

APPENDIX 1 – ENVIRONMENTAL REPORT



**NPS 12 East Sixteen Mile
Creek Pipeline Replacement
Project:
Environmental Report**

FINAL REPORT

Prepared for:
Sun-Canadian Pipe Line Company

Prepared by:
Stantec Consulting Ltd.
1-70 Southgate Drive
Guelph ON N1G 4P5

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Sign-off Sheet

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Prepared by _____
(signature)

Emily Hartwig, B.Sc., EP
Environmental Scientist

Prepared by _____
(signature)

Michael Candido, B.Sc.(Env.)
Environmental Scientist – Assessment and Permitting

Reviewed by _____
(signature)

Rooly Georgopoulos, B.Sc.
Principal - Environmental Services

Reviewed by _____
(signature)

David Wesenger, BES
Operations Leader – Environmental Services



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Executive Summary

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 Pipeline which crosses East Sixteen Mile (E16M) Creek in Milton, Ontario. Sun-Canadian is proposing to replace approximately 480 metres (m) of the existing pipeline in the vicinity of the creek crossing with a new section of pipe which will be installed at a depth that will eliminate three existing areas of shallow depth of cover. Part of the proposed pipeline replacement will be constructed outside of the existing easement with a new alignment to accommodate the installation of the pipe by a Horizontal Directional Drill (HDD). Construction of the replacement pipeline is planned to begin as early as Summer 2022 and be completed by the end of 2022.

Sun-Canadian has retained Stantec Consulting Ltd. (Stantec) to undertake an environmental study of the construction and operation of the proposed pipeline. The environmental study fulfills the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)* (OEB Environmental Guidelines). The environmental study included the identification of a preferred route, a consultation program, an impact assessment, and a cumulative effects assessment.

A route evaluation was undertaken to identify environmentally acceptable alternative routes and confirm a preferred route. The preferred route is currently illustrated within a general location. Sun-Canadian will undertake detailed design to determine the exact location of the running line, permanent easement, temporary land use requirements and road/watercourse crossings. Detailed design will also be influenced by supplemental studies (including environmental studies) and site-specific requests from landowners and agencies. In general, this micrositing exercise will seek to avoid sensitive natural and socio-economic features to the extent practicable.

A consultation program was conducted for the project to engage with landowners, municipalities, agencies, Indigenous communities, and other interested parties. The consultation program included a notice in a local newspaper, letters, and virtual meetings. Sun-Canadian and Stantec have also been in direct contact with agency and municipal staff. Sun-Canadian has committed to on-going consultation with directly affected and interested parties throughout the detailed design and construction phases and will continue to respond to concerns through the life of the project.

The potential effects and impacts of the project on physical, biophysical and socio-economic features have been assessed. In the opinion of Stantec, the recommended program of supplemental studies, mitigation and protective measures are considered sufficient to protect the features encountered.

Where appropriate, post construction monitoring will be conducted to assess whether mitigation and protective measures were effective in both the short and long term.



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The potential cumulative effects of the project were assessed by considering development that has a high probability of proceeding just prior to or concurrent with construction and operation of the project. The cumulative effects assessment determined that, provided the mitigation and protective measures outlined in this report are implemented and that concurrent projects implement similar mitigation and protective measures, potential cumulative effects are not anticipated to be significant.

With the implementation of the recommendations in this report, on-going communication and consultation, and adherence to permit, regulatory and legislative requirements, potential adverse residual environmental and socio-economic impacts of the project are not anticipated to be significant.



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Abbreviations

AA	Archaeological Assessment
ANSI	Area of Natural and Scientific Interest
BGS	Below ground surface
CA	Conservation Authority
CEA	Cumulative Effects Assessment
CH	Conservation Halton
CHAR	Cultural Heritage Assessment Report
CLI	Canada Land Inventory for Agriculture
COSSARO	Committee on the Status of Species at Risk in Ontario
DFO	Fisheries and Oceans Canada
EASR	Environmental Activity and Sector Registry
ECCC	Environment and Climate Change Canada
END	Endangered
ENDM	Ministry of Energy, Northern Development and Mines
ER	Environmental Report
ESA	<i>Endangered Species Act</i>
ESC	Erosion and Sediment Control
GIS	Geographic Information System
HADD	Harmful Alteration Disruption and Destruction
HDD	Horizontal Directional Drill
IPZ	Intake Protection Zone
LIO	Land Information Ontario
MBCA	<i>Migratory Birds Convention Act</i>
MECP	Ministry of Environment, Conservation and Parks
MNR	Ministry of Natural Resources
MNRF	Ministry of Natural Resources and Forestry



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MHSTCI	Ministry of Heritage, Sport, Tourism and Culture Industries
MTO	Ministry of Transportation
NHIC	Natural Heritage Information Centre
OBBA	Ontario Breeding Bird Atlas
OEB	Ontario Energy Board
OGS	Ontario Geological Survey
OHA	<i>Ontario Heritage Act</i>
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
OPCC	Ontario Pipeline Coordinating Committee
O. Reg.	Ontario Regulation
ORAA	Ontario Reptile and Amphibian Atlas
OWES	Ontario Wetland Evaluation System
PTTW	Permit to Take Water
PSW	Provincially Significant Wetland
RoW	Right-of-way
SAR	Species at Risk
SARA	<i>Species at Risk Act</i>
SC	Special Concern
SGRA	Significant Groundwater Recharge Area
Stantec	Stantec Consulting Ltd.
Sun-Canadian	Sun-Canadian Pipe Line Company
SWH	Significant Wildlife Habitat
THR	Threatened
WHPA	Wellhead Protection Area
WWR	Water Well Record(s)



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Introduction
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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 Pipeline which crosses East Sixteen Mile (E16M) Creek southeast of the intersection of Britannia Road and Trafalgar Road in Milton, Ontario. Sun-Canadian is proposing to replace approximately 480 metres (m) of the existing pipeline in the vicinity of the creek crossing with a new section of pipe which will be installed at a depth that will eliminate three existing areas of shallow depth of cover. Part of the proposed pipeline replacement will be constructed outside of the existing easement with a new alignment to accommodate the installation of the pipeline by Horizontal Directional Drill (HDD). Construction of the replacement pipeline is planned to begin as early as Summer 2022 and be completed by the end of 2022.

Sun-Canadian has retained Stantec Consulting Ltd. (Stantec) to undertake an environmental study of the construction and operation of the proposed pipeline. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)* (OEB Environmental Guidelines). The environmental study process included consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, a project webpage, and virtual meetings.

For the remainder of this report, the construction and operation of the proposed pipeline is referred to as 'the project'.

1.2 ENVIRONMENTAL STUDY

1.2.1 Objectives

A multidisciplinary team of environmental planners and scientists from Stantec conducted the environmental study. Sun-Canadian provided environmental support and engineering expertise throughout the study.

The environmental study was completed in accordance with the OEB Environmental Guidelines, as well as relevant provincial and federal environmental guidelines and regulations.



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The principal objective of the environmental study was to identify an environmentally preferred route and outline various environmental mitigation and protection measures for the construction and operation of the project while meeting the intent of the OEB Environmental Guidelines. To meet this objective, the environmental study was prepared to:

- Identify a preferred route that reduces potential environmental impacts
- Complete a detailed review of environmental features along the preferred route and assess the potential environmental impacts of the project on these features
- Establish mitigation and protective measures that may be used to reduce or eliminate potential environmental impacts of the project
- Develop a consultation program to receive input from interested and potentially affected parties
- Identify any necessary supplemental studies, monitoring and contingency plans

1.2.2 Process

The environmental study was divided into three main phases:

Phase I: Identification of a Project Study Area and Preferred Route

The initial phase of the environmental study began by defining the project study area (Figure 1, Appendix A), the development of routing parameters and generating routing objectives. Routing was based on the location of the existing section of NPS 12 pipeline which crosses East Sixteen Mile Creek and the tie-in points where the replacement will connect to the existing pipeline. Environmental and socio-economic constraints and opportunities were evaluated through a detailed review of available literature, mapping and digital data, as well as engineering factors and constructability. Sun-Canadian determined a preferred route based on these criteria.

Phase II: Gather Information and Consultation

Phase II of the environmental study process was to gather relevant environmental and socio-economic background data relevant to the study area. Specific information requests were made to several agencies and stakeholders to assist with identifying environmental features, constraints, the potential for presence of Species at Risk (SAR) and their habitat. This data was used to develop mitigation and protective measures based on predicted effects and potential impacts. The gathering of information continued throughout the project.

Feedback on the proposed project was sought through newspaper notices and letters to agencies, municipal representatives, Indigenous communities, landowners and other stakeholders.



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Phase III: Environmental Report

The third phase involved determining potential environmental and socio-economic impacts and cumulative effects that would result from the project and developing mitigation and protective measures, supplemental studies, monitoring and contingency plans to avoid or reduce potential impacts. The environmental study concluded with the preparation of this Environmental Report (ER).

1.2.3 The Environmental Report

The environmental study has relied on technically sound and consistently applied procedures that are replicable and transparent. As previously noted, the study was undertaken in accordance with the OEB Environmental Guidelines, as well as relevant federal and provincial environmental guidelines and regulations. The ER, which documents the environmental study, will form the foundation for future environmental management activities related to the project.

The ER is organized into the following sections:

- 1.0 Introduction:** provides a description of the project and the environmental study
- 2.0 Route Selection:** provides an overview of the pipeline routing process
- 3.0 Consultation Program:** describes the consultation program
- 4.0 Impact Identification, Assessment and Mitigation:** describes the existing conditions, predicts potential effects and impacts, recommends supplemental studies, mitigation and protective measures, and considers net impacts
- 5.0 Cumulative Effects Assessment:** provides an analysis of potential cumulative effects associated with the proposed project
- 6.0 Monitoring and Contingency Plans:** describes monitoring and contingency plans to address potential environmental impacts of the proposed project
- 7.0 Conclusion:** provides a discussion and consideration of the potential environmental impacts associated with the proposed project

The ER also includes references, and appendices for documentation.

1.2.4 The OEB Regulatory Process

Once complete, the ER is circulated to affected municipalities, conservation authorities and to the Ontario Pipeline Coordinating Committee (OPCC) for their review and comment. The OPCC is an inter-ministerial committee that includes provincial government ministries, boards, and authorities with potential interest in the construction and operation of hydrocarbon transmission and storage facilities. The ER is also circulated to landowners, Indigenous communities, and other interested parties. The ER will support a future Sun-Canadian 'Leave-to-Construct' application to the OEB for the proposed project.



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Upon receiving the application, the OEB will hold a public hearing. Communication about the hearing will include notices in local newspapers and letters to directly affected landowners, both of which will outline how the public and landowners can get involved with the hearing process. If after the public hearing the OEB finds the project is in the public interest it will approve construction of the project. The OEB typically attaches conditions to approved projects. Sun-Canadian must comply with these conditions at all stages of the project, including construction, site restoration and operation.

1.2.5 Additional Environmental Regulatory Processes

Sun-Canadian will also be required to obtain additional environmental permits, approvals and notifications from federal, provincial and municipal agencies as outlined in Table 1-1 below. This ER will serve to support these permit and approval applications and notifications.



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Table 1-1: Summary of Potential Environmental Permits/Regulatory Requirements

Permit/Approval Name	Administering Agency	Description
FEDERAL PERMITS AND APPROVALS		
Clearing of Vegetation under the <i>Migratory Bird Convention Act</i> (MBCA) (1994)	Environment and Climate Change Canada (ECCC)	No permit is necessary; however, precautions need to be taken so that no breeding birds or their nests are harmed or destroyed during the bird nesting season (April 1 to August 31).
Review and authorization under the <i>Fisheries Act</i> (1985)	Fisheries and Oceans Canada (DFO)	DFO review and possible <i>Fisheries Act</i> authorization is required at watercourse crossings containing species protected under the <i>Species at Risk Act</i> (SARA) (2002). The DFO may authorize activities that have the potential to affect fish or mussel species protected under the SARA (2002). As per Section 35 (1) of the <i>Fisheries Act</i> (1985), "No person shall carry on any work, undertaking or activity that results in harmful alteration, disruption or destruction (HADD) of fish or fish habitat. As per Section 35 (2)(b) of the <i>Fisheries Act</i> (1985), there are some exceptions under which a person may carry on a work, undertaking or activity without contravening subsection (1), including an authorization from DFO, which typically includes a number of conditions.
Permitting under the <i>Species at Risk Act</i> (SARA) (2002)	DFO	As indicated in Section 32 (1) of the SARA (2002), "No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species." As indicated in Section 73 (1) of the SARA (2002), "The competent minister may enter into an agreement with a person, or issue a permit to a person, authorizing the person to engage in an activity affecting a listed wildlife species, any part of its critical habitat or the residences of its individuals."
PROVINCIAL PERMITS AND APPROVALS		
Development Permits under <i>Ontario Regulations 162/06</i> (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), as per the <i>Conservation Authorities Act</i> (1990)	Conservation Halton (CH)	Required for works within CH Regulated Areas, including shorelines, watercourses, wetlands and hazardous lands (flooding and erosion hazards, and unstable soils and bedrock).
Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR) (surface and	Ministry of the Environment, Conservation and Parks (MECP)	Under Ontario Regulation (O. Reg.) 64/16 and O. Reg. 63/16, the MECP requires a PTTW for dewatering in excess of 400,000 L/day, and an EASR for dewatering between 50,000 and 400,000 L/day. This can include construction dewatering and taking water for hydrostatic



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Table 1-1: Summary of Potential Environmental Permits/Regulatory Requirements

Permit/Approval Name	Administering Agency	Description
groundwater) under the <i>Ontario Water Resources Act</i> (1990)		testing from a pond, lake, etc. There are some exceptions for surface water takings where active or passive surface water diversions occur such that all water taken is returned to within another portion of the same surface water feature.
Permitting or registration under the <i>Endangered Species Act</i> (ESA) (2007)	MECP	An ESA permit or Registration is required for activities that could impact species protected under the ESA. Consultation will occur with the MECP to determine ESA permitting requirements. As indicated in Section 9 (1) a of the ESA (2007), “No person shall kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species.” As indicated in Section 17 (1), “the Minister may issue a permit to a person that, with respect to a species specified in the permit that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species, authorizes the person to engage in an activity specified in the permit that would otherwise be prohibited by section 9 or 10.”
Archaeological clearance under the <i>Ontario Heritage Act</i> (OHA) (1990)	Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)	A Stage 1-2 archaeological assessment (AA) is required along the Right-of-Way (RoW) and temporary land use areas to identify areas of archaeological potential prior to any ground disturbances and/or site alterations. Depending on the results of the Stage 1-2 AA, Stage 3 and 4 AA's may be required. The completed AA reports are forwarded to the MHSTCI for review and comment.
Review of Built Heritage and Cultural Landscape under the OHA (1990)	MHSTCI	Screening for impacts to built heritage and cultural heritage landscapes. Based on the results of the screening a Cultural Heritage Assessment Report (CHAR) maybe be completed to determine the presence of built heritage and cultural landscapes. If identified, a Heritage Impact Assessment is required to determine the effects of the project on heritage resources and recommend mitigation measures, if necessary.
MUNICIPAL PERMITS AND APPROVALS		
Noise Control By-Law 133-2012	Town of Milton	Project activities should adhere to the local noise by-law.
By-Law 32-17 to prohibit, restrict, and regulate access to the regional road system	Regional Municipality of Halton	Project activities that may require approval to use the regional road system.
Tree By-Law 121-05	Regional Municipality of Halton	Project activities that may require tree removal should meet the intent of the tree cutting by-law.



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Table 1-1: Summary of Potential Environmental Permits/Regulatory Requirements

Permit/Approval Name	Administering Agency	Description
Municipal Consent Permit	Regional Municipality of Halton	Project activities that may require authorization to occupy and install new infrastructure within a road Right-of Way.



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2.0 ROUTING

2.1 THE PROCESS

The route selection process was undertaken in accordance with the OEB Environmental Guidelines which identify the environmental and socio-economic features, and the routing principles, to be considered. The proposed pipeline replacement parallels the existing pipeline, utilizing a combination of proposed new easement and existing easement. The drill entry and exit points are located within the existing easement. The drill path is located within both the existing easement and the proposed new easement. The location of the replacement pipeline was determined by considering the confines of available space and the tie-in locations to the existing pipeline. Routing also considered socio-economic constraints, environmental considerations, and constructability while utilizing the most reasonably direct route.

2.2 ROUTING PARAMETERS

2.2.1 Study Area

The study area is the area within which direct interactions with the socio-economic and natural environment could occur. It is within this area that desktop information on socio-economic and environmental features has been collected. The tie in points (drill entry and exit pits) of the replacement pipeline defined the study area boundaries with a 500 m buffer applied to these locations and the preferred route.

Study area boundaries were established by considering the potential impacts of the route on important biophysical and socio-economic factors that may be affected by the project.

The study area is shown on Figure 1, Appendix A.

2.2.2 Routing Objectives

The overarching objective in the route selection process is that the selected route presents the least potential for adverse environmental and socio-economic impacts. The following principles support that objective:

1. Routes should follow a reasonably direct path between end-points to reduce length; in general, a shorter route will help eliminate or minimize the extent of most potential environmental and socio-economic impacts.
2. Routes should avoid sensitive environmental and socio-economic features wherever practicable; where such features cannot be avoided, routes should be located to minimize potential impacts.



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3. Existing linear infrastructure should be used or paralleled to the greatest extent feasible to minimize impacts on previously undisturbed environmental and socio-economic features and to limit constraints on future land development.
4. Where new easements are required, existing lot and property lines should be followed to the extent feasible to avoid deviations into previously undisturbed environmental and socio-economic features.

2.3 IDENTIFY PREFERRED ROUTE

The routing objectives were considered by Sun-Canadian and based on the alignment for the proposed pipeline it was determined the location of the preferred route (Figure 2, Appendix A) was environmentally acceptable and potential impacts could be mitigated. The preferred route is approximately 480 m long and will be constructed within a combination of existing easement and proposed new easement. The location of the south western tie-in is the HDD exit point approximately 380 m southwest of Trafalgar Road. The north eastern tie-in is the HDD entry point located approximately 100 m northeast of Trafalgar Road.

Opportunities and constraints were considered in routing the proposed replacement pipeline. Pipeline routing opportunities are existing features which provide a potential location for the alignment of a pipeline to avoid or reduce environmental or socio-economic impact. Pipeline routing constraints are existing features that meet the following criteria:

- Site-specific mitigation measures would be required to reduce potential effects
- The feature has been selected or designated for protection
- The feature has been recognized through local, regional, provincial, or federal policy, plan, or statute, or is otherwise valued as an environmental or socio-economic resource

Pipeline routing opportunities are limited to the existing easement. The pipeline routing constraints present are residences, businesses, engineering and constructability, and environmental features such as East Sixteen Mile Creek, riparian areas adjacent to East Sixteen Mile Creek and aquatic SAR in the creek.

