents accounting for 80% of the population (ABBC 1996:81). The primary ethnic groups in Malden Township in the 1860s included British, French, and Americans of European and African ancestry (ABBC 1996:82). The arrival of the Canada Southern Railway in Amherstburg and Malden Township in 1873 improved the economic fortunes of the area. Lumber was the main product exported to the United States through Amherstburg on the Canada Southern Railway. In 1878, the population of Amherstburg increased to 2,000 and the village became incorporated as a town (ABBC 1996:94).

Improvements in transportation and the advent of the motor vehicle strengthened the relationship between Amherstburg and the cities of Windsor and Detroit in the early 20th century. An electric railway line connected Amherstburg and Windsor starting in 1903 (Morrison 1954:185). The streetcars would be replaced by busses in 1938 (ABBC 1996:143). In the early 20th century, interest in the history of Amherstburg, and in particular Fort Malden, increased, and residents began to realize the historical value of the remaining buildings associated with Fort Malden (Carnochan 1909). Proposals arose to make Fort Malden a national park or historic site as early as 1904 (Globe and Mail 1904). In 1921, Fort Malden was designated a National Historic Site, and the earthworks, buildings, and blockhouse of the fort were restored (Marsh 2012).

By the middle of the 20th century, industries in the area included an auto parts manufacturer, plastics plant, distillery, limestone quarry, and a chemical complex. The completion of the St. Lawrence Seaway and improvements to the shipping channel offshore of Amherstburg once again made the Detroit River an important shipping corridor, with the route offshore Amherstburg increased to 27 feet in depth (Ogdensburg Journal 1959). The postwar housing boom created new housing developments and suburban sprawl into Malden and Anderdon Townships. By the 1970s, Amherstburg had a population of 5,000. Efforts to manage the direction of growth were hindered when in the early 1970s when the Ontario Municipal Board and the Municipal Council of Amherstburg failed to agree on a town plan (Kasurak 1972).

On January 1, 1998 the Township of Malden was amalgamated into the Town of Amherstburg (Town of Amherstburg 2016). As of the 2016 Census of Canada, the population of the Town of Amherstburg is 13,910, an increase of 1.4% since 2011 (Statistics Canada 2017).



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1.2.3 Property History

The study area is located in Lots 3 to 5, Concession 1 and Lots 20 to 22, Concession 2, Geographic Township of Malden, now Town of Amherstburg, Essex County, Ontario. Lots 3 to 5 are wider than the typical river lots in Essex County, because they pre-date the formal surveying and treaty purchases in the area. This is because these lots were settled by British officers and United Empire Loyalists prior to the formal surveying by Abraham Iredell and the formation of Malden Township by Simcoe (Figure 4). These officers had acquired their land directly from the Huron First Nation in 1784, who had been their allies during the American Revolutionary War and as a result, their lot sizes are wider than neighbouring waterfront lots. The land cession was approved by Governor Frederick Haldimand the same year (Lajeunesse 1996: ciii).

Historical county atlases and other early 19th maps were produced primarily to identify factories, offices, residences, and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). All structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984). Review of historic mapping also has inherent accuracy difficulties due to potential error in geo-referencing. Geo-referencing is conducted by assigning spatial coordinates to fixed locations and using these points to spatially reference the remainder of the map. Due to changes in 'fixed' locations over time (e.g., road intersections), errors/difficulties of scale and the relative idealism of the historic cartography, historic maps may not translate accurately into real space points. This may provide obvious inconsistencies during the historic map review.

1.2.3.1 Lot 5, Concession 1 and Lot 20, Concession 2

The first recorded European settler on Lot 5, Concession 1 and Lot 20, Concession 2 was Captain Matthew Elliott, a United Empire Loyalist (Figure 4). Elliott was born in County Donegal, Ireland in 1739. In 1761, he emigrated with his family to Pennsylvania. They settled at Fort Pitt (present day Pittsburgh) and Elliott became involved in the fur trade. Elliott worked closely with the Shawnee and learned their language (ABBC 1996:10). Elliott also had a plantation in Virginia (Lajeunesse 1996:civ). During the American Revolutionary War, Elliott fell under suspicion of being pro-British and in 1778 fled Pittsburgh. Accompanying him was Alexander McKee, another initial European settler in the area. Elliott relocated to Detroit and served in the British Indian Department, leading several raids against American forces, and was promoted to Colonel (ABBC 1996:11).

After the war, Elliott established a farm on Lot 5, Concession 1 and Lot 20, Concession 2. He eventually amassed 3,000 acres in Malden Township, and worked the farm partially with slaves he had brought from his plantation in Virginia (Lajeunesse 1996:civ). Elliott was a prominent official in the province and served on the Legislative Assembly of Upper Canada. He died in 1814, in Burlington, after he and his family evacuated their farm during the War of 1812. Elliott's son, Francis remained on part of the land after Matthew's death (ABBC 1996:11-12). Colonel Elliot is commemorated by a historical plaque on Lot 5 (Ontario's Historical Plaques 2018a) (Image 1).

In 1860, Lot 5, Concession 1 and Lot 20, Concession 2 were owned by Sarah Elliott, Matthew's widow (Figure 6). On Walling's 1877 map of Essex County, Lot 5, Concession 1 and Lot 20, Concession 2 is still shown as owned by the Elliott family (Figure 7). The lots were owned by Frederick Elliott. Frederick Elliott was born in 1838 and is listed as being born in Ontario, of Irish ancestry, and a member of the Church of England (Census of Canada 1861). In the 1871 Census of Canada, Frederick Elliott is shown living with Albert Elliott, born 1849, and Emily Elliott, born 1847 (Census of Canada 1871).



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In 1881, Frederick Elliott is still shown living on Lot 5, Concession 1 (Figure 8). Additionally, two structures are depicted along the Detroit River belonging to A. Cullam and J.S. Patton. The 1881 map does not show an owner of Lot 20, Concession 2 (Figure 8).

In addition to the historical plaque commemorating Captain Matthew Elliot, a second plaque is located nearby which commemorates the capture of the schooner “Anne” in 1838 (Ontario’s Historical Plaques 2018b) (Image 2). During the Rebellion of 1837, the ship was attacking structures near Fort Malden from the Detroit River, and was disabled and captured by the militia under Col. T. Radcliff.

1.2.3.2 Lot 4, Concession 1 and Lot 21, Concession 2

The first recorded European settler on Lot 4, Concession 1 and Lot 21, Concession 2 was Captain Alexander McKee, a United Empire Loyalist (Figure 4). McKee was a close associate of Matthew Elliott and together they fled Pittsburgh for Detroit in 1778. Alexander McKee was born in 1735 to an Irish trader and Shawnee mother (ABBC 1996:7). McKee participated in the Seven Years War as a lieutenant in the Pennsylvania forces and by 1760 was a member of the Indian Department. During the American Revolutionary War, McKee was a captain and interpreter with the British Indian Department. After the war, he settled on land just north of Matthew Elliott. He served as a deputy-agent in the Indian Department; as a leader of the local militia; and sat on the land board. McKee died in 1799 (ABBC 1996:8).

By 1860, Lot 4, Concession 1 and Lot 21 Concession 2 had been divided into a north half and south half. The north halves of Lot 4, Concession 1 and Lot 21, Concession 2, were owned by Robert Todd Reynolds (Figure 6). The south half of both lots was owned by William Duff. The 1861 Census of Canada lists Robert T. Reynolds as a doctor, born in 1819 (Census of Canada 1861). The 1861 Census of Canada shows an adjacent Robert Reynolds who was a farmer. It is unclear which Robert Reynolds was living on the property; both are likely related and lived near each other, because they were on the same census page. William Duff was born in 1782 in Upper Canada. He was a Presbyterian and no occupations are listed on the census for him and his family. Duff lived with his wife Susan, born 1787, who was a Catholic, their daughter Susannah, born 1822 and Presbyterian, daughter Belle, born 1827 and Catholic, daughter Jean, born 1832 and Presbyterian, son James, born 1824 and Presbyterian, and son Charles born 1822 and Presbyterian (Census of Canada 1861).

By 1877, according to Walling’s map of Essex County, the north halves of Lot 4, Concession 1 and of Lot 21, Concession 2 were owned by W. Johnson (Figure 7). The 1871 and 1881 Censuses of Canada do not list a W. Johnson living in Malden Township, but a W. Johnson lived in both Anderson Township and Amherstburg. It is possible Johnson owned the land but rented it to tenants or simply held the land in trust. The southern half of Lot 4, Concession 1 was divided into numerous parcels with no owners listed. The southern half of Lot 21, Concession 2 was subdivided into three parcels (Figure 7). The west parcel included 48 acres and was owned by the Chenevert family, who do not appear in Malden Township or Amherstburg in the 1871 or 1881 Census (Census of Canada 1871, Census of Canada 1881a). A building is depicted on the 1877 historic map in the southwest corner of the property, at the intersection of Concession Road 2 South and Lowes Side Road, within the study area. The central parcel included 30 acres and was owned by the Boyce family (Walling 1877). A building is depicted in the south-central part of the parcel, fronting onto Lowes Side Road. Macauley Boyce was born in 1823 in Nova Scotia and was of Scottish ancestry. His occupation was listed as a farmer. He lived with his wife Catherine, born 1822 in Nova Scotia, and daughters Ida, born 1862, Clara, born 1865, and Sarah, born 1869 (Census of Canada 1881a). The east parcel included 22 acres and was owned by the Gott family (Walling 1877). George Gott was born in 1828 in Ireland



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and his occupation was a farmer. He lived with his wife Maria, born 1831, daughters Sarah, born 1851, Ellen, born 1854, Alice, born 1868, and her sons Merian, born 1858, George Junior, born 1860, and John, born 1863 (Census of Canada 1881b).

On the 1881 historical map, Lot 4, Concession 1 is not divided into parcels, but this is likely due to the limited information provided on the map (Belden 1881) (Figure 8). Two structures are depicted along the Detroit River on half acre lots, owned by G.C. Roberts and S. Fraser (Belden 1881). A third structure is depicted south of S. Fraser's house fronting the Detroit River, owned by Mrs. T. Hackett and part of a 14.5-acre lot. The boundaries of this lot are not demarcated (Belden 1881). Similarly, Lot 21, Concession 2, shows no parcel division lines, but it does indicate that house at the corner Concession Road 2 South and Lowes Sideroad, formerly owned by the Chenevert family, was now owned by J. Atkinson along with 50 acres of land (Belden 1881). Macauley Boyce continued to own the house in the south-central parcel along with 30 acres of land (Belden 1881). No other information is provided for the Lot 21, Concession 2 (Belden 1881) (Figure 8).

1.2.3.3 Lot 3, Concession 1 and Lot 22, Concession 2

The first recorded European settler on Lot 3, Concession 1 and Lot 22, Concession 2 was Captain William Caldwell, a United Empire Loyalist (Figure 4). Caldwell was born in Ireland in approximately 1750. Caldwell arrived in the 13 Colonies in 1773 and was part of Virginia's colonial militia under Lord Dunmore (ABBC 1996:12). He likely met Matthew Elliott during peace negotiations between Dunmore and the Shawnee. During the American Revolutionary War, Caldwell was imprisoned in Philadelphia for his United Empire Loyalist sympathies. Caldwell escaped prison and made his way to Niagara and joined Butler's Rangers (ABBC 1996:12). Caldwell settled in the study area after the war and once again served the British Army during the War of 1812 as a quartermaster. Caldwell died in 1822 (ABBC 1996:13).

By 1860, Lot 22, Concession 2 was owned entirely by John Caldwell (ABBC 1996) (Figure 6). However, Lot 3, Concession 1 had been sub-divided amongst Caldwell's heirs, sold to others, and/or incorporated as part of the village of Amherstburg. Mapping shows that in 1860, the northwestern portion of Lot 3, Concession 1 is included in the town plot for Amherstburg. Beyond the town plot, seven landowners are illustrated as owning parts of Lot 3, Concession 1 in 1860, including: Charles Bercsy, Thomas Park, Elizabeth Caldwell Kevill, Therese Caldwell, William Caldwell, John Kolfage, and Dunbar (Figure 6). No structures are illustrated on the 1860 map.

Walling's 1877 map of Essex County illustrates Lot 3, Concession 1 and Lot 22, Concession 2 with subdivided parcels and multiple landowners (Figure 7). The majority of Lot 22, Concession 2 remained with J. Caldwell, but a portion of the lot adjacent to Fryer Street was owned by T.J. Park. The northwestern portion of Lot 3, Concession 1 remains included in the town plot for Amherstburg. Beyond the town plot, Lot 3, Concession 1 was subdivided into small parcels with many residential structures illustrated along the east side of the Detroit River, as well as a Tannery and a Coal Office. Despite the heavy residential and commercial presence in Lot 3, Concession 1, only two landowners are illustrated on the 1877 map: Theo. Park and Kolfage (Figure 7). John Kolfage was born in 1818 in Hanover, Germany (Census of Canada 1881c). According to the 1881 census, his occupation was listed as stonecutter. He lived with his wife Rebecca, born 1828, who was of Scottish ancestry on the south part of the lot (Figure 7). They lived with their children, son Thomas, born 1856 and employed as a merchant; son Walter, born 1858 and employed as a mariner; son Septimus, born 1860 and employed as a clerk; son Edmund, born 1862, and employed as a farmer; son John Junior, born 1866; and daughter Frances, born 1864 (Census of Canada 1881c). By



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1881, the Park family was led by Ernest Park, an Ontario-born postmaster of English ancestry born in 1848 (Census of Canada 1881c). He lived with his wife Caroline, also born in 1848, daughter Olive, born 1870, daughter May, born 1872, son Ernest, born 1875, daughter Alice, born 1878, and daughter Bessie, born 1880 (Census of Canada 1881c).

The 1881 map provides no landowner information or depictions of structures in Lot 3, Concession 1 and Lot 22, Concession 2 (Belden 1881) (Figure 8), presumably because the landowners were not subscribers to the map and directory (see Section 1.2.2).

1.2.3.4 Summary

Based on historical map review and archival research, the study area has been populated by numerous individuals since the township was initially surveyed. Table 1 provides brief summary of the 18th and 19th century landowner information related to the study area.

Table 1: Summary of Landowner Information Related to the Study Area

Lot	Concession	1790	1860	1877	1881
5	1	M. Elliott	Sarah Elliott	F. Elliott <ul style="list-style-type: none"> structure fronting Lowes Sideroad two structures at corner of Lowes Sideroad and Dalhousie, marked "S.M." (likely a Saw Mill) 	F. Elliott <ul style="list-style-type: none"> two structures depicted along the Detroit River belonging to A. Cullam and J.S. Patton
4	1	A. McKee	Robert Todd Reynolds (North half)	W. Johnson (North half)	n/a <ul style="list-style-type: none"> three structures fronting Dalhousie Street and the Detroit River, belonging to G.C. Robbins, S. Fraser, and Mrs. T. Hackett
			William Duff (South half)	Not applicable (n/a) (Southwest parcel) <ul style="list-style-type: none"> structure fronting Dalhousie Street 	
				n/a (Centre parcel) <ul style="list-style-type: none"> structure fronting Lowes Sideroad 	
				n/a (Southeast parcel) <ul style="list-style-type: none"> structure at corner of Lowes Sideroad and Fryer Street 	
3	1	W. Caldwell	Charles Bercey	Theo Park (North parcel)	n/a
			Thomas Park		
			Elizabeth Caldwell Kevill		
			Theresa Caldwell		
			William Caldwell		
			John Kolfage	Kolfage (South parcel)	



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Lot	Concession	1790	1860	1877	1881
20	2	M. Elliott	Sarah Elliott	Frederick Elliott	n/a
21	2	A. McKee	Robert Todd Reynolds	W. Johnson	n/a
			William Duff	Chenevert (Southwet parcel) • structure at corner of Lowes Sider and Fryer Street	J. Atkison • structure at corner of Lowes Sideroad and Fryer Street
				Boyce (Centre parcel) • structure fronting Lowes Sideroad	Macauley Boyce • structure fronting Lowes Sideroad
				G. Gott (Southeast parcel)	n/a
22	2	W. Caldwell	John Caldwell	T.J. Park (West parcel)	n/a
				J. Caldwell (East parcel)	

1.2.4 Related Reports

A Cultural Heritage Assessment Report of the study area was carried out by Stantec in 2018 (Stantec 2018). Three cultural heritage resources were identified in the study area: one built heritage resource and two cultural heritage landscapes. The built heritage resource was an early 20th century farm dwelling (BHR-1) located at 441 Lowes Sideroad in Lot 22, Concession 2, located outside the study area but within 20 metres of the road. The farmstead is not associated with any structures depicted on historical mapping, likely because it dates to the early 20th century. The cultural heritage landscapes consist of a farmscape on Concession Road 2 South, and a streetscape on the portion of Concession Road 2 South, south of Lowes Sideroad. The farmscape (CHL-1) contains a 19th century farm dwelling, outbuildings, and surrounding agricultural fields. The structures are not associated with any structures depicted on historical mapping. The streetscape (CHL-2) is considered representative of a rural streetscape with a narrow gravel road and surrounding agricultural fields and farms.

1.3 ARCHAEOLOGICAL CONTEXT

1.3.1 The Natural Environment

The study area is situated within the St. Clair Clay Plain physiographic region. This region is described as:

Adjoining Lake St. Clair in Essex and Kent Counties and the St. Clair River in Lambton County are extensive clay plains covering 2,270 square miles. The region is one of little relief, lying between 575 and 700 feet a.s.l., except for the moraine at Ridgetown and Blenheim which rises 50 to 100 feet higher. ... Glacial Lake Whittlesey, which deeply covered all of these lands, and Lake Warren which subsequently covered nearly the whole area, failed to leave deep stratified beds of sediment on the underlying clay till except around Chatham, between Blenheim and the Rondeau marshes, and in a few other smaller areas. Most of Lambton and Essex Counties, therefore, are essentially till plains smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action.



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(Chapman and Putnam 1984:147)

Soils in the area are classified primarily as Perth Clay with fair to poor natural drainage (Department of Soils, Ontario Agricultural College 1947). They are adequate for agriculture and are improved with artificial drainage and the addition of fertilizers, particularly phosphate (Department of Soils, Ontario Agricultural College 1947).

Essex County is bound on three sides by major water sources: Lake St. Clair, the Detroit River, and Lake Erie. The Detroit River is located approximately 40 metres west of the western end of the study area. Big Creek, which drains into Lake Erie, is situated on the eastern border of the study area. An unnamed tributary of Big Creek traverses the study area at Lowes Sideroad. A wetland and unnamed tributary of the Big Creek watershed transects the western portion of the study area and is depicted on the 1877 and 1881 historical maps (Walling 1877, Belden 1881).

1.3.2 Pre-contact Indigenous Resources

It has been demonstrated that Indigenous people began occupying southern Ontario as the Laurentide glacier receded, as early as 9000 Before Christ (B.C.) (Ellis and Ferris 1990:13). Much of what is understood about the lifeways of these Indigenous peoples is derived from archaeological evidence and ethnographic analogy. In Ontario, Indigenous culture prior to the period of contact with European peoples has been distinguished into cultural periods based on observed changes in material culture. These cultural periods are largely based in observed changes in formal lithic tools, and separated into the Early Paleo-Indian, Late Paleo-Indian, Early Archaic, Middle Archaic, and Late Archaic periods. Following the advent of ceramic technology in the Indigenous archaeological record, cultural periods are separated into the Early Woodland, Middle Woodland, and Late Woodland periods, based primarily on observed changes in formal ceramic decoration. It should be noted that these cultural periods do not necessarily represent specific cultural identities but are a useful paradigm for understanding changes in Indigenous culture through time. The current understanding of Indigenous archaeological culture in Essex County is summarized in Table 2, based on Ellis and Ferris (1990).

Table 2: Cultural Chronology of Essex County

Period	Characteristics	Time Period	Comments
Early Paleo-Indian	Fluted Projectiles	9,000 – 8,400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8,400 – 8,000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8,000 – 6,000 B.C.	slow population growth
Middle Archaic	Brewerton-like Points	6,000 – 2,500 B.C.	environment similar to present
Late Archaic	Narrow Point	2,000 – 1,800 B.C.	increasing site size
	Broad Point	1,800 – 1,500 B.C.	large chipped lithic tools
	Small Point	1,500 – 1,100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1,100 – 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 – 400 B.C.	introduction of pottery
Middle Woodland	Couture Corded Pottery	400 B.C. – A.D. 500	increased sedentism
	Rivière au Vase Phase	A.D. 500 – 800	seasonal hunting and gathering
Late Woodland	Younge Phase	A.D. 800 – 1200	incipient agriculture
	Springwells Phase	A.D. 1200 – 1400	agricultural villages
	Wolf Phase	A.D. 1400 – 1550	earth worked villages, warfare



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Period	Characteristics	Time Period	Comments
Contact Indigenous	Various Algonkian and Iroquoian Groups	A.D. 1600 – 1875	early written records and treaties
Historic	French/Euro-Canadian	A.D. 1749 – present	European settlement

The local environmental conditions were significantly different from what they are today. Ontario's first peoples would have crossed the landscape in small groups in search of food, particularly migratory game species. In this area, caribou may have been a Paleo-Indian diet staple, supplemented by wild plants, small game, birds, and fish. Given the low density of populations on the landscape at this time and their mobile nature, Paleo-Indian sites are small and ephemeral. They are sometimes identified by the presence of fluted points. Site characteristics are frequently observed to be located adjacent to the shorelines of large glacial lakes (Ellis and Deller 1990).

Archaeological records indicate subsistence changes around 8,000 B.C. at the start of the Archaic Period in southwestern Ontario. Since the large mammal species that formed the basis of the Paleo-Indian diet became extinct or moved north with the warming of the climate, Archaic populations had a more varied diet, exploiting a range of plants and bird, mammal, and fish species. Reliance on specific food resources like fish, deer, and several nut species became more noticeable through the Archaic Period and the presence of warmer, more hospitable environs led to expansion of group and family sizes. In the archaeological record, this is evident in the presence of larger sites. The coniferous forests of earlier times were replaced by stands of mixed coniferous and deciduous trees by about 4,000 B.C. The transition to more productive environmental circumstances led to a rise in population density. As a result, Archaic sites become more abundant over time. Artifacts typical of these occupations include a variety of stemmed and notched projectile points; chipped stone scrapers; ground stone tools (e.g., celts, adzes) and ornaments (e.g., bannerstones, gorgets); bifaces or tool blanks; animal bone; and chert waste flakes, a byproduct of the tool making process.

Significant changes in cultural and environmental patterns occurred in the Early and Middle Woodland periods (circa 950 B.C. to A.D. 800). Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by roughly 1,000 years ago. Archaeologically, the most significant changes by Woodland peoples were the appearance of artifacts manufactured from modeled clay and the emergence of more sedentary villages. The earliest pottery was crudely made by the coiling method and early house structures were simple oval enclosures. The Early and Middle Woodland periods are also characterized by extensive trade in raw materials, objects, and finished tools, with sites in Ontario containing trade items with origins in the Mississippi and Ohio River valleys.

By the Late Woodland period there was a distinctive cultural occupation in southwestern Ontario, including Essex, Kent, and Lambton counties. The primary Late Woodland occupants of the Windsor area were populations described by archaeologists as Western Basin Tradition. Murphy and Ferris (1990:189) indicate that these people had ties with populations in southeastern Michigan and northwestern Ohio and represent an in situ cultural development from the earlier Middle Woodland groups. The Western Basin Tradition seems to have been centered in the territory comprising the eastern drainage basin of Lake Erie, Lake St. Clair, and the southern end of Lake Huron. The Western Basin Tradition is divided up into four phases based on differences in settlement and subsistence strategies and pottery attributes. By the time of increased European interaction in the last half of the 16th century and early 17th century, there were no Western Basin Tradition sites in the Essex County area, having moved west into Michigan (Ferris 2009:32-33).



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1.3.3 Known Archaeological Sites and Surveys

In Canada, archaeological sites are registered within the Borden system, a national grid system designed by Charles Borden in 1952 (Borden 1952). The grid covers the entire surface area of Canada and is divided into major units containing an area that is two degrees in latitude by four degrees in longitude. Major units are designated by upper case letters. Each major unit is subdivided into 288 basic unit areas, each containing an area of 10 minutes in latitude by 10 minutes in longitude. The width of basic units reduces as one moves north due to the curvature of the earth. In southern Ontario, each basic unit measures approximately 13.5 kilometres east-west by 18.5 kilometres north-south. In northern Ontario, adjacent to Hudson Bay, each basic unit measures approximately 10.2 kilometres east-west by 18.5 kilometres north-south. Basic units are designated by lower case letters. Individual sites are assigned a unique, sequential number as they are registered. These sequential numbers are issued by the MTCS who maintain the *Ontario Archaeological Sites Database*. The study under review is within Borden Block AaHs.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information and Protection of Privacy Act* (Government of Ontario 1990c). The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MTCS will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

To compile an inventory list of all archaeological resources and registered archaeological sites, the records kept by the MTCS were consulted. An examination of the *Ontario Archaeological Sites Database* from the MTCS indicated that there are 41 registered archaeological sites within one kilometre of the study area (Government of Ontario 2018a). Table 3 summarizes the 41 registered archaeological sites within one kilometre of the study area, five of which may be within 50 metres of the study area.

Table 3: Registered Sites within One-Kilometre of the Study Area

Borden Number	Site Name	Cultural Affiliation	Site Type
AaHs-43	Arnold	Middle Archaic	Camp
AaHs-44	Fogt	Indigenous	Findspot
AaHs-45	Fisher	Late Archaic	Scatter
AaHs-46	Molnar	Late Archaic; Late Woodland; Euro-Canadian	Camp; Midden
AaHs-47	Lister	Euro-Canadian	Midden
AaHs-48	Rimmer	Indigenous	Findspot
AaHs-49	Hawthorn	Indigenous	Scatter
AaHs-60	Findspot 1	Indigenous	Findspot
AaHs-61	Findspot 2	Archaic	Findspot
AaHs-62	Findspot 3	Indigenous	Findspot
AaHs-63	Findspot 9	Indigenous	Findspot
AaHs-64	Findspot 10	Late Woodland	Findspot
AaHs-65	Findspot 11	Archaic	Findspot



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AaHs-66	Findspot 12	Late Woodland	Findspot
AaHs-67	Findspot 13	Archaic	Findspot
AaHs-69	Findspot 18	Late Woodland	Findspot
AaHs-70	Findspot 19	Late Woodland	Findspot
AaHs-71	Findspot 20	Woodland; Euro-Canadian	Findspot
AaHs-72	Findspot 24	Archaic	Findspot
AaHs-73	Findspot 25	Archaic	Findspot
AaHs-74	Findspot 26	Indigenous	Findspot
AaHs-75	Findspot 27	Indigenous	Findspot
AaHs-76	Findspot 28	Late Woodland	Findspot
AaHs-77	Site 1	Euro-Canadian	Scatter
AaHs-78	Site 2	Euro-Canadian	Scatter
AaHs-79	Site 3	Indigenous	Scatter
AaHs-80	Hunt Club 1	Euro-Canadian	Homestead
AaHs-81	Hunt Club 2	Indigenous; Euro-Canadian	Scatter
AaHs-82	Hunt Club 3	Indigenous	Camp
AaHs-102	Larry Bauer H1	Indigenous; Euro-Canadian	Scatter
AaHs-103	Larry Bauer P4	Indigenous	Camp
AaHs-105	Larry Bauer P18	Indigenous	Camp
AaHs-115	Location 1	Euro-Canadian	Residential
AaHs-116	Location 2	Euro-Canadian	Homestead
AaHs-117	Location 3	Indigenous; Euro-Canadian	Findspot; Residential
AaHs-118	Location 5	Euro-Canadian	Residential
AaHs-121	Location 12	Early Archaic	Findspot
AaHs-122	Location 13	Early Archaic	Scatter
AaHs-123	Location 16	Middle Archaic	Findspot
AaHs-124	Location 17	Early Archaic	Findspot
AaHs-125	n/a	Indigenous	Findspot

As mentioned above, there are five registered archaeological sites which may be located within 50 metres of the study area: AaHs-43, AaHs-44, AaHs-115, AaHs-116, AaHs-117. The Arnold site (AaHs-43) and the Fogt site (AaHs-44) were identified in 1994 during a Stage 2 archaeological assessment of a portion of Lot 5, Concession 1 by Cultural Resource Management (CRM) Group and Dillion Consulting (CRM 1994). The Arnold site (AaHs-43) is a lithic scatter located on the western edge of the marsh and former tributary of Big Creek which crosses the property and appears to overlap with the current study area. The site is identified as a Middle Archaic (6,000 to 2,500 B.C.) campsite and is recommended for Stage 3 archaeological assessment (CRM Group 1994). The Fogt site (AaHs-44) is located approximately 240 metres west of the Arnold site approximately 40 metres north of the current study area and consists of an isolated find of an undiagnostic medial projectile point fragment. The site retains further cultural heritage value and interest (CRM Group 1994). The sites AaHs-115, AaHs-116, and AaHs-117 were identified in



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2016 during a Stage 1-2 archaeological assessment by Timmins Martell Heritage Consultants (TMHC 2016). Both Location 1 (AaHs-115) and Location 2 (AaHs-116) are Euro-Canadian sites dating to the late 19th century to mid-20th century (TMHC 2016). A Stage 3 archaeological assessment of the sites was done in 2017 and both sites do not retain any further cultural heritage value or interest (TMHC 2018). Location 3 (AaHs-117) is a multicomponent site with pre-contact Indigenous (i.e., two pieces of chipping detritus) and late 19th to early 20th century Euro-Canadian material. The Stage 3 archaeological assessment of the site was done in 2017 and the site does not retain any further cultural heritage value or interest (TMHC 2018). Additional information pertaining to registered archaeological sites within 50 metres of the current study area is provided below.