An alternate that was considered was crossing East Sixteen Mile Creek by the open cut crossing method. This is less desirable than the proposed HDD crossing method as it would require physical disturbance to the watercourse and vegetation clearing on and adjacent to the watercourse banks. Additionally, there would be potential disturbance and impacts to aquatic SAR within the watercourse. Crossing by the HDD method reduces the potential environmental impacts. An open cut crossing would also result in disturbance to the property and residence immediately east of the watercourse because of construction equipment access requirements, construction techniques and engineering requirements associated with open cut crossings.



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Another alternate considered was locating the HDD entry pit between Trafalgar Road and East Sixteen Mile Creek. This however would have resulted in the disturbance to the residence and property immediately east of East Sixteen Mile Creek due to construction equipment access requirements, construction techniques and engineering requirements associated with HDD.

Crossing East Sixteen Mile Creek by the HDD crossing method reduces potential environmental impacts. Locating the HDD entry pit east of Trafalgar Road eliminates socio-economic impacts, because of construction requirements, to the residence west of Trafalgar Road.

2.4 CONFIRMATION OF THE PREFERRED ROUTE

Input on the preferred route was sought through consultation (see Section 3). No feedback was received that resulted in a revision to the preferred route location. Based on the environmental and socio-economic factors as outlined in Section 2.3, as well as constructability and engineering factors, the preferred route was confirmed. The preferred route is currently illustrated within a general location. Sun-Canadian will undertake detailed design to determine the exact location of the running line, permanent easement for the section of pipeline that is to be constructed outside of the current RoW, and temporary land use requirements. Detailed design will also be influenced by supplemental studies (including environmental studies) and site-specific requests from landowners and agencies. In general, this micrositing exercise will seek to avoid sensitive natural features to the extent practicable while considering utilities and infrastructure.



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3.0 CONSULTATION PROGRAM

3.1 OBJECTIVES

Consultation and engagement is an essential requirement of the OEB Environmental Guidelines. Consultation and engagement is the process of identifying interested and potentially affected parties and informing them about the project, soliciting information about their values and local environmental and socio-economic circumstances, and receiving advice about key project decisions before those decisions are finalized.

The consultation program for this project included the following objectives:

- Identify interested and potentially affected parties early in the process
- Inform and educate interested parties about the nature of the project, potential impacts, proposed mitigation measures and how to participate in the consultation program in a clear, concise, relevant and timely manner
- Provide a forum for the identification of issues
- Identify how input will be used in the planning stages of the project
- Summarize issues for resolution, and resolve as many issues as feasible
- Revise the program to meet the needs of those being consulted, as feasible
- Develop a framework for ongoing communication during the construction and operation phase of the project

3.2 IDENTIFYING INTERESTED AND POTENTIALLY AFFECTED PARTIES

The identification of interested and potentially affected parties was undertaken using a variety of sources, including the OEB's OPCC Members List, the MECP's Environmental Assessment Government Review Team Master Distribution List, and the experience of Sun-Canadian and Stantec. Indigenous communities were identified through provision of a Project Summary to the Ministry of Energy, Northern Development and Mines (ENDM) in June 2020 (see Appendix B1).

In addition, the parties listed below were among those considered when developing the initial stakeholder contact lists:

- Federal and provincial agencies and authorities, including the CH, and members of the OPCC
- Municipal personnel
- Special interest groups
- Indigenous communities



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- Directly affected and adjacent landowners

The initial contact list was updated as the environmental study progressed based on changes in personnel. The Agency and Indigenous Contact List is in Appendix B1.

Directly affected and adjacent landowners were identified through use of publicly available mapping and were tracked in a Landowner Contact List. Sun-Canadian also undertook direct consultation with landowners.

3.3 COMMUNICATION METHODS

3.3.1 Newspaper Notices

A Notice of Commencement was published on August 20, 2020 in the Milton Champion. The Notice introduced and described the project, provided a map, and listed project contact information.

A copy of the tear sheet from the newspaper notice is in Appendix B2

3.3.2 Letters and Emails

3.3.2.1 Notice of Commencement

Notice of Commencement letters were sent via email to all parties identified on the Indigenous Contact List on August 12, 2020 and to all parties identified on the OPCC and Agency Contact List on August 21, 2020 to provide information on the project, the preferred route, and to request any available additional information. Letters were mailed to landowners and residents within approximately 500 m of the preferred route via Canada Post regular mail on August 21, 2020.

Generic copies of the letters noted above are in Appendix B3.

3.3.2.2 Project Updates

Project update letters were hand delivered to landowners and residents within approximately 500 m of the preferred route on September 24, 2020 and December 9, 2020. The letters were also mailed to several landowners via Canada Post regular mail on September 24, 2020 and December 9, 2020. Appended to the letters was a map of the preferred route.

Generic copies of the letters noted above are in Appendix B3.

3.3.3 Project Webpage

A project webpage was developed on the Sun-Canadian website (<http://sun-canadian.com/media-releases/>) to provide project details. The project webpage was communicated to interested and potentially affected parties on the newspaper notice, Notice of Commencement and Project update letters.



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3.3.4 Project Email

A project specific email address was created that enabled all interested and potentially affected parties to contact the project team regarding the project. The email address was communicated on the newspaper notice, Notice of Commencement and project update letters.

3.4 CONSULTATION EVENTS

3.4.1 Virtual Meetings

Virtual meetings about the project have occurred between Sun-Canadian and agency staff, key stakeholders, Indigenous communities and with directly impacted landowners and will continue as the project progresses towards detailed design and construction.

3.5 INPUT RECEIVED

The consultation and engagement program allowed interested and potentially affected parties to provide input into the project. Input was evaluated and integrated into the project. The following sections summarize key input received.

A comment-response summary table and a copy of all written comments and responses are in Appendix B5.

3.5.1 Public Input

No comments were received from the public, including directly and indirectly impacted landowners at the time of writing this ER.

3.5.2 Agency Input

Four (4) comments were received from agencies at the time of writing this ER.

- MENDM identified Indigenous communities that should be consulted regarding the Project.
- CH noted that a permit under O. Reg. 162/06 will be required.
- MNRF noted no concerns with the project, but if any in-water works are required appropriate in-water works timing windows must be followed.
- MHSTCI recommended that a combined Stage 1-2 AA be completed for the entire study area, and that a Cultural Heritage Report is required to be completed.

3.5.3 Municipal Input

No comments were received from municipalities at the time of writing this ER. The Regional Municipality of Halton Public Works department noted that a Municipal Consent Permit will be required.



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3.5.4 Indigenous Input

Sun-Canadian held virtual meetings with the Huron Wendat on September 9, 2020, Six Nations of the Grand River on September 22, 2020 and Mississaugas of the Credit on October 5, 2020. During these meetings, an overview of the Project was presented, Indigenous community participation in the Project was discussed and questions answered. A copy of the presentation and meeting notes can be found in Appendix B.

A summary of comments received from Indigenous communities are outlined below.

Huron-Wendat

- Expect the project design to preserve cultural resources as necessary
- Interests in the project remain with archaeology and will participate in the archaeological assessment

Six Nations of the Grand River

- Would like to participate in the archaeological assessment
- Would like to participate in construction monitoring

Mississaugas of the Credit

- Requested to participate in environmental studies and monitoring
- Would like to participate in the archaeological assessment

3.5.5 Interest Group Input

No comments were received from interest groups at the time of writing this ER.

3.6 REFINEMENTS BASED ON INPUT

At each stage of the consultation program input received was compiled, reviewed, and incorporated into the environmental study process. Responses were provided, as applicable, to questions and comments received.

Based on input received from agencies:

- Sun-Canadian will follow applicable fish timing window guidelines for any in-water works as required by the MNRF
- It was noted that a permit under O. Reg. 162/06 will be required from CH and correspondence will continue



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Sun-Canadian has committed to on-going consultation with directly and indirectly affected landowners and interested parties during detailed design and construction and will continue to respond to concerns through the life of the project.

The Sun-Canadian lands department will work with directly and indirectly impacted landowners to address specific concerns they may have.

The proposed pipeline will be designed to meet or exceed all safety regulations and codes. In addition, Sun-Canadian has a rigorous safety and integrity program so that the pipeline is constructed and maintained to operate safely.



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4.0 IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION

4.1 METHODOLOGY

The potential effects and impacts of the project on physical, biophysical and socio-economic features have been assessed along the proposed pipeline route. With an understanding of pipeline construction and operation activities (see Sections 4.1.1 and 4.1.2), the assessment:

- Describes the environmental and socio-economic setting along the proposed pipeline route and related facilities
- Predicts the effects and associated impacts of project construction and operation activities
- Recommends supplemental studies, mitigation and protective measures (including construction methods and timing, site-specific mitigation, environmental protection measures, and compensation measures)
- Outlines the net impacts that are likely to remain

The inventory of existing environmental conditions, determination of effects and impacts, and mitigation and protective measures reflect:

- Input received from the consultation program
- Information available from published and unpublished literature
- Maps and digital data
- Mitigation guidance documents
- Desktop assessments of environmental features conducted by Stantec technical staff
- A field assessment conducted by Stantec technical staff
- The pipeline development experience of Sun-Canadian and Stantec

By necessity, the analysis, integration, and synthesis of the data is an iterative process since information becomes available at various stages of the study and at different mapping scales. The level of detail of data and mapping increases as the study moves from analysis of the study area, to analysis of alternative corridors, to a site-specific survey of features along the proposed pipeline route. The data available at the current stage of the environmental study is appropriate for predicting effects and potential impacts and recommending mitigation and protective measures.

Specific information requests were made to several agencies throughout the project. The information collected assisted in identifying environmental features and constraints located on and adjacent to the proposed pipeline route. Information provided also identified the potential presence of SAR and their habitat, predicting effects and potential impacts, and developing mitigation and protective measures.



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Where agencies requested that information be kept confidential, such as the precise location of rare, threatened, vulnerable or endangered species and archaeological sites, such information has been withheld from the report or mapped in such a way that specific site locations cannot be determined.

A field survey was completed in July 2020. Additional site-specific field surveys will be completed prior to construction.

The existing conditions maps (Appendix C) have been generated from data obtained from Land Information Ontario (LIO). Conservation Authority (CA) regulated area data was obtained from CH. Scales have been adjusted from the original source to better represent the features mapped. Stantec has digitally reproduced features added to the base maps. Additional mapping sources are identified on the respective map, and in the references.

There are instances where field investigations are recommended along the proposed pipeline route before construction. Given the location of the project components and experience of Stantec in providing environmental services for pipelines, these supplemental studies are not expected to change the conclusions regarding potential adverse residual impacts. The environmental and socio-economic information presented in the ER is based on sources cited throughout.

4.1.1 Construction

Constructing the Proposed Pipeline

The pipeline construction process includes various activities as described below:

1. **Site Preparation and Clearing:** The first activity is typically the survey and staking, which delineate the boundaries of the RoW and temporary work areas. Next, the RoW and temporary work areas are cleared of brush and trees where required. Safety fence is installed at the edge of the construction RoW where public safety considerations are required, and aspects of the traffic management plan are implemented (i.e., signs, vehicle access). Silt fence is installed at required locations.
2. **Grading and Stripping:** The RoW is graded where required to allow for access by construction equipment. At this stage, the topsoil (on agricultural lands) or the duff layer (on natural lands) is stripped by bulldozers and graders then segregated so it will not be mixed with the subsoil later removed from the entry and exit pits. Existing landscaping is also removed, and dewatering undertaken, where necessary.
3. **Stringing:** Stringing is the process where pipeline sections are delivered to the RoW, placed on wooded skids at the pipe laydown area.
4. **Pipe Fabrication:** The pipeline is welded into a continuous length. The pipe welds are non-destructively tested (e.g. x-ray) and coated.
5. **Horizontal Directional Drilling (HDD):** The drill set up area is graded; Temporary Work Space is prepared for stringing of the drill pull section and entry and exit pits are excavated. The pipeline is then installed utilizing HDD.



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6. **Backfilling:** During backfilling the originally excavated subsoil is placed over the pipe in the entry and exit pits. The pipe will be sand-padded to protect the coating. Topsoil is then replaced.
7. **Hydrostatic Testing:** The pipeline is pressure tested by filling the pipe with water and holding it at a high pressure for a set period of time, typically 24 hours. Water is typically drawn from nearby source if available. Municipal water may also be used for hydrostatic testing. The suitable water source is determined based on discussions with the appropriate authorities. Upon completion of the hydrostatic testing, the pipeline is drained and dried, purged of air and then put into service.
8. **Clean-Up and Restoration:** Clean-up is the restoration of the RoW and other work areas. On agricultural land this may require decompaction of the subsoil to maintain productivity. In natural areas, clean-up restores the environment including re-seeding of the RoW and returning the topography after grading. Any erosion and sediment controls installed during construction are also removed. Clean-up will also restore landscaping, laneways and driveways.

4.1.2 Operation

Upon completion of the Project, the Project components will be transferred to Sun-Canadian's operations department. Sun-Canadian has procedures in place to inspect and maintain the pipelines, including RoW inspection. Sun-Canadian's Pipeline Integrity team has extensive technical, operational, and industry knowledge, and whose members remain current with industry practices. Detailed procedures and programs will be modified to include the replacement pipeline and to ensure the operation and maintenance activities for the Project comply with applicable provincial and federal legislation, regulations and guidelines.

Pipeline operation consists of oil flowing through the pipeline. Mainline valves located at the valve sites will serve to shut off and isolate the pipeline for maintenance and security purposes. Additional above-ground facilities along the pipeline include post-mounted signs identifying the pipeline, aerial patrol signs for fixed wing patrols, fence stiles, foot bridges for ditch crossings (if applicable), and "test boxes" located along fence lines at roads that are used to assess the adequacy of the corrosion protection system.

4.2 PHYSICAL FEATURES

4.2.1 Bedrock Geology and Drift Thickness

Existing Conditions

The bedrock geology along the proposed pipeline route is comprised of shale, siltstone, with variable calcareous siltstone to sandstone and limestone interbeds of the Queenston Formation (OGS, 1991; Liberty, Bond, Telford, 1976) (Figure 1, Appendix C).

The general depth from the soil surface to the bedrock indicates a drift thickness along the proposed pipeline route ranging from 9 – 15 m (Gao, et al, 2006) (Figure 2, Appendix C).



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A geotechnical investigation was completed with boreholes located at the entry (BH1) and exit (BH3) pit locations. The subsurface conditions encountered in the boreholes were:

- Thin topsoil layer underlain by
- Clayey silt and sandy clay fill materials underlain by
- Very stiff to hard sandy clay till: underlain by
- Very dense silty sand (exit pit only): underlain by
- Shale bedrock with limestone interbedding

Highly to completely weathered shale bedrock of the Queenston Formation was encountered at depths of 13.3 m and 12.6 m in boreholes at BH1 and BH3, respectively. The thickness of this zone was 0.9 m and 1.4 m in the boreholes.

Underlying the upper highly weather zone, the moderately to slightly weathered zone of the shale with limestone interbedding extended to depths of 20.3 m BH1 and 15.8 m at BH3. Slightly weathered to unweathered bedrock extended to depths of 29.4 m at BH1 and 29.4 m at BH3. Unweathered bedrock extended to the termination depths of the boreholes.

Potential Impacts

The planned drill depth will be approximately 2 m below grade at the entry and exit pit locations approximately 15 m below Trafalgar Road and approximately 17 m below East Sixteen Mile Creek at the deepest point. The drill path will be designed to utilize stable soil and bedrock. Based on the moderately deep drift thickness bedrock is not likely to be encountered at the entry and exit locations. As such no potential impacts are anticipated.

Mitigation and Protective Measures

As no potential impacts are anticipated, no mitigation or protective measures are required.

Net Impacts

No significant adverse residual impacts to bedrock geology and drift thickness are anticipated.

4.2.2 Physiography and Surficial Geology

Existing Conditions

The proposed pipeline is located within the Peel Plain physiographic region of southern Ontario (Chapman and Putnam, 1984) which is a region characterized by relatively flat to undulating glaciolacustrine deltaic deposits of sands (up to 27 m thick) and silts which are observed to cover or partially cover the moraines in the area (Chapman and Putnam 1984; Barnett 1982). The proposed



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pipeline route, from the location of the entry pit to the location of the exit pit, crosses the sand plains physiographic feature (Figure 3, Appendix C).

As described in surficial geology mapping (Figure 4, Appendix C), the pipeline route crosses modern alluvial deposits to fine textured glaciolacustrine deposits to glaciolacustrine-derived silty to clayey till. At the tie-in point to the existing system at the southwest extent of the route, the pipeline traverses fine-textured glaciolacustrine deposits for approximately 100 m (interbedded flow till, rainout deposits, and silt and clay) and then, for a short distance crosses glaciolacustrine-derived silty to clayey till. At the mid-point of the route, the pipeline crosses approximately 300 m of modern alluvial deposits and then re-enters an area with deposits of glaciolacustrine-derived silty to clayey till for the remaining extent to the northeastern tie-in point beyond Trafalgar Road (OGS, 2010).

Potential Impacts

Disturbance to the overburden along the proposed pipeline is limited to the entry and exit pit locations and may cause surface soil erosion. Slumping may occur within the entry and exit pits during construction.

Mitigation and Protective Measures

Surface soil erosion can occur in the absence of vegetative cover. Where there is potential for soil erosion, the need for and location of erosion and sediment control (ESC) measures should be determined by an inspector with appropriate qualifications and installed prior to the commencement of work in the area.

When land is exposed, the exposure should be kept to the shortest practical period. Natural features should be preserved to the extent practical. Temporary vegetation and mulching should be used to protect areas as appropriate. Where required, natural vegetation should be re-established as soon as practical.

The Contractor must obtain adequate quantities of materials to control erosion. Additional supplies should be maintained in a readily accessible location for maintenance and contingency purposes. ESC structures should be monitored to maintain their effectiveness through the life of construction and post-construction rehabilitation.

Extreme precipitation events could result in damage to ESC measures which could lead to erosion. When site conditions permit, ESC measures should be repaired and re-installed on erosion susceptible surfaces. If the erosion is resulting from a construction-related activity, the activity should be halted immediately until the situation is rectified.

To avoid the entry and exit pits from slumping, pit walls should be sloped and should be monitored during wet conditions. Trench boxes may be required depending on site specific conditions.