A query of the *Ontario Public Register of Archaeological Reports* identified five archaeological assessments which document archaeological work within 50 metres of the study area (Government of Ontario 2018b). Some of the archaeological reports were requested but not available for review as part of this assessment (e.g., CRM Group In press). However, they are listed below in Table 4 which provides a summary of relevant reports.

Table 4: Previous Archaeological Assessments within 50 Metres

Year	Report	Author	PIF #
1994	<i>Northern Capital Bob-Lo Island Partnership Properties, Stage 2 Archaeological Assessment and Limited Stage 3 Testing, Final Report</i>	CRM Group	94-022
2006	<i>Stages 1 & 2 Archaeological Assessment Report Hunt Club Development, Town of Amherstburg</i>	CRM Group	P109-009 & P109-013
2016	<i>Stage 1 & 2 Archaeological Assessment Proposed Residential Subdivision Part of Lots 21 & 22, Concession 2 Geographic Township of Malden Town of Amherstburg, Essex County, Ontario</i>	TMHC	P324-0125-2016
2018	<i>Stage 3 Archaeological Assessment Proposed Residential Subdivision Location 1 (AaHs-115), Location 2 (AaHs-116), Location 3 (AaHs-117), Location 5 (AaHs-118), Location 6 (AaHs-119), Location 12 (AaHs-121), Location 13 (AaHs-122), and Location 17 (AaHs-124) Part of Lots 21 & 22, Concession 2 Geographic Township of Malden Town of Amherstburg, Essex County, Ontario</i>	TMHC	P324-0193-2016 P324-0190-2016 P324-0191-2016 P324-0192-2016 P324-0194-2016 P324-0195-2016 P324-0197-2016 P324-0196-2016
In press	<i>Unknown Stage 1-2 Report</i>	CRM Group	P109-0061-2017

In 1994, Cultural Resource Management (CRM) Group completed a Stage 2 archaeological assessment under permit #1994-022 in part of Lot 5 Concession 1. This report was entitled *Northern Capital Bob-Lo Island Partnership Properties - Stage 2 Archaeological Assessment - Final Report* (CRM Group 1994). A portion of the study area for the current Project appears to overlap with portions of the 36-hectare mainland study area from CRM Group along the south side of Lot 5, Concession (CRM Group 1994). The Stage 2 assessment identified three pre-contact Indigenous isolated findspots (Fogt [AaHs-44], Site 3, and Rimmer [AaHs-48] and four archaeological sites, two of which were pre-contact Indigenous (Arnold [AaHs-43] and Fisher [AaHs-45]) and two of which were multicomponent with Indigenous and Euro-Canadian material (Molner [AaHs-46] and Lister [AaHs-47]). Of these archaeological locations, two are within 50 metres of the current study area: the Arnold site (AaHs-43) which appears to overlap with the current study area and the Fogt site (AaHs-44) which is located approximately 40 metres north of the current study area. CRM Group (1994) determined that both sites retained cultural heritage value or interest. In consultation with



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the landowner of this portion of Lot 5, Concession 1, it is Stantec's understanding that additional archaeological assessment (i.e., Stage 3 and, possibly, Stage 4 mitigation) is still required. Stantec was not provided permission to access the parcel as part of the current Stage 1-2 archaeological assessment.

In 2006, CRM Group completed a Stage 1-2 archaeological assessment of part of Lot 20, Concession 2 in advance of an 86.2-hectare residential development. The report is titled *Stages 1 & 2: Archaeological Assessment Report Hunt Club Development, Town of Amherstburg* (CRM Group 2006). The Stage 2 archaeological survey identified 28 isolated findspots and three archaeological sites. A portion of the study area for the current Project overlaps with portions of the study area from CRM Group (2006) along the east side of Fryer Street and south side of Lowes Sideroad. Two findspots may be located within 50 metres of the current study area: Findspot 14 and Findspot 15. Findspots 14 and 15 represent isolated pieces of chipping detritus and were not assigned Borden numbers. The piece of chipping detritus from Findspot 14 is manufactured from Jasper, while the piece of chipping detritus from Findspot 15 is manufactured from an unknown glacial till chert. CRM Group (2006) recommend no further archaeological work for Findspots 14 and 15. As will be discussed later in this report, Stantec identified additional archaeological resources related to Findspots 14 and 15 at what is now referred to as Location 1 (AaHs-126).

In 2016, TMHC completed a Stage 1-2 archaeological assessment in advance of a proposed 73.4 hectare residential subdivision entitled *Stage 1 & 2 Archaeological Assessment Proposed Residential Subdivision Part of Lots 21 & 22, Concession 2 Geographic Township of Malden Town of Amherstburg, Essex County, Ontario* (TMHC 2016). A portion of the current study area overlaps with the TMHC (2016) study area along the north side of Lowes Sideroad and the east side of Fryer Street. A total of 19 archaeological locations were identified: 11 of these are isolated finds of pre-contact Indigenous artifacts, 3 are pre-contact Indigenous sites, 3 are Euro-Canadian sites, and 2 are multi-component sites with both Indigenous and Euro-Canadian artifacts. Of these sites, eight were recommended for Stage 3 archaeological assessment (TMHC 2016). Of the sites recommended for further archaeological assessment, Location 1 (AaHs-115), Location 2 (AaHs-116), and Location 3 (AaHs-117) are within 50 metres of the current study area. Of the findspots which did not retain further cultural heritage value or interest and were not recommended for Stage 3 assessment, Location 4 (four lithic flakes), Location 14 (a flake and a utilized flake), and Location 18 (a projectile point fragment) appear to be within 50 metres of the current study area.

In 2016 TMHC conducted a partial Stage 3 archaeological assessment entitled *Stage 3 Archaeological Assessment Proposed Residential Subdivision Location 1(AaHs-115), Location 2 (AaHs-116), Location 3 (AaHs-117), Location 5 (AaHs-118), Location 6 (AaHs-119), Location 12 (AaHs-121), Location 13 (AaHs-122), and Location 17 (AaHs-124) Part of Lots 21 & 22, Concession 2 Geographic Township of Malden Town of Amherstburg, Essex County, Ontario* (TMHC 2018). The Stage 3 investigations consisted of: controlled surface collections (CSC) of the 19th century sites (Location 1 [AaHs-115], Location 2 [AaHs-116], Location 3 [AaHs-117], Location 5 [AaHs-118], Location 6 [AaHs-119]) to determine the occupation period, and CSC and excavation of the Pre-contact Indigenous sites (Location 12 [AaHs-121], Location 13 [AaHs-122], and Location 17 [AaHs-124]). Of these sites, only Location 1 (AaHs-115), Location 2 (AaHs-116), and Location 3 (AaHs-117) were within 50 metres of the current study area for the Town of Amherstburg Class EA. The Stage 3 assessment determined that none of these locations retained further cultural heritage value or interest and TMHC (2018) recommended no further archaeological work.

In addition to the above, Stantec is aware of an ongoing Stage 1-2 archaeological assessment which overlaps with the southwestern portion of the current study area in Lot 5, Concession 1. It is Stantec's understanding that CRM Group (In press) is completing a Stage 1-2 archaeological assessment in advance of a proposed subdivision under



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PIF # P109-0061-2017. The archaeological assessment is not complete and, therefore, the associated report was not available for review. In consultation with CRM Group and the proponent for their work (see Supplementary Documentation, Section 3.0, Correspondence), the Stage 1-2 archaeological assessment has identified numerous archaeological sites and findspots, including five which may be located within 50 metres of the current study area – Location 1/2, Location 12, Location 17, Location 27, and Location 30. At time of writing, the site record forms for any finds associated with P109-0061-2017 have not been submitted to the MTCS and the sites are not identified in the *Ontario Archaeological Sites Database*. A review of preliminary mapping obtained from CRM Group suggests that Location 12 may correspond to a continuation of registered archaeological site AaHs-43 (the Arnold site) (CRM Group 1994). Thus, given the size and location of the Arnold site (AaHs-43), the site most certainly extends into a portion of the current study area (see Supplementary Documentation). In consultation with the landowner for this parcel, it is Stantec's understanding that additional archaeological assessment (i.e., Stage 3 and, possibly, Stage 4 mitigation) is required for the Arnold site (AaHs-43) and Location 12. Stantec was not provided permission to access the parcel as part of the current Stage 1-2 archaeological assessment.

1.3.4 Archaeological Potential

Archaeological potential is established by determining whether any features or characteristics exhibit a likelihood of archaeological resources that may be located on or within the vicinity of a project area. Features or characteristics that exhibit potential archaeological resources are defined within Section 1.3.1 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011a). Stantec applied these defined archaeological potential criteria to determine areas of archaeological potential present within the project area of assessment (Government of Ontario 2011a). Such defined archaeological potential criteria include:

- Proximity to previously identified archaeological sites
- Distance to various types of water sources:
 - Primary water sources: (e.g., lakes, rivers, streams, creeks)
 - Secondary water sources: (e.g., intermittent streams and creeks, springs, marshes, swamps)
 - Features indicating of past water sources: (e.g., glacial lake shorelines with raised sand or gravel beach ridges, relic river or stream channels, shorelines of drained lakes or marshes, cobble beaches)
 - Accessible or inaccessible shorelines: (e.g., high bluffs, swamps or marshes by lake edges, sandbars stretching into marsh)
- Elevated topography (e.g., eskers, drumlins, large knolls, plateau)
- Pockets of well drained sandy soil, especially near areas of heavy soil or rocky ground
- Distinctive land formations and topographies that may indicate special or spiritual places (e.g., waterfalls, rock outcrops, caverns, mounds, and promontories and their bases)
- Resource areas (e.g., food, raw minerals, and early Euro-Canadian industries of fur trade, logging, prospecting, and mining)
- Areas of early Euro-Canadian settlement:
 - Early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes)
 - Early wharf or dock complexes, pioneer churches, and early cemeteries
 - Early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)
- Property listed on municipal register or designated under the *Ontario Heritage Act* (Government of Ontario 1990b) or that is a federal, provincial, or municipal historic landmark or site
- Property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations



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From these defined archaeological potential criteria, distance to modern or ancient water sources is generally accepted as the most important determinant of archaeological potential. However, any combination of two or more other criteria listed above, may also indicate archaeological potential. Conversely, archaeological potential can be determined to be not present should there be indication of extensive land alteration and disturbance, that can eradicate archaeological potential (Wilson and Horne 1995; Government of Ontario 2011a).

Many of the criteria that outline archaeological potential are present within and around the current study area. The closest extant sources of potable water to the study area includes: Big Creek on the eastern border of the study area, an unnamed tributary of Big Creek that traverses the study area at Lowes Sideroad, and a wetland and unnamed tributary of the Big Creek which transects the western portion of the study area. In addition, the Detroit River is situated approximately 40 metres west of the study area. Other small unnamed creeks, rivers, and ponds are also present near the study area. Historic maps show a marshland in around the mouth of the Big Creek tributary that flows into Lake Erie, however, most of the marshland may have disappeared overtime due to settlement development (Lajeunesse 1960). Additional ancient and/or relic water sources and tributaries from the Detroit River and Big Creek may have existed but are not identifiable on historic or modern mapping.

In combination with the geographic region, topography, and water sources around the study area, the soil texture is another important determinant of past settlements. The study area is situated on Perth Clay within the St. Clair Clay Plains, which would have been suitable for Indigenous and Euro-Canadian settlement and agricultural activities. Historic mapping from 1749 identifies a Huron Indigenous village located within the general vicinity of the study area, as well as early Euro-Canadian settlements or activities (Figure 3). The 1790 historic map the 1790 map illustrates a tract of land reserved for the Huron and other Indigenous groups, just north of the study area. It also illustrates a Huron village and associated corn fields at the mouth of the Canard River, approximately seven kilometres north of the study area (Figure 4). An examination of the *Ontario Archaeological Sites Database* identified 41 registered archaeological sites that are within a one-kilometre radius of the study area, including four sites which are within 50 metres of the study area, and one site (AaHs-43 / Location 12) which falls within the study area.

For Euro-Canadian sites, the archaeological potential criteria are defined above. The 1790 historic map documents the early creation of lots and settlement of the study area by United Empire Loyalists and British Army officers such as Caldwell, McKee, and Elliot in the 18th century. An Ontario Historic Plaque within the study area commemorates Colonel Elliot, and a second Ontario Historic Plaque nearby commemorates the 1838 capture of the ship the “Anne” associated with the 1837 Rebellion. Walling’s (1877) and Belden’s (1881) maps of Essex County demonstrates continued European settlement and expansion within the study area, including early historic Euro-Canadian settlements nearby and the establishment of the road system which still exists today. Much of the visible settlement pattern is attributed to the development of the 19th century, as settlements became dependent on wider economic networks and less dependent on local resource production. The result of this change in settlement pattern meant the proximity to transportation routes was influential in deciding on a site location. After about 1850, Euro-Canadian sites tended to be located along historically surveyed roads due to the opening of the interior of the Province. A Cultural Heritage Assessment Report of the study area identified three cultural heritage resources: an early 20th century farmstead, a farmscape, and a streetscape representative of a rural landscape.

In summary, when the above listed criteria are applied, the Stage 1 archaeological assessment has determined that the study area retains potential for the identification and recovery of pre-contact Indigenous, post-contact Indigenous, and historic Euro-Canadian resources. Thus, in accordance with Section 1.3.1 of the MTCS’ 2011 *Standards and*



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Guidelines for Consultant Archaeologists (Government of Ontario 2011a), a Stage 2 archaeological assessment is required.

1.3.5 Existing Conditions

The Stage 1-2 archaeological assessment for the study area was conducted under archaeological license P256 and Project Information Form (PIF) number P256-0532-2018, issued to Parker Dickson, MA, by the MTCS. The proposed Project includes upsizing the watermain along Lowes Sideroad (east of Fryer Street) and Concession Road 2 South (south of Lowes Sideroad) from 50 millimetre (mm) to 300 mm in diameter and extending the watermain along Lowes Side road up to Meloche Road for improved water distribution. Generally, the study area follows existing municipal road allowances and comprises approximately 9.72 hectares. The study area includes agricultural field, municipal road rights-of-way (ROWS), and buried public infrastructure and utilities.



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2.0 FIELD METHODS

The Stage 1 archaeological assessment compiled available information concerning known and/or potential archaeological resources within the study area and determined that the study area retains potential for the identification and recovery of pre-contact Indigenous, post-contact Indigenous, and historic Euro-Canadian resources. As a result, a Stage 2 archaeological assessment was required.

The Stage 2 archaeological assessment was conducted on June 7, 2018 under PIF #P256-0532-2018 issued to Parker Dickson, MA, of Stantec by the MTCS. During the Stage 2 survey, Stantec archaeologists were joined by representatives from Caldwell First Nation and Aamjiwnaang First Nation (via Tri-Tribal Monitoring Services). Additional information regarding Indigenous engagement for the archaeological component of the Project can be found in the Record of Indigenous Engagement document associated with this report.

Prior to the start of the Stage 2 archaeology assessment, the Town provided AutoCAD files which defined the assessment area. These files were then geo-referenced by Stantec's GIS team and a digital file (i.e., a shape file) was created of the Project's anticipated components and assessment areas. The digital file was uploaded to handheld GPS devices for use in the field.

Overall, the study area for the Project comprises approximately 9.72 hectares and includes agricultural field, municipal road ROWs, and buried public infrastructure and utilities. During the Stage 2 assessment, the weather was mainly sunny and warm. Overall, assessment and survey conditions were adequate and at no time were the field, weather, or lighting conditions detrimental to the identification and recovery of archaeological resources. Photos 1 to 14 confirm that field conditions met the requirements for a Stage 2 archaeological assessment, as per the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6 Standard 1a; Government of Ontario 2011a). An overview of the Stage 2 assessment methodology, as well as photograph locations and directions, is depicted on Figures 9 and 10 in Section 9.0 of this report.

Approximately 7.2% of the study area consists of ploughed and weathered agricultural fields. Ground surface visibility during the pedestrian survey was greater than 80% and provided for adequate conditions for the identification of archaeological resources (Photos 1 to 4). Given the proximity of previous archaeological findings from CRM Group (2006), it was determined using professional judgement that the portion of CRM Group's (2006) previously assessed and surveyed lands would be resurveyed as part of the current assessment. This portion of the study area was subject to pedestrian survey in accordance with Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a), however, given the relatively small size of the study area, and using professional judgement, the survey interval was reduced to one metre. During the pedestrian survey, when archaeological resources were identified, the survey transect was intensified and spanned a minimum 20 metre radius around the identified artifact, where appropriate due to Project limits. This approach was established to determine if the artifact was an isolated find or part of a larger surface scatter. The intensification was continued until the full extent of the scatter was defined or until the limits of the study area were completely examined, as per Section 2.1.1 Standard 7 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a).



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One archaeological location was identified during the pedestrian survey. The Stage 2 surface collection was conducted according to Stage 3 controlled surface pickup (CSP) standards, as allowed by the *Fieldwork: Stage 2 – Frequently Asked Questions* document issued by the MTCS (Government of Ontario 2016). For each find, the artifact was collected and a Universal Transverse Mercator (UTM) coordinate was taken. In accordance with Section 5.0 Standard 2b of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) five UTM coordinates were taken for large surface scatters: a coordinate at the site centre and four readings at the furthest extents in each of the cardinal directions. Moreover, all artifacts observed were collected and a UTM coordinate was recorded for each as per Section 2.1 Standard 4a of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). All UTM coordinates were taken using Collector powered by ESRI, customized for archaeological survey and assessment, on a handheld mobile device paired with an R1 Receiver to an accuracy of less than one metre. All UTM coordinates are located in zone 17T and are based upon the North American Datum 1983 (NAD83). A map illustrating the exact site location and all UTM coordinates recorded during the assessment are provided in the Supplementary Documentation to this report.

Approximately 51.6% of the study area comprises modern disturbance associated with paved roads along municipal ROWs, ditching, and buried utilities. All areas of disturbance within the study area accessible to Stantec were photo documented. Photos 5 to 11 illustrate disturbed portions of the study area and confirm that physical features affected the ability to survey portions of the study area (Section 7.8.6 Standard 1b; Government of Ontario 2011a)

Approximately 41.2% of the study area comprises areas previously surveyed or areas to be surveyed by other professional archaeological consultants. These areas were not surveyed as part of this Stage 2 archaeological assessment as they had been previously surveyed and/or permission to enter could not be obtained. A portion of the study area in Lot 20, Concession 2, was previously assessed by CRM Group (2006), but using professional judgement, Stantec reassessed this portion of the study area by pedestrian survey in accordance with Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) (Figure 9 and 10).



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3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. An inventory of the documentary record generated by fieldwork is provided in Table 5 below. A Borden number was assigned to applicable locations in accordance with Section 7.12 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). One new archaeological location was identified during the Stage 2 survey. Maps illustrating exact site locations do not form part of this public report; they may be found in the Supplementary Documentation.

Table 5: Inventory of Documentary Record

Document Type	Current Location of Document Type	Additional Comments
2 pages of field notes	Stantec office, London, Ontario	In original field book and photocopied in project file
1 field map	Stantec office, London, Ontario	In original field book and photocopied in project file
1 maps provided by the Town	Stantec office, London, Ontario	Hard and digital copies in project file
65 digital photographs	Stantec office, London, Ontario	Stored digitally in project file

The material culture collected during the Stage 2 archaeological survey of the study area is contained in one Bankers box, labeled by location and Borden number. The box will be temporarily housed at the Stantec London office until formal arrangements can be made for a transfer to an MTCS collections facility.

3.1 LOCATION 1 (AaHs-126)

Location 1 (AaHs-126) was identified during the pedestrian survey of a ploughed and weathered agricultural field. The Stage 2 assemblage comprises six Indigenous artifacts, all fragments of chipping detritus, dispersed across an area of approximately 38 metres east-west by 18 metres north-south. All artifacts were collected and retained for analysis.

3.1.1 Raw Material

Chert type identifications were accomplished visually using reference materials located in the Stantec London office. Chert is a naturally occurring mineral found in sedimentary rocks that is a granular crystalline form of quartz, composed of cryptocrystalline and microcrystalline crystals (Eley and von Bitter 1989). Four of the chipping detritus flakes recovered from Location 1 (AaHs-126) are manufactured from Kettle Point chert; one is manufactured from Selkirk chert; and one is manufactured from undetermined or till chert.

Kettle Point formation chert is from the Late Devonian age and is situated between the Kettle Point (Late Devonian shales) and the Ipperwash Formations (Middle Devonian Limestone). It occurs as submerged outcrops that extend approximately 1,350 meters into Lake Huron (Janusas 1984:3). Secondary deposits have been reported in Essex County (Janusas 1984) and in the Ausable Basin (Kenyon 1980; Eley and Von Bitter 1989). Kettle Point chert can be identified by the presence of a waxy lustre and occurs in a wide range of colours including brown, grey and greenish



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colours as well as reddish purple and dark blue varieties (Eley and von Bitter, 1989). A rusty staining on the surface of artifacts is frequently noted (Fisher 1997).

Selkirk chert originates from the Dundee formation of the Middle Devonian age found in clustered outcrops just east of Long Point on the north shore of Lake Erie and inland (Eley and Von Bitter 1989). It occurs in nodules and lenses and may be white mottled with darker grey brown inclusions, dark grey to grey brown mottled with lighter and darker inclusions, or light brown mottled with white and brown inclusions with a buff or yellow to rusty patina (Eley and Von Bitter 1989). Selkirk chert is a moderate quality chert that outcrops close to the embouchure of the Grand River along the north shore of Lake Erie. Its distribution as a secondary source material is similar to Onondaga chert, and it is frequently encountered as far west as the Chatham area.

3.1.2 Chipping Detritus

All recovered flakes were subject to morphological analysis following the classification scheme described by Lennox *et al.* (1986) and expanded upon by Fisher (1997). Table 6 summarizes the results of the detailed morphological analysis of the chipping detritus assemblage from Location 1 (AaHs-126).

Table 6: Chipped Stone Debitage Analysis

Material	Tertiary		Broken		Total Analyzed	
	n	%	n	%	n	%
Kettle Point	3	50.00	1	16.67	4	66.67
Selkirk	1	16.67	0	0.00	1	16.67
Till	1	16.67	0	0.00	1	16.67
Total	5	83.33	1	16.67	6	100.00

The Stage 2 assemblage consisted of tertiary (83.33%) and broken (16.67%) flakes. No primary flakes, secondary flakes, shatter flakes, or micro flakes were identified. A sample of the chipping detritus recovered from Location 1 (AaHs-126) is presented in Plate 1.

The morphological analysis of the chipped stone debitage indicates that the lithic practices at the site consist mainly of the re-sharpening and finishing of formal tools from prepared blanks. Primary reduction activities, from which primary, secondary, and shatter flakes would be created, were most likely being conducted at a different location.

3.1.3 Location 1 (AaHs-126) Artifact Catalogue

Table 7 provides the complete catalogue of the Stage 2 artifact assemblage recovered from Location 1 (AaHs-126).

Table 7: Location 1 (AaHs-126) Artifact Catalogue

Catalogue #	Subunit or Context	Depth (m)	Artifact	Quantity	Chert	Morphology
1	surface find 1	0	chipping detritus	1	Kettle Point	tertiary
2	surface find 2	0	chipping detritus	1	Kettle Point	tertiary
3	surface find 3	0	chipping detritus	1	Kettle Point	tertiary
4	surface find 4	0	chipping detritus	1	Kettle Point	broken



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Catalogue #	Subunit or Context	Depth (m)	Artifact	Quantity	Chert	Morphology
5	surface find 5	0	chipping detritus	1	Selkirk	tertiary
6	surface find 6	0	chipping detritus	1	Till	tertiary



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4.0 ANALYSIS AND CONCLUSIONS

Stantec was retained by the Town to complete a Stage 1-2 archaeological assessment for the Amherstburg Southeast Quadrant Servicing Municipal Class EA. The Stage 1 archaeological assessment determined that the study area retained potential for the identification of archaeological resources and Stage 2 archaeological assessment was recommended. The Stage 2 assessment resulted in the identification of one new archaeological site, Location 1 (AaHs-126). Further, Stantec's Stage 1-2 archaeological assessment of the Project has determined that an additional archaeological site, i.e., Location 12 / AaHs-43, may overlap with the study area and requires further archaeological assessment. Maps illustrating the archaeological sites are not included as part of the public report; they may be found in the Supplementary Documentation.

4.1 LOCATION 1 (AaHs-126)

The Stage 2 archaeological assessment resulted in the identification of Location 1 (AaHs-126). Location 1 (AaHs-126) comprises six non-diagnostic Indigenous artifacts: all piece of chipping detritus. Two identifiable raw materials are noted within the Stage 2 assemblage of Location 1 (AaHs-126): Kettle Point chert and Selkirk chert. This type of small lithic scatter is common to the area, which has seen habitation and use consistently for thousands of years, with sites nearby ranging from the Early Archaic (8,000 to 6,000 B.C.) to post-contact Indigenous and Euro-Canadian time periods (A.D. 1600 to 1950).

The artifacts from Location 1 (AaHs-126) were recovered from a surface scatter measuring approximately 38 metres east-west by 18 metres north-south. However, the scatter may extend to the south beyond the Project's study area limits. In fact, a previous archaeological assessment south of the current study area (i.e., CRM Group 2006) identified two archaeological locations located within 50 metres of Location 1 (AaHs-126): Findspot 14 and Findspot 15. Findspots 14 and 15 represent isolated pieces of chipping detritus and were not assigned Borden numbers (CRM Group 2006). The piece of chipping detritus from Findspot 14 is manufactured from Jasper, while the piece of chipping detritus from Findspot 15 is manufactured from an unknown glacial till chert. As isolated finds, CRM Group (2006) recommended no further archaeological work for Findspots 14 and 15. However, Jasper is a relatively uncommon raw material type found on Indigenous archaeological sites in Ontario. Its presence may suggest a special purpose archaeological site or may indicate period-specific trade function.

Although Location 1 (AaHs-126) is represented by non-diagnostic artifacts recovered from a widely-distributed scatter, its association with nearby archaeological sites (i.e., Findspots 14 and 15), demonstrates that the site retains further cultural heritage value or interest. In this regard, Location 1 (AaHs-126) fulfils the criteria for a Stage 3 archaeological assessment as per Section 2.2 Standard 1.b.ii and Section 2.2 Guideline 3 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a).

4.2 LOCATION 12 / AaHs-43

As summarized in Section 1.3.3., CRM Group (1994) identified and registered archaeological site AaHs-43 during a Stage 2 archaeological assessment of a proposed development. The Arnold site (AaHs-43) was represented by 18 Indigenous artifacts, including: 15 pieces of chipping detritus, a Brewerton side-notched projectile point made of



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Onondaga chert, an indeterminate projectile point tip made of an exotic chert, and a ground stone tool fragment (CRM Group 1994). The size of the site is estimated to be 75 metres by 50 metres (CRM Group 1994) and is located adjacent to the north side of a portion of the current study area.

CRM Group (In press) is completing a Stage 1-2 archaeological assessment in advance of a proposed subdivision under PIF # P109-0061-2017. The archaeological assessment is not complete and, therefore, the associated report was not available for review. In consultation with CRM Group and the proponent for their work, the Stage 1-2 archaeological assessment has identified numerous archaeological sites and findspots, including Location 12. The number and type of artifacts recovered from Location 12 has not been disclosed by CRM Group and the site has not yet been registered with the *Ontario Archaeological Sites Database*. However, based on a review of preliminary mapping obtained from CRM Group, Location 12 may correspond to a continuation of registered archaeological site AaHs-43. The size of Location 12 is estimated to be 175 metres by 75 metres and is located adjacent to the south side of a portion of the current study area. In consultation with the landowner for this parcel, it is Stantec's understanding that additional archaeological assessment (i.e., Stage 3 and, possibly, Stage 4 mitigation) is required for Location 12 / AaHs-43. Stantec was not provided permission to access this portion of the study area as part of the current Stage 1-2 archaeological assessment. It is understood that another archaeological consultant will be completing the necessary Stage 3 archaeological assessment and Stage 4 mitigation for Location 12 / AaHs-43.

4.3 PRELIMINARY INDICATION OF SITES POSSIBLY REQUIRING STAGE 4 ARCHAEOLOGICAL MITIGATION

This preliminary indication of whether any site could be eventually recommended for Stage 4 archaeological mitigation is required under the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* Section 7.8.3 Standard 2c (Government of Ontario 2011a). No firm recommendation for, or against, Stage 4 archaeological mitigation will be made until the Stage 3 archaeological assessment has been conducted upon each applicable site, whether as a part of the current project or at a later date. Artifact yields from Stage 3 test units at Location 1 (AaHs-126) and Location 12 / AaHs-43 may require a Stage 4 mitigation of development impacts in accordance with Section 3.4.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists*.



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5.0 RECOMMENDATIONS

Stantec was retained by the Town to complete a Stage 1-2 archaeological assessment for the Amherstburg Southeast Quadrant Servicing Municipal Class EA. The Stage 1 archaeological assessment determined that the study area retained potential for the identification of archaeological resources and Stage 2 archaeological assessment was recommended. The Stage 2 assessment resulted in the identification of one new archaeological site, Location 1 (AaHs-126). Further, Stantec's Stage 1-2 archaeological assessment of the Project has determined that an additional archaeological site, i.e., Location 12 / AaHs-43, may overlap with the study area and requires further archaeological assessment. Maps illustrating the archaeological sites are not included as part of the public report; they may be found in the Supplementary Documentation.

5.1 LOCATION 1 (AaHs-126)

Location 1 (AaHs-126) is represented by six non-diagnostic Indigenous artifacts recovered from a widely-distributed scatter. It is associated with two other archaeological sites identified by CRM Group (2006), i.e., Findspots 14 and 15, located within 50 metres of Location 1 (AaHs-126). Stantec has determined that Location 1 (AaHs-126) fulfils the criteria for a Stage 3 archaeological assessment as per Section 2.2 Standard 1.b.ii and Section 2.2 Guideline 3 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). Thus, **a Stage 3 archaeological assessment is recommended for Location 1 (AaHs-126).**

The Stage 3 archaeological assessment of Location 1 (AaHs-126) will be conducted according to the procedures outlined in the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). The Stage 3 archaeological assessment of Location 1 (AaHs-126) does not require a controlled surface pickup (CSP) since the Stage 2 surface collection was conducted according to Stage 3 CSP standards, as allowed by the *Fieldwork: Stage 2 – Frequently Asked Questions* document issued by the MTCS (Government of Ontario 2016). However, if ground surface visibility has significantly decreased since the Stage 2 archaeological assessment, a CSP may be required. If a CSP is required, the site area will be reploughed and weathered in advance of the CSP.

Since it is not yet evident that the level of cultural heritage value or interest of Location 1 (AaHs-126) will result in a recommendation to proceed to Stage 4, the Stage 3 archaeological assessment will consist of the hand excavation of Stage 3 test units across the site limits as defined by the Stage 2 surface scatter at a five metre interval, in systematic levels and into the first five centimetres of subsoil. Additional one-metre test units, amounting to 20% of the grid total, will be placed in areas of interest within the site extent. All excavated soil will be screened through six millimetre mesh; any artifacts being recovered will be recorded and catalogued by the corresponding grid unit designation. If a subsurface cultural feature is encountered, the plan of the exposed feature will be recorded, and geotextile fabric will be placed over the unit before backfilling the unit. In addition, interested Indigenous communities must be engaged when assessing the cultural heritage value or interest of the site during the Stage 3 archaeological assessment.

If it is determined that construction associated with the Project will proceed in advance of the Stage 3 archaeological assessment for Location 1 (AaHs-126), the archaeological site and its protective buffer will be protected, and no construction impacts will be allowed. This protective buffer will extend 20 metres past Stage 2 surface scatter limits identified by Stantec as part of this assessment. With the guidance of a licensed archaeologist, protective fencing



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(e.g., snow fencing) will be installed along the 20 metre buffer. As applicable, a construction monitoring zone ranging from 20 metres to 70 metres from the site's protective buffer will also be observed. A licensed archaeologist will be required to be on site to monitor any construction activities impacting that construction monitoring zone. The archaeological site and its protective buffer, as well as the construction monitoring zone, are illustrated on Tile 2.2 in the Supplementary Documentation to this report.

Further, engagement with interested Indigenous communities is recommended during the Stage 3 archaeological assessment and monitoring activities. Indigenous engagement practices conducted during the Stage 3 archaeological assessment must will comply with the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) and the draft technical bulletin on *Engaging Aboriginal Communities in Archaeology* (Government of Ontario 2011b).

If the Stage 3 archaeological assessment is completed and it is determined that Stage 4 mitigation of development impacts is required for Location 1 (AaHs-126), additional measures related to mitigation by excavation and/or avoidance and protection may be required.

5.2 LOCATION 12 / AaHs-43

The full extent of Location 12 / AaHs-43 is not known at this time but based on background research and consultation with other archaeological consultants (i.e., CRM Group), the site most certainly overlaps with a portion of the study area for the Project. The amount and nature of the artifacts recovered from Location 12 (i.e., CRM Group *in press*) have not been disclosed, but given how close the site limits of Location 12 are to the known limits of AaHs-43, it is suspected that the types of artifacts from AaHs-43 are similar to the types of artifacts recovered from Location 12. Site 1 (AaHs-43) was represented by 18 Indigenous artifacts, including: 15 pieces of chipping detritus, a Brewerton side-notched projectile point made of Onondaga chert, an indeterminate projectile point tip made of an exotic chert, and a ground stone tool fragment (CRM Group 1994).

Considering the above, the site represents a spatially discrete cluster of at least 10 Indigenous artifacts within a 10 metre by 10 metre area. Stantec has determine that Location 12 / AaHs-32 likely overlaps with the study area for the current Project and retains further cultural heritage value or interest. At minimum, Stantec has determined that Location 12 / AaHs-43) fulfills the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1.a.i.(1) of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). Thus, **a Stage 3 archaeological assessment is recommended for Location 12 / AaHs-43.**

As Stantec has not be able to review the Stage 1-2 archaeological assessment report for Location 12 (i.e., CRM Group *in press*) and as it is understood that another archaeological consultant will be addressing further archaeological concerns for land use planning and development, a full and detailed Stage 3 archaeological assessment recommendation for Location 12 / AaHs-43 by Stantec is not appropriate. Rather, Stantec recommends that the Town of Amherstburg consult with the individual landowners, proponents, and archaeological consultants associated with the properties containing archaeological site Location 12 / AaHs-43 to confirm that archaeological concerns regarding the site have been addressed and reviewed by the MTCS prior to the start of the current Project.



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Notwithstanding the above, if it is determined that construction associated with the Project will proceed in advance of the Stage 3 archaeological assessment for Location 12 / AaHs-43, the archaeological site and its protective buffer will be protected, and no construction impacts will be allowed. This protective buffer will extend 20 metres past Stage 2 surface scatter limits as determined based on a review of previous archaeological assessment report related to the site (i.e., CRM Group 1994; CRM Group *In Press*). With the guidance of a licensed archaeologist, protective fencing (e.g., snow fencing) will be installed along the 20 metre buffer. As applicable, a construction monitoring zone ranging from 20 metres to 70 metres from the site's protective buffer will also be observed. A licensed archaeologist will be required to be on site to monitor any construction activities impacting that construction monitoring zone. The archaeological site and its protective buffer, as well as the construction monitoring zone, are illustrated on Tile 2.4 in the Supplementary Documentation to this report.

Further, engagement with interested Indigenous communities is recommended during the Stage 3 archaeological assessment and monitoring activities. Indigenous engagement practices conducted during the Stage 3 archaeological assessment must will comply with the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) and the draft technical bulletin on *Engaging Aboriginal Communities in Archaeology* (Government of Ontario 2011b).

If the Stage 3 archaeological assessment is completed and it is determined that Stage 4 mitigation of development impacts is required for Location 1 (AaHs-126), additional measures related to mitigation by excavation and/or avoidance and protection may be required.

5.3 ADDITIONAL RECOMMENDATIONS

If any additional lands outside of the current study area are to be impacted by construction of the Project or any future development, a Stage 1, and possibly a Stage 2, archaeological assessment is required. The objective of the Stage 1 archaeological assessment will be to gather information about the study area's geography, history, current land conditions, any previous archaeological research within the vicinity, and determine the potential for archaeological resources to exist. The objective of further Stage 2 archaeological assessment will be to document archaeological resources within the applicable lands and to determine whether these archaeological resources require further assessment. The Stage 2 archaeological assessment will consist of pedestrian survey and test pit survey as applicable for the environmental context. The pedestrian survey of agricultural fields will entail the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). Areas to be subjected to test pit survey that are within woodlots, scrubland, residential lawn, or areas that cannot be ploughed will be assessed according to Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a). If the archaeological field team judges any lands to be low and wet, steeply sloped, or disturbed during the course of the Stage 2 field work, those areas will not require assessment, but will be photographically documented instead in accordance with Section 2.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a).



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5.4 SUMMARY OF RECOMMENDATIONS

To summarize, the following recommendations have been made by Stantec:

1. Stage 3 archaeological assessment is recommended for Location 1 (AaHs-126), including short term avoidance and protection strategies (i.e., monitoring) as required for this Project.
2. Stage 3 archaeological assessment is recommended for Location 12 / AaHas-43, including short term avoidance and protection strategies (i.e., monitoring) as required for this Project.
3. If any additional lands outside of the current study area are to be impacted by construction of the Project or any future development, a Stage 1, and possibly a, Stage 2 archaeological assessment is required.

The MTCS is asked to review the results presented and accept this report into the *Ontario Public Register of Archaeological Reports*. Additional archaeological assessment is still required and so the archaeological site recommended for further archaeological fieldwork remains subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.



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6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c O.18 (Government of Ontario 1990b). The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* (Government of Ontario 1990b) for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act* (Government of Ontario 1990b).

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b). The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b).

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002), requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Government and Consumer Services is also immediately notified.

Additional archaeological assessment is still required for portions of the study area and so these portions recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.



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STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

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STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

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**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING
MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO**

Bibliography and Sources
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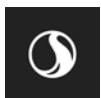
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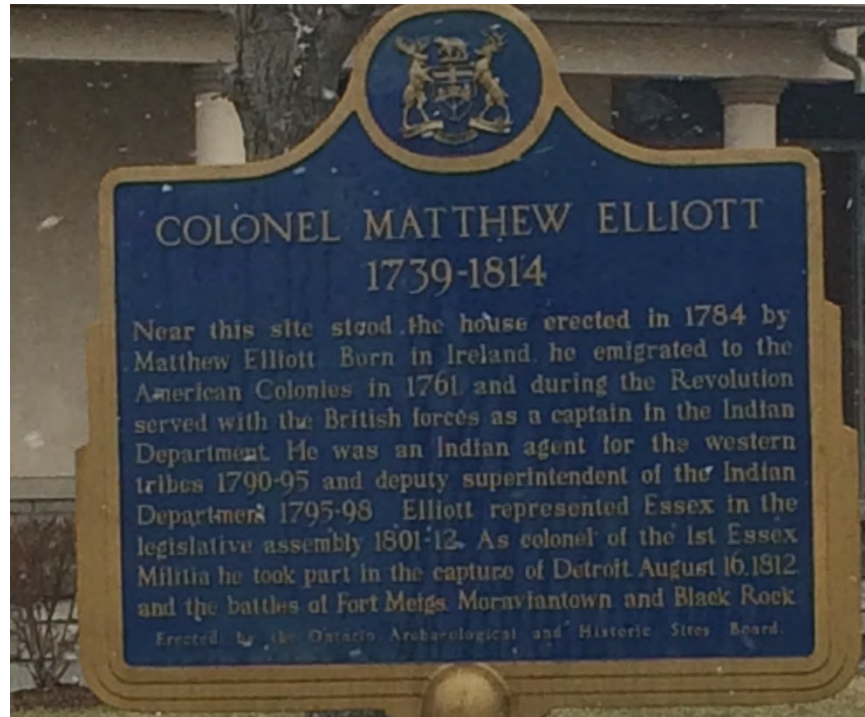
Images

December 10, 2018

8.0 IMAGES

8.1 IMAGES

Image 1: Ontario Historical Plaque Commemorating Colonel Matthew Elliot, 1739-1814



**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING
MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO**

Images

December 10, 2018

Image 2: Ontario Historical Plaque Commemorating the Capture of the Anne, 1838



**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING
MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO**

Images

December 10, 2018

8.2 PHOTOGRAPHS

Photo 3: Ground Conditions during Stage 2 Pedestrian Survey, facing south



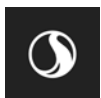
Photo 4: Pedestrian Survey at a One Metre Interval, facing north



Photo 5: Ground Conditions during Stage 2 Pedestrian Survey, facing east



Photo 6: Pedestrian Survey at a One Metre Interval, facing west



STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

Images

December 10, 2018

Photo 7: Existing Lowes Sideroad ROW and Buried Utilities – Disturbed and Not Surveyed, facing west



Photo 8: Existing Fryer Road ROW and Buried Utilities – Disturbed and Not Surveyed, facing north



Photo 9: Existing Fryer Road ROW and Buried Utilities – Disturbed and Not Surveyed, facing south



Photo 10: Existing Lowes Sideroad ROW, Buried Utilities, and Extensive Ditching – Disturbed and Not Surveyed, facing west



STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO

Images

December 10, 2018

Photo 11: Existing Lowes Sideroad ROW and Extensive Ditching – Disturbed and Not Surveyed, facing east



Photo 12: Existing Lowes Sideroad ROW, Buried Utilities, Extensive Ditching – Disturbed and Not Surveyed, facing east



Photo 13: Existing Fryer Road ROW and Buried Utilities – Disturbed and Not Surveyed, facing north

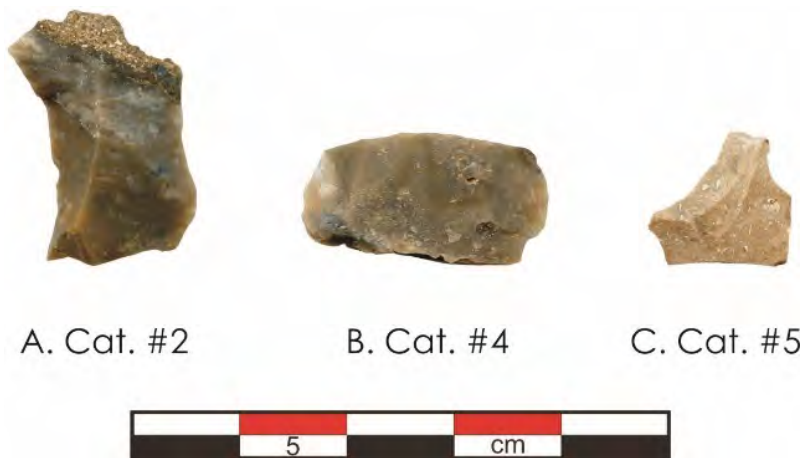


Images

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8.3 ARTIFACT PLATES

Plate 1: Sample of Artifacts from Location 1 (AaHs-126)



**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING
MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO**

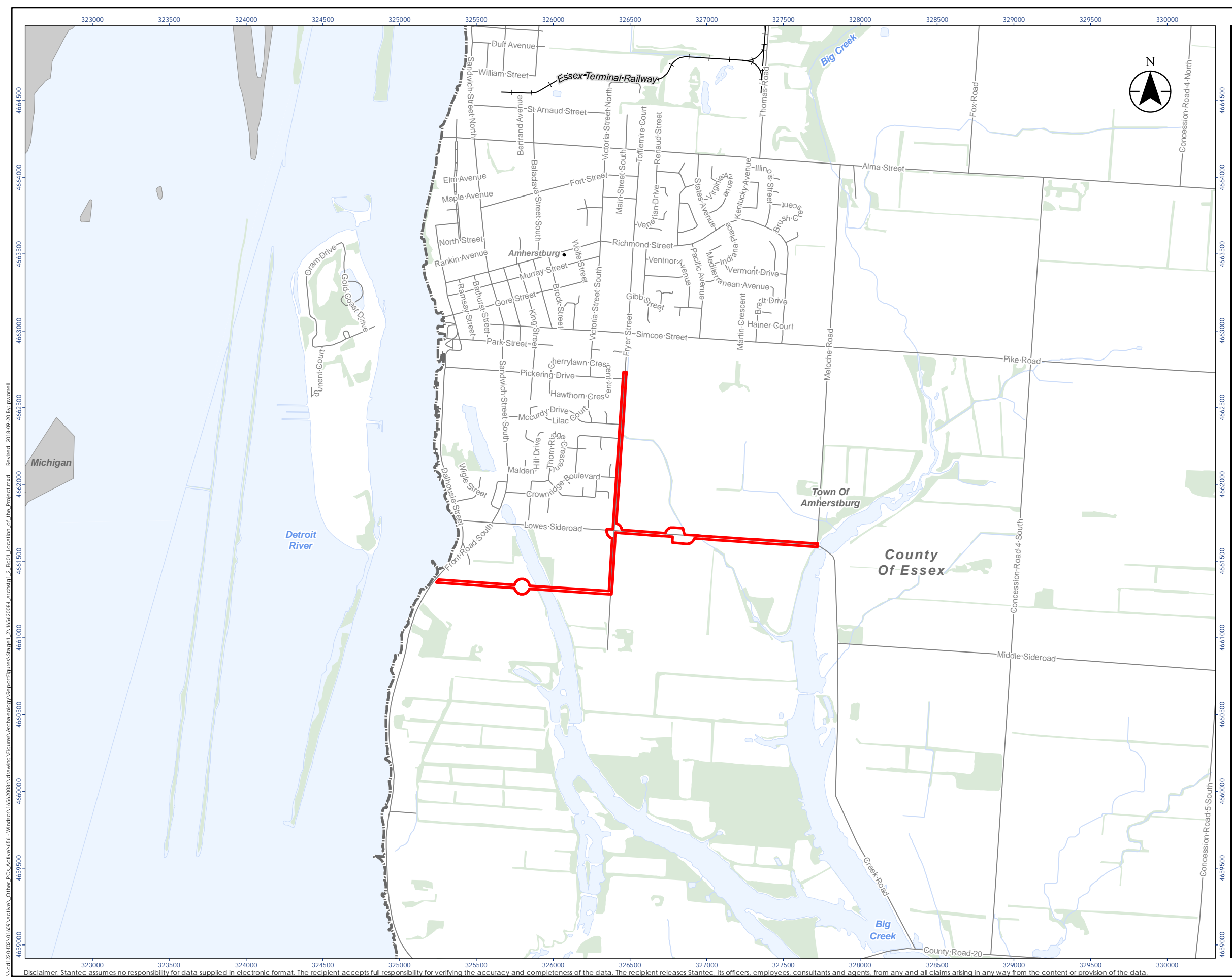
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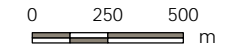
9.0 MAPS

Maps identifying exact site locations do not form part of this public report; they may be found in the Supplementary Documentation.



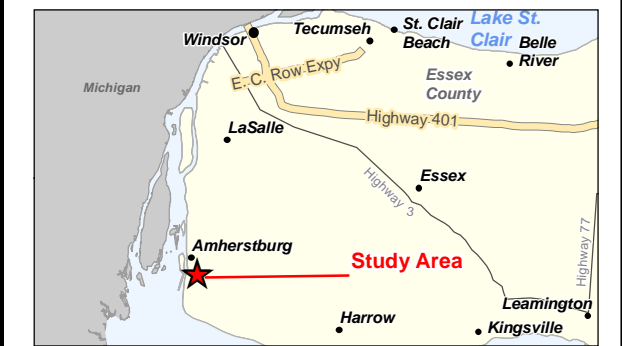


- Legend
- Study Area
 - Road
 - Railway
 - Watercourse
 - Waterbody
 - Wooded Area



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- Notes
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Technical Review by SE on 2018-07-18

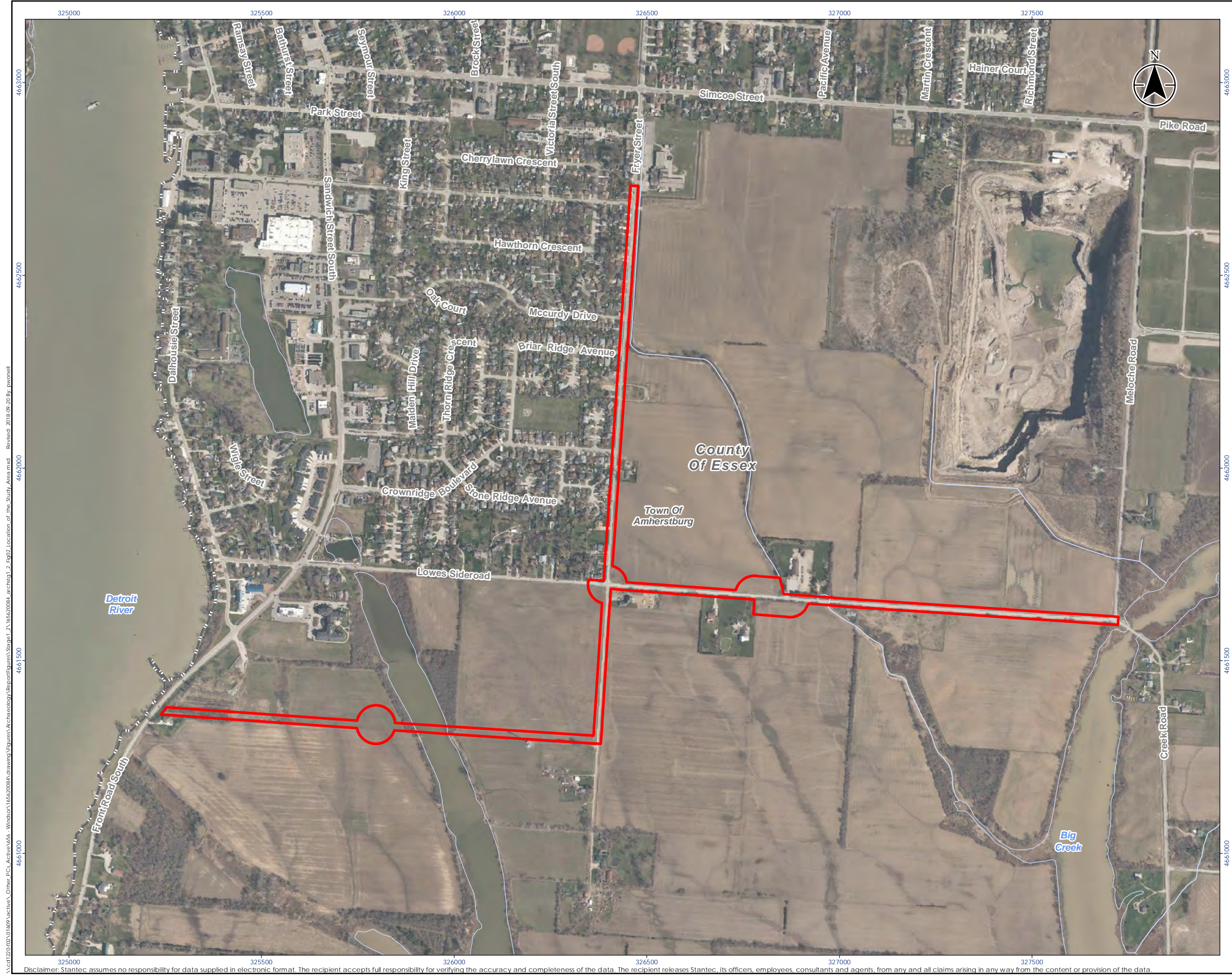
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SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY


Figure No.

1

Title

Location of the Project





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Legend

- Study Area
- Watercourse
- Waterbody

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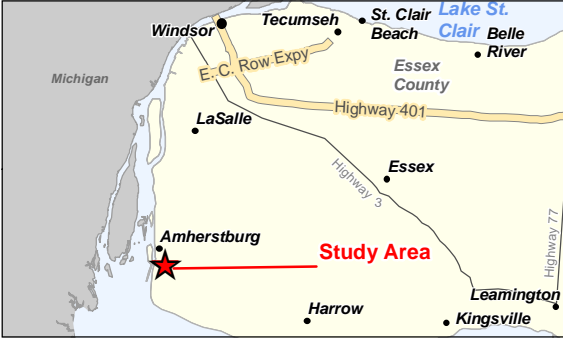
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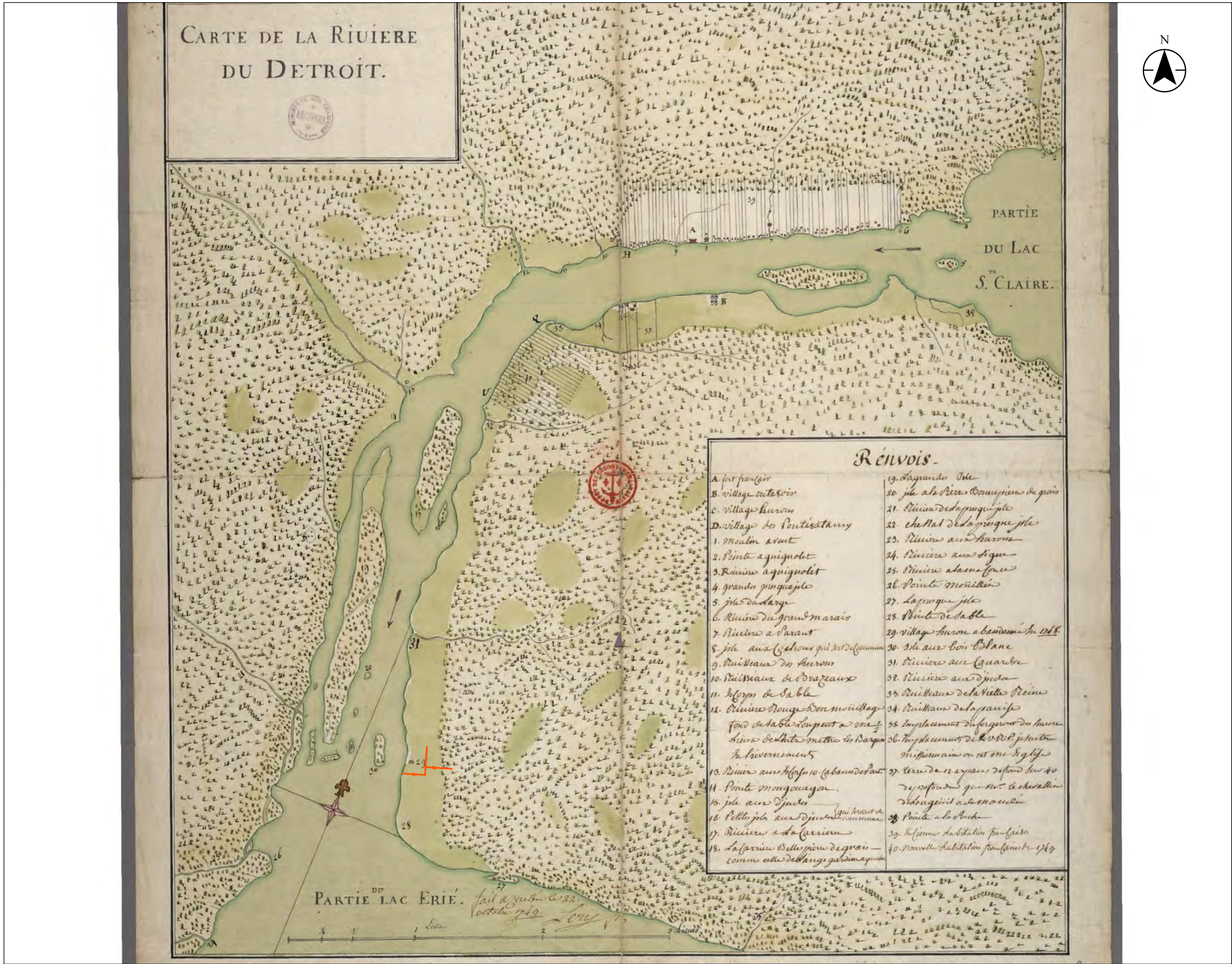
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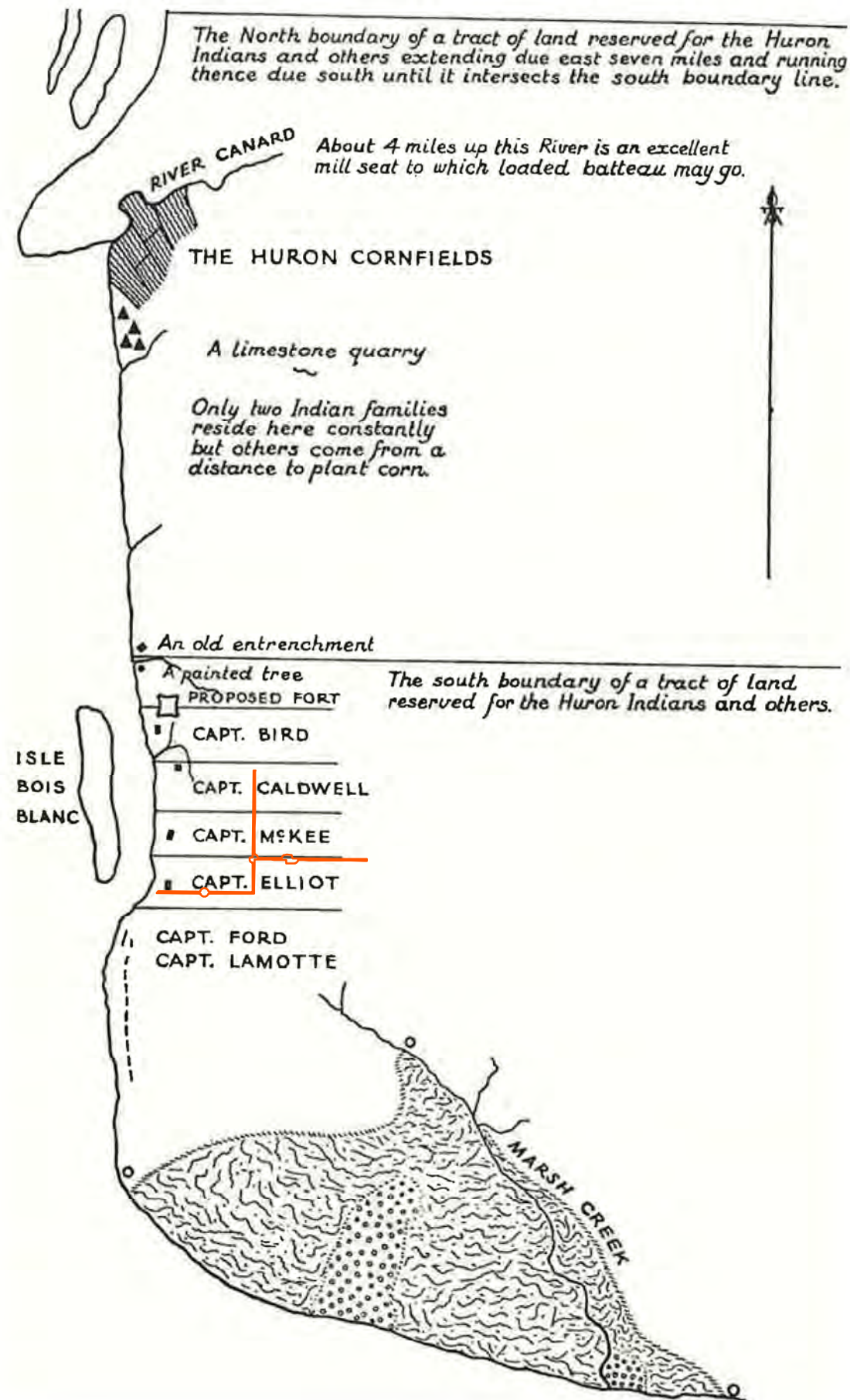
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Figure No.
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Title
Location of the Study Area

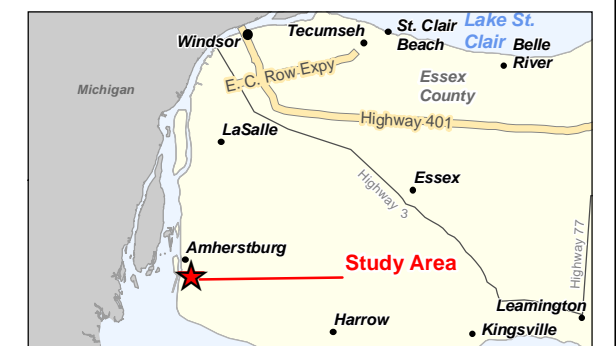
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Legend
 Study Area (approximate)

Notes
1. Map is not to scale.
2. Historic map source: Lajeunesse, Ernest. 1960. The Windsor Border Region. Toronto: University of Toronto Press.