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ESC and stabilization measures should be maintained during construction, restoration and rehabilitation until vegetative cover is established. Where evidence of erosion exists, corrective control measures should be implemented as soon as conditions permit. Permits obtained from CH may contain conditions pertaining to ESC.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on or from physiography and surficial geology are anticipated.

4.2.3 Hydrogeology

Existing Conditions

Based on physiographic and surficial geology mapping the proposed pipeline route will cross the Peel Plain (modern alluvial deposits to fine textured glaciolacustrine deposits to glaciolacustrine-derived silty to clayey till). It crosses East Sixteen Mile Creek at two locations.

According to CH aquifer vulnerability mapping as well as the Halton Region Source Protection Region, a portion of the route is located within a significant groundwater recharge area (SGRA) with a vulnerability score of 4. This area corresponds to the presence of alluvial and coarse-textured glaciolacustrine materials located in the area surrounding the East Sixteen Mile Creek tributary (Conservation Halton and OGS, 2013).

MECP Water Well Records (WWR) within 500 m of the proposed pipeline signify the presence of approximately 24 water supply wells, 14 of which are domestic (Figure 5, Appendix C). A review of the WWR's for these 14 wells, indicate that they are installed within the overburden at depths ranging from 0 m below ground surface (BGS) to 55.4 m BGS. Of these 14 wells two domestic water wells fall within 50 m of the proposed pipeline and as MECP WWR's indicate, these wells are installed in the overburden at depths ranging from 0 m to 12.5 m BGS. The depth to groundwater in these wells ranged from 6.1 m to 11 m BGS. Readings obtained at BH1 during geotechnical investigations indicate groundwater at a depth of 5.8 m BGS.

Regional groundwater flow near the proposed pipeline route in the overburden aquifer is generally to the south towards Lake Ontario (Town of Milton, 2009). Local groundwater flow conditions are impacted by surface water features.

Within the Halton Region Source Protection Area, municipal drinking water intakes use surface water from various sources to supply drinking water to the residents and other water users in the region. The proposed pipeline does not cross through any wellhead protection areas (WHPA). The closest WHPA is approximately 12 km northwest of the proposed pipeline (Halton Region, 2018). A review of nearby surface water system intake protection zones (IPZs) indicates that the proposed pipeline crosses an IPZ-3 for a surface water system (Conservation Halton, 2018).



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Potential Impacts

Hydrostatic Testing and Dewatering/Sand-pointing

A hydrostatic test will be undertaken for the proposed pipeline.

Where the entry and exit pits encounter shallow groundwater conditions or following a large precipitation event, removing water (known as dewatering) may be necessary. During dewatering, discharge water will be released to the environment. An uncontrolled discharge of water could cause downstream flooding, erosion, sedimentation, or contamination.

Private Water Wells

There are approximately 24 water supply wells within 500 m of the proposed pipeline route, 14 of which are domestic. There are two water supply wells within 50 m of the proposed pipeline, both of which are domestic. Depending on the proximity to wells, the depth of the well installation and the groundwater levels encountered during excavation, dewatering has the potential to impact water well quality or quantity at some of the overburden supply wells.

Municipal Water Supply

The proposed pipeline extends through a SGRA and an IPZ associated with the municipal groundwater supply system (Conservation Halton, 2018).

Based on *the Clean Water Act* (2006), there are no significant chemical, pathogen or dense non-aqueous phase liquids source water threats to municipal supply sources based on the construction or operation of the proposed pipeline.

Mitigation and Protective Measures

Hydrostatic Testing and Dewatering/Sand-pointing

For groundwater dewatering, the MECP allows registration under the EASR for construction dewatering projects where groundwater takings will be greater than 50,000 L/day and less than 400,000 L/day; however, should groundwater takings exceed 400,000 L/day, a PTTW may be required from the MECP.

If surface water is used as the source water for the hydrostatic test, a PTTW application would be required and would include an assessment of the capacity of the source to provide the required water without impacting the ecosystem, and recommendations for mitigation measures such as screened water intakes to limit intake of debris and organisms and energy dissipation/erosion control measures during discharge to limit erosion and sedimentation.

To reduce the potential for erosion and scouring at discharge locations during construction dewatering/sand-pointing and/or hydrostatic testing, energy dissipation techniques should be used. Discharge piping should be free of leaks and should be properly anchored to prevent bouncing or snaking



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during surging. Protective measures may include dewatering at low velocities, dissipating water energy by discharging into a filter bag or diffuser and utilizing protective riprap or equivalent. If energy dissipation measures are found to be inadequate, the rate of dewatering should be reduced or dewatering discontinued until satisfactory mitigation measures are in place. Discharge should be monitored to make sure that no erosion or flooding occurs.

To assess the potential for introduction of contaminated water to soils or bodies of water, testing of hydrostatic and dewatering discharge water should be considered. Testing requirements can be influenced by the nature and quality of the source water used, any additives to the test water, the nature of the pipeline, and pipeline contents. An environmental consultant should be consulted to determine what testing is necessary for the discharge water.

Private Water Wells

A private well survey should take place to assess domestic groundwater use near the proposed pipeline and a private well monitoring program may be recommended for residents within 100 m of HDD activities who rely on overburden groundwater supply for domestic use.

Municipal Water Supply

There are no nearby municipal supply wells, and therefore additional mitigation measures are not required to protect groundwater drinking supply sources.

During construction, the primary concern to surface water quality is the potential for a contaminant spill during a large storm event. To address this concern, the following mitigation measures are proposed:

- Refueling of equipment should be undertaken a minimum of 30 m from wetlands and watercourses to reduce potential impacts to surface water and groundwater quality if an accidental spill occurs. If a 30 m refueling distance is not possible, under approval from on-site environmental personnel, special refueling procedures for sensitive areas should be undertaken that include, at a minimum, using a two-person refueling system with one worker at each end of the hose.
- To reduce the impact of potential contaminant spills, the Contractor should implement spill management protocols such as secondary containment of any temporary fuel storage and preparation of a spill response plan.
- Work should be limited or stopped during and immediately following significant precipitation events (i.e. 100-year storm event), at the discretion of on-site environmental personnel.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on groundwater are anticipated.



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4.2.4 Extractive Resources: Aggregates and Petroleum Resources

Existing Conditions

No active or abandoned petroleum wells or aggregate resources are located along or near the proposed pipeline route. The proposed pipeline route is located more than approximately 2 km from the nearest active private gas well and more than 4 km from the nearest abandoned natural gas well.

A map of aggregate and petroleum resources is in Figure 6, Appendix C.

Potential Impacts

Since the proposed pipeline route is located more than approximately 2 km from the nearest active private gas well and more than 4 km from the nearest abandoned natural gas well, no impacts to these resources are anticipated. The pipeline is also not anticipated to constrain development of any aggregate site.

Mitigation and Protective Measures

As no potential impacts are anticipated, no mitigation or protective measures are required.

Net Impacts

No significant adverse residual impacts on aggregate and petroleum resources are anticipated.

4.2.5 Soil and Soil Capability

Existing Conditions

There are three soil types found along the pipeline route, entry and exit pit locations and pipe laydown area: Chinguacousy Clay Loam, Jeddo Clay Loam and Bottom Land. The following is a description of these soils from the Soils of Halton County (Gillespie et al., 1971):

Chinguacousy Clay Loam is part of the imperfectly drained Chinguacousy soil series that is comprised of calcareous, clay loam textured, till material. These imperfectly drained soils are moderately to slowly permeable and have a relatively high-water holding capacity. Excess soil water is often found in the upper soil horizons because of high groundwater or perched conditions during the growing season". While tile drainage is often necessary to improve crop yield, from an agricultural perspective, these soils are regarded as being agriculturally productive as they have only moderate limitation for common field crop.

Jeddo Clay Loam soil is a subsection of the Jeddo soil series, which are the poorly drained members of the Oneida catena. The soil parent material is a slightly stony calcareous clay till. The Jeddo soils are mainly found in narrow, shallow drainage basins or in the depressional areas associated with undulating or rolling topography (Gillespie et al., 1971).



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Bottom Land is the “flat, frequently flooded land found adjacent to some streams”. Flood deposits occurring on Bottom Land are mainly comprised of fine sand and silt (Gillespie et al., 1971).

Soil capability for agriculture is mapped by Agriculture and Agri-Food Canada in the Canada Land Inventory (CLI). Lands classified as Class 1 are the most agriculturally productive, while those classified as Class 7 have the lowest capability for agriculture. Class 1 to 5 agricultural lands are generally arable, while classes 1 through 3 are defined by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) to be prime agricultural soils for common field crop production.

Table 4-1 shows the soil types mapped along the proposed pipeline route (entry/exit pits and drill path), the percentage of the proposed pipeline route that the soil covers and the CLI for Agriculture rating of each soil type. The CLI rating of the majority of lands, approximately 64%, along the proposed pipeline route are rated as 1 under the Soil Capability Classification of Agriculture; soils in this class have no significant limitations in use for crops. Approximately 29% of the proposed pipeline route is rated as 5 under the Soil Capability Classification of Agriculture; soils in this class have very severe limitations that restrict their capacity in producing perennial forage crops, and improvement practices are deemed feasible. Approximately 7% of the proposed pipeline route is rated as 3 under the Soil Capability Classification for Agriculture; soils in this class have moderately severe limitations that restrict the range of crops or required special conservation practices. (AAFC, 2005).

Table 4-1: Soil Types and Soil Capability along Preferred Route

Soil Type	% of Route	CLI Class
Jeddo Clay Loam	7	3
Chinguacousy Clay Loam	64	1
Bottom Land	29	5

Maps of soil type and soil capability are on Figures 7 and 8 respectively, Appendix C.

Potential Impacts

The proposed pipeline crosses agricultural lands. Where there is interaction with agricultural lands, there are potential impacts to topsoil as a result of construction including compaction, loss of organic matter and degraded soil structure. No topsoil will be removed from the site. Excess subsoil may be removed from the site.

Excavation and construction activities across agricultural land have the potential to affect soil quality and agricultural capability. The movement of heavy machinery on wet soil may cause rutting, compaction, and mixing of topsoil with subsoil. When exposed, soils are more prone to erosion due to the loss of vegetative cover. Improperly salvaged topsoil can result in topsoil and subsoil mixing, compaction, rutting, and erosion, which can potentially decrease crop yields.



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Mitigation and Protective Measures

Excess Soil

It is noted that O.Reg. 406/19 was filed in December 2019 and comes into force January 1, 2021. O.Reg. 406/19 includes regulations for the management of soil on-site as well as the movement of excess soils off-site in the province of Ontario, including stockpile size and setback requirements and environmental soil quality characterization requirements prior to the movement of drilling mud and soil off-site. It is recommended that Sun-Canadian retain a qualified person for environmental site assessment who is knowledgeable in environmental soil quality characterization, as well as O.Reg. 406/19.

The Contractor is solely responsible for the location and management of stockpiles on-site as they relate to traffic management, construction staging, and the effective management of construction productivity. With the exception of such variances as may be allowed under O.Reg. 406/19, Soil Rules, and/or site-specific instruments such as Environmental Compliance Approvals (ECAs), stockpiling and storage of soil shall be according to the Soil Rules referenced by O.Reg. 406/19, including, but not limited to, the following:

- Managed in such a way as to prevent adverse effects relating to noise, dust, mud tracking, leaching, run-off and erosion, and odour or other air impacts.
- Stored in stockpiles with total volume of less than 2,500 m³.
- Soil of different quality, or from different areas, or that has not yet been sampled is segregated.
- Stored more than 30 m away from a waterbody, and more than 10 m away from property boundaries.
- Stored in a manner that prevents leaching of contaminants into the groundwater.

Materials that are surplus and required to be removed from site for disposal or reuse must be tested in accordance with O.Reg. 406/19, Reg. 347, or receiving site requirements under a site-specific instrument to determine management options. For excess soil, the Contractor Qualified Person (QP) shall determine sampling frequency and analytical parameters as required by O.Reg. 406/19 and Reg. 347, and in consultation with the CA. The Contractor QP shall be responsible for the production of all required documentation per O.Reg. 406/19.

Wet Soil Shutdown

To the extent feasible, construction activities should occur during drier times of the year. Lands affected by heavy rainfall events should be monitored for wet soil conditions, to avoid the potential for topsoil and subsoil mixing and loss of structure. Construction activities should be temporarily halted on agricultural lands where excessively wet soil conditions are encountered. Sun-Canadian's on-site inspection team should determine when construction activities may be resumed.



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If a situation develops that necessitates construction during wet soil conditions, soil protection measures should be implemented, such as confining construction activity to the narrowest area practical, installing surface protection measures, and using wide tracked or low ground pressure vehicles.

High Winds

During construction activities, weather should be monitored to identify the potential onset of high wind conditions and to preserve topsoil. If high winds occur, the Contractor should implement protective measures such as:

- Suspend earth moving operations
- Apply dust suppressants or vegetate soil stockpiles
- Protect soil stockpiles with a barrier or windscreen

In conjunction with the above measures, all required materials and equipment should be readily accessible and available for use as required.

Soil Stripping

Topsoil depths should be measured prior to stripping so that the proper depth of topsoil is removed and replaced. Where stripping is undertaken on agricultural lands, topsoil and subsoil should be stripped and stockpiled separately to avoid mixing.

If clean-up is not practical during the construction year, it should be undertaken in the year following construction, starting once the soils have sufficiently dried. Interim soil protection measures should be implemented in sensitive areas to stabilize the RoW for over-wintering.

Soil Compaction

Within agricultural lands where soil has been compacted by the construction process, an agronomist should determine where decompaction may be necessary. Compaction can be alleviated by using farm equipment such as an agricultural subsoiler prior to replacing the topsoil. Sub-soiling with an agricultural subsoiler, followed by discing, chisel ploughing and cultivating, to smooth the surface, should be considered on agricultural lands. In high traffic areas of the RoW where deep compaction persists, additional deep tillage or subsoiling may be required on a site-specific basis. Soil density and/or penetrometer measurements on and off the easement may be used as a means of assessing the relative degree of soil compaction caused by construction along the RoW as well as determining that the RoW has been sufficiently decompacted.

Additionally, rig mats may be utilized during the construction process to aid in reducing the level of soil compaction.



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Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on soil and soil capability are anticipated.

4.2.6 Agricultural Tile Drains

Existing Conditions

The preferred pipeline route does not cross any properties mapped as containing either systematic or random agricultural tile drains. A map of agricultural tile drains is located on Figure 9, Appendix C.

Potential Impacts

Construction activities, including excavation and the movement of heavy machinery, typically have the potential to crush and/or sever agricultural tile drains. As no agricultural tile drains are anticipated to be crossed, no impacts to these resources are anticipated.

Mitigation and Protective Measures

As no potential impacts are anticipated, no mitigation or protective measures are required.

Net Impacts

No significant adverse residual impacts on agricultural tile drains are anticipated.

4.2.7 Natural Hazards

Existing Conditions

Natural hazards are elements of the physical environment that have the potential to affect a project in an adverse manner. Potential natural hazards along the proposed pipeline route are limited. Natural hazards that may occur are seismic activity and flooding.

The proposed pipeline route lies within the southern Great Lakes Seismic Zone (Natural Resources Canada, 2016). This zone has a low to moderate level of seismicity when compared to the more active seismic zones to the east, along the Ottawa River and in Quebec. Over the past 30 years, on average, 2 to 3 magnitude 2.5 or larger earthquakes have been recorded in the southern Great Lakes region. By comparison, over the same time period, the smaller region of Western Quebec experienced 15 magnitude 2.5 or greater earthquakes per year.

A map of the regulation limits of CH is located on Figure 10, Appendix C,



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Potential Impacts

The probability of significant seismic activity in the area traversed by the proposed pipeline is low; therefore, no potential impacts are anticipated.

The likelihood of a flooding event interfering with pipeline construction is reduced by construction occurring outside of the spring freshet. A flooding event during construction could result in construction delays, soil erosion, sedimentation of a watercourse, bore pit slumping, and damage or loss of construction equipment and contamination of a watercourse because of equipment entering a watercourse. The nature of these impacts would depend on the spatial extent, duration, and magnitude of the flooding event.

Mitigation and Protective Measures

If flooding necessitates a change in the construction schedule, affected landowners and regulatory agencies should be notified and construction should continue at non-affected locations. Temporary workspaces should be located above the floodplain to the extent practical, unless necessary for watercourse crossings. All work in the floodplains will be subject to a permit from CH.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts from natural hazards are anticipated.

4.3 BIOPHYSICAL FEATURES

4.3.1 Aquatic Features

Fish and Fish Habitat

The proposed pipeline crosses the Lower Middle branch of East Sixteen Mile Creek, which is a large permanent watercourse supporting a diverse fish community. The proposed crossing location is shown on (Figure 11, Appendix C). At the proposed crossing location, the channel has an average width of 10 m. It meanders through a wooded valley with an average width of 200 m.

CH maintains a long-term monitoring station approximately 650 m north of the crossing location of the proposed pipeline at the crossing of Britannia Road 170 m west of Trafalgar Road (Station SXM-435) (Conservation Halton 2013). Fifteen (15) fish species were observed at this station in 2011 (Conservation Halton 2013), as summarized in Table 4-2.

Table 4-2: Fish Species Observed in the Lower East Sixteen Mile Creek in 2011¹

Common Name	Latin Name	Thermal Preference ²
Black Crappie	<i>Pomoxis nigromaculatus</i>	Cool



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Table 4-2: Fish Species Observed in the Lower East Sixteen Mile Creek in 2011¹

Common Name	Latin Name	Thermal Preference ²
Bluntnose Minnow	<i>Pimephales notatus</i>	Warm
Carp and Minnows	<i>Cyprinidae</i>	Cool / Warm
Fantail Darter	<i>Etheostoma flabellare</i>	Unknown
Fathead Minnow	<i>Pimephales promelas</i>	Warm
Johnny Darter	<i>Etheostoma nigrum</i>	Unknown
Largemouth Bass	<i>Micropterus salmoides</i>	Warm
Longnose Dace	<i>Rhinichthys cataractae</i>	Cool
Northern Hogsucker	<i>Hypentelium nigricans</i>	Warm
Pumpkinseed	<i>Lepomis gibbosus</i>	Warm
Rainbow Darter	<i>Etheostoma caeruleum</i>	Cool
Rock Bass	<i>Ambloplites rupestris</i>	Cool
Silver Shiner	<i>Notropis photogenis</i>	Unknown
Stonecat	<i>Noturus flavus</i>	Warm
White Sucker	<i>Catostomus commersonii</i>	Cool
Sources:		
1) Fish Captured at Station SXM-435 in 2011 by Conservation Halton (2013)		
2) Coker, G.A., C.B. Portt and C.K. Minns. 2001.		