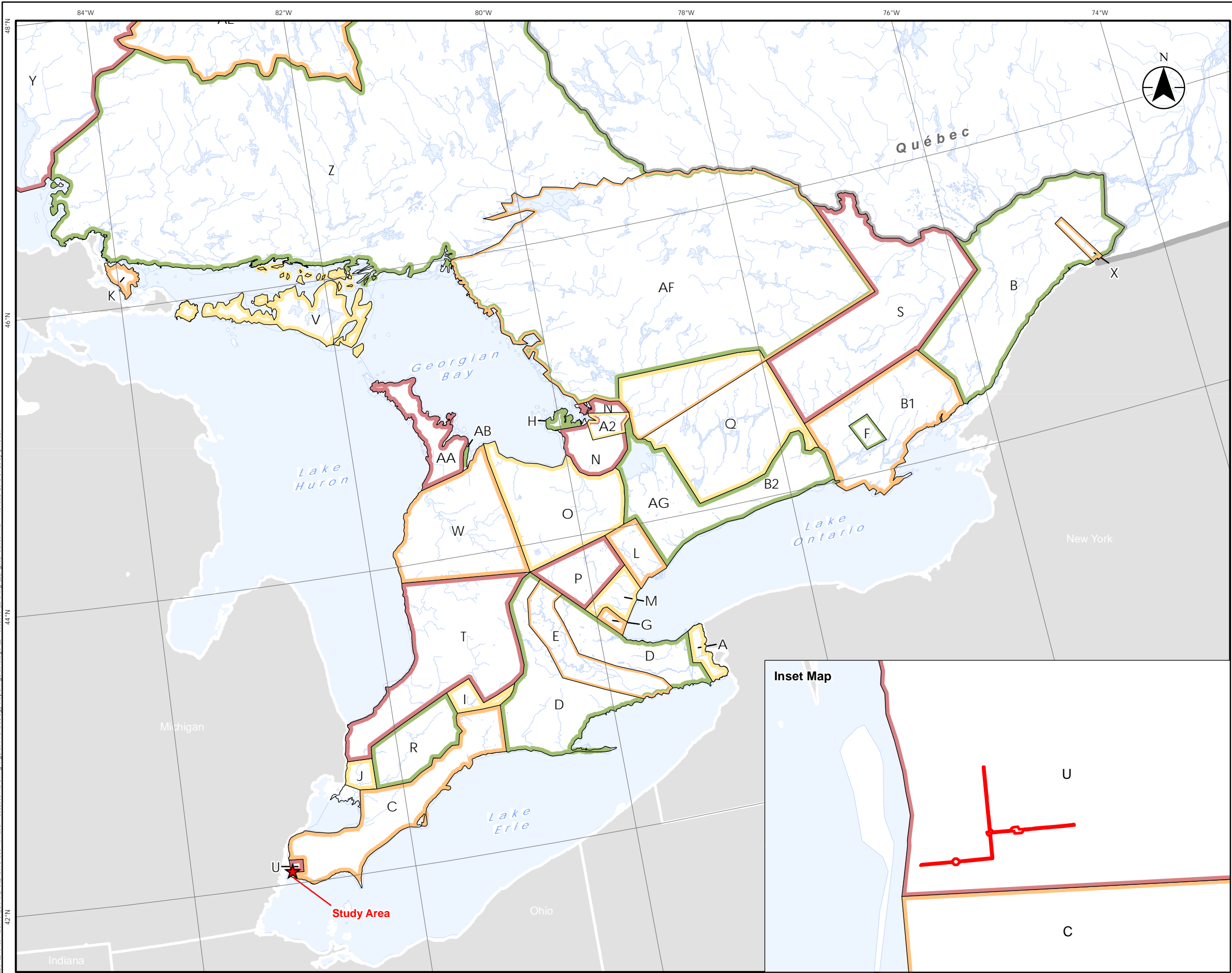


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Prepared by PW on 2018-09-20
Technical Review by DH on 2018-03-06

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SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
4

Title
Portion of the 1790 Historical Map of the
Windsor Border Region



Legend

- Study Area
- Waterbody

- A** Treaty No. 381, May 9th, 1781 (Mississauga and Chippewa)
- AA** Treaty No. 72, October 30th, 1854 (Chippewa)
- AB** Treaty No. 82, February 9th, 1857 (Chippewa)
- AE** Treaty No. 9, James Bay 1905, 1906 (Ojibway and Cree)
- AF** Williams Treaty, October 31st and November 15th, 1923 (Chippewa and Mississauga)
- AG** Williams Treaty, October 31st, 1923 (Chippewa)
- A2** John Collins' Purchase, 1785 (Chippewa)
- B** Crawford's Purchase, October 9th, 1783 (Algonquin and Iroquois)
- B1** Crawford's Purchase, October 9th, 1783 (Mississauga)
- B2** Crawford's Purchase, 1783, 1787, 1788 (Mississauga)
- C** Treaty No. 2, May 19th, 1790 (Odawa, Chippewa, Pottawatomi, and Huron)
- D** Treaty No. 3, December 2nd, 1792 (Mississauga)
- E** Haldimand Tract: from the Crown to the Mohawk, 1793
- F** Tyendinaga: from the Crown to the Mohawk, 1793
- G** Treaty No. 3 3/4: from the Crown to Joseph Brant, October 24th, 1795
- H** Treaty No. 5, May 22nd, 1798 (Chippewa)
- I** Treaty No. 6, September 7th, 1796 (Chippewa)
- J** Treaty No. 7, September 7th, 1796 (Chippewa)
- K** Treaty No. 11, June 30th, 1798 (Chippewa)
- L** Treaty No. 13, August 1st, 1805 (Mississauga)
- M** Treaty No. 13A, August 2nd, 1805 (Mississauga)
- N** Treaty No. 16, November 18th, 1815 (Chippewa)
- O** Treaty No. 18, October 17th, 1818 (Chippewa)
- P** Treaty No. 19, October 28th 1818 (Chippewa)
- Q** Treaty No. 20, November 5th, 1818 (Chippewa)
- R** Treaty No. 21, March 9th, 1819 (Chippewa)
- S** Treaty No. 27, May 31st, 1819 (Mississauga)
- T** Treaty No. 27½, April 25th, 1825 (Ojibwa and Chippewa)
- U** Treaty No. 35, August 13th, 1833 (Wyandot or Huron)
- V** Treaty No. 45, August 9th, 1836 (Chippewa and Odawa, "For All Indians To Reside Thereon")
- W** Treaty No. 45½, August 9th, 1836 (Saugeen)
- X** Treaty No. 57, June 1st, 1847 (Iroquois of St. Regis)
- Y** Treaty No. 60, Robinson, Superior, September 7th, 1850 (Ojibwa)
- Z** Treaty No. 61, Robinson, Huron, September 9th, 1850 (Ojibwa)

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- Notes
1. Coordinate System: NAD 1983 Statistics Canada Lambert
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
 3. Treaty boundaries adapted from Morris 1943 (1964 reprint). For cartographic representation only.

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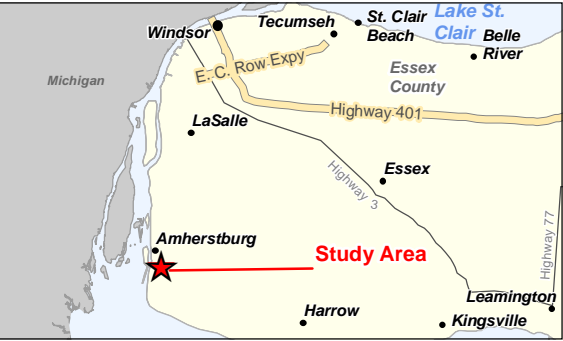
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TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
5

Title
Treaties and Purchases (Adapted from
Morris 1943)

Legend
Study Area (approximate)

Notes
1. Map is not to scale.
2. Historic map source: Amherstburg Bicentennial Book Committee, 1996.
Amherstburg 1796-1996, The New Town on the Garrison Grounds. Amherstburg:
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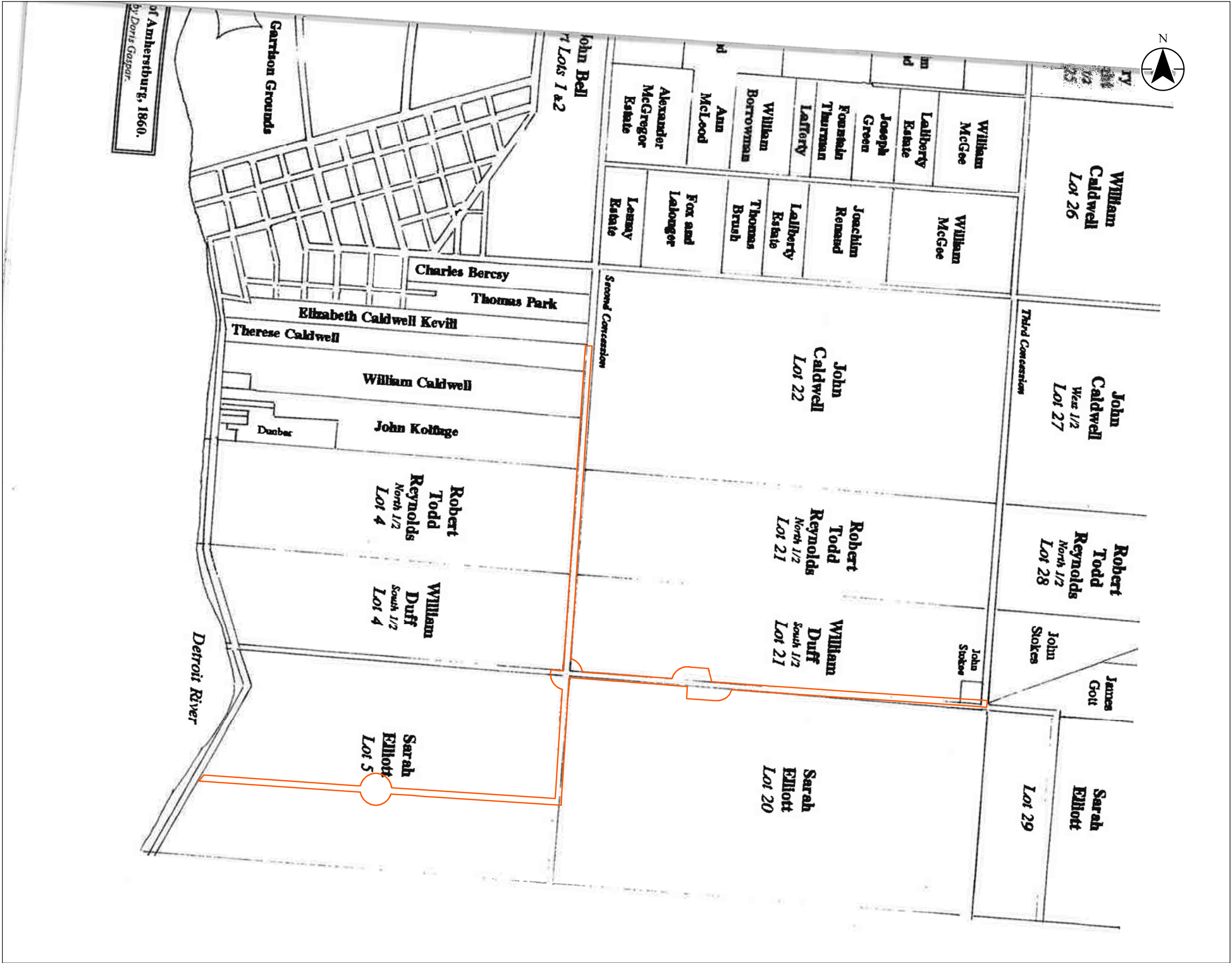


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TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
6

Title
Portion of the 1860 Historical Map of
Amherstburg

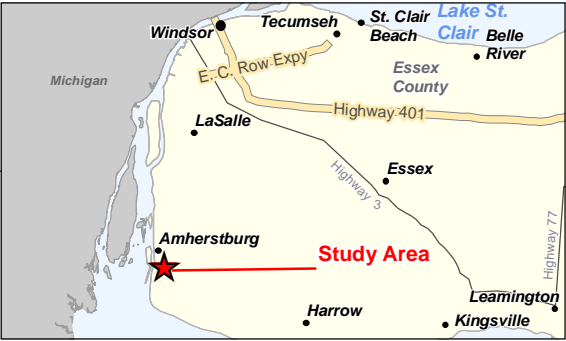


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Legend
Study Area (approximate)

Notes
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2. Historic map source: Walling, H.F. 1877. Map of Essex County, Ontario. R.M. Tackabury.

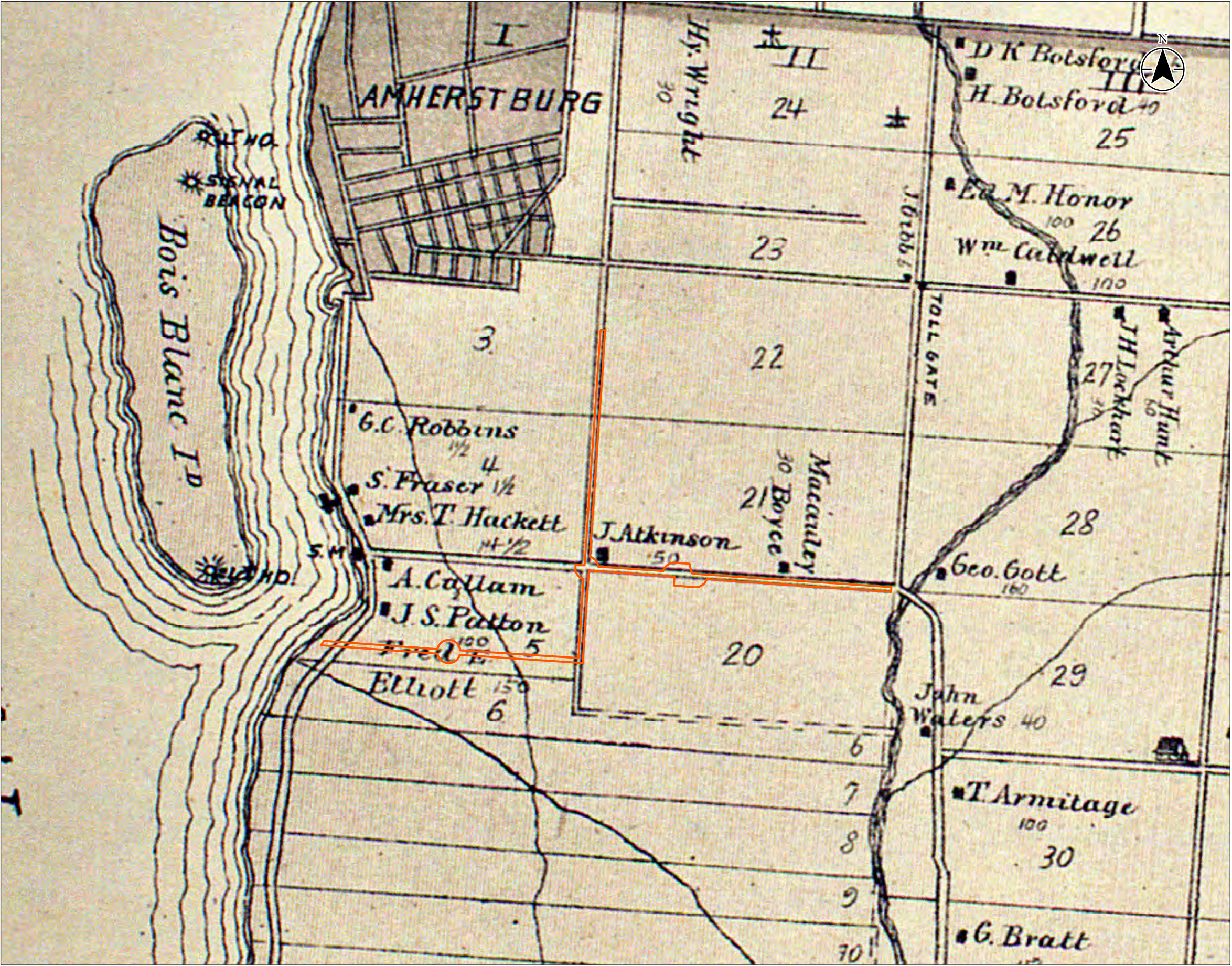


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TOWN OF AMHERSTBURG
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SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

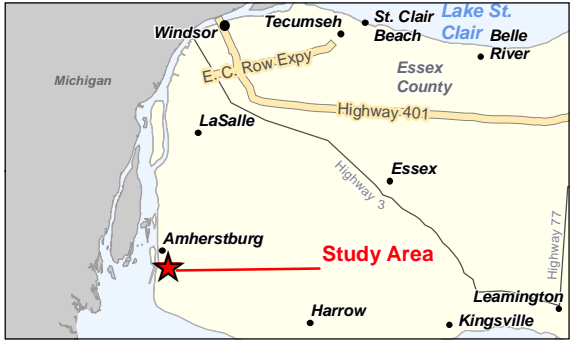
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7
Title
Portion of the 1877 Historical Map of Essex
County

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Legend
Study Area (approximate)

Notes
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2. Historic map source: Belden, H. 1881. Illustrated Historical Atlas of the Counties of Essex and Kent. Toronto: H. Belden and Co.



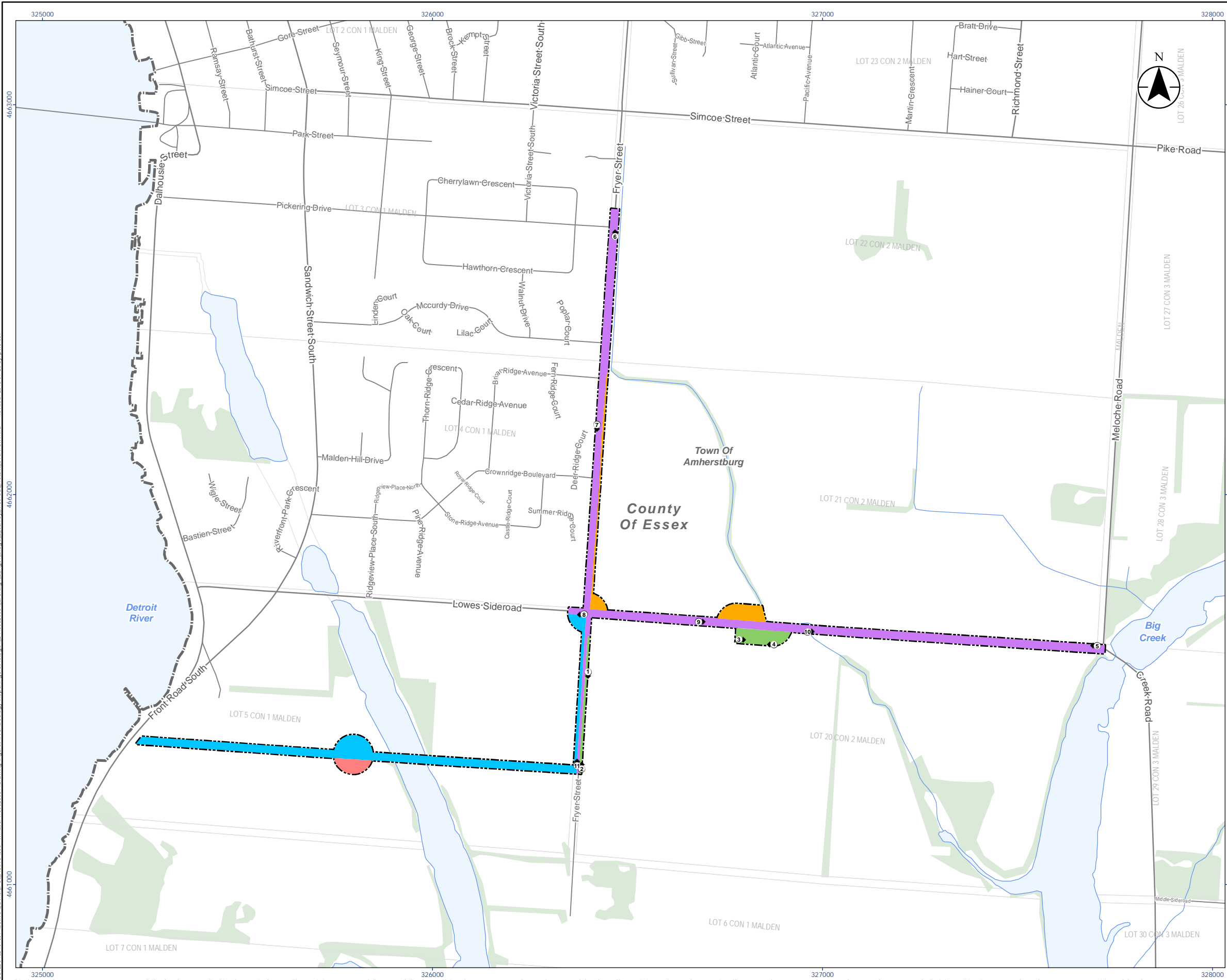
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TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
8

Title
Portion of the 1881 Historical Map of
Malden Township

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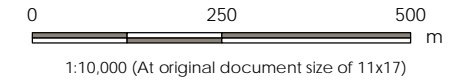


Legend

- Study Area
- Watercourse (Permanent)
- Waterbody
- Lot
- Municipal Boundary, Upper
- Municipal Boundary, Lower
- Wooded Area
- Photo Location

Archaeology Assessment Method

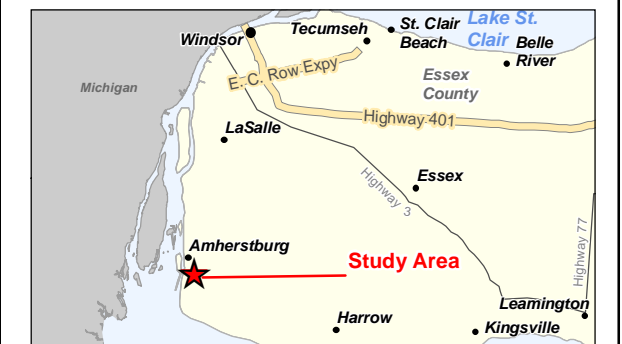
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- Previously Assessed by CRM Group (P94-022)
- Previously Assessed by CRM Group (PIF P109-0061-2017)
- Previously Assessed by TMHC (P324-0125-2016)
- Previously Disturbed, Low to No Archaeological Potential - No Further Archaeological Work Required



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Notes

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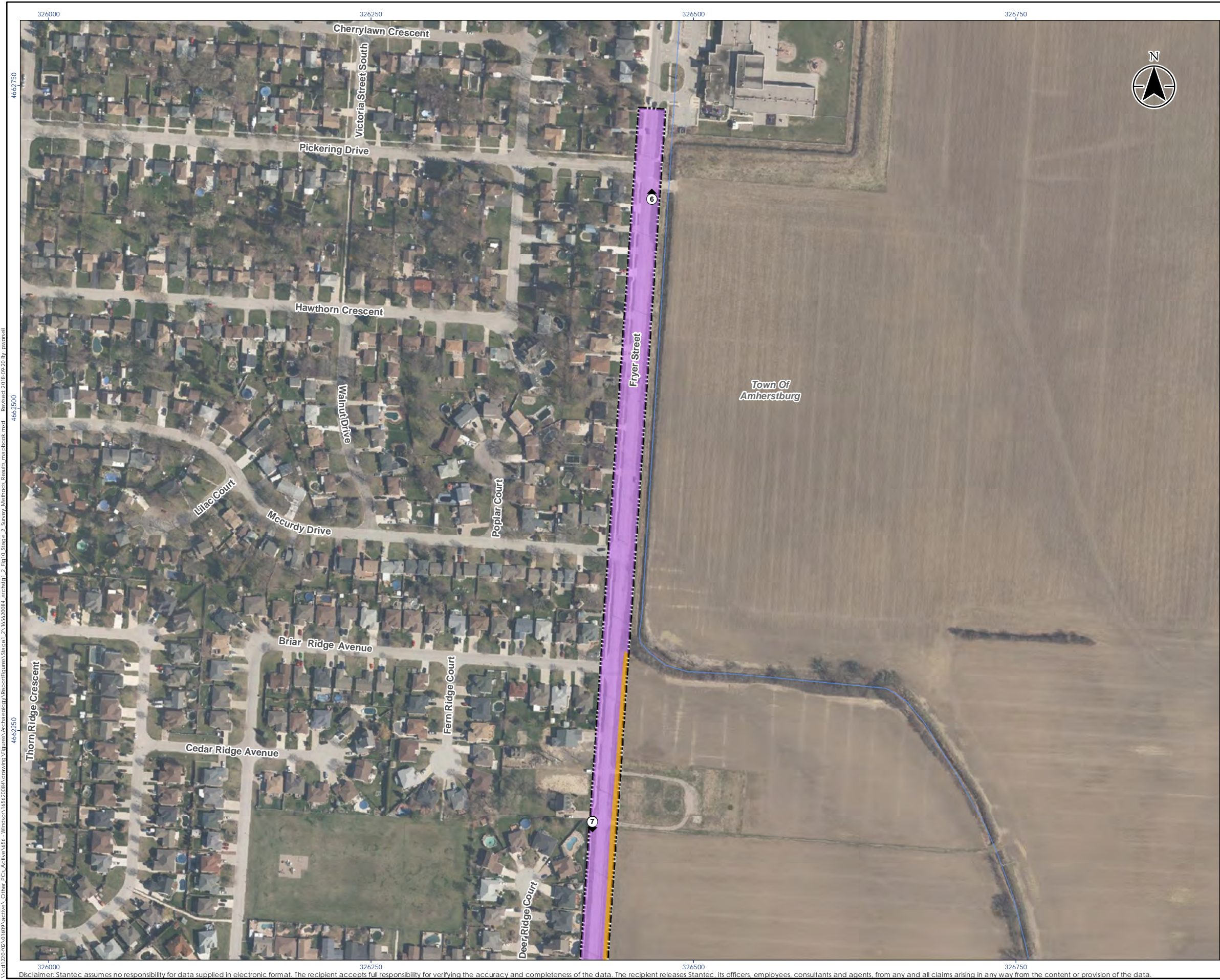
Client/Project: TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.