The fish species captured by CH (2013) belong to warm and cool water temperature preference classes (Coker et al. 2001). All species captured are common and widespread in southern Ontario except for Silver Shiner, a fish SAR.

Fish Species at Risk

The fish community in this reach of East Sixteen Mile Creek includes the presence of a fish SAR, detailed in the following reports:

- Long Term Environmental Monitoring Program Grindstone Creek, Sixteen Mile Creek and Supplemental Monitoring (Conservation Halton 2013)
- Silver Shiner (*Notropis photogenis*) in Ontario: Distribution and Habitat Use. (Glass et al. 2016)

Silver Shiner have been observed in this branch of East Sixteen Mile Creek (Conservation Halton 2013, Glass et al. 2016). Silver Shiner is listed as provincially and federally Threatened. It is afforded protection under the provincial *Endangered Species Act* (ESA) and under Schedule 1 of the federal *Species at Risk Act* (SARA).



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Currently there is no specifically prescribed area, such as mapped critical habitat, for this species in a habitat regulation. Therefore, the protected habitat includes all areas described in a general description by MNRF (2017) as follows:

- Category 1: Flowing pools, runs, and riffles in occupied reaches
- Category 2: Shallow, nearshore habitats, and areas with aquatic vegetation in occupied reaches
- Category 3: Floodplains and riparian edges adjacent to occupied reaches

No other fish or mussel species at risk were identified in this reach of East Sixteen Mile Creek.

Potential Impacts

The proposed pipeline will cross underneath East Sixteen Mile Creek using the HDD method. The HDD process involves drilling a pilot bore hole underneath the watercourse and back-reaming the bore hole to the drill rig. Once the hole is of a sufficient diameter the pipeline is pulled into the hole by the drill rig. HDD typically uses a mixture of freshwater and bentonite to flush drill cutting from the hole and to act as a lubricant. The points of drill entry and exit will be outside the limits of the Sixteen Mile Creek valley. Therefore, there will be no disturbance in the active channel of the watercourse, nearshore habitats, or floodplain and riparian areas. No areas considered to be fish habitat or habitat for Silver Shiner will be disturbed.

HDD is intended to be a less intrusive construction method than traditional open cut crossing of a watercourse. However, there is a possibility of surface (water, riparian, wetland) disturbance if an inadvertent release of drilling fluid or a release of sediment laden groundwater occurs. There is also the potential for sediment laden water or other deleterious substances to enter a surface water feature as the result of grading, drilling excavations, equipment washing, or other construction related activities during directional boring.

Inadvertent releases are typically caused by the pressurization of the drill hole beyond the containment capability of the near surface geologic materials (soil and/or rock). Therefore, the type and depth of these materials, as well as the drilling pressure, are key factors in preventing and managing frac-outs.

Mitigation and Protective Measures

The following general environmental mitigation measures should be taken to protect fish and fish habitat:

- Data obtained from the geotechnical report aided in determining the feasibility of the HDD drill path.
- Design the directional drill so that drilling slurry pressure is reduced, and the drilling rate is reduced in porous materials to reduce the chance of loss of circulation of the drilling slurry.
- HDD should be completed within the permitted construction timing window of July 1 to September 15 to protect sensitive life stages for Silver Shiner and fishes in general. This window was established based on communications with MECP staff for a project in the CH jurisdiction.



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- An experienced and certified environmental monitor (i.e., a Certified Inspector of Sediment and Erosion Control [CISEC]) should be on site during HDD activities.
- Prior to removal of the vegetation cover, effective mitigation techniques for erosion and sedimentation should be in place to protect water quality. Disturbance to the area during construction should be limited and grubbing activities should be delayed until immediately prior to grading operations.
- A drilling mud release contingency plan should be prepared and kept on-site.
- Install as appropriate berms, silt fencing and secondary containment measures (i.e., plastic tarp) around drilling and drilling mud management equipment at both bore entry and bore exit locations to contain operational spills.
- Immediately contain any drilling mud that escapes onto land and transfer it into an on-site containment system.
- Temporary erosion and sediment control measures should be maintained and kept in place until work near a watercourse has been completed and stabilized. Temporary sediment control measures should be removed at the completion of the work but not until permanent erosion control measures have been established.
- Construction material, excess material, construction debris and empty containers should be stored a minimum of 30 m from watercourses and watercourse banks, where practical.
- Equipment maintenance and refueling should be controlled to prevent entry of petroleum products or other deleterious substances, including any debris, waste, rubble, or concrete material, into a watercourse, unless otherwise specified in the contract.
- Deleterious substances (fuel, oil, spoil) should be stored a minimum of 30 m from the watercourse. Any such material that inadvertently enters a watercourse should be removed in a manner satisfactory to the environmental inspector.
- Maintain smooth operation of the drilling string and slurry pumping systems to avoid pressure surges.
- Reduce slurry viscosity through appropriate filtering of drilled material to reduce the pressure gradient along the drill path due to frictional effects.
- Continually monitor slurry volumes to enable a quick response to any indications of lost circulation.
- Clean up operational spills daily to prevent mobilization of drilling mud off site during rain events.
- Drilling mud should be disposed in accordance with the appropriate regulatory authority requirements.
- Following construction, any disturbed vegetation should be restored to pre-construction conditions to the extent possible in accordance with environmental permits.

Bore Path Collapse Mitigation Measures

The following mitigation measures should be applied as recommended by geotechnical studies to prevent HDD borehole collapse from occurring in susceptible soils:



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- Fluid volumes, annular pressure and cutting returns should be strictly monitored to ensure bore hole plugging and fluid losses are detected and addressed immediately.
- Alternative drill paths should be evaluated to reduce exposure to challenging soil materials.
- Drilling mud should be maintained in the borehole until the pipeline is installed. This can be facilitated by positioning the entry and exit points in areas with cohesion less soils (e.g., silt-sand zones).

Contingency Plan

A drilling mud release contingency plan will be prepared and kept on-site. Spills containment and clean-up procedures will be implemented immediately in the unlikely event of a spill. The proponent will immediately contact the MECP Spills Action Centre. The MECP Spills Action Centre is the first point of contact for spills at the provincial and federal level. In addition, the following agencies will be contacted should conditions warrant:

- DFO (Toll-free: 1-855-852-8320)
- MNRF (Toll-free:1-866-517-0571)
- CH (Tel: 1-905-336-1158)

A contingency plan will be in place to effectively address inadvertent releases of sediment through frac-outs, or other releases of sediment laden water from the project site. The contingency plan outlines the steps that the Contractor is to take in the event of a sediment release or other type of spill. The contingency plan will also outline the steps involved to mitigate an inadvertent release after it occurs.

If a sediment spill occurs within the watercourse, adequate isolation of the release should be provided to contain the sediment. For example, a vacuum truck may be on-site during construction and ready to remove the drilling fluid and any other frac out soil.

The following materials should be readily available during drilling operations and prepared to employ them in the event of a drilling mud spill or inadvertent release: sandbags, straw bales, silt fencing and a hydrovac truck.

All products used on site are to be environmentally safe. Inadvertent release mitigation wells may also be considered to relieve drilling pressures. The Contingency Plan should indicate if, and when, HDD activities are to resume. For example, when mitigation measures have been implemented are deemed to be effective at mitigating potential ecological impacts.

Permitting

The federal *Fisheries Act* prohibits causing harmful alteration disruption and destruction (HADD) of fish or fish habitat unless authorized by the DFO. It protects all fish and fish habitat and prohibits against causing the death of fish by means other than fishing. HDD construction methods for pipeline water crossings do not require review or Authorization under the *Fisheries Act* provided measures to avoid causing HADD of fish habitat and death of fish are followed during construction. These measures include locating entry and



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exit points at sufficient distance to avoid disturbance to the bed and banks, locating the drill path at an appropriate depth below the channel and installation of appropriate sediment and erosion control measures (i.e., silt fencing around disturbed areas, development of a contingency plan, etc.). If these measures are followed, a project of this nature is low risk to fish and fish habitat and can proceed without review by DFO.

Silver Shiner and its habitat is protected under Sections 9 and 10 of the provincial ESA. The federal SARA also contains prohibitions against the killing and harming of this species and damage or destruction of their habitat (i.e. residences).

The pipeline route will be located within a regulated boundary of CH. A permit under O. Reg. 162/06 will be required prior to construction activities in the regulated boundaries.

Net Impact

With the implementation of the horizontal directional drilling method and the mitigation and contingency measures described in this report, no adverse residual impacts on fish species or fish habitat are anticipated.

With the implementation of the HDD method and the mitigation and contingency measures described in this report, no adverse residual impacts on Silver Shiner or their habitat (residences) are anticipated.

4.3.2 Designated Natural Areas and Vegetation

Existing Conditions

The proposed pipeline replacement falls within the Niagara section of the Deciduous Forest Region (Rowe, 1972). According to CH (2018), forest conditions in proximity to the proposed pipeline replacement are ranked as Poor or Very Poor, based on a ranking system that considers percentage of forest cover, forest interior (100 m from the forest edge) and forested streamside vegetation. The pipeline replacement will occur within or under (from west to east) an existing private access road, mature forested riparian area, East Sixteen Mile Creek, another forested riparian area, a rural residence and Trafalgar Road.

A map of designated natural areas is provided on Figure 12, Appendix C.

Wetlands

The Ontario Wetland Evaluation System (OWES) is used to identify Provincially Significant Wetlands (PSW). An evaluated wetland may be one contiguous unit or may be a series of smaller wetlands functioning as a whole. Evaluated wetlands that do not qualify as provincially significant may be designated as locally significant and may be protected through local planning and policy measures. There may also be unevaluated wetlands in an area.



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A review of MNRF LIO mapping (MNRF, 2019a) and the Natural Heritage Information Centre (NHIC) database (MNRF, 2019b) did not identify any PSWs or unevaluated wetlands within 120 m of the pipeline replacement project.

Significant Woodlands

A woodland is defined as a treed area, woodlot, or forested area. The Natural Heritage Reference Manual notes that the local planning authority has the responsibility for designating significant woodlands (MNR, 2010). The criteria for designating significant woodlands at a provincial level includes: woodland size; ecological function (shape, proximity to other woodlands or natural features, linkages); species diversity; uncommon characteristics; and, economic and social values (MNR, 2010).

It is the local planning authority's responsibility to designate significant woodlands. The proposed pipeline replacement is in the Town of Milton. The Town of Milton's Official Plan (OP; consolidated August 2008) was reviewed for the identification and designation of significant woodlands that occur within the construction footprint.

The town of Milton identified a significant woodlot as: *... woodlands determined to be significant through an application of the following criteria: size of woodlands, the occurrence of other identified natural heritage features or areas in the woodland, the occurrence of woodlands that are of a composition, age, size or site quality that is uncommon for the planning area for which the evaluation is being undertaken and the provision of important ecological functions such as linkage, buffering or hydrological flow.*

As per OP Section 4.9.1.2, (g), Significant Woodlands are included as part of Greenlands B Area, which are identified on Schedule A. No Greenlands B Areas were identified within 120 m of the proposed pipeline replacement.

Other Woodlands

Woodlands were identified adjacent to the proposed pipeline replacement in LIO (MNRF 2019a) and confirmed in the field during a site visit conducted by Stantec on July 28, 2020. The vegetation communities observed are common in the province, comprised of a mid-aged to mature deciduous forest community on the west bank of Sixteen Mile Creek. There was a larger mid-aged to mature sugar maple forest and a smaller coniferous plantation comprised of Scot's pine adjacent to the south end of the pipeline laydown area. The edge of the sugar maple forest overlaps with the pipeline laydown area. A narrow hedgerow comprised of young to mid-aged deciduous trees and invasive buckthorn overlapped with the pipeline laydown area located between East Sixteen Mile Creek and the sugar maple forest.

Areas of Natural and Scientific Interest (ANSI)

Life science ANSIs are significant representative segments of Ontario's biodiversity and natural landscapes, including specific types of forests, valleys, prairies, savannahs, alvars and wetlands, their native plants and animals, and their supporting environments. They contain relatively undisturbed vegetation and landforms, and their associated species and communities. Provincially significant life science ANSIs include the most significant and best examples of the natural heritage features in the



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province, and many will correspond to other significant features and areas such as wetlands, valleylands and woodlands (MNR, 2010).

A review of MNRF LIO mapping (MNRF, 2019a) and the NHIC (MNRF, 2019b) identified one candidate life science ANSI, Sixteen Mile Creek, within 120 m of the proposed pipeline route. The pipeline laydown area encroaches on a small section of the candidate ANSI, located to the north of the work area.

Potential Impacts

The proposed pipeline replacement will be completed using HDD under East Sixteen Mile Creek, reducing impact to riparian woodlands.

Where there is natural vegetation within or adjacent to the proposed pipeline route, potential impacts include the removal of native vegetation, introduction or spread of invasive species, and indirect effects such as dust, erosion, and accidental spills.

Mitigation and Protective Measures

Environmental mitigation and protective measures during construction include the following:

- Where the RoW abuts a woodland on one side, detailed design should avoid the feature where possible.
- Determine municipal requirements or permits for tree removal (if required) prior to construction.
- Clearing should be minimized/avoided to the extent possible in sensitive areas such as woodlots, along watercourses, adjacent to the ANSI and in areas of significant groundwater recharge.
- The limits of clearing should be surveyed and staked in the field, to allow for the protection of off-site natural areas and vegetation.
- All brush and trees should be felled (if required) within the project footprint.
- Clearing should be done during dry soil conditions to the extent practical to limit disturbance to vegetation and terrain.
- Precautionary measures (e.g., equipment washing before site access) may be necessary to mitigate for the spread of non-native species.
- A re-vegetation program should be initiated for all vegetated temporary work areas. Sun-Canadian should consult with landowners and CH to confirm replanting plans.
- Seeding of the disturbed temporary work areas and permanent easement should be done with a native seed mix reviewed by CH. Replaced soils should contain native seed bank, facilitating successful revegetation.
- One year following construction, planted vegetation should be inspected for survival; in areas of severe dieback, dead and diseased planted vegetation should be replaced.



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Mitigation and protective measures are outlined in Section 4.4.5 for dust, Section 4.2.2 for erosion and Section 4.3.1 for accidental spills.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on designated natural areas and vegetation are anticipated.

4.3.3 Wildlife, Wildlife Habitat and Species at Risk

Significant Wildlife Habitat

Wildlife habitat is defined as an area where plants, animals and other organisms live, including areas where species concentrate at a vulnerable point in their life cycle, and areas that are important to migratory and non-migratory species (MNR, 2000). Significant wildlife habitats (SWHs) are grouped into four categories:

1. Seasonal concentration areas
2. Animal movement corridors
3. Rare vegetation communities or specialized habitats
4. Habitats of species of conservation concern

The presence of SWH along the proposed pipeline replacement area was determined in two ways. First, publicly available NHIC data was reviewed for SWH (MNRF 2019b). Second, potential SWH was identified using the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) which provide descriptions of wildlife habitats and guidance on criteria for determining the presence of SWH. These descriptions were then compared to results of the July 28, 2020 vegetation and wildlife habitat assessment with support from air photo interpretation and GIS data. Details of the significant wildlife assessment are summarized below.

Seasonal Concentration Areas

Seasonal Concentration Areas are sites where large numbers of a species gather together at one time of the year, or where several species congregate. Only the best examples of these concentration areas are typically designated as SWH. The potential for seasonal concentration areas to occur within 120 m of the proposed pipeline replacement is assessed in Table D-1, Appendix D. Candidate habitat for the following seasonal concentration areas may be present along the proposed pipeline replacement route:

- Bat maternity roost colonies
- Turtle wintering areas



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Rare vegetation communities or specialized habitats

Rare vegetation communities or specialized habitats are defined as separate components of SWH. Rare vegetation communities are habitats that are considered rare or uncommon in the ecoregion, as defined in the SWH Criteria Schedules (MNRF, 2019b). These habitats may support wildlife species that are considered significant. Specialized habitats are microhabitats that are critical to some wildlife species. Review of the NHIC (MNRF, 2019b) database did not identify any rare vegetation communities or specialized habitats within the proposed pipeline replacement. Potential rare vegetation communities or specialized habitats based on the SWH Criteria Schedule for Ecoregion 6E (MNRF, 2015) are discussed in Table D-1, Appendix D. Rare communities and specialized habitats were not identified in proximity to the proposed pipeline replacement area.

Animal Movement Corridors

Animal movement corridors are elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another (MNR, 2000). As wetlands and vernal pools that support breeding amphibians and deer wintering areas were absent in proximity to the proposed pipeline replacement, animal movement corridors are also considered absent.

Habitat for Species of Conservation Concern

Habitats of Species of Conservation Concern include wildlife species that are listed as Special Concern or rare, that are declining, or are featured species in the province. This includes marsh breeding birds, shrub/early successional breeding bird habitat, terrestrial crayfish, as well as rare species, as defined in the SWH Criteria Schedules (MNRF, 2019b).

Provincially rare (S1-S3 ranked species) are determined by status rankings (S-ranks) for wildlife are based on the number of occurrences in Ontario and have the following meanings:

- S1: critically imperiled; often fewer than 5 occurrences
- S2: imperiled; often fewer than 20 occurrences
- S3: vulnerable; often fewer than 80 occurrences

Designation of Special Concern is determined by the Committee on the Status of Species at Risk in Ontario (COSSARO).

The NHIC database was searched to obtain recent records (1990 - present) of Species of Conservation Concern (S1-S3 ranked species and provincially designated Special Concern species) in the vicinity of the proposed pipeline route. The Ontario Breeding Bird Atlas (Cadman et al., 2007), the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2017) and the Ontario Mammal Atlas (Dobbyn, 1994) were also searched. The exact location of species occurrences is not available from these atlases; instead, occurrences are recorded within 1 x 1 km or 10 x 10 km squares.



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Based on a review of background information, 5 species of conservation concern are known to occur in the vicinity of the proposed pipeline replacement, as shown in Table 4-3 2 reptiles and 3 birds.

Table 4-3: Potential Terrestrial Species of Conservation Concern Within the Proposed Pipeline Replacement

Common Name	Scientific Name	Srank	Provincial Status (COSSARO)	Source
Reptiles				
Eastern Milksnake	<i>Lampropeltis triangulum</i>	S3	SC	ORAA
Snapping Turtle	<i>Chelydra serpentina</i>	S3	SC	ORAA
Birds				
Eastern Wood-pewee	<i>Contopus virens</i>	S4B	SC	OBBA
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	S4B	SC	OBBA
Wood Thrush	<i>Hylocichla mustelina</i>	S4B	SC	OBBA

Notes:

Sources: MNRF 2019 (NHIC), Cadman et. al. 2007 (OBBA), Ontario Nature 2018 (ORAA), Dobbyn 1994 (AMO)

SC - Special Concern - a species with characteristics that make it sensitive to human activities or natural events

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

S2: Imperiled—Imperiled in the province, 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

S#B- Breeding status rank

S#N- Non Breeding status rank

The potential for species of conservation concern to be present along the proposed pipeline route is limited by habitat suitability and availability; therefore, species listed in Table 4-3 may not occur along the proposed pipeline route. Results of the vegetation and habitat assessment conducted on July 28, 2020 is discussed in Table D-1, Appendix D. Potentially suitable habitat for the following species of conservation concern occur within proximity to the pipeline replacement:

- Snapping Turtle
- Eastern Wood-pewee
- Wood Thrush



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Species at Risk

Species at Risk (SAR) are those species identified as Endangered or Threatened by provincial (ESA) legislation. The NHIC database was searched to obtain recent records (1990– present) of SAR from the vicinity of the proposed pipeline route. The Ontario Breeding Bird Atlas (Cadman et al., 2007), the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2017) and the Ontario Mammal Atlas (Dobbyn, 1994) were also searched. The exact location of species occurrences is not available from these atlases; instead, occurrences are recorded within 1 x 1 km or 10 x 10 km squares.

Based on a review of background information, 10 SAR are known to occur in the vicinity of the proposed pipeline route, as shown in Table 4-4: 1 plant, 1 amphibian, 4 birds and 4 mammals.

Table 4-4: Potential Terrestrial Species at Risk (Threatened or Endangered) within Proximity of the Proposed Replacement

Common Name	Scientific Name	Provincial Status (COSSARO)	Source
Plant			
Butternut	<i>Juglans cinerea</i>	END	Stantec
Amphibians			
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	END	NHIC
Birds			
Barn Swallow	<i>Hirundo rustica</i>	THR	OBBA
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	NHIC, OBBA
Chimney Swift	<i>Chaetura pelagica</i>	THR	OBBA
Eastern Meadowlark	<i>Sturnella magna</i>	THR	NHIC, OBBA
Mammals			
Little Brown Myotis	<i>Myotis lucifugus</i>	END	AMO
Northern Myotis	<i>Myotis septentrionalis</i>	END	AMO
Eastern Small-footed Myotis	<i>Myotis leibii</i>	END	AMO
Tri-coloured Bat	<i>Perimyotis subflavus</i>	END	AMO

Notes:

Sources: MNR, 2019 (NHIC); Cadman et. al., 2007 (OBBA); Ontario Nature, 2013 (ORAA); Dobbyn 1994 (AMO)

END – Endangered - a species facing imminent extinction or extirpation

THR – Threatened - a species that is at risk of becoming endangered

SC - Special Concern - a species with characteristics that make it sensitive to human activities or natural events

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

S2: Imperiled—Imperiled in the province, 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

S? – Rank Uncertain

SH: Possibly Extirpated (Historical)

S#B- Breeding status rank

S#N- Non-Breeding status rank



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Results of the vegetation and habitat assessment conducted on July 28, 2020, in addition with air photo interpretation, were compared to habitat preferences of the SAR identified in Table 4-4, summarized in Table D-2, Appendix D. The following SAR have the potential to occur within proximity to the proposed pipeline replacement:

- Butternut
- Bat SAR
 - Little Brown Myotis
 - Northern Myotis
 - Small-footed Myotis
 - Tri-colored Bat

Results of the bat maternity colony survey conducted on December 9, 2020 identified 11 candidate bat maternity roost trees. Two trees were located in the deciduous forest on the valley slope on the southwest bank of East Sixteen Mile Creek. The other 9 trees were located along the edge of the woodlands adjacent to the pipe laydown area.

Potential Impacts

Potential impacts on wildlife and wildlife habitat from construction include direct mortality from construction vehicles, habitat destruction through vegetation removal, habitat degradation through spills and sensory disturbance of wildlife during construction.

There are no impacts anticipated to the two trees on the valley slope of East Sixteen Mile Creek as they are within the HDD area, and tree removal is not anticipated to be required. Additionally, there are no impacts anticipated to the 9 trees adjacent to the pipe laydown area as tree removal is not anticipated at this location.

Mitigation and Protective Measures

Environmental mitigation and protective measures during construction include the following:

- Detailed design of the proposed pipeline should be reviewed to avoid and reduce the likelihood of impact upon wildlife habitat to the extent possible, and in particular habitats of Endangered, Threatened, Special Concern and rare species.
- Equipment and vehicles should yield the RoW to wildlife.
- Fencing should be erected around deep excavations to prevent wildlife entrapment.
- The Contractor should inform their personnel to not threaten, harass or injure wildlife.
- If wildlife are encountered during construction, personnel are required to move away from the animal and wait for the animal to move off the construction site.



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- A butternut tree is located within 25m of the pipeline laydown area. Avoidance of the tree is recommended. For work within 25m of the trees, consultation with MECP is recommended to confirm requirements under the ESA.
- Tree removal is not anticipated; however, if removal of trees identified as potential bat maternity roots is required, removal should not occur between April 1 and October 1 to avoid direct impacts to bats. Consultation with MECP is recommended to confirm requirements under the ESA.
- Silt fencing is recommended along the perimeter of the HDD work zone to prevent encroachment into East Sixteen Mile Creek, exclude reptiles and amphibians during their active period (approximately April 1 – October 31), as well as prevent sedimentation.
- Construction activities with the potential to remove migratory bird habitat, such as vegetation clearing, should be avoided during the breeding season which is generally from April 1- August 31 in southern Ontario (Environment Canada, 2017). Should vegetation clearing activities be unavoidable during this window, a mitigation program should be developed, which includes measures to reduce and avoid impacts to migratory birds and their nests (Government of Canada, 2018). This program should include preventative and mitigation measures but may also include avoidance of clearing during key sensitive periods and in key locations.
- If SAR are encountered during the proposed pipeline replacement, work will stop and consultation with the MECP regarding the potential need for a permit under the ESA and/or species-specific mitigation will be conducted.

Mitigation and protective measures are outlined in Section 4.3.2 for vegetation removal and Section 4.3.1 for accidental spills.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on wildlife, wildlife habitat and SAR are anticipated.

4.4 SOCIO-ECONOMIC ENVIRONMENT

4.4.1 Employment and Business

Existing Conditions

In the Town of Milton, the number of people employed increased from 48,060 in 2011, to 59,815 in 2016, while the unemployment rate decreased from 5.7% to 5.6% over the same period. The unemployment rate in the Town of Milton was below the provincial and national average rates of 7.4% and 7.8%, respectively, for 2016. Refer to Table 4-5 for labour characteristics.



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Table 4-5: Labour Characteristics, Ontario and Milton, 2016

Location	Total Population 15 years and Over	Labour Force	Employed	Participation Rate (percent)	Employment Rate (percent)	Unemployment Rate (percent)
Ontario	11,038,440	7,141,675	6,612,150	64.7	59.9	7.4
Milton (Town)	80,560	59,815	56,485	74.2	70.1	5.6

Source: Statistics Canada, 2011; 2017

The median income for all census households in Milton in 2015 was \$104,730; the median income for individuals aged 15 years and over was \$32,917 (Table 4-6).

Table 4-6: Median Income, Ontario and Milton, 2015

Location	Median Family Income	Median Income of individuals - 15 Years and Over		
		All individuals	Male	Female
Ontario	\$74,287	\$33,539	\$39,889	\$28,676
Milton (Town)	\$104,730	\$42,682	\$52,860	\$34,384

Source: Statistics Canada, 2017

In 2016, the main sources of employment by industry for Milton were retail trade (11.8%), manufacturing (10%), professional, scientific and technical services (9.0%) and health care and social assistance (8.5%) (Statistics Canada, 2017).

Milton's labour force is concentrated in three main occupations: sales and services occupations (20.9%), business, finance and administration occupations (17.9%), and management occupations (14.1%) (Statistics Canada, 2017).

Potential Impacts

Project construction is expected to take place in the Summer of 2022 and take an estimated 3 months to complete. Project demands for labour and goods and services can result in both beneficial and adverse effects. Positive effects may not be evenly distributed among populations, with some residents in a better position to receive economic benefits than others. Similarly, adverse effects may affect some residents more than others.

Residual effects on employment are related to the project's labour demand compared to the labour supply. Three types of employment are considered:

- Direct employment: labour that is hired directly for the project
- Indirect employment: labour hired by companies to produce and provide goods and services needed for the project



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- Induced employment: labour hired by industries that produce and provide consumer items and services purchased by people who are directly or indirectly employed by the project

Labour conditions will be affected by direct, indirect and induced employment during all project phases.

The project could affect business through purchases of labour, goods and services from local businesses, including businesses owned by Indigenous peoples, and will result in increased local employment income and municipal government revenue. Local businesses will likely benefit from supplying the project with goods and services.

Land clearing and other construction-related project activities could adversely affect agricultural productivity and operations, and businesses along the proposed pipeline route that include PAO Horticultural, Jade Gardens & Greenhouse and Piper's Heath Golf Club. Other potential adverse effects include impairment to the use and enjoyment of property and conflicts with vehicular movement.

Mitigation and Protective Measures

It is expected that the project will generally result in positive effects on employment by employing local and Indigenous people, and by reducing the unemployment rate in the region. These positive effects do not require mitigation, but Sun-Canadian will identify and implement various mechanisms to enhance project benefits.

The potential effects of the project because of employment opportunities and purchasing local goods and services is expected to be positive during construction and operation, so no mitigation will be required.

With respect to potential adverse effects on agricultural and non-agricultural businesses (commercial and industrial), Sun-Canadian will engage with land owners, business operators, and the Town of Milton to address access to the project area, the portion of land that will be altered as part of site preparation, long-term changes to agricultural and non-agricultural land and the development of appropriate and feasible mitigation measures.

Net Impacts

With the above initiatives to encourage local and Indigenous participation on the project, it is anticipated that the effects from the project on employment and business will be positive, including creating positive economic activity through new direct, indirect, and induced employment. Project expenditures on local businesses and suppliers also have the potential to positively affect the local economies. Additionally, those who have worked on the project will gain transferrable skills and experience that could help them gain employment in other industries. Consultation with businesses and landowners will address any concerns to their operations.

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on employment and business are anticipated.



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4.4.2 Community Services & Infrastructure

Existing Conditions

Demographics

In 2016, the Town of Milton had a population of 111,128 (Statistics Canada, 2017). Milton experienced a large population increase between 2011 and 2016, above the population growth in Ontario (Table 4-7).

Table 4-7: Population Ontario and Milton 2016

Location	Total Population	Percent Change from 2011
Ontario	13,448,494	4.6
Milton	111,128	30.5

*Numbers are rounded by Statistics Canada and are reported herein exactly as they are reported by Statistics Canada. Totals may not necessarily add up as a result of rounding.

Source: Statistics Canada, 2017

In 2016, the median age of the population of Milton was 35.3 years (Statistics Canada, 2017); Ontario's median age was 41.3 (Statistics Canada, 2017).

In 2016, 1,040 residents of Milton identified themselves as Aboriginal (Statistics Canada, 2017). Together this represents approximately 0.003% of the provincial Aboriginal population (Statistics Canada, 2017).

By 2021, Milton is projected to have a population of 145,000 and by 2031 a projected population of 235,000 (Town of Milton, 2019a).

Permanent and Temporary Accommodations

In 2016, there were 34,260 private dwellings in the Town of Milton. The majority (85.9%) of homes were owned and 4,840 were rental homes (Statistics Canada, 2017).

Within the Town of Milton, there are 3 hotels/motels, as well as one privately owned campground.

Municipal Services and Infrastructure

Halton Region operates Waste Management Site, which provides recycling, hazardous household waste, yard waste and other garbage disposal services (Halton Region, 2011). The Town of Milton water supply is a groundwater system from two well fields, Kelso and Walker's Line (Halton Region, 2019).

Health and Education Services and Infrastructure

The Town of Milton is serviced by the Halton Region Health Department. There is currently one hospital within Milton, the Milton District Hospital.

Roads and Highways



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The proposed pipeline route crosses Trafalgar Road. This four-lane road carries high volumes of traffic.

The Development Services Department of the Town of Milton is responsible for managing the Town of Milton Road system, including pothole repairs, street lighting and sign maintenance, entrance culverts and rural roadside mowing. Within the Town of Milton, there are various classifications of roads and highways, from high volume urban arterials to rural collector roads.

Policing, Fire and Emergency Response Services

The Halton Regional Police Service serves the entire Town of Milton. Patrol 1 Division provides policing services to for the Town of Milton and the Town of Halton Hills. There is one Ontario Provincial Police detachment in the Town of Milton (Ontario Provincial Police, 2019).

The Town of Milton's Fire Department provides fire prevention/public education, fire communications/dispatch, firefighting and rescue operations, medical response with the Milton Paramedic Service, emergency planning/preparedness, and mechanical and fleet services for both Fire and Milton Paramedic Service. There are 3 fire stations within the Town of Milton, with the closest fire station to the study area being Fire Station 4 located at 405 James Snow Parkway South (Town of Milton, 2019b).

Potential Impacts

The presence of temporary workers in the local communities during the construction period has the potential to increase the demand for housing and local community services and infrastructure. Non-local project workers are expected to stay in temporary accommodations, including hotels, motels, and campgrounds. They may also choose to rent houses or apartments. The vacancy rate for temporary rentals will likely be able to accommodate the temporary increase. The short duration that the workers will reside near any one community, as well as the structure of the work shifts, will limit the need for workers to use the services and infrastructure in local communities.

The transportation of project goods, services and workers has the potential to lead to increased use of existing transportation infrastructure. Also, increased traffic volumes along local road networks could increase travel times and reduce road safety, which might lead to increased use of local emergency services due to potential vehicle accidents and workplace accidents. In addition, the production of project-related waste could place additional stress on the capacity of local landfills.

Potential impacts to roads are outlined in Sections 4.4.3 and 4.4.4

Mitigation and Protective Measures

Project employees might require medical attention while staying in the area. The Contractor and Sun-Canadian will have emergency response equipment and trained personnel on-site during construction. In addition, an Emergency Response Plan will be developed and implemented, which will address field health services, emergency call-out procedures and fire response plans. Safety fencing will be used where necessary to separate the work area.



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Environmental mitigation and contingency and management plans will be in place to reduce the likelihood of emergency events and to prepare for the management of emergency events on site. If an emergency incident were to occur, it is anticipated that the comprehensive mitigation, contingency plans, and safety strategies will result in a localized and low-intensity response.

A Traffic Management Plan should be in place for all roads affected by construction, which at a minimum outline measures to:

- Control the movement of materials and personnel to and from the construction site
- Post signs to warn oncoming motorists of construction activity
- Control traffic at road crossings
- Reduce on-road disturbance and land closures
- Store equipment as far from the edge of the road as practical
- Install construction barricades at road crossings

Traffic disruptions during construction will be reduced by adherence to the Traffic Management Plan. Guidelines will be developed for vehicular use on the RoW and associated access roads to avoid traffic congestion and accidents. Access to existing transportation infrastructure will be addressed through standard mitigation and will be reversible once the construction phase ends. Additional mitigation and protective measures for roads are outlined in Section 4.4.3 and 4.4.4.

The capacity of waste disposal sites will be considered and if project needs are not easily accommodated, alternative disposal locations will be considered.

Additional consultation with residents and businesses adjacent to the proposed pipeline route will be held in advance of construction commencement. Contact information for a designated Sun-Canadian representative will be available to address questions and concerns during construction. Consultation has been initiated and will continue with municipal personnel.

Net Impacts

Community services and infrastructure appear to have additional capacity to absorb potential increased temporary demands that may result from the project. Adverse effects on traffic will be minimal because the proposed pipeline route crosses Trafalgar Road by HDD and access to the RoW will be by private road off of Trafalgar Road (passenger vehicles). Construction equipment will access the RoW from 6th Line where alternate routes are readily accessible.

Given the available capacity of the local community services and infrastructure, along with the implementation of the mitigation and protective measures outlined above, no significant adverse residual impacts on community services and infrastructure are anticipated.



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4.4.3 Perceived Health and Well-Being

Existing Conditions

Health Indicators

Health indicators are measures that are regularly reported and provide relevant information about a population's health or the performance of the health system. This allows for comparable information between regions and can be used to track changes over time (CIHI, 2009).

Statistics Canada and the Canadian Institute for Health Information completed a survey of health indicators to determine the perceived health and well-being of residents aged 12 years and older within the Halton Regional Health Unit. This health unit is a geographical region created by Statistics Canada. The results represent qualitative perceptions of health and well-being from individuals living within these municipalities (Table 4-8).

Table 4-8: Health Indicators, Halton Regional Health Unit and Ontario, 2017/2018

Indicators	Halton Regional Health Unit (%)	Ontario (%)
Perceived health, very good or excellent	69.8	60.7
Perceived mental health, very good or excellent	76.1	69.1
Perceived life stress, most days quite a bit or extremely stressful	23.4	21.6

Source: Statistics Canada, 2019.

In 2017/2018 the population in the project area had perceptions of their health, mental health and life stress which were higher than Ontario as a whole.

Traffic and Congestion

Existing conditions for traffic and congestion are outlined in Section 4.4.2.

Recreation

There are 4 community centres and 10 recreational facilities in Milton providing many services such as ice arenas, aquatic centres and various sports for all ages. There are over 50 parks, 7 conservation areas within CH regulated boundaries. There are 10 18-hole golf courses and golf centres within the Town of Milton.

Potential Impacts

Perceived health and well-being is influenced by a number of factors such as individual lifestyles, social and community networks, living conditions, general socio-economic and environmental conditions. The project has the potential to affect a number of these factors, which could change the way that local residents perceive their health and well-being.



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Since perceived health and well-being is influenced by improved economic conditions, the project is expected to have positive effects by creating direct, indirect, and induced employment, and through project spending within the Town of Milton (see Section 4.4.1). There is also the potential to enhance these benefits further by selecting local and Indigenous businesses to provide services to the project, thus increasing economic activity and the associated benefits (see Section 4.4.1). This economic stimulus could increase local spending and increase income for some residents and their families. Higher income from project employment could increase the real and perceived quality of life of some local residents.

Construction activity will temporarily affect the landscape of the construction area and could impede property access. The potential for project activities to interfere with aesthetic value, property enjoyment, access to business, and with the production of nursery products, could have an adverse effect on perceived health and well-being of some residents. Potential safety concerns also exist at locations where properties, residents and vehicles come in proximity to construction activities.

Potential increases in noise, dust, exhaust (see Section 4.4.5) and traffic congestion on roads could also cause stress and affect how people perceive their quality of life. Increased traffic could also impede customer access to businesses.