9

Title

Stage 2 Survey Methods and Results –
Overview

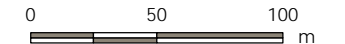


Legend

- Study Area
- Watercourse (Permanent)
- Municipal Boundary, Upper
- Municipal Boundary, Lower
- Photo Location

Archaeology Assessment Method

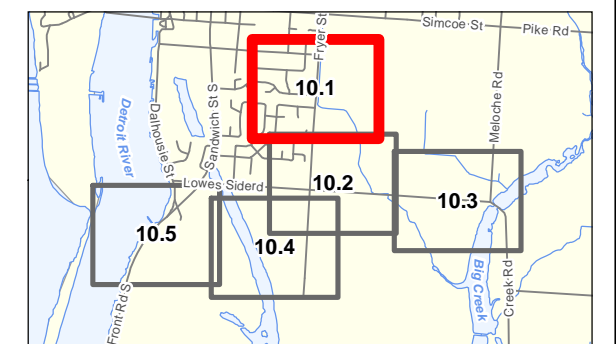
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Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.

10.1

Title

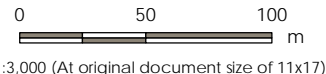
Stage 2 Survey Methods and Results –
Mapbook

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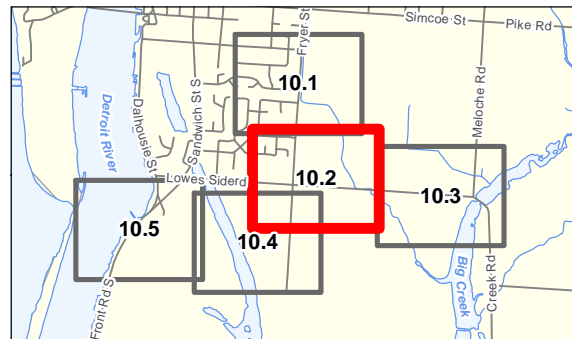
- Legend
- Study Area
 - Watercourse (Permanent)
 - Municipal Boundary, Upper
 - Municipal Boundary, Lower
 - Photo Location

- Archaeology Assessment Method**
- Previously Assessed by CRM Group (P109-009 & P109-013), Pedestrian Survey at 1 m Intervals by Stantec (P256-0532-2018)
 - Previously Assessed by CRM Group (P94-022)
 - Previously Assessed by TMHC (P324-0125-2016)
 - Previously Disturbed, Low to No Archaeological Potential - No Further Archaeological Work Required



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- Notes**
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Project Location: County of Essex
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Technical Review by DH on 2018-03-06

Client/Project: TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.: **10.2**
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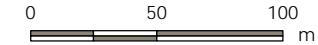


Legend

- Study Area
- Watercourse (Permanent)
- Waterbody
- Municipal Boundary, Upper
- Municipal Boundary, Lower
- Photo Location

Archaeology Assessment Method

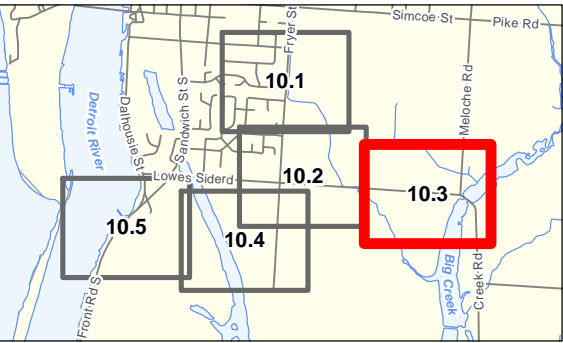
- Previously Disturbed, Low to No Archaeological Potential - No Further Archaeological Work Required



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Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.

10.3

Title

Stage 2 Survey Methods and Results –
Mapbook

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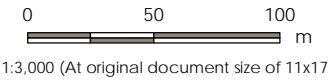


Legend

- Study Area
- Waterbody
- Municipal Boundary, Upper
- Municipal Boundary, Lower
- Photo Location

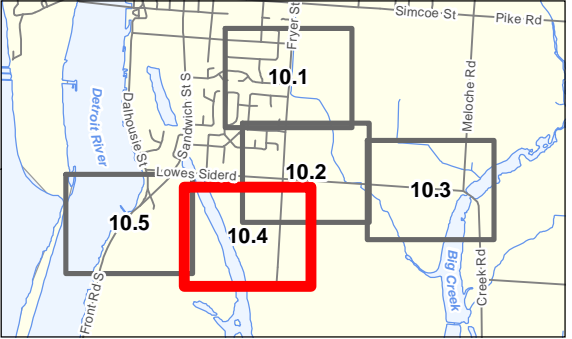
Archaeology Assessment Method

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- Previously Assessed by CRM Group (P94-022)
- Previously Assessed by CRM Group (PIF P109-0061-2017)
- Previously Disturbed, Low to No Archaeological Potential - No Further Archaeological Work Required



Notes

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County of Essex
165620084 REVA
Prepared by PW on 2018-09-20
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Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
10.4

Title
**Stage 2 Survey Methods and Results –
Mapbook**

**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT: AMHERSTBURG SOUTHEAST QUADRANT SERVICING
MUNICIPAL CLASS ENVIRONMENTAL (CLASS EA), TOWN OF AMHERSTBURG, ONTARIO**

Closure

December 10, 2018

10.0 CLOSURE

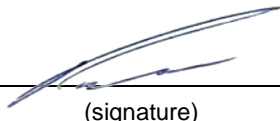
This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential archaeological resources associated with the identified property.

All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work. The conclusions are based on the conditions encountered by Stantec at the time the work was performed. Due to the nature of archaeological assessment, which consists of systematic sampling, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire property.

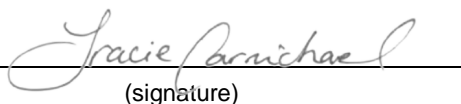
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Quality Review _____


(signature)

Parker Dickson, Senior Archaeologist

Independent Review _____


(signature)

Tracie Carmichael, Managing Senior Associate



**SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY SCHEDULE 'B' MUNICIPAL CLASS
ENVIRONMENTAL ASSESSMENT FOR THE TOWN OF AMHERSTBURG**

January 9, 2019

**APPENDIX D
CULTURAL HERITAGE ASSESSMENT REPORT**



Cultural Heritage Assessment Report

Municipal Class Environmental Assessment Southeast Quadrant Sanitary and Water Servicing Study, Town of Amherstburg

January 8, 2019

Prepared for:

Town of Amherstburg
271 Sandwich St. South
Amherstburg, ON N9V 2A5

Prepared by:

Stantec Consulting Ltd.
600-171 Queens Ave.
London, ON N6A 5J7

Sign-off Sheet

This document entitled Cultural Heritage Assessment Report, Municipal Class Environmental Assessment Southeast Quadrant Sanitary and Water Servicing Study was prepared by Stantec Consulting Ltd. ("Stantec") for the account of Town of Amherstburg (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____



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Frank Smith, BA, MA

Cultural Heritage Specialist

Reviewed by _____



(signature)

Meaghan Rivard, MA, CAHP

Senior Heritage Consultant

Approved by _____



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Tracie Carmichael, BA-Anthropology, B.Ed.

Senior Archaeologist

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**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

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**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

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Executive Summary

The Town of Amherstburg (Town) retained Stantec Consulting Ltd. (Stantec) to prepare a Cultural Heritage Assessment Report (CHAR) for the Southeast Quadrant Sanitary and Water Servicing Study. The Town is undertaking a Class EA to review the existing municipal infrastructure and identify upgrades or new infrastructure required to provide sanitary and water servicing for the proposed new developments within the southeast quadrant of the Town of Amherstburg. The Class EA seeks to identify the potential adverse effects that the proposed servicing alternatives may have on the environment and implement a preferred solution which maximizes the use of the existing infrastructure and minimizes the effect on the environment. The CHAR forms part of the planning and design process for a Municipal Class Environmental Assessment (Class EA).

As part of the Class EA this CHAR has been completed to identify cultural heritage resources, including built heritage and cultural heritage landscapes present within or adjacent to the study area. Potential cultural heritage resources were identified through consultation with Town Planning Staff, the Ontario Heritage Trust (OHT), the Ministry of Tourism, Culture and Sport (MTCS) and a pedestrian survey. Known and potential cultural heritage resources were inventoried and evaluated according to *Ontario Regulation* (O. Reg.) 9/06, which outlines the criteria for cultural heritage value or interest (CHVI) to identify heritage attributes upon which to base an assessment of potential project impacts. A land use history was completed to provide a cultural context for the study area and to provide a background upon which to base evaluations. Where CHVI was identified, the resource was mapped.

Following evaluation, three cultural heritage resources were identified in the study area. This includes one built heritage resource (early 20th century farm dwelling) and two cultural heritage landscapes (a farmscape and a streetscape).

Following an assessment of potential impacts to cultural heritage resources, it was identified that there is potential for indirect impacts to the built heritage resource and direct impacts at the cultural heritage landscapes. Indirect impacts related to potential vibration effects. Direct impacts include the alteration of cultural heritage resources as a result of the proposed project activities. The potential impacts are associated with construction activities, and are expected to be temporary in nature, and reversible. As a result, the following mitigation measures have been identified:

- Prepare vibration studies for heritage attributes of BHR-1 located within the study area by a qualified engineer to determine the maximum acceptable vibration levels, or peak particle velocity (PPV) levels and the appropriate buffer distance between Project activities and CHRs if construction activities are anticipated to be within 15 metres of the residence
- Provide construction marking to define the areas around BHR-1 where construction should not occur, based on the results of the vibration study
- Monitor construction within the defined area at appropriate points to confirm that acceptable PPV levels are not exceeded; all construction activities should cease if levels are exceeded until an acceptable solution can be identified



**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

- Prepare pre-condition documentation for CHL-1 and following construction restore CHL-1 to pre-condition state based on pre-condition documentation
- Prepare pre-condition documentation for CHL-2 and following construction restore CHL-2 to pre-condition state based on pre-condition documentation

The Executive Summary highlights key points from the report only; for complete information and findings the reader should examine the complete report.



Project Personnel

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Heritage Consultant:	Lashia Jones, MA, CAHP
Report Writers:	Lashia Jones, MA, CAHP, Frank Smith, MA
GIS Specialist:	Patrick Worsell, BE
Administrative Assistant:	Carol Naylor
Quality Reviewer:	Jeffrey Muir, BA, CAHP Meaghan Rivard, MA, CAHP
Independent Reviewer:	Tracie Carmichael, BA, B.Ed.



Glossary

Built Heritage Resource (BHR)	As used herein refers to a single building, structure, monument, installation, or remains determined to be of cultural heritage value or interest following evaluation according to <i>Ontario Regulation 9/06</i> , protected under the <i>Ontario Heritage Act</i> (Government of Ontario 2006a), or listed by local, provincial, or federal jurisdictions. This may include residences, barns, bridges, and similar features (based on the definition provided in the 2014 <i>Provincial Policy Statement</i> [Government of Ontario 2014]).
Cultural Heritage Assessment Report (CHAR)	As used herein refers to the present study.
Cultural Heritage Landscape (CHL)	As used herein refers to a defined geographical area modified by human activities and determined to be of cultural heritage value or interest following evaluation according to <i>Ontario Regulation 9/06</i> , protected under the <i>Ontario Heritage Act</i> (Government of Ontario 2006a), or listed by local, provincial, or federal jurisdictions. This may include grouping(s) of individual heritage features such as structures, spaces, archaeological sites, and natural elements, which together form an important type of heritage form, distinctive from that of its constituent elements or parts (based on the definition provided in the <i>Provincial Policy Statement</i>).
Cultural Heritage Resource	As used herein refers to built or cultural resources where cultural heritage value or interest has been determined according to <i>Ontario Regulation 9/06</i> . Prior to evaluation, resources identified to be 40 years of age or older are considered to be <i>potential</i> cultural heritage resources. There are two categories of cultural heritage resources: Built Heritage Resources and Cultural Heritage Landscapes. For the purposes of this report, the term cultural heritage resource is used exclusively unless assessing the cultural heritage value or interest of a potential cultural heritage resource.
Heritage Attributes	As used herein refers to the component(s) of a Cultural Heritage Resource that define its cultural heritage value or interest. These may include, but are not limited to, principal features, characteristics,

**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

context, and appearance of a Cultural Heritage Resource (based on the definition provided in the *Provincial Policy Statement*).

Potential Heritage Property

As used herein refers to property having the potential to contain, cultural heritage value or interest, those identified as being over 40 years of age or older during the site visit.

Protected Heritage Property

As used herein refers to properties which are designated under, or subject to an easement made under, the *Ontario Heritage Act*, as well as properties identified by provincial authorities and prescribed public bodies as a provincial heritage property. In addition, protected heritage property includes those identified as such by federal or international authorities including, but not limited to, Parks Canada or UNESCO (based on the definition provided in the *Provincial Policy Statement*). For the purposes of this report, properties included on a Municipal heritage register are also considered to be protected heritage properties, as they have a level of protection from demolition under the *Ontario Heritage Act*.

Project Location

The proposed construction and staging areas associated with the project and its components.

Study Area

The study area identified through the Schedule B Municipal Class Environmental Assessment project.

1.0 INTRODUCTION

1.1 STUDY PURPOSE

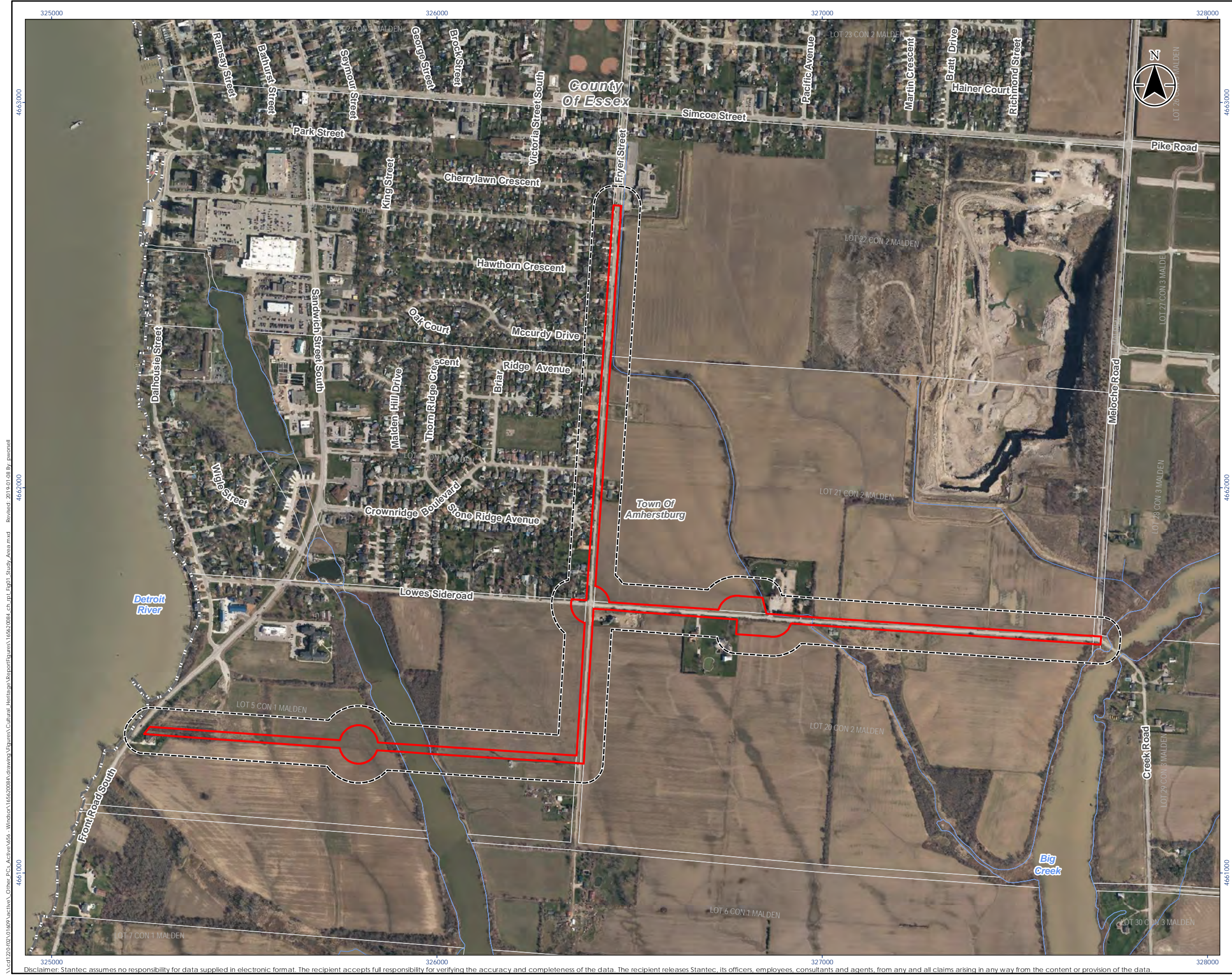
The Town of Amherstburg (Town) retained Stantec Consulting Ltd. (Stantec) to prepare a Cultural Heritage Assessment Report (CHAR) for the Southeast Quadrant Sanitary and Water Servicing Study. The CHAR forms part of the planning and design process for a Municipal Class Environmental Assessment (Class EA).

As part of the Class EA this CHAR has been completed to identify cultural heritage resources, including built heritage and cultural heritage landscapes present within or adjacent to the study area (Figure 1). Potential cultural heritage resources were identified through consultation with Town Planning Staff, the Ontario Heritage Trust (OHT), the Ministry of Tourism, Culture and Sport (MTCS) and a pedestrian survey. Known and potential cultural heritage resources were inventoried and evaluated according to *Ontario Regulation* (O. Reg.) 9/06, which outlines the criteria for cultural heritage value or interest (CHVI) to identify heritage attributes upon which to base an assessment of potential project impacts. A land use history was completed to provide a cultural context for the study area and to provide a background upon which to base evaluations. Where CHVI was identified, the resource was mapped. Based on the presence of potential heritage properties, a CHAR is necessary to identify anticipated impacts to cultural heritage resources and identify mitigation measures.

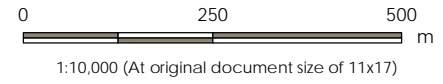
To meet these objectives, the CHAR:

- Summarizes the historical context of the area surrounding the Project
- Identifies properties protected under the *Ontario Heritage Act* through consultation with the local heritage planners and regulatory bodies
- Identifies and describes potential cultural heritage resources situated on properties within the study area based on a windshield survey of the study area
- Evaluates the CHVI of potential cultural heritage resources at the study area according to O. Reg. 9/06 to determine the cultural heritage resources within the study area and identify heritage attributes
- Identifies areas of potential impacts according to the MTCS, InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Government of Ontario 2006b), and
- Establishes measures to mitigate negative direct or indirect impacts to cultural heritage resources associated with construction and operation of the Project

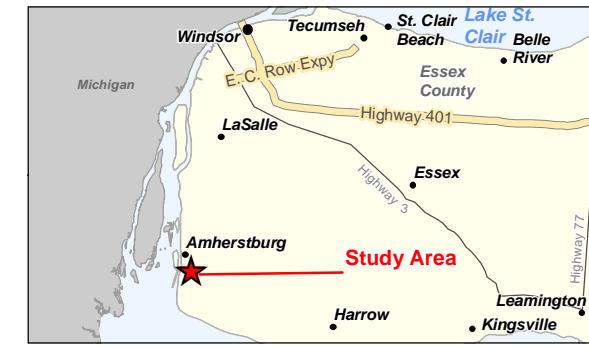




- Legend
- Cultural Heritage Study Area
 - Project Location
 - Watercourse (Permanent)
 - Waterbody
 - Lot
 - Municipal Boundary, Upper
 - Municipal Boundary, Lower



- Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
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Project Location
County of Essex

165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06

Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
1

Title
Study Area

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Revised: 2019-01-08 By: pworsel

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Methodology
January 8, 2019

2.0 METHODOLOGY

2.1 REGULATORY REQUIREMENTS

The requirement to consider cultural heritage in Class EAs is discussed in the *Municipal Class Environmental Assessment Process* (MCEA Manual) and the revised 2014 Provincial Policy Statement (PPS).

2.1.1 Municipal Class Environmental Assessment Process

The MCEA Manual considers the cultural environment, including built heritage resources and cultural heritage landscapes, as well as archaeological resources, as one in a series of environmental factors to be considered when undertaking a Class EA, particularly when describing existing and future conditions, development alternatives, and determination of the preferred alternative.

The MCEA Manual further suggests that cultural heritage resources which retain heritage attributes should be identified early in the EA process and avoided where possible. Where avoidance is not possible, potential effects to these attributes should be identified and minimized. Adverse impacts should be mitigated according to provincial and municipal guidelines.

2.1.2 Provincial Policy Statement

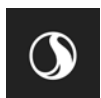
Section 2.6 of the PPS addresses cultural heritage in the land use planning process and as such was considered. The applicable provisions include:

2.6.1 - Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

2.6.3 - Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property except where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.

(Government of Ontario 2014: 29)

In accordance with PPS requirements, the presence of a protected property situated within or adjacent to lands where change is proposed requires consideration of the effects of the Project to the heritage property and, where necessary, demonstration that the heritage attributes of that protected heritage property will be conserved. Where a property was identified as protected through inclusion on a municipal list, registry, or inventory, an evaluation of CHVI is required to determine whether it meets the criteria of significance as described within the PPS.



Methodology
January 8, 2019

2.2 MUNICIPAL AND AGENCY INFORMATION REQUESTS

Consultation with agencies and municipalities, including the Town, the OHT, and the MTCS, was undertaken to determine the presence of previously identified protected heritage properties within or adjacent to the study area. Heritage properties can have varying levels of protection. Under the definition of the PPS, protected heritage properties include those that are subject to designation under Part IV or V of the *Ontario Heritage Act*, heritage easements under Parts II or III of the *Ontario Heritage Act*, properties identified by the Province or Prescribed Public Bodies as provincial heritage properties, or UNESCO World Heritage Sites.

Properties can also be included on a municipal heritage register to denote that they have potential cultural heritage value or interest but are not subject to designation. For the purposes of this report, these properties are also considered to be protected heritage properties, as they have a level of protection from demolition under the *Ontario Heritage Act*.

2.3 FIELD PROGRAM

A pedestrian survey and a windshield survey were conducted by Frank Smith, Cultural Heritage Specialist with Stantec, on March 7, 2018. Frank Smith conducted the pedestrian survey from publicly accessible roadways, unless specified otherwise. During the field program, the study area was surveyed for potential cultural heritage resources, including both potential built heritage resources and components of cultural heritage landscapes. Where identified, these were photographed, and their locations recorded. Characteristics of each potential cultural heritage resource were noted while in the field.

In general, buildings and structures of more than 40 years of age were evaluated during the survey for their potential to satisfy O. Reg. 9/06 criteria. The use of the 40-year threshold is generally accepted by both the federal and provincial authorities as a preliminary screening measure for CHVI. This practice does not imply that all buildings and structures more than 40 years of age are inherently of significant heritage value, nor does it exclude exceptional examples constructed within the past 40 years of being of significant CHVI.

2.4 EVALUATION OF CULTURAL HERITAGE VALUE OR INTEREST

The criteria for determining CHVI is defined by O. Reg. 9/06 of the *Ontario Heritage Act*. Within this report, each property over 40 years of age identified during the field program was evaluated using O. Reg. 9/06 as a screening exercise to identify potential for CHVI. Where potential for CHVI was identified the property was assigned a cultural heritage resource (CHR) number and the property was determined to contain a cultural heritage resource, for the purposes of this report, to assess for potential project impacts and mitigate where appropriate. The assignment of CHVI to properties in this report does not require a municipal Council to list or designate the property. Evaluations for each property are contained within Appendix A.



CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

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2.4.1 Ontario Regulation 9/06

In order to identify CHVI at least one of the following criteria must be met:

1. The property has design value or physical value because it:
 - i. is a rare, unique, representative, or early example of a style, type, expression, material, or construction method;
 - ii. displays a high degree of craftsmanship or artistic merit; or
 - iii. demonstrates a high degree of technical or scientific achievement.
2. The property has historical value or associative value because it:
 - i. has direct associations with a theme, event, belief, person, activity, organization, or institution that is significant to a community;
 - ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture; or
 - iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.
3. The property has contextual value because it:
 - i. is important in defining, maintaining, or supporting the character of an area;
 - ii. is physically, functionally, visually, or historically linked to its surroundings; or
 - iii. is a landmark.

2.5 ASSESSMENT OF PROJECT IMPACTS

The assessment of impacts on cultural heritage resources is based on the impacts defined in the MTCS *InfoSheet #5: Heritage Impact Assessments and Conservation Plans from the Heritage Resources in the Land Use Planning Process Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Government of Ontario 2006b). Impacts to cultural heritage resources may be direct or indirect. Direct impacts include:

- **Destruction** of any, or part of any, significant heritage attributes or features
- **Alteration** that is not sympathetic, or is incompatible, with the historic fabric and appearance

Indirect impacts to cultural heritage resources do not result in the direct destruction or alteration of the feature or its heritage attributes, but may indirectly affect the CHVI of a property by causing:



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- **Shadows** created that alter the appearance of a heritage attribute or change the viability of a natural feature or plantings, such as a garden
- **Isolation** of a heritage attribute from its surrounding environment, context, or a significant relationship
- **Direct or indirect obstruction** of significant views or vistas within, from, or of built and natural features
- **A change in land use** such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces
- **Land disturbances** such as a change in grade that alters soil and drainage patterns that adversely affect an archaeological resource

(Government of Ontario 2006b)

Indirect impacts resulting from land disturbances apply to archaeological resources, which are beyond the scope of this assessment. An Archaeological Assessment has been prepared under a separate cover, which addresses the archaeological potential of the Study Area and includes recommendations for further work (Stantec 2018). No further consideration to archaeological resources is provided in this report and the recommendations of the Stage 1 Archaeological Assessment should be followed to mitigate impacts related to land disturbance (Stantec 2018).

In addition to direct impacts related to destruction, this report also evaluates the potential for indirect impacts resulting from construction vibrations and the transportation of Project components and personnel. To establish appropriate buffer zones to capture vibration related impacts resulting from typical road construction activities, Shahram Siavash, P. Eng., Team Leader, Geotechnical Engineering with Stantec, was consulted.

Mr. Siavash reported that ground movements induced by construction vibration are found to dissipate with distance from the source. The severity of soil movements depends primarily on type and compactness/consistency of the surrounding soils particularly between the source, receiver, and groundwater levels. The source, duration, frequency of occurrences of vibration, and the foundation-footing interaction also contribute to the strains induced in structures. In the absence of *in situ* soil data and considering the typical vibration levels induced by anticipated construction equipment associated with the proposed sanitary and water service construction, a 15 metre buffer is recommended as an appropriate distance from construction activities. Vibration monitoring is recommended where CHRs are located within 15 metres of the proposed work.

2.6 MITIGATION STRATEGIES

Mitigation strategies were prepared based on guidelines provided by the MTCS. The MTCS suggest methods of minimizing or avoiding negative direct or indirect impacts including, but not limited to:

- Alternative development approaches



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- Isolating development and site alteration from significant built and natural features and vistas
- Design guidelines that harmonize mass, setback, setting, and materials
- Limiting height and density
- Allowing only compatible infill and additions
- Reversible alterations
- Buffer zones, site plan control, and other planning mechanisms

(Government of Ontario 2006b)

In the case of infrastructure replacement or installation projects, buffer zones and site plan controls are often the most appropriate method of mitigation when used in combination with alternative development approaches.