The temporary workforce may increase demands on existing recreation facilities and conservation areas, including arenas and swimming pools. Since project construction is scheduled to occur during summer and fall months, winter recreation activities will not be affected.

Mitigation and Protective Measures

Mitigation and protective measures for air quality and noise are outlined in Section 4.4.5.

Access to businesses should always be maintained to reduce stress on local residents and safety fences should be installed at the edge of the construction RoW, where public safety considerations are required.

A Traffic Management Plan should be implemented to reduce effects of project-related traffic on traffic volumes, which could reduce access to businesses (see Section 4.4.2). In addition, Sun-Canadian will work with landowners to address specific concerns they may have regarding monetary compensation and their property, such as access and disruption to business.

While pipeline construction activities have the potential to temporarily affect the local landscape, restoration of the construction area will leave little evidence that a pipeline exists in the area.

Additional consultation with residents and businesses along and adjacent to the proposed pipeline route will take place in advance of construction activity. Sun-Canadian will develop an issues resolution framework to help resolve stakeholder issues that may arise during project construction and operation, and to select the appropriate mitigation measures to resolve these issues.



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Net Impacts

With planned restoration of the construction site after the proposed pipeline has been built, changes to landscapes are anticipated to be short-term. Additionally, Sun-Canadian will complete restoration of the construction area. This will reduce any adverse impact that construction may have on the aesthetic value placed on the land by residents.

In terms of economic contributions to perceived health and well-being, the effect from local economic activity is anticipated to have a positive effect on residents' perceived health and well-being.

With the implementation of the above mitigation and protective measures, the project is not anticipated to alter the lifestyles of residents. Nor will it adversely affect social and community networks or living and environmental conditions. Therefore, no significant adverse residual impacts on perceived health and well-being are anticipated.

4.4.4 Infrastructure

Existing Conditions

Infrastructure crossed by the proposed pipeline route includes roads, access roads/driveways, hydroelectric lines and a watermain. Other than a private access road at the western extent of the pipeline replacement route, these features will be crossed by HDD. Existing conditions for roads are outlined in Section 4.4.2.

The proposed pipeline route is located adjacent to residences, businesses and a golf course along Trafalgar Road.

The proposed pipeline route intersects with existing overhead hydroelectric and telecommunications utilities.

A variety of buried utilities such as telecommunication cables, low-voltage hydroelectric lines and watermains are in the road RoWs.

Mapped infrastructure crossed by the proposed pipeline route is shown on Figure 13, Appendix C.

Potential Impacts

Construction activity has the potential to temporarily affect access roads and driveways and landscaping features to residences, businesses and the golf course.

The proposed project will be constructed parallel and overlapping an existing Sun-Canadian easement, with some temporary lands required for construction purposes. Where temporary lands are required limited impacts to residences and businesses may occur. The proposed pipeline has the potential to interact with buildings, roads, hydroelectric lines, and buried and overhead utilities. Potential impacts include damage to the infrastructure and harm to personnel.



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The crossing of Trafalgar Road will be completed by way of HDD. This has the potential to produce extended periods of noise and vibration. There is also the possibility of extended work hours and the need for construction lighting (due to low light conditions).

Mitigation and Protective Measures

Access to residential properties and businesses should always be maintained to reduce stress on local residents and safety fences should be installed at the edge of the construction RoW, where public safety considerations are required.

Arrangements will be made with the community and landowners for replacement of features that are impacted by construction activities.

Mitigation and protective measures for roads is outlined in Section 4.4.2. Consultation is ongoing with the Region of Halton regarding watermain interaction.

The Contractor will be responsible for locating and exposing existing pipelines and utilities on lands that will be affected by excavation and HDD. During construction, machine operators will be informed where electrical transmission lines are present overhead. Lines that may interfere with the operation of construction equipment will be identified with warning poles and red flags.

When crossing Trafalgar Road, the Traffic Management Plan (Section 4.4.2) and additional traffic controls should be implemented. Sun-Canadian will work with nearby landowners and businesses to develop appropriate mitigation measures for noise, vibration and lighting.

Standard construction mitigation measures will be implemented that include:

- Safety fencing will be erected around bore pits
- Wood decking may be installed to support continuous construction access during wet soil conditions, and assist in protecting vegetation and seed beds
- Excavated topsoil and subsoil for bore pits and temporary work areas will be separated prior to stockpiling
- Erosion and sediment control measures will be installed around soil stockpiles

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on infrastructure are anticipated.



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4.4.5 Air Quality and Noise

Existing Conditions

The landscape along the proposed pipeline route is urban, commercial, residential and natural heritage. Urban and commercial operations have the potential to expel air emissions through automobile and equipment use.

According to the MECP's Environmental Noise Guideline (2016), the majority of the landscape along the proposed pipeline route would be categorized as a Class 2 area, meaning "an area with an acoustical environment that has quality representative of both Class 1 and Class 3 areas" with an acoustical environment dominated by the activities of people, usually road traffic during the day, and evening and night background sound defined by natural environment and infrequent human activity.

The area experiences a higher traffic volume on Trafalgar Road that represents a source of noise for most of the proposed pipeline route.

Other minor noise sources within the study area include occasional sounds due to anthropogenic nursery and golf course maintenance activities and occasional sounds due to anthropogenic domestic activities such as property maintenance and recreation.

Potential Impacts

Residential and business properties may experience noise, dust, vibration and equipment exhaust associated with construction activity. During operation, no substantial air or noise emissions are anticipated to occur.

Mitigation and Protective Measures

During construction, motorized construction equipment should be equipped with functioning mufflers and silencers. Company and construction personnel should avoid excessive idling of vehicles; vehicles and equipment should be turned off when not in use unless required for operation. To the greatest extent practical, activities that could create noise should be restricted to daylight hours and adhere to local noise by-laws. Sources of continuous noise, such as portable generators, should be shielded or located to reduce disturbance to residents and businesses.

The Contractor should implement site practices during construction that are in line with the Environment Canada document 'Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities' (Cheminfo Services Inc., 2005), which may include:

- Maintaining equipment in compliance with regulatory requirements
- Protecting stockpiles of friable material with a barrier or windscreen in the event of dry conditions and dust
- Dust suppression of source areas



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- Covering loads of friable materials during transport

Watering for dust control must not result in the formation of puddles, rutting by equipment or vehicles, the tracking of mud onto roads or the siltation of watercourses.

See Section 4.2.1 for mitigation and protective measures for blasting activities.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts from air quality and noise are anticipated.

4.4.6 Waste Management and Landfills

There are no waste management facilities, active landfills or closed landfills within the study area. Construction activities generate waste that requires appropriate disposal.

Potential Impacts

Improper disposal of waste material generated during construction may result in contamination to soil, groundwater, and/or surface water resources on and off the construction RoW. Litter generated during construction may also become a nuisance to landowners and/or surrounding residents if not contained.

Mitigation and Protective Measures

The Contractor should implement a site-specific waste collection and disposal management plan, which may include:

- Waste materials, sanitary waste and recycling transported off-site by licensed waste contractors.
- The responsible management of fill (see Section 4.2.5).
- Labelling and storage of hazardous and liquid wastes in a secure area that would contain material in the event of a spill.
- Implementation of a waste management program consisting of reduction, reuse, and recycling of materials.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts from waste management are anticipated.



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4.4.7 Land Use

Existing Conditions

The proposed pipeline route is in the Town of Milton. According to the Town of Milton Official Plan (Town of Milton, 2008), the proposed pipeline route crosses land designated as “Agricultural Area” and “Greenlands A Area”. According to Section 2.6.3.41 “major oil and gas transmission pipelines and related facilities [...] shall be permitted in all land use designations with the exception of the Escarpment Natural Area designation and the Greenlands A Area designation within the Niagara Escarpment Plan” (Town of Milton, 2008). The proposed pipeline is outside of the Niagara Escarpment Plan (Niagara Escarpment Commission, 2020).

The proposed pipeline route crosses Trafalgar Road, a designated major arterial road in the Town of Milton Official Plan (2018). According to Section 2.6.3.4 of the Official Plan, major arterial roads “accommodate truck traffic, carry high volumes of traffic and distribute traffic to and from provincial freeways and highways”.

The proposed pipeline route includes areas designated as “protected countryside” under the Greenbelt Plan (Government of Ontario, 2017). These areas are identified under the Greenbelt Plan’s protected countryside. The protected countryside is a continuous agricultural system maintaining the agriculture-food network (Government of Ontario, 2017). According to Section 3.3.3.4 of the Greenbelt Plan, preserving the continuous integrity of utility corridors should be considered by the municipalities for all lands within the protected countryside.

Potential Impacts

As noted above, oil pipelines are permitted facilities in the various municipal land uses, and thus no impacts to municipal land use designations will occur.

Potential impacts on agricultural and non-agricultural businesses are discussed in Section 4.4.1. Potential impacts on uses of land will be interruption to access or use, including potential increases in traffic during construction.

Mitigation and Protective Measures

Mitigation and protective measures for agricultural soils and for businesses are discussed in Sections 4.2.5 and 4.4.1, respectively.

Consultation has been initiated, and will continue, with the Town of Milton as well as landowners along the proposed pipeline route in order to identify methods of minimizing disturbance to property and maintaining access to lands, to the extent possible. Where work is to occur within CA regulated areas, permits will be obtained from CH as per O. Reg. 162/06.



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Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on land use are anticipated.

4.4.8 Archaeological Resources

Existing Conditions

A Stage 1 Archaeological Assessment (AA) (Appendix E) has been conducted for the entire route. A copy of the completed Stage 1 AA report has been submitted to the MHSTCI for review and inclusion in the *Ontario Public Register of Archaeological Reports*.

Initial background research included a review of current land use, historic and modern maps and past settlement history. It also involved a review of previously registered archeological resources within 1 km of the project area and previous archaeological assessments within 50 m.

Overall, the Stage 1 AA determined that the majority of the study area has archaeological potential.

A Stage 2 AA (Appendix E) was completed and resulted in the identification of one archaeological location. The find spot does not meet the provincial criteria for Stage 3 assessment and no further work was recommended. The Stage 2 AA was submitted to the MHSTCI and entered into the *Ontario Public Register of Archaeological Reports*.

Potential Impacts

Based on the results of the Stage 2 AA the Project should be considered free of archaeological concern and no potential impacts are anticipated.

Mitigation and Protective Measures

As no potential impacts are anticipated, no mitigation and protective measures are required.

Net Effects

No significant adverse residual impacts on archaeological resources are anticipated.

4.4.9 Built Heritage Resources and Cultural Heritage Landscapes

Existing Conditions

A Heritage Checklist (Appendix F) has been completed for the preferred route through agency consultation and review of historic mapping. Based on desktop review and consultation with the Town of Milton, indicators of potential cultural heritage value were identified within the study area. These features will be mapped and further assessed to avoid potential effects on the resources as part of a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (CHRECPIA).



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Potential Impacts

The Project may have the potential to directly impact built heritage resources and cultural heritage landscapes during construction. A CHRECPIA will be completed prior to construction. The report will assess the potential built heritage resources and cultural heritage landscapes, the relationship of each to the Project and the impacts of the proposed undertaking on resources and landscapes. The Report will also provide recommendations pertaining to the mitigation of negative impacts to safeguard these resources during the construction and operation phases of the Project.

Mitigation and Protective Measures

Prior to construction, the above-referenced CHRECPIA will be undertaken and submitted to the MHSTCI for their review and comment. The Report will contain mitigation measures for potential impacts, if required.

Net Impacts

With the implementation of the above mitigation and protective measures, no significant adverse residual impacts on built heritage resources and cultural heritage landscapes are anticipated.

4.4.10 Indigenous Interests

Existing Conditions

ENDM identified the potential for impacts to the following Indigenous communities:

- Mississaugas of the Credit First Nation;
- Six Nations of the Grand River (Six Nations of the Grand River Elected Council);
- Six Nations of the Grand River (Haudenosaunee Confederacy Chiefs); and
- Huron Wendat;

Ontario, as the Crown, has a legal duty to consult with Indigenous peoples regarding projects or decisions that may adversely impact constitutionally protected Indigenous or treaty rights.

Potential Impacts

Although not known to occur, the project may affect traditional territories of Indigenous communities and during construction harvesting and hunting in the construction RoW could be impeded. There is the potential to disturb culturally significant resources or artifacts. Archaeological surveys could also result in the finding of Indigenous artifacts.



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Mitigation and Protective Measures

Sun-Canadian has sought input from the identified Indigenous communities and will continue engaging with Indigenous communities as the project moves forward. Information on the current state of Indigenous engagement will be provided in the application to the OEB.

Mitigation and protective measures for archaeology are discussed in Section 4.4.8.

Net Impacts

By undertaking the above engagement and archaeological assessments, no significant adverse residual impacts on Indigenous interests are anticipated.

4.5 SUMMARY OF RECOMMENDATIONS

Table 4-9 provides a summary of the recommended supplemental studies, mitigation and protective measures identified in Sections 4.2-4.4.



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PHYSICAL FEATURES		
Bedrock Geology <i>Section 4.2.1</i>	No impacts anticipated.	N/A
Physiography and Surficial Geology <i>Section 4.2.2</i>	Disturbance to the overburden along the proposed pipeline is limited to the entry and exit pit locations and may cause surface soil erosion. Slumping may occur within the entry and exit pits during construction.	<p>Surface soil erosion can occur in the absence of vegetative cover. Where there is potential for soil erosion, the need for and location of erosion and sediment control (ESC) measures should be determined by an inspector with appropriate qualifications and installed prior to the commencement of work in the area.</p> <p>When land is exposed, the exposure should be kept to the shortest practical period. Natural features should be preserved to the extent practical. Temporary vegetation and mulching should be used to protect areas as appropriate. Where required, natural vegetation should be re-established as soon as practical.</p> <p>The Contractor must obtain adequate quantities of materials to control erosion. Additional supplies should be maintained in a readily accessible location for maintenance and contingency purposes. ESC structures should be monitored to maintain their effectiveness through the life of construction and post-construction rehabilitation.</p> <p>Extreme precipitation events could result in damage to ESC measures which could lead to erosion. When site conditions permit, ESC measures should be repaired and re-installed on erosion susceptible surfaces. If the erosion is resulting from a construction-related activity, the activity should be halted immediately until the situation is rectified.</p> <p>To avoid the entry and exit pits from slumping, pit walls should be sloped and should be monitored during wet conditions. Trench boxes may be required depending on site specific conditions.</p> <p>ESC and stabilization measures should be maintained during construction, restoration and rehabilitation until vegetative cover is established. Where evidence of erosion exists, corrective control measures should be implemented as soon as conditions permit. Permits obtained from CH may contain conditions pertaining to ESC.</p>
Hydrogeology <i>Section 4.2.3</i>	<u>Hydrostatic Testing and Dewatering/Sand-pointing</u>	<u>Hydrostatic Testing and Dewatering/Sand-pointing</u>



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	<p>A hydrostatic test will be undertaken for the proposed pipeline.</p> <p>Where the entry and exit pits encounter shallow groundwater conditions or following a large precipitation event, removing water (known as dewatering) may be necessary. During dewatering, discharge water will be released to the environment. An uncontrolled discharge of water could cause downstream flooding, erosion, sedimentation, or contamination.</p> <p><u>Private Water Wells</u></p> <p>There are approximately 24 water supply wells within 500 m of the proposed pipeline route, 14 of which are domestic. There are two water supply wells within 50 m of the proposed pipeline, both of which are domestic. Depending on the proximity to wells, the depth of the well installation and the groundwater levels encountered during excavation, dewatering has the potential to impact water well quality or quantity at some of the overburden supply wells.</p> <p><u>Municipal Water Supply</u></p> <p>The proposed pipeline extends through a SGRA and an IPZ associated with the municipal groundwater supply system (Conservation Halton, 2018).</p> <p>Based on the <i>Clean Water Act</i> (2006), there are no significant chemical, pathogen or dense non-aqueous phase liquids</p>	<p>For groundwater dewatering, the MECP allows registration under the EASR for construction dewatering projects where groundwater takings will be greater than 50,000 L/day and less than 400,000 L/day; however, should groundwater takings exceed 400,000 L/day, a PTTW may be required from the MECP.</p> <p>If surface water is used as the source water for the hydrostatic test, a PTTW application would be required and would include an assessment of the capacity of the source to provide the required water without impacting the ecosystem, and recommendations for mitigation measures such as screened water intakes to limit intake of debris and organisms and energy dissipation/erosion control measures during discharge to limit erosion and sedimentation.</p> <p>To reduce the potential for erosion and scouring at discharge locations during construction dewatering/sand-pointing and/or hydrostatic testing, energy dissipation techniques should be used. Discharge piping should be free of leaks and should be properly anchored to prevent bouncing or snaking during surging. Protective measures may include dewatering at low velocities, dissipating water energy by discharging into a filter bag or diffuser and utilizing protective riprap or equivalent. If energy dissipation measures are found to be inadequate, the rate of dewatering should be reduced or dewatering discontinued until satisfactory mitigation measures are in place. Discharge should be monitored to make sure that no erosion or flooding occurs.</p> <p>To assess the potential for introduction of contaminated water to soils or bodies of water, testing of hydrostatic and dewatering discharge water should be considered. Testing requirements can be influenced by the nature and quality of the source water used, any additives to the test water, the nature of the pipeline, and pipeline contents. An environmental consultant should be consulted to determine what testing is necessary for the discharge water.</p> <p><u>Private Water Wells</u></p> <p>A private well survey should take place to assess domestic groundwater use near the proposed pipeline and a private well monitoring program may be recommended within 100 m of HDD activities for residents who rely on overburden groundwater supply for domestic use.</p>



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	source water threats to municipal supply sources based on the construction or operation of the proposed pipeline.	<p><u>Municipal Water Supply</u></p> <p>There are no nearby municipal supply wells, and therefore additional mitigation measures are not required to protect groundwater drinking supply sources.</p> <p>During construction, the primary concern to surface water quality is the potential for a contaminant spill during a large storm event. To address this concern, the following mitigation measures are proposed:</p> <p>Refueling of equipment should be undertaken a minimum of 30 m from wetlands and watercourses to reduce potential impacts to surface water and groundwater quality if an accidental spill occurs. If a 30 m refueling distance is not possible, under approval from on-site environmental personnel, special refueling procedures for sensitive areas should be undertaken that include, at a minimum, using a two-person refueling system with one worker at each end of the hose.</p> <p>To reduce the impact of potential contaminant spills, the Contractor should implement spill management protocols such as secondary containment of any temporary fuel storage and preparation of a spill response plan.</p> <p>Work should be limited or stopped during and immediately following significant precipitation events (i.e. 100-year storm event), at the discretion of on-site environmental personnel.</p>
Extractive Resources: Aggregates and Petroleum Resources <i>Section 4.2.4</i>	No impacts anticipated.	N/A
Soil and Soil Capability <i>Section 4.2.5</i>	<p>The proposed pipeline route crosses agricultural land. There are potential impacts to topsoil as a result of construction including compaction, loss of organic matter and degraded soil structure. Excess subsoil may be removed from the site.</p> <p>Excavation and construction activities across agricultural land have the potential</p>	<p><u>Excess Soil</u></p> <p>It is noted that O.Reg. 406/19 was filed in December 2019 and comes into force January 1, 2021. O.Reg. 406/19 includes regulations for the management of soil on-site as well as the movement of excess soils off-site in the province of Ontario, including stockpile size and setback requirements and environmental soil quality characterization requirements prior to the movement of drilling mud and soil off-site. It is recommended that Sun-Canadian retain a qualified person for environmental site assessment who is knowledgeable in environmental soil quality characterization, as well as O.Reg. 406/19.</p>