Historical Development
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3.0 HISTORICAL DEVELOPMENT

3.1 INTRODUCTION

The study area is located within the Town of Amherstburg, Essex County. The study area spans a portion of the former Township of Malden in Lots 3 to 5, Concession 1 and Lots 20 to 22, Concession 2. The following sections outline the historical development of the study area from the time of Euro-Canadian settlement to the 21st century.

3.2 PHYSIOGRAPHY

The study area is situated within the St. Clair Clay Plain physiographic region. This region is described as:

Adjoining Lake St. Clair in Essex and Kent Counties and the St. Clair River in Lambton County are extensive clay plains covering 2,270 square miles. The region is one of little relief, lying between 575 and 700 feet a.s.l., except for the moraine at Ridgetown and Blenheim which rises 50 to 100 feet higher. ... Glacial Lake Whittlesey, which deeply covered all of these lands, and Lake Warren which subsequently covered nearly the whole area, failed to leave deep stratified beds of sediment on the underlying clay till except around Chatham, between Blenheim and the Rondeau marshes, and in a few other smaller areas. Most of Lambton and Essex Counties, therefore, are essentially till plains smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action.

(Chapman and Putnam 1986:147)

Essex County is bound on three sides by major water sources. In addition to Lake St. Clair, the Detroit River, and Lake Erie, there are numerous other primary and secondary sources of potable water through the county. The Detroit River is located approximately 40 metres west of the western end of the study area.

3.3 HISTORICAL DEVELOPMENT

3.3.1 Survey and Settlement

Initial Euro-Canadian settlement along both sides of the Detroit River began in 1701 when France established a settlement at modern-day Detroit. The fur trade was the primary economic driver of the new settlement (Lejeunesse 1960: xlii-xliii). As tensions with Great Britain increased, the area took on a strategic importance to block Britain's encroachment upon New France (Lejeunesse 1960: liii). At the conclusion of the Seven Years War in 1763, New France was ceded to Great Britain as per the terms of the Treaty of Paris.

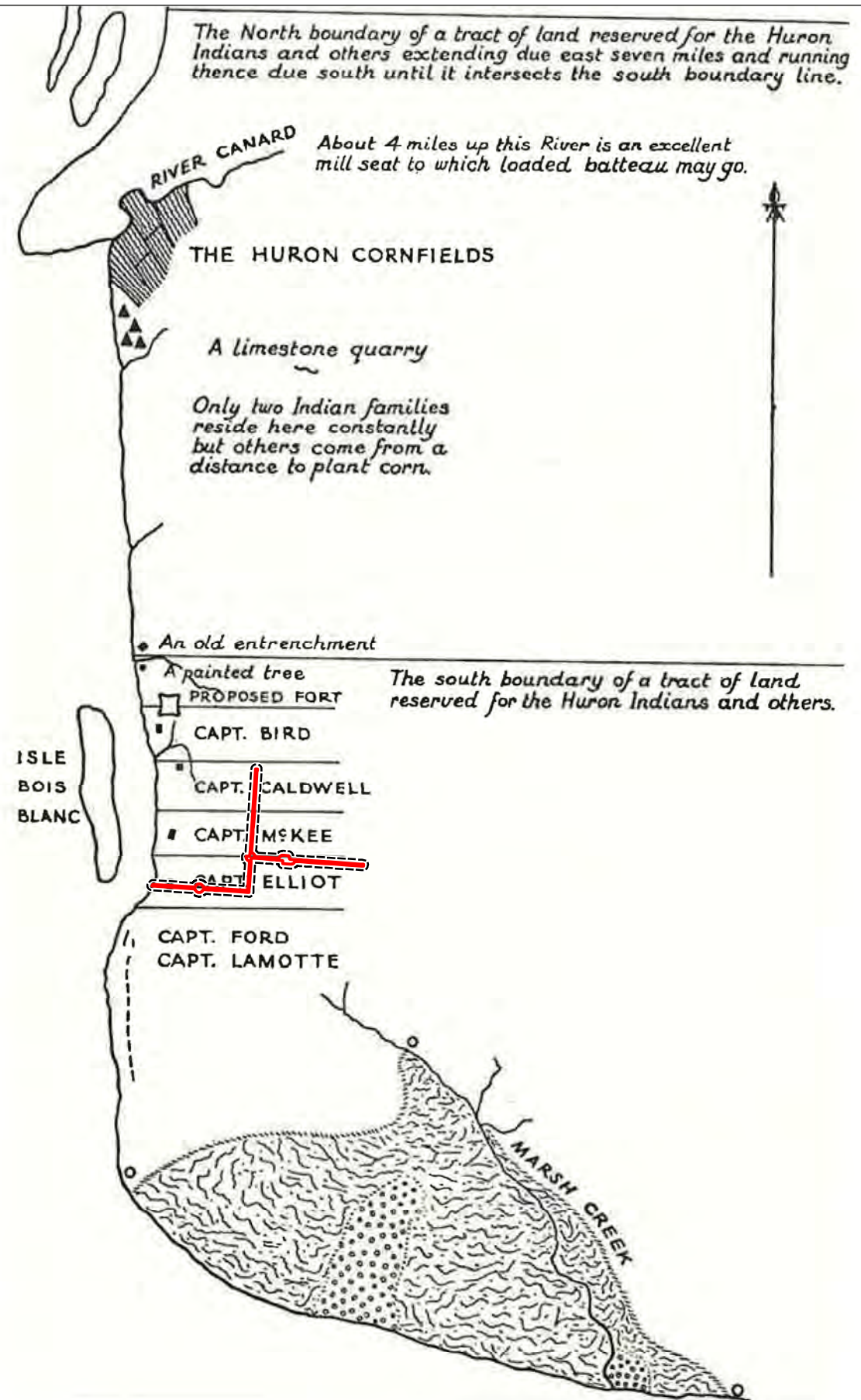


CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Historical Development
January 8, 2019

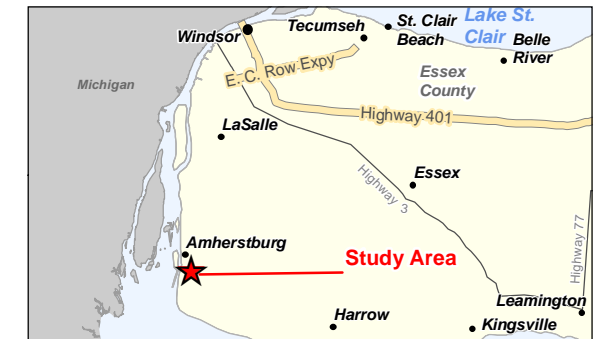
British settlement of the future site of Malden Township and study area began in 1783, when Captains Matthew Elliott and William Caldwell occupied tracts of land on the east side of the Detroit River opposite of Bois Blanc Island. Elliott and Caldwell were United Empire Loyalists who fought alongside Indigenous communities allied with Britain. Other settlers soon occupied tracts of land along the river, including other British officers and translators who worked with Indigenous communities (Figure 2). In January 1793, Lieutenant Governor John Graves Simcoe instructed a new township be surveyed at the mouth of the Detroit River, and he named the new settlement Malden Township (Lajeunesse 1960: ciii). The land was surveyed by Abraham Iredell. Iredell's survey is dated April 17, 1796 and divided the Township into 103 lots, 19 of them situated along the Detroit River. Simcoe instructed that Elliott and Caldwell be responsible for recommending who should receive land grants in Malden Township. Elliott would amass 3,000 acres in the Township and worked the land with slaves he imported from his former plantation in Virginia (Lajeunesse 1960: civ).





- Legend
- Cultural Heritage Study Area
 - Project Location

- Notes
1. Map is not to scale.
 2. Historic map source: Lajeunesse, Ernest. 1960. The Windsor Border Region. Toronto: University of Toronto Press.



Project Location
County of Essex

165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06

Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
2

Title
Map of Study Area, 1790

Historical Development
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3.3.2 19th Century Development

In 1794, Great Britain and the United States signed Jay's Treaty to settle outstanding issues from the American Revolution. Britain was to relinquish all American territory it still occupied by 1796, including its fortifications at Detroit (Library of Congress 2017). The British constructed Fort Malden, a new fort on the east side of the Detroit River at Amherstburg, just north of the study area. Amherstburg was laid out as a townsite to support the British fort (James 1909: 10-11). The townsite was situated along the border between Malden Township and Anderdon Township and was part of Malden Township. The British garrison brought prosperity to the area, and the population of Amherstburg and the two townships soon exceeded Sandwich (present day Windsor), the county seat. By 1817, Amherstburg was already a village, but not incorporated (James 1909: 23). In 1817, the population of the Village of Amherstburg, Anderdon Township, and Malden Townships stood at 675 (Belden 1881).

A major demographic group in Malden Township during the early 19th century was African Canadians, who comprised 20% of Malden's population in the 1820s and 1830s. A portion of this population was comprised of escaped slaves from the American south and free Blacks from the northern United States who believed they would face less overt discrimination in Upper Canada (Clarke 2010: 81-82). A large part of the Black population had roots in Virginia, Maryland, and Kentucky. Many of the African American farmers grew tobacco, a crop they were familiar with cultivating in the southern United States (Amherstburg Bicentennial Book Committee [ABBC] 1996: 64-65).

In 1850, Amherstburg was separated from the Township of Malden and was incorporated as a village. A visitor to Amherstburg in 1850 described the village as appearing "old fashioned...most of the houses being built in the old French style." By this time the population of Amherstburg had reached 1,000. The population of Malden Township, including Amherstburg, in 1850 was 1,552 and approximately 5,000 acres of land were under cultivation (Belden 1881). In 1852, 29% of Malden's farmers were tenants and not landowners (Clarke 379: 2010). Besides agriculture, maritime industries were an important part of Malden Township and Amherstburg's economy. Fishing was bountiful on the Detroit River (ABBC 1996: 66), and shipbuilding took place in Amherstburg and Malden Township (ABBC 1996: 69).

The completion of the Great Western Railway to the north of Amherstburg in 1854 marked the beginning of a period of decline for Amherstburg and Malden. The importance of Amherstburg as a port diminished as shipping moved north to Windsor (ABBC 1996: 81). In 1861, the population of Malden Township was 1,546, with Canadian born residents accounting for 80% of the population. The primary ethnic groups in the Township in the 1860s included British, French, and Americans of European and African American ancestry (ABBC 1996: 82).

The arrival of the Canada Southern Railway in Amherstburg and Malden in 1873 improved the economic fortunes of the area. Lumber was the main product exported to the United States through Amherstburg on the Canada Southern Railway. In 1878, the population of Amherstburg increased to 2,000, the required population to be incorporated as a town (ABBC 1996: 94).



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Historical Development
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3.3.3 20th Century Development

Improvements in transportation and the advent of the motor vehicle strengthened the relationship between Amherstburg and the cities of Windsor and Detroit in the early 20th century. An electric railway line connected Amherstburg and Windsor starting in 1903 (Morrison 1954: 185). The streetcars were replaced by busses in 1938 (ABBC 1996: 143).

In the early 20th century, interest in the history of Amherstburg, and in particular Fort Malden increased, and residents began to realize the historical value of the remaining buildings associated with Fort Malden (Carnochan 1909). Proposals arose to make Fort Malden a national park or historic site as early as 1904 (Globe and Mail 1904). In 1921, Fort Malden was designated a National Historic Site, and the earthworks, buildings, and blockhouse of the fort were restored (Marsh 2012).

By the middle of the 20th century, industries in the area included an auto parts manufacturer, a plastics plant, a distillery, a limestone quarry, and a chemical complex. The completion of the St. Lawrence Seaway and improvements to the shipping channel offshore of Amherstburg once again made the Detroit River an important shipping corridor, with the route offshore Amherstburg increased to 27 feet in depth (Ogdensburg Journal 1959). The postwar housing boom created new housing developments and suburban sprawl into Malden and Anderdon Townships. By the 1970s, Amherstburg had a population of 5,000. Efforts to manage the direction of growth were hindered in the early 1970s when the Ontario Municipal Board and the Municipal Council of Amherstburg failed to agree on a town plan (Kasurak 1972).

On January 1, 1998 the Township of Malden was annexed by the Town of Amherstburg (Town of Amherstburg 2016). As of the 2016 Census of Canada, the population of the Town of Amherstburg is 13,910, an increase of 1.4% since 2011 (Statistics Canada 2017).

3.3.4 Property History

The study area is located in Lots 3 to 5, Concession 1 and Lots 20 to 22, Concession 2, former Township of Malden. Lots 3 to 5 are wider than the typical river lots in Essex County, because they pre-date the formal surveying and treaty purchases in the area. This is because these lots were settled by British officers and United Empire Loyalists prior to the formal surveying by Abraham Iredell and the formation of Malden Township by Simcoe. These officers had acquired their land directly from the Huron First Nation in 1784, who had been their allies during the American Revolution and as a result, their lot sizes are wider than neighbouring waterfront lots. The land cession was approved by Governor Frederick Haldimand the same year (Lajeunesse 1960: ciii).



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Historical Development
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3.3.4.1 Lot 5, Concession 1 and Lot 20, Concession 2

The first settler on Lot 5, Concession 1 and Lot 20, Concession 2 was Matthew Elliott. Elliott was born in County Donegal, Ireland in 1739. In 1761, he emigrated with his family to Pennsylvania. They settled at Fort Pitt (present day Pittsburgh) and Elliott became involved in the fur trade. Elliott worked closely with the Shawnee and learned their language (ABBC 1996: 10). Elliott also had a plantation in Virginia (Lajeunesse 1996: civ). During the American Revolution, Elliott fell under suspicion of being pro-British, and in 1778 fled Pittsburgh. Accompanying him was Alexander McKee, another initial settler in the study area. Elliott relocated to Detroit and served in the British Indian Department, leading several raids against American forces. (ABBC 1996:11).

After the war, Elliott established a farm on Lot 5, Concession 1 and Lot 20, Concession 2. He eventually amassed 3,000 acres in Malden Township, and worked the farm partially with slaves he had brought from his plantation in Virginia (Lajeunesse 1996: civ). Elliott was a prominent official in the province and served on the Legislative Assembly of Upper Canada. He died in 1814, in Burlington, after he and his family evacuated their farm during the War of 1812. Elliott's son, Francis remained on part of the land after Matthew's death (ABBC 1996: 11-12).

In 1860, Lot 5, Concession 1 and Lot 20, Concession 2 were owned by Sarah Elliott, Francis's widow (Figure 3). In H.F. Walling's 1877 map of Essex County, Lot 5, Concession 1 and Lot 20, Concession 2 is still shown as owned by the Elliott family (Walling 1877). The lots were owned by Frederick Elliott, the son of Sarah Elliott. Frederick Elliott was born in 1838 and is listed as being born in Ontario, of Irish ancestry, and a member of the Church of England. In the 1871 Census of Canada Frederick Elliott is shown living with Albert Elliott, born 1849, and Emily Elliott, born 1847 (1871 Census of Canada). In 1881, Frederick Elliott is still shown living on Lot 5, Concession 1. Additionally, two structures are depicted along the Detroit River belonging to A. Cullam and J.S. Patton. The 1881 map does not show an owner of Lot 20, Concession 2 (Figure 4).

Topographic mapping from 1910 shows that the two lots remained agricultural at the turn of the 20th century (Figure 5). During the mid-20th century, development in Lot 5, Concession 1 mostly took place along the shore of the Detroit River. Land in the Lot east of the Detroit River remains primarily agricultural today. Lot 20, Concession 2 also remains agricultural today.

3.3.4.2 Lot 4, Concession 1 and Lot 21, Concession 2

Lot 4, Concession 1 and Lot 21, Concession 2 were first settled by Alexander McKee. McKee was a close associate of Matthew Elliott and together they fled Pittsburgh for Detroit in 1778. Alexander McKee was born in 1735 to an Irish trader and Shawnee mother (ABBC 1996: 7). McKee participated in the Seven Years War as a lieutenant in the Pennsylvania forces, and by 1760 was a member of the Indian Department. During the American Revolution, McKee was a captain and interpreter with the British Indian Department. After the war, he settled on land just north of Matthew Elliott. He served as a deputy-agent in the Indian Department, served as a leader of the local militia, and sat on the land board. McKee died in 1799 (ABBC 1996: 8).



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By 1860, Lot 4, Concession 1 and Lot 21, Concession 2 had been divided into a north half and south half. The north half of Lot 4, Concession 1 and Lot 21, Concession 2, were owned by Robert Todd Reynolds (Figure 3). The south half of both lots was owned by William Duff. The 1861 Census of Canada lists Robert T. Reynolds as a doctor, born in 1819. The 1861 Census of Canada shows an adjacent Robert Reynolds who was a farmer. It is unclear which Robert Reynolds was living on the property; both are likely related and lived near each other, because they were on the same census page. William Duff was born in 1782 in Upper Canada. He was a Presbyterian and no occupations are given on the census for him and his family. Duff lived with his wife Susan, born 1787, who was a Catholic, their daughter Susannah, born 1822 and Presbyterian, daughter Belle, born 1827 and Catholic, daughter Jean, born 1832 and Presbyterian, son James, born 1824 and Presbyterian, and son Charles born 1822 and Presbyterian (Census of Canada 1861).

By 1877, according to Walling's map of Essex County, the north half of Lot 4, Concession 1 and of Lot 21, Concession 2 was owned by W. Johnson (Walling 1877). The 1871 and 1881 Censuses of Canada do not show a W. Johnson living in Malden Township, but a W. Johnson lived in both Anderdon Township and Amherstburg. It is possible Johnson owned the land but rented it to tenants. The southern half of Lot 4, Concession 1 was divided into three small parcels with no owners listed. The southern half of Lot 21, Concession 2 was subdivided into three parcels. The southwest portion was 48 acres and owned by the Chenevert family, who do not appear in Malden Township or Amherstburg in the 1871 or 1881 Census. The centre portion was 30 acres and owned by the Boyce family. Macauley Boyce was born in 1823 in Nova Scotia and was of Scottish ancestry. His occupation was listed as a farmer. He lived with his wife Catherine, born 1822 in Nova Scotia, and daughters Ida, born 1862, Clara, born 1865, and Sarah, born 1869 (Census of Canada 1881a). The easternmost portion was 22 acres and owned by the Gott family. George Gott was born in 1828 in Ireland and his occupation was a farmer. He lived with his wife Maria, born 1831, daughters Sarah, born 1851, Ellen, born 1854, Alice, born 1868, and her sons Merian, born 1858, George Junior, born 1860, and John, born 1863 (Census of Canada 1881b).

Topographic mapping from 1910 (Figure 5) show that Lot 4, Concession 1 and Lot 21, Concession 2 remained agricultural with some small woodlots and marshlands present in Lot 4, Concession 1. Several structures are depicted along the shore of the Detroit River in 1910 in Lot 4, Concession 1. Based on topographic mapping and aerial photography, the residential development in Lot 4, Concession 1 west of Fryer Street is modern and likely dates to the late 1980s or early 1990s according to Google Earth imagery. Lot 21, Concession 2 remains agricultural today.

3.3.4.3 Lot 3, Concession 1 and Lot 22, Concession 2

Lot 3, Concession 1 and Lot 22, Concession 2 were first settled by William Caldwell. Caldwell was born in Ireland in approximately 1750. Caldwell arrived in the 13 Colonies in 1773 and was part of Virginia's colonial militia under Lord Dunmore. He likely met Matthew Elliott during this time, during peace negotiations between Dunmore and the Shawnee. During the American Revolution, Caldwell was imprisoned in Philadelphia for his Loyalist sympathies after fleeing Virginia. Caldwell escaped prison and made his way to Niagara and joined Butler's Rangers (ABBC 1996: 12). Caldwell settled in the study area after the war and once again served the British Army during the War of 1812 as a quartermaster. Caldwell died in 1822 (ABBC 1996: 13).



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By 1860, both Lots were divided amongst Caldwell's heirs or sold. Lot 22, Concession 2 was owned entirely by John Caldwell. Mapping shows that in 1860, the northwestern portion of Lot 3, Concession 1 is shown included in the town plot for Amherstburg. Seven owners are shown owning parts of Lot 3, Concession 1 in 1860 (Figure 3). There were also several smaller parcels of land along the shoreline. Charles Bercsy owned land in the northern most part of the lot along present-day Simcoe Street. Thomas Park owned a portion of the lot south of that. The Caldwell family retained ownership of the land in the middle portion of the Lot and it is split three ways between Elizabeth Caldwell-Kevill, Therese Caldwell, and William Caldwell. The southernmost part of the lot was owned by John Kolfage. A smaller parcel in the southernmost part of the lot was owned by a Mr. Dunbar. By 1877, Lot 3, Concession 1 was consolidated once again, and the north half was owned by Theodore Park and the south half still by John Kolfage. Lot 22, Concession 2 was divided into two parcels. T.J. Park owned 40 acres of land in the study area along present-day Fryer Street. The remainder of the lot was still owned by John Caldwell (Walling 1877).

John Kolfage was born in 1818 in Hanover, Germany. His occupation was a stonecutter. According to the 1881 census, he lived with his wife Rebecca, born 1828, who was of Scottish ancestry. They lived with their children, son Thomas, born 1856 and employed as a merchant; son Walter, born 1858 and employed as a mariner; son Septimus, born 1860 and employed as a clerk; son Edmund, born 1862, and employed as a farmer; son John Junior, born 1866; and daughter Frances, born 1864. By 1881, the Park family was led by Ernest Park, an Ontario-born postmaster of English ancestry born in 1848. He lived with his wife Caroline, also born in 1848, daughter Olive, born 1870, daughter May, born 1872, son Ernest, born 1875, daughter Alice, born 1878, and daughter Bessie, born 1880 (Census of Canada 1881c).

By 1910, the north part of Lot 3, Concession 1 was part of the Town of Amherstburg and within the developed part of the town (Figure 5). Aerial photography from 1954 shows that Lot 5, Concession 1 and Lot 20, Concession 2 remained largely agricultural (Figure 6). Topographic mapping from 1961 shows that the Town of Amherstburg was continuing to expand into the agricultural lands along Simcoe Street in Lot 3, Concession 1 and a trailer park is shown present in the middle of the lot. In Lot 22, Concession 2 there are structures present along Simcoe Street, north of the study area. Within the study area, no substantial development has yet taken place, and no structures are present on the topographic map (Figure 7). By 1974 the current residential subdivision from McCurdy Drive north to Pickering Drive was constructed along Second Concession Road in Lot 5, Concession 1, including the residences in the study area (Figure 8). Lot 22, Concession 2 remains agricultural within the study area.

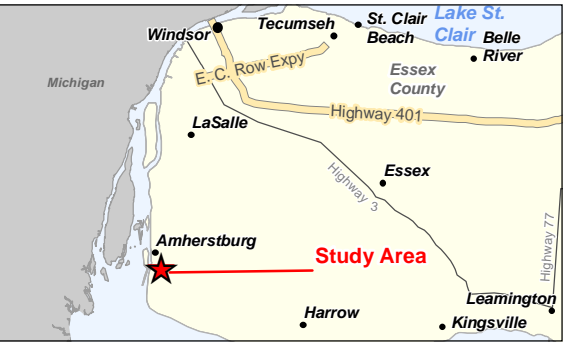


Legend

Cultural Heritage Study Area

Project Location

- Notes
- 1. Map is not to scale.
 - 2. Historic map source: Amherstburg Bicentennial Book Committee, 1996. Amherstburg 1796-1996, The New Town on the Garrison Grounds. Amherstburg: Amherstburg Bicentennial Book Committee.



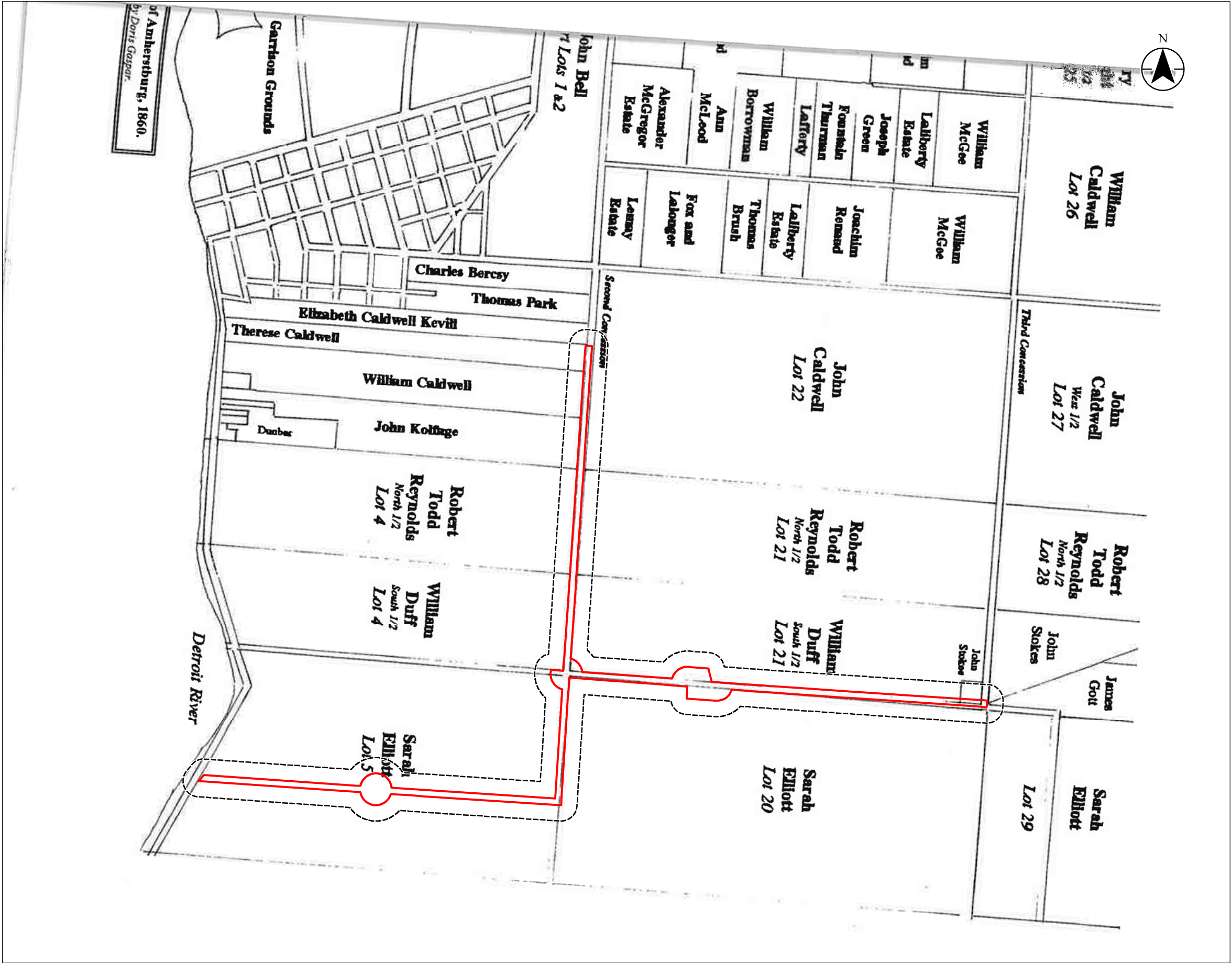
Project Location
County of Essex

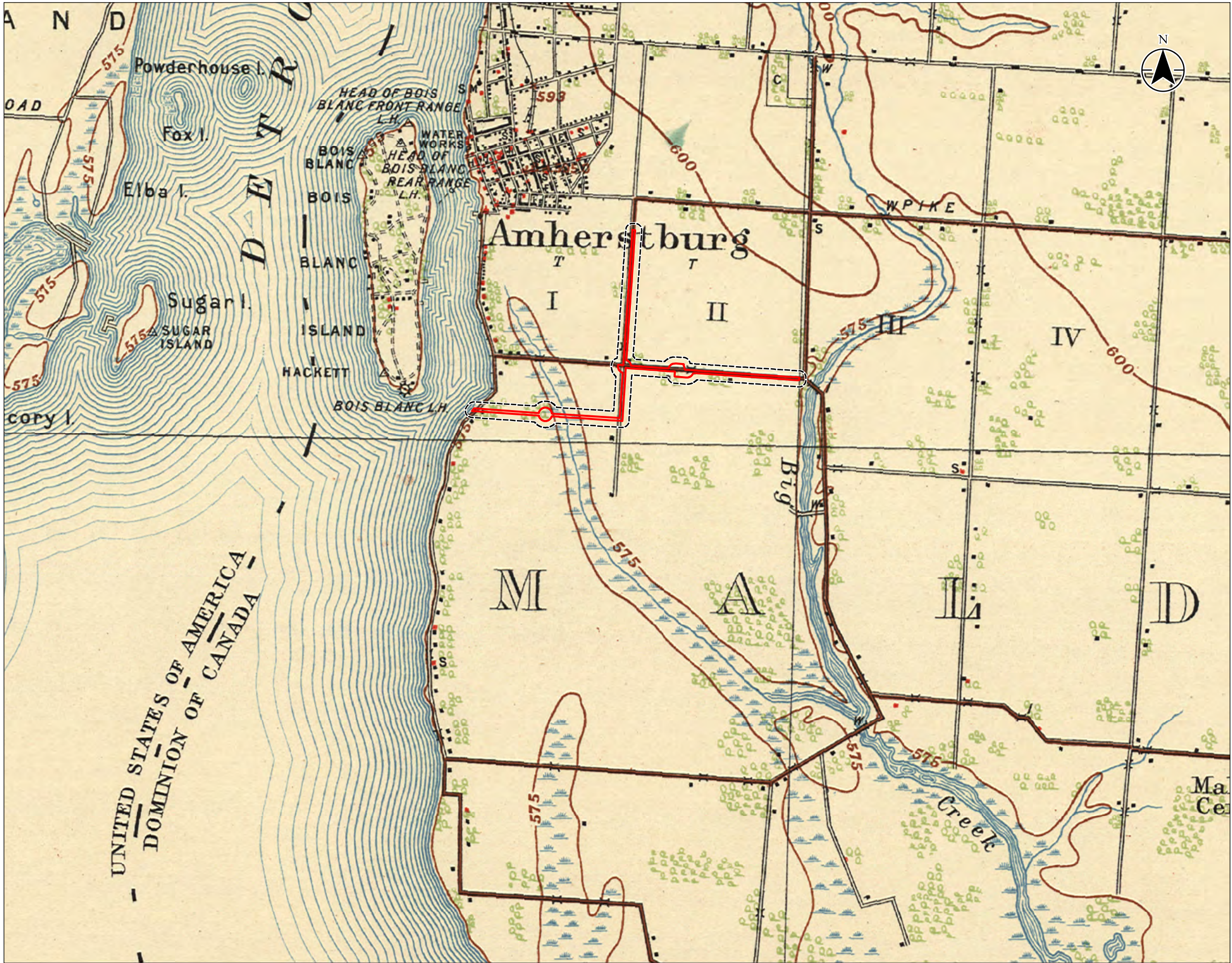
165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06

Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
3

Title
Map of Study Area, 1860

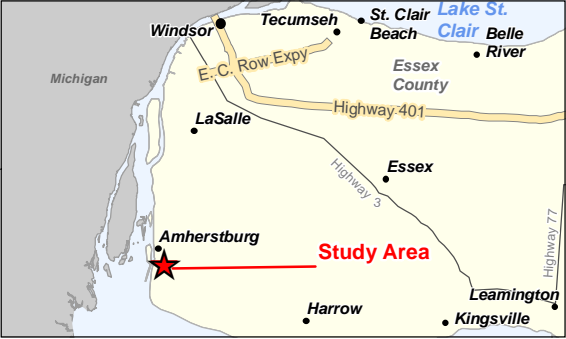




Legend
Cultural Heritage Study Area
Project Location

0 500 1,000 m
1:30,000 (At original document size of 11x17)

Notes
1. Historic map source: Department of Militia and Defence, 1910. Topographic Map Ontario Amherstburg Sheet.



Project Location
County of Essex
165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06

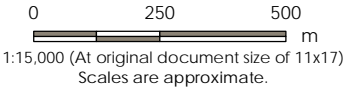
Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure No.
5
Title
Map of Study Area, 1910

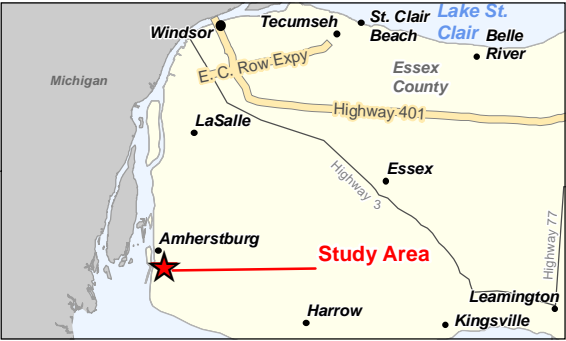
\\cd120102\0169\active\Other_PCS_Active\556 - Windsor\165620084\Drawings\Figures\Cultural_Heritage\Report\Figures\165620084_ch_rpt_Fig06_Aerial_Photograph_of_Study_Area_1954.mxd Revised: 2019-01-08 By: pwworcel



- Legend
- Cultural Heritage Study Area
 - Project Location



- Notes
- Airphoto is not orthorectified. Airphoto positioning is approximate and was georeferenced based on the Ontario Road Network produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2019.
 - Historic airphoto source: University of Toronto. 1954 Air Photos of Southern Ontario.



Project Location
County of Essex

165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06

Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
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Figure No.
6

Title
Aerial Photograph of Study Area, 1954

Site Description
January 8, 2019

4.0 SITE DESCRIPTION

4.1 GENERAL STUDY AREA

The study area's northern border is located just north of the intersection of Pickering Drive and Fryer Street. The study area then proceeds south down Fryer Street to the intersection of Lowes Sideroad, Concession Road 2 South, and Fryer Street. The study area continues east on Lowes Sideroad until the intersection of Meloche Road, Lowes Sideroad, and Creek Road. The study area also continues south down Concession Road 2 South for approximately 420 metres before turning west along a corridor of existing utility poles. This portion of the study area concludes at Front Road South.

Fryer Street is a two-lane paved road with a gravel shoulder on the east side of the road (Plate 1). The gravel shoulder narrows considerably south of Briar Ridge Avenue. Part of the west portion of the road in study area has a concrete sidewalk. This sidewalk ends at the intersection of Crownridge Boulevard and Fryer Street. The western side of Fryer Street in the study area is suburban in character. From the northern part of the study area along Fryer Street south to McCurdy Drive the residences date to the 1960s or 1970s and include split-level and ranch-style houses. South of McCurdy Drive the residences are modern and according to Google Earth historical imagery were likely constructed in the late 1980s or early 1990s, with the exception of the two residences just north of the corner of Fryer Street and Lowes Sideroad, which were built in the mid-20th century. The eastern part of the study area along Fryer Street is agricultural, with the exception of the Saint Jean Baptiste Elementary School, which was built in 2008.

Lowes Sideroad is a two-lane paved road with gravel shoulders and drainage ditches that run along both sides of the road. Lowes Sideroad within the study area is rural in character (Plate 2). Approximately 570 metres east of the intersection of Fryer Street, Lowes Sideroad, and Concession Road 2 South, Lowes Sideroad has a bridge (Plate 3) that spans the 2nd Concession Road Drain South (Plate 4).

Concession Road 2 South is a narrow gravel road with no exit (Plate 5). A drainage ditch runs along both sides of the road. On Concession Road 2 South the study area turns west along a corridor of existing utility poles (Plate 6). The study area along Concession Road 2 South is rural in character.

The study area's western end is Front Road South. Front Road South is a two-lane paved road with gravel shoulders (Plate 7). The western end of the study area is fenced off by a chain link fence and vegetation in various stages of ecological succession are present (Plate 8). The character of this portion of the study area is heavily influenced by Front Road South's adjacency to the Detroit River, with several docks and piers being present adjacent to Front Road South (Plate 9).



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SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

Site Description
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Plate 1: Fryer Street, South of Pickering Drive, looking South



Plate 2: Lowes Sideroad, looking West



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Plate 3: Lowes Sideroad Bridge over 2nd Concession Road Drain South, looking East



Plate 4: 2nd Concession Road Drain South, looking East



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Site Description
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Plate 5: Concession Road 2 South, looking North



Plate 6: Point where the study area turns west off Concession Road 2 South, looking West



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Site Description
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Plate 7: Front Road South, looking South



Plate 8: Western end of study area at Front Road South, looking East



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Site Description
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Plate 9: View of Detroit River on Front Road South, looking South



Results

January 8, 2019

5.0 RESULTS

5.1 AGENCY AND MUNICIPAL CONSULTATION

In order to identify protected properties, the MTCS, OHT, and Town of Amherstburg were contacted. Thomas Wicks of the OHT confirmed that there are no OHT heritage easements within the study area. Karla Barboza of the MTCS confirmed there are no provincial heritage properties within or adjacent to the study area. A response is still pending from the Town of Amherstburg concerning listed or designated properties located within the study area.

5.2 FIELD PROGRAM

5.2.1 Potential Cultural Heritage Resources

As described in Section 2.3, a windshield survey of the study area was undertaken to identify potential cultural heritage resources situated within the study area. Where identified, the potential cultural heritage resource was photographed from publicly accessible roadways. A total of 32 potential cultural heritage resources were identified. Summaries of these potential resources are contained in Table 1 and Appendix A and B.

During the survey, two properties and one streetscape were identified as containing potential cultural heritage resources. Property descriptions of the potential cultural heritage resources can be found in Appendix A.

None of the properties inventoried had previously been identified as protected or potential heritage resources, as outlined in Section 5.1 above.

5.3 EVALUATION

Where a potential cultural heritage resource was identified within the study area, an evaluation of the CHVI of the property was undertaken (Figure 9). Detailed evaluations are contained within Appendix A and B. As described in Section 2.4, each potential cultural heritage resource was evaluated according to O. Reg 9/06, the criteria for determining CHVI. Each potential cultural heritage resource was evaluated as either a built heritage resource or cultural heritage landscape. Where CHVI was identified, a structure or landscape was assigned a CHR number and the property was determined to contain a cultural heritage resource.




Following evaluation, three cultural heritage resources were identified in the study area. This includes one built heritage resource (early 20th century farm dwelling) and two cultural heritage landscapes (a farmscape and a streetscape). (Figure 10). A summary of properties assessed and corresponding CHR, where appropriate, is provided in Table 1 below.



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Table 1: Determination of CHVI According to Ontario Regulation 9/06




Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
376 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
380 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
384 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
396 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
400 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
406 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
410 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
414 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
418 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location



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Results

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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
422 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
428 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
432 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
436 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
440 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
444 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
450 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
454 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
354 McCurdy Drive	None	Residence		N/A	No	N/A	Adjacent to project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
353 McCurdy Drive	None	Residence		N/A	No	N/A	Adjacent to project location
569 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location
620 Fryer Street	None	Residence		N/A	No	N/A	Adjacent to project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
628 Fryer Street	None	Residence		N/A	No	N/A	Within project location
352 Lowes Sideroad	None	Residence		N/A	No	N/A	Within project location
344 Lowes Sideroad	None	Residence		N/A	No	N/A	Within project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
441 Lowes Sideroad	None	Farmstead		Two storeys, cross gable roof, wooden entrance porch, outbuildings, barn, and tree lined driveway.	Yes	BHR-1	Within project location
484 Lowes Sideroad	None	Residence		N/A	No	N/A	Adjacent to project location
N/A—Lowes Sideroad Bridge over 2 nd Concession Road Drain South	None	Streetscape		N/A	No	N/A	Within project location



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Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
517 Lowes Sideroad	None	Residence		N/A	No	N/A	Adjacent to project location
2568 Concession Road 2 South	None	Farmstead		Farmstead with one and a half storey residence, gambrel roof, shed roof dormer, brick chimney, stone block entrance porch, rusticated concrete block foundation, outbuildings, and agricultural fields.	Yes	CHL-1	Adjacent to project location
N/A— Streetscape along Fryer Street from Simcoe Street south to Lowes Sideroad and Concession Road 2 South intersection	None	Streetscape		N/A	No	N/A	Within project location



CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

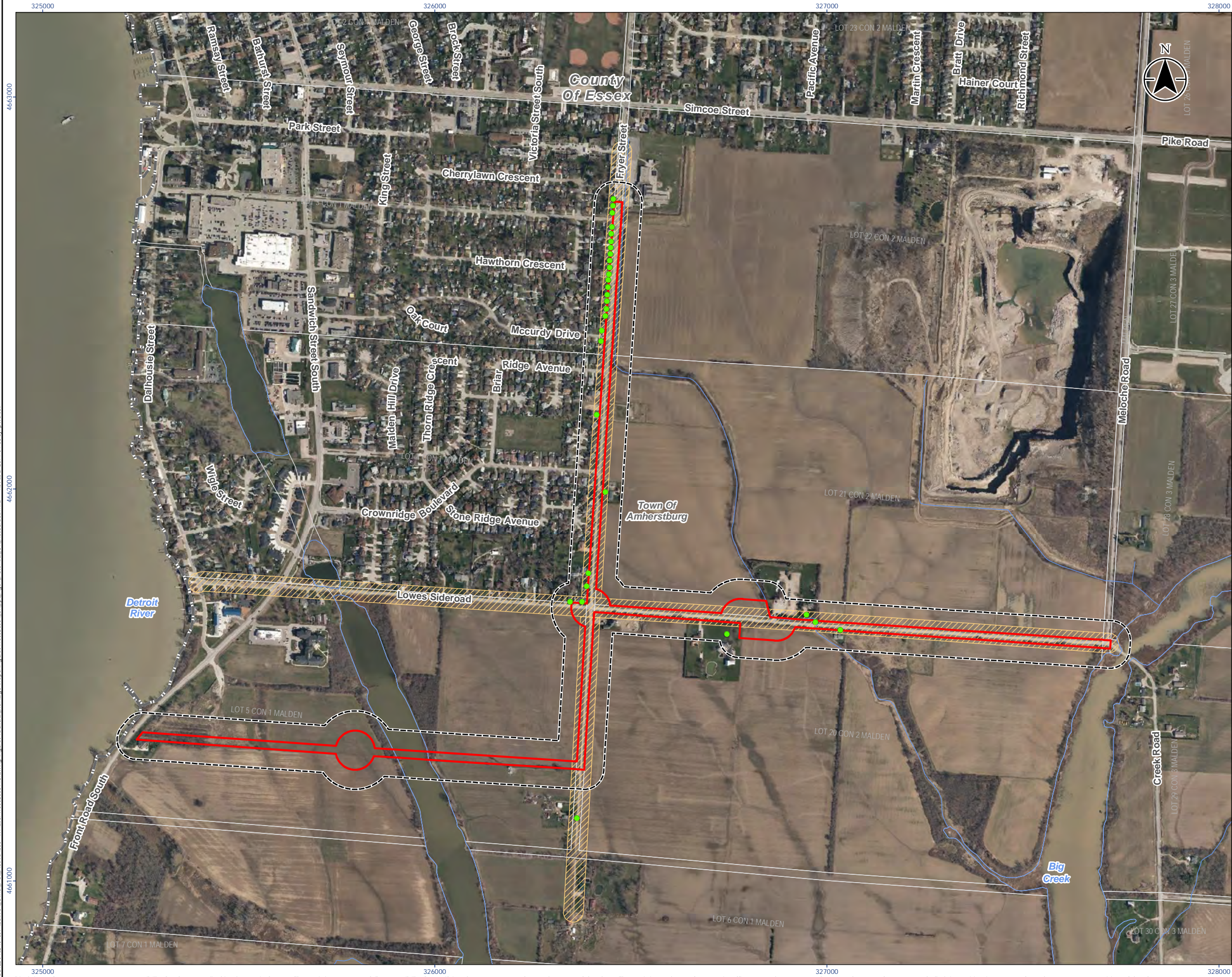
Results

January 8, 2019

Municipal Address	Previous Heritage Recognition	Resource Type	Photograph	Identified Heritage Attributes	CHVI	CHR Number	Relationship to Project Location
N/A— Streetscape along Lowes Sideroad from just west of intersection of Fryer Street and Concession Road 2 South east to Meloche Road	None	Streetscape		N/A	No	N/A	Within project location
N/A— Streetscape along Concession Road 2 South	None	Streetscape		Gravel road, agricultural fields, circulation routes, Big Creek crosses study area.	Yes	CHL-2	Within project location



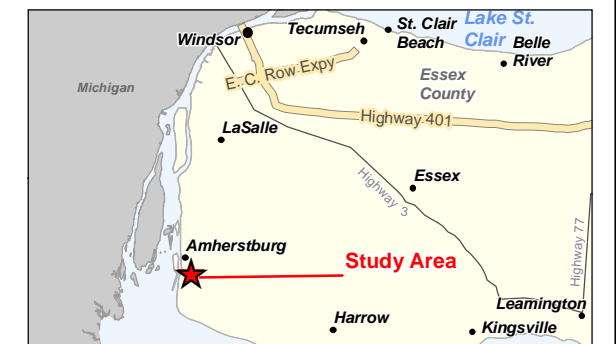
\\cd120-01-02-01-009-Active\\Other_PCS\\Active\\556 - Windsor\\165620084\\Drawings\\Figures\\Cultural_Heritage\\ReportFigures\\165620084_ch_rpt_Fig9_Potential_CH_Resources.mxd Revised: 2019-01-08 By: pworsel



- Legend
- Cultural Heritage Study Area
 - Project Location
 - Potential Cultural Heritage Resource
 - Potential Cultural Heritage Landscape
 - Watercourse (Permanent)
 - Waterbody
 - Lot
 - Municipal Boundary, Upper
 - Municipal Boundary, Lower

0 250 500 m
1:10,000 (At original document size of 11x17)

- Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2019.
 3. Orthoimagery © First Base Solutions, 2019. Imagery from 2017.



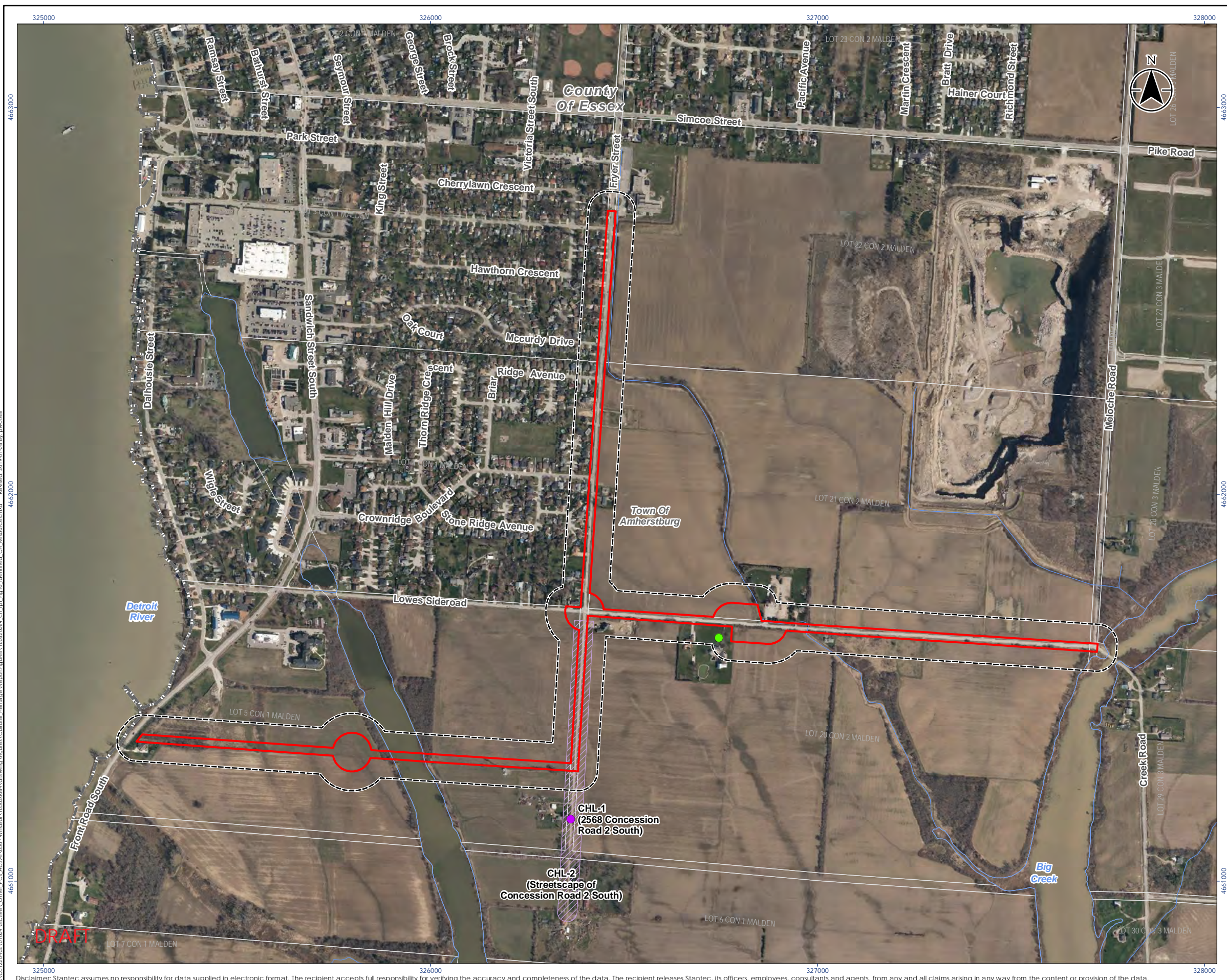
Project Location
County of Essex

165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06











Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
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Figure No.
9

Title
Potential Cultural Heritage Resources



Legend

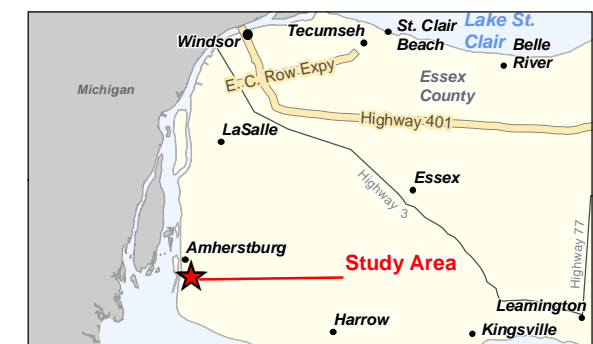
-  Cultural Heritage Study Area
-  Project Location
-  Cultural Heritage Landscape
-  Identified Built Heritage Resource
-  Identified Cultural Heritage Landscape
-  Watercourse (Permanent)
-  Waterbody
-  Lot
-  Municipal Boundary, Upper
-  Municipal Boundary, Lower



1:10,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2019.
3. Orthoimagery © First Base Solutions, 2019. Imagery from 2017.



Project Location
County of Essex

165620084 REVA
Prepared by PW on 2019-01-08
Technical Review by DH on 2018-03-06

Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
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Figure No.

10

Title

Identified Cultural Heritage Resources

6.0 ANTICIPATED IMPACTS AND MITIGATION MEASURES

6.1 DESCRIPTION OF PROPOSED PROJECT UNDERTAKING

The Town of Amherstburg is undertaking a Schedule B Municipal Class EA to provide proposed new developments in the southeast quadrant of the urban hub of the Town of Amherstburg with adequate water and sanitary sewage servicing.

Proposed new residential developments are expected in the Town of Amherstburg's southeast quadrant which covers approximately 289 ha. The southeast quadrant currently comprises mostly rural agricultural land with small pockets of residential land use. The area is not presently serviced by an existing municipal wastewater collection system and the existing watermain system is not sized sufficiently to support future growth. Within the southeast quadrant, existing residential lots are generally serviced by private on-site sewage disposal systems, typically consisting of septic tanks and leaching beds, and watermains ranging from 50 millimetre diameter to 300 millimetre diameter in size. In 2014, the Town completed upgrades and expansion of the existing Amherstburg Wastewater Treatment Plant (AWWTP) and upgrades to the Main Sewage Pumping Station (Pumping Station No. 2), located in the commercial plaza north of the AWWTP, to accommodate current and future wastewater flows. Wastewater generated by the proposed new developments in the southeast quadrant is to be conveyed to the Main Sewage Pump Station No. 2 and ultimately to the AWWTP. Some developers within the southeast quadrant have requested that the Town install the necessary sanitary and water servicing infrastructure to allow for the development of the lands.

The Town is undertaking a Class EA to review the existing municipal infrastructure and identify upgrades or new infrastructure required to provide sanitary and water servicing for the proposed new developments within the southeast quadrant of the Town of Amherstburg. The Class EA seeks to identify the potential adverse effects that the proposed servicing alternatives may have on the environment and implement a preferred solution which maximizes the use of the existing infrastructure and minimizes the effect on the environment.

The proposed construction methods being considered for the alternatives in this EA include:

- Linear Infrastructure – Watermains, Sanitary Gravity Sewers, Sanitary Forcemain
 - Open-cut trench excavation using excavators and trench boxes depending on depth, complete with backfill of trench with specified material compacted using vibrating construction equipment such as a hoe pack. Complete with restoration.
 - Trenchless installation by Horizontal Directional Drilling across roadways and under drains/creeks. May require excavated/structurally supported drill pits. Complete with restoration.
 - Possible installation with protective steel casing across roadways, drains/creeks by jacking and boring method. May require excavated/structurally supported bore pits. Complete with restoration.



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Anticipated Impacts and Mitigation Measures

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- Pumping Station
 - Excavation for the pumping station shall be carried out in an excavation protection system (i.e., cofferdam). Supply and installation of excavation protection system including steel sheet piling, wales, braces, plates, tie rods, bolts, nuts, and welding, etc.
 - Assessment of existing soil conditions and selection of proper piling driving equipment for a successful installation.
 - Contractor to modify piling driving technique and equipment as required to maintain an acceptable level of ground vibration depending on the sensitivity of the surrounding area.
 - Driving sheet piling sections, interlocking all sections.
 - Installation of structural steel wales, struts, bracings, and tie rods as required.
 - Pouring concrete working mat on bottom of cofferdam excavation.
 - Installation of dewatering facilities as required for cofferdams.

6.2 RELATIONSHIP TO THE PROJECT

Given the proposed undertaking, the evaluation of potential impacts was undertaken where a component of the heritage resource was positioned within the Study Area and within 50 metres of the project location. Both built heritage resources and cultural heritage landscape components were considered in determining whether the heritage resource is within the 50-metre buffer. No impacts are anticipated to identified heritage resources beyond the 50-metre buffer and so these are not considered further in the impact assessment presented below in Section 6.3. The positions of heritage resources are outlined in relation to the Study Area in Table 1 and on Figure 10.

No removals of built heritage resources (e.g. residences or barns) or cultural heritage landscape elements (e.g. tree lined driveways or historic fence rows) are planned as construction activity will be within the right of way and temporary work areas as depicted on Figures 1, 9, and 10. Accordingly, the anticipated impacts resulting from the proposed undertaking are limited to the potential for construction-related ground vibration on built heritage resources. As discussed in Section 2.5, a 15 metre buffer is recommended as an appropriate distance from sanitary and water system construction activities.

6.3 ANTICIPATED IMPACTS

Where a component of a cultural heritage resource was situated within the study area, the impacts of the proposed undertaking on identified heritage attributes were evaluated (Table 2). The impacts, both direct and indirect, were evaluated according to *InfoSheet #5: Heritage Impact Assessments and Conservation Plans from the Heritage Resources in the Land Use Planning Process Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Government of Ontario 2006b). See Section 2.5 for further discussion of impacts assessed.



**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

Anticipated Impacts and Mitigation Measures

January 8, 2019

Table 2: Evaluation of Potential Impacts

Address	Direct Impact		Indirect Impact					Discussion
	Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbances	
441 Lowes Sideroad (BHR-1)	N	P	N	N	N	N	N	<p>The BHR is positioned outside of the project location but within 15 metres. The project location is positioned in the adjacent right of way and extends onto the BHR property. Project components are proposed north and west of the residence within 50 metres. Heritage attributes within 50 metres of the project location include those associated with the residence. The position of the residence within 15 metres of the project location has the potential for indirect impacts resulting from vibrations during construction activities.</p> <p>Therefore, measures must be prepared to mitigate potential indirect impacts.</p>
2568 Concession Road 2 South (CHL-1)	N	P	N	N	N	N	N	<p>The CHL is positioned within the project location where linear infrastructure is proposed to be installed through the property, resulting in alterations during the construction period. Project components are proposed north of the residence and outbuildings where open agricultural fields are located. Heritage attributes within 50 metres of the project location include agricultural fields and outbuildings, although the outbuildings are beyond 15 metres of the project location.</p> <p>Therefore, measures must be prepared to mitigate potential direct impacts.</p>
Streetscape along Concession Road 2 South (CHL-2)	N	P	N	N	N	N	N	<p>The CHL is positioned within the project location where linear infrastructure is proposed to be installed through the roadway, resulting in alterations during the construction period. Project components are proposed along the northern portion of the roadway. Heritage attributes within 50 metres of the project location include the gravel road. Alterations are anticipated to install the linear infrastructure of the project along the north section of Concession Road 2 South.</p> <p>Therefore, measures must be prepared to mitigate potential direct impacts.</p>

Notes

N = Impacts not anticipated, P= Potential for impact, A = Impacts anticipated



**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

Anticipated Impacts and Mitigation Measures
January 8, 2019

6.4 SUMMARY OF IMPACTS

Table 3 identified potential and anticipated impacts to cultural heritage resources within the study area. There is potential for impacts at each of the identified BHR or CHLs. Direct impacts include the alteration of cultural heritage resources as a result of the proposed project activities. These impacts are associated with construction activities, and are expected to be temporary in nature, and reversible. Paving and road changes may occur along Concession Road 2 South as a result of future subdivision plans. However, these changes are outside the scope of this EA and as a result are not assessed.