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	<p>to affect soil quality and agricultural capability. The movement of heavy machinery on wet soil may cause rutting, compaction, and mixing of topsoil with subsoil. When exposed, soils are more prone to erosion from the loss of vegetative cover. Improperly salvaged topsoil can result in topsoil and subsoil mixing, compaction, rutting, and erosion, which can potentially decrease crop yields.</p>	<p>The Contractor is solely responsible for the location and management of stockpiles on-site as they relate to traffic management, construction staging, and the effective management of construction productivity. With the exception of such variances as may be allowed under O.Reg. 406/19, Soil Rules, and/or site-specific instruments such as Environmental Compliance Approvals (ECAs), stockpiling and storage of soil shall be according to the Soil Rules referenced by O.Reg. 406/19, including, but not limited to, the following:</p> <ul style="list-style-type: none"> • Managed in such a way as to prevent adverse effects relating to noise, dust, mud tracking, leaching, run-off and erosion, and odour or other air impacts. • Stored in stockpiles with total volume of less than 2,500 m³. • Soil of different quality, or from different areas, or that has not yet been sampled is segregated. • Stored more than 30 m away from a waterbody, and more than 10 m away from property boundaries. • Stored in a manner that prevents leaching of contaminants into the groundwater. <p>Materials that are surplus and required to be removed from site for disposal or reuse must be tested in accordance with O.Reg. 406/19, Reg. 347, or receiving site requirements under a site-specific instrument to determine management options. For excess soil, the Contractor Qualified Person (QP) shall determine sampling frequency and analytical parameters as required by O.Reg. 406/19 and Reg. 347, and in consultation with the CA. The Contractor QP shall be responsible for the production of all required documentation per O.Reg. 406/19.</p> <p><u>Wet Soil Shutdown</u></p> <p>To the extent feasible, construction activities should occur during drier times of the year. Lands affected by heavy rainfall events should be monitored for wet soil conditions, to avoid the potential for topsoil and subsoil mixing and loss of structure. Construction activities should be temporarily halted on agricultural lands where excessively wet soil conditions are encountered, as per Sun-Canadian's standard wet soils shutdown practice. Sun-Canadian's on-site inspection team should determine when construction activities may be resumed.</p>



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		<p>If a situation develops that necessitates construction during wet soil conditions, soil protection measures should be implemented, such as confining construction activity to the narrowest area practical, installing surface protection measures, and using wide tracked or low ground pressure vehicles.</p> <p><u>High Winds</u> During construction activities, weather should be monitored to identify the potential onset of high wind conditions and to preserve topsoil. In the event that high winds occur, the Contractor should implement protective measures such as: suspend earth moving operations; apply dust suppressants or vegetate the soil stockpiles; protect soil stockpiles with a barrier or windscreen. In conjunction with the above measures, all required materials and equipment should be readily accessible and available for use as required.</p> <p><u>Soil Stripping</u> Topsoil depths should be measured prior to stripping so that the proper depth of topsoil is removed and replaced. Where stripping is undertaken on agricultural lands, topsoil and subsoil should be stripped and stockpiled separately to avoid mixing. If clean-up is not practical during the construction year, it should be undertaken in the year following construction, starting once the soils have sufficiently dried. Interim soil protection measures should be implemented in sensitive areas to stabilize the RoW for over-wintering.</p> <p><u>Soil Compaction</u> Where soil has been compacted by the construction process on agricultural lands, an agrologist should determine where decompaction may be necessary. Compaction can be alleviated by using farm equipment such as an agricultural subsoiler prior to replacing the topsoil. Sub-soiling with an agricultural subsoiler, followed by discing, chisel ploughing and cultivating, to smooth the surface, should be considered on agricultural lands. In high traffic areas of the RoW where deep compaction persists, additional deep tillage or subsoiling may be required on a site-specific basis. Soil density and/or penetrometer measurements on and off the easement may be used as a means of assessing the relative degree of soil compaction caused by construction along the RoW as well as determining that the RoW has been sufficiently decompacted.</p>



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		Additionally, rig mats may be utilized during the construction process to aid in reducing the level of soil compaction.
Agricultural Tile Drains <i>Section 4.2.6</i>	No impacts anticipated	N/A
Natural Hazards <i>Section 4.2.7</i>	A flooding event during construction could result in construction delays, soil erosion, sedimentation of a watercourse, bore pit slumping, and damage or loss of construction equipment and contamination of a watercourse because of equipment entering a watercourse.	If flooding necessitates a change in the construction schedule, affected landowners and regulatory agencies should be notified and construction should continue at non-affected locations. Temporary workspaces should be located above the floodplain to the extent practical, unless necessary for watercourse crossings. All work in the floodplains will be subject to a permit from CH.
BIOPHYSICAL FEATURES		
Aquatic Features <i>Section 4.3.1</i>	<p>The proposed pipeline will cross underneath East Sixteen Mile Creek using the HDD method. The HDD process involves drilling a pilot bore hole underneath the watercourse and back-reaming the bore hole to the drill rig. Once the hole is of a sufficient diameter the pipeline is pulled into the hole by the drill rig. HDD typically uses a mixture of freshwater and bentonite to flush drill cutting from the hole and to act as a lubricant.</p> <p>The points of drill entry and exit will be outside the limits of the Sixteen Mile Creek valley. Therefore, there will be no disturbance in the active channel of the watercourse, nearshore habitats, or floodplain and riparian areas. No areas</p>	<p>The following general environmental mitigation measures should be taken to protect fish and fish habitat:</p> <ul style="list-style-type: none"> • Data obtained from the geotechnical report aided in determining the feasibility of the HDD drill path. • Design the directional drill so that drilling slurry pressure is minimized, and the drilling rate is reduced in porous materials to minimize the chance of loss of circulation of the drilling slurry. • HDD should be completed within the permitted construction timing window of July 1 to September 15 to protect sensitive life stages for Silver Shiner and fishes in general. This window was established based on communications with MECP staff for a project in the CH jurisdiction. • An experienced and certified environmental monitor (i.e., a Certified Inspector of Sediment and Erosion Control [CISEC]) should be on site during HDD activities. • Prior to removal of the vegetation cover, effective mitigation techniques for erosion and sedimentation should be in place to protect water quality. Disturbance to the area during construction should be limited and



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	<p>considered to be fish habitat or habitat for Silver Shiner will be disturbed.</p> <p>HDD is intended to be a less intrusive construction method than traditional open cut crossing of a watercourse. However, there is a possibility of surface (water, riparian, wetland) disturbance if an inadvertent release of drilling fluid or a release of sediment laden groundwater occurs. There is also the potential for sediment laden water or other deleterious substances to enter a surface water feature as the result of grading, drilling excavations, equipment washing, or other construction related activities during directional boring.</p> <p>Inadvertent releases are typically caused by the pressurization of the drill hole beyond the containment capability of the near surface geologic materials (soil and/or rock). Therefore, the type and depth of these materials, as well as the drilling pressure, are key factors in preventing and managing frac-outs.</p>	<p>grubbing activities should be delayed until immediately prior to grading operations.</p> <ul style="list-style-type: none"> • A drilling mud release contingency plan should be prepared and kept on-site. • Install as appropriate berms, silt fencing and secondary containment measures (i.e., plastic tarp) around drilling and drilling mud management equipment at both bore entry and bore exit locations to contain operational spills. • Immediately contain any drilling mud that escapes onto land and transfer it into an on-site containment system. • Temporary erosion and sediment control measures should be maintained and kept in place until work within or near a watercourse has been completed and stabilized. Temporary sediment control measures should be removed at the completion of the work but not until permanent erosion control measures have been established. • Construction material, excess material, construction debris and empty containers should be stored a minimum of 30 m from watercourses and watercourse banks, where practical. • Equipment maintenance and refueling should be controlled to prevent entry of petroleum products or other deleterious substances, including any debris, waste, rubble, or concrete material, into a watercourse, unless otherwise specified in the contract. • Deleterious substances (fuel, oil, spoil) should be stored a minimum of 30 m from the watercourse. Any such material that inadvertently enters a watercourse should be removed in a manner satisfactory to the environmental inspector. • Maintain smooth operation of the drilling string and slurry pumping systems to avoid pressure surges. • Reduce slurry viscosity through appropriate filtering of drilled material to reduce the pressure gradient along the drill path due to frictional effects.



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		<ul style="list-style-type: none"> • Continually monitor slurry volumes to enable a quick response to any indications of lost circulation. • Clean up operational spills daily to prevent mobilization of drilling mud off site during rain events. • Drilling mud should be disposed in accordance with the appropriate regulatory authority requirements. • Following construction, any disturbed vegetation will be restored to pre-construction conditions to the extent possible in accordance with environmental permits. <p><u>Bore Path Collapse Mitigation Measures</u></p> <p>The following mitigation measures should be applied as recommended by geotechnical studies to prevent HDD borehole collapse from occurring in susceptible soils:</p> <ul style="list-style-type: none"> • Fluid volumes, annular pressure and cutting returns should be strictly monitored to ensure bore hole plugging and fluid losses are detected and addressed immediately. • Alternative drill paths should be evaluated to minimize exposure to challenging soil materials. • Drilling mud should be maintained in the borehole until the pipeline is installed. This can be facilitated by positioning the entry and exit points in areas with cohesion less soils (e.g., silt-sand zones). <p><u>Contingency Plan</u></p> <p>A drilling mud release contingency plan should be prepared and kept on-site. Spills containment and clean-up procedures will be implemented immediately in the unlikely event of a spill. The proponent will immediately contact the Ministry of Environment and Conservation and Parks (MECP) Spills Action Centre. The MECP Spills Action Centre is the first point of contact for spills at the provincial and federal level. In addition, the following agencies will be contacted:</p> <ul style="list-style-type: none"> • DFO (Toll-free: 1-855-852-8320) • MNRF (Toll-free:1-866-517-0571)



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		<ul style="list-style-type: none"> • CH (Tel: 1-905-336-1158) <p>A contingency plan will be in place to effectively address inadvertent releases of sediment through frac-outs, or other releases of sediment laden water from the project site. The contingency plan outlines the steps that the Contractor is to take in the event of a sediment release or other type of spill. The contingency plan will also outline the steps involved to mitigate an inadvertent release after it occurs.</p> <p>If a sediment spill occurs within the watercourse, adequate isolation of the release should be provided to contain the sediment. For example, a vacuum truck may be on-site during construction and ready to remove the drilling fluid and any other frac out soil.</p> <p>The following materials should be readily available during drilling operations and prepared to employ them in the event of a drilling mud spill or inadvertent release: sand bags, straw bales, silt fencing and a hydrovac truck.</p> <p>All products used on site are to be environmentally safe. Inadvertent release mitigation wells may also be considered to relieve drilling pressures. The Contingency Plan should indicate if, and when, HDD activities are to resume. For example, when mitigation measures have been implemented are deemed to be effective at mitigating potential ecological impacts.</p>
<p>Designated Natural Areas and Vegetation <i>Section 4.3.2</i></p>	<p>Where there is natural vegetation within or adjacent to the proposed pipeline route, potential impacts include the removal of native vegetation, introduction or spread of invasive species, and indirect effects such as dust, erosion, and accidental spills.</p>	<p>Environmental mitigation and protective measures during construction include the following:</p> <ul style="list-style-type: none"> • Where the RoW abuts a woodland on one side, detailed design should avoid the feature where possible. • Determine municipal requirements or permits for tree removal (if required) prior to construction. • Clearing should be minimized/avoided to the extent possible in sensitive areas such as woodlots, along watercourses, adjacent to the ANSI and in areas of significant groundwater recharge. • The limits of clearing should be surveyed and staked in the field, to allow for the protection of off-site natural areas and vegetation. • All brush and trees should be felled (if required) within the project footprint.



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		<ul style="list-style-type: none"> • Clearing should be done during dry soil conditions to the extent practical to limit disturbance to vegetation and terrain. • Precautionary measures (e.g., equipment washing before site access) may be necessary to mitigate for the spread of non-native species. • A re-vegetation program should be initiated for all vegetated temporary work areas. Sun Canadian should consult with landowners and CH to confirm replanting plans. • Seeding of the disturbed temporary work areas and permanent easement should be done with a native seed mix reviewed CH. Replaced soils should contain native seed bank, facilitating successful revegetation. • One year following construction, planted vegetation should be inspected for survival; in areas of severe dieback, dead and diseased planted vegetation should be replaced. <p>Mitigation and protective measures are outlined in Section 4.4.5 for dust, Section 4.2.2 for erosion and Section 4.3.1 for accidental spills.</p>
<p>Wildlife, Wildlife Habitat and Species at Risk <i>Section 4.3.3</i></p>	<p>Potential impacts on wildlife and wildlife habitat from construction include direct mortality from construction vehicles, habitat destruction through vegetation removal, habitat degradation through spills and sensory disturbance of wildlife during construction.</p>	<p>Environmental mitigation and protective measures during construction include the following:</p> <ul style="list-style-type: none"> • Detailed design of the proposed pipeline should be reviewed to avoid and reduce the likelihood of impact upon wildlife habitat to the extent possible, and in particular habitats of Endangered, Threatened, Special Concern and rare species. • Equipment and vehicles should yield the RoW to wildlife. • Fencing should be erected around deep excavations to prevent wildlife entrapment. • The Contractor should inform their personnel to not threaten, harass or injure wildlife. • If wildlife are encountered during construction, personnel are required to move away from the animal and wait for the animal to move off the construction site. • A butternut tree is located within 25m of the pipeline laydown area. Avoidance of the tree is recommended. For work within 25m of the trees, consultation with MECP is recommended to confirm requirements under the ESA.



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		<ul style="list-style-type: none"> • Tree removal is not anticipated; however if removal of trees identified as potential bat maternity roots is required, removal should not occur between April 1 and October 1 to avoid direct impacts to bats. Consultation with MECP is recommended to confirm requirements under the ESA. • Silt fencing is recommended along the perimeter of the HDD work zone to prevent encroachment into East Sixteen Mile Creek, exclude reptiles and amphibians during their active period (approximately April 1 – October 31), as well as prevent sedimentation. • Construction activities with the potential to remove migratory bird habitat, such as vegetation clearing, should be avoided during the breeding season which is generally from April 1- August 31 in southern Ontario (Environment Canada, 2017). Should vegetation clearing activities be unavoidable during this window, a mitigation program should be developed, which includes measures to reduce and avoid impacts to migratory birds and their nests (Government of Canada, 2018). This program should include preventative and mitigation measures but may also include avoidance of clearing during key sensitive periods and in key locations. • If SAR are encountered during the proposed pipeline replacement, work will stop and consultation with the MECP regarding the potential need for a permit under the ESA and/or species-specific mitigation will be conducted. <p>Mitigation and protective measures are outlined in Section 4.3.2 for vegetation removal and Section 4.3.1 for accidental spills.</p>
SOCIO-ECONOMIC ENVIRONMENT		
<p>Employment and Business <i>Section 4.4.1</i></p>	<p>Project demands for labour and goods and services can result in both beneficial and adverse effects. Positive effects may not be evenly distributed among populations, with some residents in a better position to receive economic benefits than others. Similarly, adverse effects may affect some residents more than others.</p> <p>Residual effects on employment are related to the project’s labour demand</p>	<p>It is expected that the project will generally result in positive effects on employment by employing local and Indigenous people, and by reducing the unemployment rate in the region. These positive effects do not require mitigation, but Sun-Canadian will identify and implement various mechanisms to enhance project benefits.</p> <p>The potential effects of the project because employment opportunities and purchasing local goods and services is expected to be positive during construction and operation, so no mitigation will be required.</p> <p>With respect to potential adverse effects on agricultural and non-agricultural businesses (commercial and industrial), Sun-Canadian will engage with land</p>



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	<p>compared to the labour supply. Three types of employment are considered:</p> <ul style="list-style-type: none"> • Direct employment: labour that is hired directly for the project • Indirect employment: labour hired by companies to produce and provide goods and services needed for the project • Induced employment: labour hired by industries that produce and provide consumer items and services purchased by people who are directly or indirectly employed by the project <p>Labour conditions will be affected by direct, indirect and induced employment during all project phases.</p> <p>The project could affect business through purchases of labour, goods and services from local businesses, including businesses owned by Indigenous peoples, and will result in increased local employment income and municipal government revenue. Local businesses will likely benefit from supplying the project with goods and services.</p> <p>Land clearing and other construction-related project activities could adversely affect agricultural productivity and operations, and businesses along the proposed pipeline route that include PAO Horticultural, Jade Gardens & Greenhouse and Piper's Heath Golf Club. Other potential adverse effects include impairment to the use and enjoyment of</p>	<p>owners, business operators, and the Town of Milton to address access to the project area, the portion of land that will be altered as part of site preparation, long-term changes to agricultural and non-agricultural land and the development of appropriate and feasible mitigation measures.</p>