Where impacts are identified, mitigation measures are required to reduce adverse impacts of the proposed development on cultural heritage resources. Mitigation measures are discussed in Section 7.0.



Mitigation
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7.0 MITIGATION

7.1 INTRODUCTION

Where potential impacts are identified, measures to mitigate them have been prepared. The impetus for avoidance of impacts comes from the PPS (see Section 2.1). The PPS requires conservation of “significant” heritage resources as well as the “heritage attributes of the protected heritage property” (see Section 2.1 for full excerpts of requirements). Precautions are required to conserve heritage resources through avoidance and mitigation where the potential for a Project to impact heritage resources has been identified. Therefore, the below mitigation options have been developed to provide for the conservation of heritage attributes of all heritage resources. These are based on mitigation or avoidance measures developed by the MTCS and contained within InfoSheet #5 (Government of Ontario 2006). See Section 2.6 for further discussion of mitigation methods assessed, and Table 3 below.

The proposed undertaking involves installation of linear infrastructure for sanitary and water servicing to the area. As the land will be returned to its current state in most locations, anticipated impacts are related to the construction phase of the Project. Where potential impacts have been identified, components of heritage resources are positioned within the 50-metre buffer but outside the area where project activities are anticipated. Therefore, a preventive approach to mitigation measures will best serve to reduce the risk of indirect impacts. Table 5 contains a summary of the evaluation of mitigation options.

Generally, retention *in situ* is the preferred option when addressing any structure where cultural heritage value or interest has been identified, even if limited. BHR-1 is located adjacent to the project location and it is not at risk of removal and will be retained intact. Alterations may occur to CHL1 and 2, as linear infrastructure will be constructed along the roadway or through the fields.

Table 3: Evaluation of Mitigation and Avoidance Options

Methods	Discussion
Alternative Development	The current approach involves minimal land disturbance, and alternative developments are not required.
Isolation of Development	Isolation of Project construction activities from the CHRs will prevent unanticipated direct and indirect impacts.
Harmonization of Design Guidelines	The Project will not introduce any above ground features adjacent to CHRs and will return the landscape to current conditions. Therefore, no additional design guidelines are required.
Limitation of Construction	The Project will not introduce any above ground features adjacent to CHRs and will return the landscape to current conditions. Therefore, no limitations on height or density of construction are required.
Compatible Additions	The Project will not introduce any above ground features adjacent to CHRs and will return the landscape to current conditions. Therefore, compatible additions are not required.



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SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

Mitigation
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Table 3: Evaluation of Mitigation and Avoidance Options

Methods	Discussion
Reversible Alterations	The Project will not introduce any above ground features adjacent to CHRs and will return the landscape to current conditions. Therefore, alterations to the landscape do not need to be considered.
Planning Mechanisms	Various planning mechanisms have been introduced to the Project to evaluate impacts of the Project on multiple aspects of the surrounding environment. As these mechanisms pertain to heritage resources, the use of a buffer surrounding the project location is the most significant planning mechanism. The use of buffer zones on construction maps to indicate where a heritage resource is positioned within the project location will indicate to construction crews the need for complete avoidance of construction activities in the vicinity of the resource. The depiction of buffer zones on construction mapping should be used only where a heritage resource has been identified within the buffer zone. Where this occurs, physical markers will be used during Project activities to demarcate the appropriate buffer zone.

7.2 441 LOWES SIDEROAD (BHR-1)

The BHR at 441 Lowes Sideroad is located outside of the project location, but within at least 15 metres of the proposed existing road. The resource is not at risk of removal and will be retained intact. Therefore, a preventive approach through the use of planning mechanisms will best serve to reduce the risk of potential direct impacts.

To minimize negative indirect impacts, the cultural heritage resources should be isolated from construction activities. This can be achieved through site plan controls put in place prior to construction which avoid potential indirect impacts as a result of the Project. The site plan control methods may include construction fencing, traffic cone or pylon delineation, or taped off areas to indicate where Project activities will occur. These controls should be indicated on all construction mapping and communicated to the construction team leads to minimize the potential of construction activity or crews indirectly impacting identified cultural heritage resources.

Where construction activities cannot be avoided within the a 15 metre buffer zone, as is anticipated to be the case with BHR-1, activities should not exceed maximum acceptable vibration levels, or peak particle velocity (PPV) levels, as determined by a qualified engineer. Establishing the PPV threshold should occur prior to any construction activities (pre-construction survey). A building condition specialist should make determinations on the appropriate approach to establish baseline conditions.

7.3 2568 CONCESSION ROAD 2 SOUTH (CHL-1)

2568 Concession Road 2 South has been identified as a CHL, containing 19th century farm dwelling, outbuildings, and surrounding agricultural fields. The project location travels through a section of agricultural fields more than 100 metres north of the residence and outbuildings. Heritage attributes of CHL include the agricultural fields.



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Mitigation

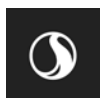
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Alterations during the construction phase should be mitigated by restoring the property to its pre-construction condition. Photographic documentation should be undertaken prior to beginning construction in order to provide a record on which to base post-construction restoration.

7.4 CONCESSION ROAD 2 SOUTH STREETSCAPE (CHL-2)

Concession Road 2 South has been identified as a CHL and is a representative rural streetscape including narrow gravel road, surrounding agricultural fields, and farms. The project location includes a section of Concession Road 2 South, south of Lowes Sideroad, where linear infrastructure is proposed to be installed within the road right of way.

Alterations during the construction phase should be mitigated by documenting the pre-construction conditions of the CHL. Photographic documentation should be undertaken prior to beginning construction in order to provide a record of the CHL in anticipation of changes during this EA. While pre-construction conditions may be returned to following the installation of linear infrastructure, it is recognized that future development plans in the area may result in changes to the streetscape and surrounding area. These changes are outside the scope of this EA and are therefore not assessed. However, given the pending changes to the landscape, photo documentation of the CHL is an appropriate mitigation measure as part of the EA process.



CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Recommendations
January 8, 2019

8.0 RECOMMENDATIONS

8.1 CONSTRUCTION MONITORING AND PRE-CONDITION RESTORATION

Based on the adverse impacts identified to cultural heritage resources outlined above, it is recommended that the following mitigation measures be implemented:

- Prepare vibration studies for heritage attributes of BHR-1 located within the study area by a qualified engineer to determine the maximum acceptable vibration levels, or peak particle velocity (PPV) levels and the appropriate buffer distance between Project activities and CHRs if construction activities are anticipated to be within 15 metres of the residence
- Provide construction marking to define the areas around BHR-1 where construction should not occur, based on the results of the vibration study
- Monitor construction within the defined area at appropriate points to confirm that acceptable PPV levels are not exceeded; all construction activities should cease if levels are exceeded until an acceptable solution can be identified
- Prepare pre-condition documentation for CHL-1 and following construction restore CHL-1 to pre-condition state based on pre-condition documentation
- Prepare pre-condition documentation for CHL-2 and following construction restore CHL-2 to pre-condition state based on pre-condition documentation

8.2 DEPOSIT COPIES

To assist in the retention of historic information, copies of this report and any future documentation reports should be deposited with local repositories of historic material and municipalities. Therefore, it is recommended that this report be deposited at the following locations:

Essex County Public Library
232 Sandwich Street South
Amherstburg, ON
N9V 2A4

Amherstburg Heritage Committee
Libro Credit Union Centre
3295 Meloche Road
Amherstburg, ON
N9V 2Y8

Town of Amherstburg
271 Sandwich Street South
Amherstburg, ON
N9V 2A5



**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

Closure

January 8, 2019

9.0 CLOSURE

This report has been prepared for the sole benefit of The Town of Amherstburg, and may not be used by any third party without the express written consent of Stantec Consulting Ltd. Any use which a third party makes of this report is the responsibility of such third party.

We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Yours truly,

STANTEC CONSULTING LTD.



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CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Sources

January 8, 2019

10.0 SOURCES

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**CULTURAL HERITAGE ASSESSMENT REPORT, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY**

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**APPENDIX A:
CULTURAL HERITAGE
RESOURCE/LANDSCAPE RECORD
FORM - CULTURAL HERITAGE
LANDSCAPES**



Location: Streetscape along Fryer Street from south of Simcoe Street south to Lowes Side Road and Concession Road 2 South Intersection.

Former Township or County: Malden Township

Municipality: Town of Amherstburg

Resource Type: Streetscape

Associated Dates: 19th century-2008

Relationship to Project: Within Study Area

Description: This streetscape contains sections of Fryer Street and the intersections of Fryer Street with Pickering Drive, McCurdy Drive, Briar Ridge Avenue, Crownridge Boulevard, and Lowes Side Road and Concession Road 2 South. Fryer Street is a two-lane paved road with a gravel shoulder on the eastern side and no shoulder and concrete sidewalk on the western side. Utility poles and free-standing street lighting run along the west side of the road.

Adjacent to the east side of the road is a school, built in 2008, with the municipal address 365 Fryer Street, and a mid-20th century residence with the municipal address 569 Fryer Street. The remainder of the land on the east side of Fryer Street is part of a single agricultural operation.

Adjacent to the west side of the road are mid-20th century residences south to McCurdy Drive. These residences run from municipal address 376 to 454 Fryer Street. South of McCurdy Drive the residences date to the 1980s or 1990s and do not have front yards that face Fryer Street, with the exception of three modern residences constructed between the late 1980s and 2016. Within 100 metres of the intersection of Fryer Street, Lowes Side Road, and Concession Road 2 South, Fryer Street has two mid-20th century residences on the west side of the road with municipal addresses 628 and 620 Fryer Street.



Client/Project
Town of Amherstburg Municipal Class Environmental Assessment (Class EA) - Southeast Quadrant Sanitary and Water Servicing Study

Figure
A

Title: Cultural Heritage Resource/Landscape Record Form

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or		✓
iii. Demonstrates or reflects the work, or ideas of an architect, artist, builder, designer or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest: N/A

Identified Heritage Attributes: None

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: March 7, 2018



Client/Project
Town of Amherstburg: Municipal Class Environmental
Assessment (Class EA) – Southeast Quadrant Sanitary and
Water Servicing Study

Figure A

Title

Cultural Heritage Resource /
Landscape Record Form

Location: Streetscape along Lowes Side Road from just west of intersection of Fryer Street and Concession Road 2 South east to Meloche Road

Former Township or County: Malden Township

Municipality: Town of Amherstburg

Resource Type: Streetscape

Associated Dates: 19th century-2015

Relationship to Project: Within Study Area

Description: The streetscape contains sections of Lowes Side Road. Lowes Side Road is a two-lane paved road with asphalt with gravel shoulders. Both sides of the roads have drainage ditches. The bridge over the 2nd Concession Road Drain South is a previously identified potential heritage resource. Utility poles run along the north side of the road. There is no municipal streetlighting on the road, except at the intersection of Fryer Street, Lowes Side Road, and Concession Road 2 South and the intersection of Lowes Side Road and Meloche Road.

Adjacent to the road there are residences, a private sports club, and the 2nd Concession Road Drain South. These properties have the following municipal addresses, 344 Lowes Side Road, a early to mid-20th century one storey residence, 352 Lowes Side Road, a mid-20th century ranch style residence, 425 Lowes Side Road, a modern residence, 441 Lowes Side Road, a late 19th to early 20th century residence with outbuildings, identified previously as BHR-1, 468 Lowes Side Road, the Amherstburg Malden Anderdon Sportsmen Association, a modern building, 484 Lowes Side Road, a mid-20th century ranch style residence, and 517 Lowes Side Road, a mid-20th century ranch style residence.

The predominant feature of this streetscape is agricultural. A portion of the land is also owned by Amherst Quarries, though this land in the study area also appears to be actively farmed.



Stantec

Client/Project
Town of Amherstburg Municipal Class Environmental
Assessment (Class EA) – Southeast Quadrant Sanitary and
Water Servicing Study

Figure

A

Title

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met

1. The property has design value, or physical value because it,	Yes	No
i. <u>Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method</u>		✓
ii. <u>Displays a high degree of craftsmanship, or artistic merit, or</u>		✓
iii. <u>Demonstrates a high degree of technical, or scientific achievement.</u>		✓
2. The property has historical value or associative value because it,		
i. <u>Has direct associations with a theme, event, belief, person, activity organization or institution that is significant to a community,</u>		✓
ii. <u>Yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or</u>		✓
iii. <u>Demonstrates or reflects the work, or ideas of an architect, artist, builder, designer or theorist who is significant to a community.</u>		✓
3. The property has contextual value because it,		
i. <u>Is important in defining, maintaining, or supporting the character of an area,</u>		✓
ii. <u>Is physically, functionally, visually, or historically linked to its surroundings, or</u>		✓
iii. <u>Is a landmark.</u>		✓

Draft Statement of Cultural Heritage Value or Interest: N/A

Identified Heritage Attributes: None

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: March 7, 2018



Client/Project
Town of Amherstburg Municipal Class Environmental
Assessment (Class EA) – Southeast Quadrant Sanitary and
Water Servicing Study

Figure A

Title

**Cultural Heritage Resource /
Landscape Record Form**

Location: Streetscape along Concession Road 2 South from Lowes Side Road to 2568 Concession Road 2 South

Former Township or County: Malden Township

Municipality: Town of Amherstburg

Resource Type: Streetscape

Associated Dates: 19th century-2015

Relationship to Project: Within Study Area

Description: The streetscape contains sections of Concession Road 2 South from its start at the intersection of Lowes Side Road, Fryer Street, and Concession Road 2 South, south to 2568 Concession Road 2 South. Concession Road 2 South is a one lane gravel road with no shoulder and drainage ditches on each side. The road is a dead end. Utility poles run along the east side of the road. The road has no municipal street lighting.

Adjacent to the road there is a residence and a farmstead. These properties have the following municipal addresses: 2501 Concession Road 2 South, a modern residence constructed in the 2010s, and 2568 Concession Road 2 South, a late 19th to early 20th century residence and farmstead.

The predominant feature of this landscape are the agricultural fields on both the west and east side of Concession Road 2 South. Together with the gravel road and 19th to early 20th century residence the landscape constitutes a relict landscape. This is the only gravel paved road in the study area and 2568 Concession Road 2 South is the oldest residence adjacent to the project location.



Stantec

Client/Project
Town of Amherstburg Municipal Class Environmental
Assessment (Class EA) – Southeast Quadrant Sanitary and
Water Servicing Study

Figure

A

Title: Cultural Heritage Resource/Landscape Form

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,	✓	
ii. Is physically, functionally, visually, or historically linked to its surroundings, or	✓	
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest: This streetscape mostly dates to the late 19th and early 20th century. The streetscape is important in defining and supporting the rural character of the study area, and is physically and historically linked to its surroundings.

Identified Heritage Attributes: Gravel road, agricultural fields, farmstead

Identification of Cultural Heritage Value or Interest (CHVI): Yes

Heritage Resource/Landscape Number: CHL-2

Completed by (name): Frank Smith

Date Completed: March 7, 2018



Stantec

Client/Project
Town of Amherstburg Municipal Class Environmental
Assessment (Class EA) – Southeast Quadrant Sanitary and
Water Servicing Study

Figure: A

Title

**Cultural Heritage Resource /
Landscape Record Form**

**APPENDIX B:
CULTURAL HERITAGE
RESOURCE/LANDSCAPE RECORD
FORM - BUILT HERITAGE RESOURCES**



Municipal Address: 2568 Concession Road 2 South

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Farmstead

Associated Dates: 1880-1910

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey residence and modern outbuildings. The residence is a one and a half storey structure with a medium pitched gambrel roof, brick chimney, and asphalt shingles. The south elevation has a shed roof dormer. The exterior is clad in modern siding and has modern 1/1 and casement windows. The residence has a partial concrete block entrance porch. The rear elevation has a shed roof addition with a concrete foundation. The residence has a basement and rusticated concrete foundation.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, <u>representative</u> , or early example of a style, type, expression, material, or construction method	✓	
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in <u>defining, maintaining, or supporting</u> the character of an area,	✓	
ii. Is <u>physically</u> , functionally, visually, or <u>historically</u> linked to its surroundings, or	✓	
iii. Is a landmark.		✓



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Draft Statement of Cultural Heritage Value or Interest:

This residence on a farmstead dates to between 1880 and 1910. It is a representative style of a late 19th or early 20th century Ontario vernacular residence. This residence supports the rural character of the area and is physically and historically linked to this portion of the study area.

Identified Heritage Attributes: Residence: Gambrel roof with shed dormer, brick chimney, rusticated concrete foundation. Farmstead: Agricultural fields.

Identification of Cultural Heritage Value or Interest (CHVI): Yes

Heritage Resource/Landscape Number: CHL-1

Completed by (name): Frank Smith

Date Completed: 3/7/2018 19:05



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
Cultural Heritage Resource /
Landscape Record Form

Municipal Address: 376 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence with a low pitched hip and side gable roof, brick chimney, and asphalt shingles. The exterior is clad in brick and modern siding. The residence has a picture window and horizontal sliding windows. The residence has a partial concrete porch and basement. The foundation is not visible. The property contains an asphalt driveway and intermediate spruce and maple trees.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:25



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 380 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence with a medium pitched hip and side gable roof. The roof is clad in asphalt shingles. The exterior is clad in modern siding and brick. The residence has horizontal sliding windows and a casement window. The horizontal sliding windows have modern shutters. The residence has a partial concrete entrance porch with metal columns. The residence has a basement. The foundation of the residence is not visible. Property has a concrete driveway.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:30



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 384 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a medium pitched hip and side gable roof. The exterior of the residence is clad in siding and brick. The residence has horizontal sliding windows and a large casement window. The basement windows have concrete windowsills. The residence has a partial wooden entrance porch and a concrete foundation. The property has an intermediate maple tree.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:32



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 396 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a hip roof with a brick chimney and asphalt shingles. The exterior is clad in modern siding, stone, and brick. The residence has casement windows. The basement and first storey windows have concrete windowsills. The foundation of the residence is obscured. The property has small maple trees.



**Indicators of Cultural Heritage Value or Interest from
O. Reg. 9/06:**

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:34



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 400 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a low pitched hip and gable roof with asphalt shingles. The exterior is clad in modern siding and brick. The residence has horizontal sliding windows, modern shutters, and the basement and first storey windows have brick windowsills. The residence has a partial concrete entrance porch. The foundation is obscured. The property has a small tree and flagpole.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:35



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 406 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey residence with a low pitched hip and gable roof with asphalt shingles. The exterior is clad in modern siding and brick. The residence has horizontal sliding windows with brick windowsills. The residence has a partial concrete entrance porch. The foundation of the residence is obscured.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:39



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 410 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one a half storey residence with a low pitched hip roof and asphalt shingles. The exterior is clad in brick and modern siding. The residence has casement windows and a picture window. The residence has a partial concrete entrance porch with a metal railing and wooden columns. The foundation of the building is not visible.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:

N/A

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest

(CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:41



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title

Cultural Heritage Resource /
Landscape Record Form

Municipal Address: 414 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a medium pitched hip and side gable roof with a brick chimney and asphalt shingles. The exterior is clad in brick and modern siding. The residence has horizontal sliding windows and a bay window with concrete windowsills and modern shutters. The residence has a partial concrete entrance porch and a concrete foundation.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

**Identification of Cultural Heritage Value or Interest
(CHVI):** No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:43



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 418 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a medium pitch hip and side gable roof with a brick chimney and asphalt shingles. The exterior is clad in brick and modern siding. The residence has horizontal sliding windows with modern shutters and concrete windowsills on the upper storey. The residence has a partial concrete entrance porch. The foundation of the residence is not visible. The property has a mature blue spruce tree.

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:45



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 422 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a medium pitched hip and side gable roof with asphalt shingles. The exterior is clad in brick and modern siding. The residence has horizontal sliding windows and a picture window. The windows have modern shutters and the horizontal sliding windows have brick windowsills. The residence has a partial concrete entrance porch with a railing and columns. The residence has a concrete foundation. The property has an intermediate maple tree.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:47



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 428 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a low pitched hip roof and asphalt shingles. The exterior is clad in brick. The residence has modern windows. The residence has an entrance porch with columns and a railing. The basement level of the residence has a garage. The residence has a concrete block foundation. The property is landscaped with an ornamental garden.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:49



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 432 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a low pitched hip roof and asphalt shingles. The exterior is clad in brick. The residence has horizontal sliding windows with concrete windowsills. The residence has a concrete foundation with a basement. Property has flowering bushes, including Rose of Sharon. Property has garage outbuilding.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:56



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 436 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a two storey residence with a mansard and low pitched gable roof. The roof has asphalt shingles. The exterior is clad in brick, shingles, and modern siding. The residence has horizontal sliding windows with concrete windowsills and a picture window with modern shutters. The residence has a partial stone clad entrance porch. The foundation of the building is not visible.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

**Identification of Cultural Heritage Value or Interest
(CHVI):** No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:51



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 440 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and half storey split level residence with a low pitched hip and gable roof with asphalt shingles. The exterior is clad in brick and modern siding. The residence has modern 6/6 windows with modern shutters. The windows on the basement level and first storey have concrete windowsills. The residence has a partial wooden entrance porch and a concrete block foundation. The property has intermediate maple trees.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:54



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 444 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence. The residence has a medium pitched cross gable roof with a metal chimney and asphalt shingles. The exterior is clad in modern siding and brick. The residence has horizontal sliding windows and picture window. Basement windows and first storey windows have a concrete windowsill. The residence has partial concrete entrance porch and concrete foundation. The property has a hip roof modern outbuilding.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 16:58



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 450 fryer street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence with a low-pitched hip roof, brick chimney, and asphalt shingles. The exterior is clad in stone and modern siding. The residence has casement windows, with modern shutters on the upper storey and basement level. The basement windows and first storey windows have concrete windowsills. The residence has a partial concrete entrance porch. The foundation is not visible. The property has two mature red maple trees.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 17:14



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 454 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence with a front facing and side gable roof with medium pitches. The roof has a brick chimney, metal chimney, and asphalt shingles. The exterior of the residence is clad in brick and modern siding. The residence has horizontal sliding windows and 1/1 windows with concrete windowsills. The residence has a partial wooden entrance porch with railing. The residence has a concrete foundation.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 17:12



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 569 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1950-1961

Relationship to Project: Within Study Area

Description: This property contains a one storey residence. The structure has a low pitched hip roof with a metal chimney. The exterior is clad in modern siding. The residence has modern windows with concrete windowsills. The structure has a partial concrete porch and concrete foundation. The property has two intermediate maples.

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None Identified.

Identification of Cultural Heritage Value or Interest (CHVI): No



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 17:36



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 620 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1950-1961

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a low-pitched hip roof with a gable peak. The roof is clad in asphalt shingles. The exterior is clad in modern siding. The residence has fixed windows, horizontal sliding windows, and an octagonal window. The residence has a basement and a concrete foundation. The property has a gable roof garage outbuilding and an octagonal outbuilding with a hip roof. Property has trees of intermediate and mature sizes.

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:22



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 628 Fryer Street

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1950-1961

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a steeply pitched cross gable roof with asphalt shingles. The exterior is clad in modern siding. The residence has horizontal sliding windows, 1/1 windows, and a picture window. The residence has an entrance with a wooden door casing. The residence has a partial wooden entrance porch and a concrete foundation. The property has mature trees and an outbuilding with a flat roof and six pane glass window.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:18



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 344 Lowes Side Road

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1924-1961

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a medium pitched side gable roof, metal chimney and asphalt shingles. The exterior of the residence is clad in modern siding. The residence has 1/1 windows. The residence has a flat roof addition at the front elevation and a shed roof addition at the rear elevation. The foundation of the residence is not visible. The property has mature trees and a modern outbuilding with a metal roof and two garage doors.

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

Identified Heritage Attributes: None

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:11



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 352 Lowes Side Road

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1955-1961

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a medium pitched side gable roof with asphalt shingles. The exterior is clad in modern siding. The residence has 1/1 windows, an attached garage, and a partial wooden entrance porch. The foundation of the residence is concrete.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:14



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 441 Lowes Side Road

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Farmstead

Associated Dates: 1880-1910

Relationship to Project: Within Study Area

Description: This property contains a two storey residence with a high pitched cross gable roof with asphalt shingles. The exterior is clad in modern siding. The residence has 1/1 windows and picture windows. The residence has a partial wooden entrance porch with columns and railing. The foundation of the building is not visible. The property has a cross gable barn and garage outbuilding, and an additional outbuilding that possibly has a car portal. The property has a tree lined driveway.

Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, <u>representative</u> , or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is <u>physically</u> , functionally, visually, or <u>historically</u> linked to its surroundings, or	✓	
iii. Is a landmark.		✓



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Draft Statement of Cultural Heritage Value or Interest:

This two storey residence dates to the late 19th or early 20th century. It is physically and historically linked to the agricultural character of this portion of the study area.

Identified Heritage Attributes: Residence: two storeys, cross gable roof.

Identification of Cultural Heritage Value or Interest (CHVI): Yes

Heritage Resource/Landscape Number: BHR-1

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:55



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 484 Lowes Side Road

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1955-1973

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a low-pitched side gable roof with asphalt shingles and a metal chimney. The exterior of the building is clad in modern siding. The residence has 1/1 windows, and a wooden entrance porch with wooden columns. The residence has a concrete foundation. The property has a double garage outbuilding with a side gable roof and tree screens on east and west sides property boundaries.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:33



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 517 Lowes Side Road

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1961-1974

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a low-pitched hip roof, brick chimney, and asphalt shingles. The exterior is clad in red brick. The residence has 1/1 windows, a picture window, and brick windowsills. The foundation of the building is obscured. The property has a hip roof double garage outbuilding and mature trees.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:50



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: Lowes Side Road Bridge over 2nd Concession Road Drain

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Bridge

Associated Dates: Early to Mid-20th Century

Relationship to Project: Within Study Area

Description: The property contains a one span concrete bridge with concrete abutments. It carries Lowes Side Road over the 2nd Concession Road Drain. The bridge has concrete railing, metal guardrails at both approaches, and an asphalt wearing surface.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.

Identification of Cultural Heritage Value or Interest (CHVI): No



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 18:37



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 353 McCurdy Drive

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one and a half storey split level residence with a medium pitched hip and side gable roof, metal chimney, and asphalt shingles. The exterior is clad in modern siding and stone. The residence has casement windows and a bay window. The windows on the first storey have concrete windowsills. The residence has a partial concrete entrance porch and a concrete foundation.



Indicators of Cultural Heritage Value or Interest from

O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

Cultural Heritage Resource /
Landscape Record Form

Identification of Cultural Heritage Value or Interest (CHVI): No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 17:04



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

Municipal Address: 354 McCurdy Drive

Former Township or County: Malden Township

Municipality: Amherstburg

Resource Type: Residence

Associated Dates: 1962-1973

Relationship to Project: Within Study Area

Description: This property contains a one storey residence with a low pitched side gable roof. The exterior is clad in brick and modern siding. The residence has a bay window and 1/1 windows with modern shutters and concrete windowsills. The rear elevation has a side gable addition. The residence has an attached garage and modern outbuilding. The residence has a basement and a concrete foundation. The property has a small beech tree.



Indicators of Cultural Heritage Value or Interest from O. Reg. 9/06:

Underline denotes which specific criteria is met.

1. The property has design value, or physical value because it,	Yes	No
i. Is a rare, unique, representative, or early example of a style, type, expression, material, or construction method		✓
ii. Displays a high degree of craftsmanship, or artistic merit, or		✓
iii. Demonstrates a high degree of technical, or scientific achievement.		✓
2. The property has historical value, or associative value because it,		
i. Has direct associations with a theme, event, belief, person, activity organization, or institution that is significant to a community,		✓
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community, or culture, or		✓
iii. Demonstrates, or reflects the work, or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.		✓
3. The property has contextual value because it,		
i. Is important in defining, maintaining, or supporting the character of an area,		✓
ii. Is physically, functionally, visually, or historically linked to its surroundings, or		✓
iii. Is a landmark.		✓

Draft Statement of Cultural Heritage Value or Interest:
N/A

Identified Heritage Attributes: None.



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure
B
Title

**Cultural Heritage Resource /
Landscape Record Form**

**Identification of Cultural Heritage Value or Interest
(CHVI):** No

Heritage Resource/Landscape Number: N/A

Completed by (name): Frank Smith

Date Completed: 3/7/2018 17:07



Client/Project
TOWN OF AMHERSTBURG
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (CLASS EA) -
SOUTHEAST QUADRANT SANITARY AND WATER SERVICING STUDY

Figure

Title
**Cultural Heritage Resource /
Landscape Record Form**