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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures
	property and conflicts with farm machinery and other vehicular movement.	
Community Services and Infrastructure <i>Section 4.4.2</i>	<p>The presence of temporary workers in the local communities during the construction period has the potential to increase the demand for housing and local community services and infrastructure. Non-local project workers are expected to stay in temporary accommodations, including hotels, motels, and campgrounds. They may also choose to rent houses or apartments. The vacancy rate for temporary rentals will likely be able to accommodate the temporary increase. The short duration that the workers will reside near any one community, as well as the structure of the work shifts, will limit the need for workers to use the services and infrastructure in local communities.</p> <p>The transportation of project goods, services and workers has the potential to lead to increased use of existing transportation infrastructure. Also, increased traffic volumes along local road networks could increase travel times and reduce road safety, which might lead to increased use of local emergency services due to potential vehicle accidents and workplace accidents. In addition, the production of project-related waste could place additional stress on the capacity of local landfills.</p>	<p>Project employees might require medical attention while staying in the area. The Contractor and Sun-Canadian will have emergency response equipment and trained personnel on-site during construction. In addition, an Emergency Response Plan will be developed and implemented, which will address field health services, emergency call-out procedures and fire response plans. Safety fencing will be used where necessary to separate the work area.</p> <p>Environmental mitigation and contingency and management plans will be in place to reduce the likelihood of emergency events and to prepare for the management of emergency events on site. If an emergency incident were to occur, it is anticipated that the comprehensive mitigation, contingency plans, and safety strategies will result in a localized and low-intensity response.</p> <p>A Traffic Management Plan should be in place for all roads affected by construction, which at a minimum outline measures to:</p> <ul style="list-style-type: none"> • Control the movement of materials and personnel to and from the construction site • Post signs to warn oncoming motorists of construction activity • Control traffic at road crossings • Reduce on-road disturbance and land closures • Store equipment as far from the edge of the road as practical • Install construction barricades at road crossings <p>Traffic disruptions during construction will be reduced by adherence to the Traffic Management Plan. Guidelines will be developed for vehicular use on the RoW and associated access roads to avoid traffic congestion and accidents. Access to existing transportation infrastructure will be addressed through standard mitigation and will be reversible once the construction phase ends.</p> <p>The capacity of waste disposal sites will be considered and if project needs are not easily accommodated, alternative disposal locations will be considered.</p> <p>Additional consultation with residents and businesses adjacent to the proposed pipeline route will be held in advance of construction commencement. Contact</p>



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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures
		<p>information for a designated Sun-Canadian representative will be available to address questions and concerns during construction. Consultation has been initiated and will continue with municipal personnel.</p> <p>The proposed pipeline does not cross any roads and access to the RoW will be by private road off of Trafalgar Road (passenger vehicles). Construction equipment will access the RoW from 6th Line where alternate routes are readily accessible.</p>
<p>Perceived Health and Well-Being <i>Section 4.4.3</i></p>	<p>Perceived health and well-being is influenced by a number of factors such as individual lifestyles, social and community networks, living conditions, general socio-economic and environmental conditions. The project has the potential to affect a number of these factors, which could change the way that local residents perceive their health and well-being.</p> <p>Since perceived health and well-being is influenced by improved economic conditions, the project is expected to have positive effects by creating direct, indirect, and induced employment, and through project spending within the Town of Milton (see Section 4.4.1). There is also the potential to enhance these benefits further by selecting local and Indigenous businesses to provide services to the project, thus increasing economic activity and the associated benefits (see Section 4.4.1). This economic stimulus could increase local spending and increase income for some residents and their families. Higher income from project employment could increase the real and</p>	<p>Mitigation and protective measures for air quality and noise are outlined in Section 4.4.5.</p> <p>Access to businesses should always be to reduce stress on local residents and safety fences should be installed at the edge of the construction RoW, where public safety considerations are required.</p> <p>A Traffic Management Plan should be implemented to reduce effects of project-related traffic on traffic volumes, which could reduce access to businesses and farmland (see Section 4.4.2). In addition, Sun-Canadian will work with landowners to address specific concerns they may have regarding monetary compensation and their property, such as access and disruption to business.</p> <p>While pipeline construction activities have the potential to temporarily affect the local landscape, restoration of the construction area will leave little evidence that a pipeline exists in the area.</p> <p>Additional consultation with residents and businesses along and adjacent to the proposed pipeline route will take place in advance of construction activity. Sun-Canadian will develop an issues resolution framework to help resolve stakeholder issues that may arise during project construction and operation, and to select the appropriate mitigation measures to resolve these issues.</p>



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	<p>perceived quality of life of some local residents.</p> <p>Construction activity will temporarily affect the landscape of the construction area and could impede property access.</p> <p>Construction activities also have the potential to disturb the perceived aesthetic value that residents place on their property and the area in general. The potential for project activities to interfere with aesthetic value, property enjoyment, access to business and production of nursery products, could have an adverse effect on perceived health and well-being of some residents. Potential safety concerns also exist at locations where properties, residents and vehicles come in proximity to construction activities.</p> <p>Potential increases in noise, dust, exhaust (see Section 4.4.5) and traffic congestion on roads could also cause stress and affect how people perceive their quality of life. Increased traffic could also impede customer access to businesses.</p> <p>The temporary workforce may increase demands on existing recreation facilities and conservation areas, including arenas and swimming pools. Since project construction is scheduled to occur during summer and fall months, winter recreation activities will not be affected.</p>	
<p>Infrastructure <i>Section 4.4.4</i></p>	<p>Construction activity has the potential to temporarily affect access roads and driveways and landscaping features to</p>	<p>Access to residential properties and businesses should always be maintained to reduce stress on local residents and safety fences should be installed at the edge of the construction RoW, where public safety considerations are required.</p>



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	<p>residences, businesses and the golf course.</p> <p>The proposed project will be constructed parallel and overlapping an existing Sun-Canadian easement, with some temporary lands required for construction purposes. Where temporary lands are required limited impacts to residences and businesses may occur. The proposed pipeline has the potential to interact with buildings, roads/highways, hydroelectric lines, and buried and overhead utilities. Potential impacts include damage to the infrastructure and harm to personnel.</p> <p>The crossing of Trafalgar Road will be completed by way of Horizontal Directional Drill (HDD). This has the potential produce extended periods of noise and vibration. There is also the possibility of extended work hours and the need for construction lighting (due to low light conditions).</p>	<p>Arrangements will be made with the community and landowners for replacement of features that are impacted by construction activities.</p> <p>Mitigation and protective measures for roads is outlined in Section 4.4.2. Consultation is ongoing with the Region of Halton regarding watermain interaction.</p> <p>The Contractor will be responsible for locating and exposing existing pipelines and utilities on lands that will be affected by excavation and HDD. During construction, machine operators will be informed where electrical transmission lines are present overhead. Lines that may interfere with the operation of construction equipment will be identified with warning poles and red flags.</p> <p>When crossing Trafalgar Road the Traffic Management Plan (Section 4.4.2) and additional traffic controls should be implemented. Sun-Canadian will work with nearby landowners and businesses to develop appropriate mitigation measures for noise, vibration and lighting.</p> <p>Standard construction mitigation measures will be implemented that include:</p> <ul style="list-style-type: none"> • Safety fencing will be erected around bore pits • Wood decking should be installed to support continuous construction access during wet soil conditions, and assist in protecting vegetation and seed beds • Excavated topsoil and subsoil for bore pits will be separated prior to stockpiling • Erosion and sediment control measures will be installed around soil stockpiles
<p>Air Quality and Noise <i>Section 4.4.5</i></p>	<p>Residential and business properties may experience noise, dust, vibration and equipment exhaust associated with construction activity. During operation, no substantial air or noise emissions are anticipated to occur.</p>	<p>During construction, motorized construction equipment should be equipped with functioning mufflers and silencers. Company and construction personnel should avoid excessive idling of vehicles; vehicles and equipment should be turned off when not in use unless required for operation. To the greatest extent practical, activities that could create noise should be restricted to daylight hours and adhere to local noise by-laws. Sources of continuous noise, such as portable generators, should be shielded or located to reduce disturbance to residents and businesses.</p> <p>The Contractor should implement site practices during construction that are in line with the Environment Canada document 'Best Practices for the Reduction of Air</p>



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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures
		<p>Emissions from Construction and Demolition Activities' (Cheminfo Services Inc., 2005), which may include:</p> <ul style="list-style-type: none"> • Maintaining equipment in compliance with regulatory requirements • Protecting stockpiles of friable material with a barrier or windscreen in the event of dry conditions and dust • Dust suppression of source areas • Covering loads of friable materials during transport <p>Watering for dust control must not result in the formation of puddles, rutting by equipment or vehicles, the tracking of mud onto roads or the siltation of watercourses.</p>
<p>Waste Management and Landfills <i>Section 4.4.6</i></p>	<p>Improper disposal of waste material generated during construction may result in contamination to soil, groundwater, and/or surface water resources on and off the construction RoW. Litter generated during construction may also become a nuisance to landowners and/or surrounding residents if not contained.</p>	<p>The Contractor should implement a site-specific waste collection and disposal management plan, which may include:</p> <ul style="list-style-type: none"> • Waste materials, sanitary waste and recycling transported off-site by licensed waste contractors. • The responsible management of fill (see Section 4.2.5). • Labelling and storage of hazardous and liquid wastes in a secure area that would contain material in the event of a spill. • Implementation of a waste management program consisting of reduction, reuse, and recycling of materials.
<p>Land Use <i>Section 4.4.7</i></p>	<p>Oil pipelines are permitted facilities in the various municipal land uses, and thus no impacts to municipal land use designations will occur.</p> <p>Potential impacts on agricultural and non-agricultural businesses are discussed in Section 4.4.1. Potential impacts on uses of land will be interruption to access or use, including potential increases in traffic during construction.</p>	<p>Mitigation and protective measures for agricultural soils and for businesses are discussed in Sections 4.2.5 and 4.4.1, respectively.</p> <p>Consultation has been initiated, and will continue, with the Town of Milton as well as landowners along the proposed pipeline route in order to identify methods of minimizing disturbance to property and maintaining access to lands, to the extent possible. Where work is to occur within CA regulated areas, permits will be obtained from CH as per O. Reg. 162/06.</p>
<p>Archaeological Resources</p>	<p>No impacts anticipated.</p>	<p>N/A</p>



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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures
<i>Section 4.4.8</i>		
Built Heritage Resources and Cultural Heritage Landscapes <i>Section 4.4.9</i>	The Project may have the potential to directly impact built heritage resources and cultural heritage landscapes during construction. A CHRECPIA will be completed prior to construction. The report will assess the potential built heritage resources and cultural heritage landscapes, the relationship of each to the Project and the impacts of the proposed undertaking on the resources and landscapes. The Report will also provide recommendations pertaining to the mitigation of negative impacts to safeguard these resources during the construction and operation phases of the Project.	Prior to construction, a CHRECPIA will be undertaken and submitted to the MHSTCI for their review and comment. The Report will contain mitigation measures for potential impacts, if required.
Indigenous Interests <i>Section 4.4.10</i>	Although not known to occur, the project may affect traditional territories of Indigenous communities and during construction harvesting and hunting in the construction RoW could be impeded. There is the potential to disturb culturally significant resources or artifacts. Archaeological surveys could also result in the finding of Indigenous artifacts. Potential permits and approvals required for the project (see Section 1.2.5) may trigger a duty to consult.	Sun-Canadian has sought input from the identified Indigenous communities and will continue engaging with Indigenous communities as the project moves forward. Information on the current state of Indigenous engagement will be provided in the application to the OEB. Mitigation and protective measures for archaeology are discussed in Section 4.4.8.



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5.0 CUMULATIVE EFFECTS ASSESSMENT

The recognition of cumulative effects assessment as a best practice is reflected in many regulatory and guidance documents. Regarding the development of hydrocarbon pipelines in Ontario, the *OEB Environmental Guidelines* (2016) note that cumulative effects of pipeline construction should be identified and discussed in the ER as an integral part of the assessment.

Building upon the intent of the *OEB Environmental Guidelines* (2016), the OEB has specified that only those effects that are additive or that interact with effects that have already been identified as resulting from the Project are to be considered under cumulative effects. In such cases, it will be necessary to determine whether these effects warrant mitigation measures such as alterations in routing, timing of construction, or other measures that can address the cumulative effects. The cumulative effects assessment (CEA) has been prepared with consideration of this direction from the OEB.

5.1 METHODOLOGY

This assessment describes the potential cumulative effects resulting from the interaction of residual effects of the construction and operation of the proposed pipeline with the effects of other unrelated projects. The other projects assessed are those that are either existing or approved and that have a high likelihood of proceeding.

Cumulative effects include the temporal and spatial accumulations of change that occur within an area or system due to past, present, and future activities. Change can accumulate within systems by either an additive (i.e., cumulative) or interactive (i.e., synergistic) manner. Positive residual effects, such as the continued supply of oil, employment or in property taxes, have not been assessed in the CEA.

By applying the principles of avoidance, minimization, and compensation to limit project-specific effects, potential adverse residual effects on environmental and socio-economic features have been greatly limited before accounting for the effects of other unrelated projects.

The cumulative effects assessment methodology is designed to evaluate and manage the additive and interactive effects from the following sources:

- Existing infrastructure, facilities, and activities as determined from available data sets
- The proposed pipeline
- Future activities where the undertaking will proceed, or has a high probability of proceeding

Although rare in occurrence, it is plausible that accidents or emergency events may arise due to an unforeseen chain of events during the project's construction or operational life. Due to the rarity and magnitude of such events, they have not been assessed here, as they are extreme in nature when



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compared to the effects of normal construction and operation activities and require separate response plans.

5.2 STUDY BOUNDARIES

Spatial

To make assumptions about the magnitude and probability of effects, an approximate 100 m boundary around the proposed pipeline route was used for the CEA. The 100 m boundary has been found, through previous experience with pipeline construction, to be appropriate for the most common net effects. The boundary selected is considered conservative in terms of managing both effects and risks in that it considers all those features and areas that could be affected by construction.

Temporal

The temporal boundaries for the CEA reflect the nature and timing of project activities, and the availability of information surrounding future projects with a high probability of proceeding. The project schedule identifies three key milestone activities:

1. ER and technical design – 2020/2021
2. Construction – 2022 (summer and fall)
3. Operation and Maintenance – 2022 to 2072*

**Fifty years of operation is used as an assumption, although the pipeline may be operational beyond fifty years.*

Based upon these milestone activities, two time periods were selected for evaluation: 2022 and 2024. The year 2022 was selected to represent the construction period, and the year 2024 was selected to represent the operation and maintenance period. Forecasting beyond 2024 increases the uncertainty in predicting whether projects will proceed, and the effects associated with these projects.

5.3 PROJECT INCLUSION LIST

The project inclusion list was developed by reviewing publicly available information for projects and activities with the potential to interact with the identified effects of the proposed pipeline within the spatial and temporal study boundaries. The following resources were reviewed:

- Impact Assessment Agency of Canada, Canadian Impact Assessment Registry (IAAC, 2020)
- Government of Ontario, Environmental Assessment Projects by Category (Government of Ontario, 2020)
- Ministry of Transportation (MTO), Southern Highways Program (2017-2021) (MTO, nd)
- Halton Region, Construction Projects (2020)



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- Town of Milton, Town Projects (2019)
- Canada Energy Regulator, Major Facilities Applications (CER, 2020)
- OEB Applications Currently Before the Board (facilities applications only) (OEB, 2020)

Based on the review of publicly available resources, the project inclusion list in Table 5-1 identifies the following projects for consideration of cumulative effects:

Table 5-1: Project Inclusion List for Cumulative Effects

Project Name	Project Location	Proponent	Schedule	Project Description	Interaction with the Proposed Pipeline
Trafalgar Secondary Plan	The Trafalgar Secondary Plan is in the Town of Milton's Urban Expansion Area, bounded by Derry Road (north), Eighth Line (east), and Greenbelt Plan Area (south/west)	Town of Milton	Halton Region is reviewing the Plan as of March 25, 2019. The overall growth and development plan for the Town of Milton is scheduled from 2021 – 2031.	A proposed major transit station was identified in the area at Derry and Trafalgar Roads. This area is physically separated from the urban area by the Sixteen Mile Creek Valley and has an opportunity to accommodate higher density development and taller buildings.	Potential for traffic management issues and congestion due to construction vehicles.
*Milton Logistics Hub Project ¹	Milton, Ontario	Canadian National Railway Company	The IAAC is currently hosting virtual information sessions on the potential environmental assessment conditions of the project.	The Canadian National Railway Company is proposing the construction and operation of a logistics hub, designed to transfer containers between trucks and railcars.	Potential for traffic management issues and congestion due to construction vehicles.
*Britannia Road Corridor Improvement	Milton, ON (James Snow Parkway to Highway 407)	Halton Region	Construction for the James Snow Parkway to Highway 407 segment anticipated to start in 2020 and conclude in 2024	To accommodate growth, provide safe alternative transit options and improve traffic flow, Halton Region is planning to make improvements to Britannia Road.	Britannia Road is parallel to the proposed pipeline route, located approximately 600m north-west of the proposed route. This may result in traffic management issues and congestion due to construction vehicles.

1. Canadian National Railway Company (2019)

*The projects referenced are more than 100 m away however are large in magnitude and therefore have been included in this assessment to be conservative.



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In addition to the above, it is assumed that on-going improvements, upgrades and maintenance to municipal infrastructure such as bridges, culverts, drains or roads will occur within the spatial and temporal study boundaries.

5.4 ANALYSIS OF CUMULATIVE EFFECTS

Sections 4.2-4.4 of the ER consider the potential impacts of the project on specific features and conditions and propose mitigation and protective measures to eliminate or reduce the potential impacts. The cumulative effects assessment evaluates the significance of residual impacts (after mitigation) of the project along with the effects of other unrelated projects.

5.4.1 Construction – Summer and Fall 2022

Residual project impacts which may occur during project construction are outlined in Sections 4.2-4.4. To consider the additive and interactive effects at their maximum intensity, the cumulative effects assessment assumes that construction of other unrelated projects and the proposed pipeline construction will occur concurrently.

Potential cumulative effects resulting from the proposed pipeline construction and the concurrent projects are additive effects on soil, vegetation, wildlife and wildlife habitat, air quality and the acoustic environment.

Soil

Soil erosion and reduced soil capability is a potential residual effect associated with construction of the project. Mitigation and protective measures for soil are outlined in Section 4.2.2. Provided that concurrent projects follow mitigation measures similar to those outlined in this report, the probability of erosion control failure occurring concurrently is low and based on the nature of the proposed projects the magnitude of such an event would be low. As such, adverse cumulative residual effects on the natural environment from erosion are not anticipated to be significant, and cumulative effects on soil capability are not anticipated to occur.

Vegetation

Where there is natural vegetation within or adjacent to the proposed pipeline route, potential impacts include the removal of native vegetation, and indirect effects such as dust, erosion, and accidental spills. However, with the implementation of the mitigation and protective measures outlined in this report, such as vegetation replanting, and provided that concurrent projects follow mitigation measures similar to those outlined in this report, adverse cumulative residual effects on vegetation are not anticipated to be significant.



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Wildlife and Wildlife Habitat

Potential residual effects on wildlife and wildlife habitat associated with construction of the project are accidental direct mortality, habitat removal and sensory disturbance. Mitigation and protective measures for wildlife and wildlife habitat are outlined in Section 4.3.3. In the event of project-related wildlife deaths, the MNRF and/or MECP will be contacted. If mortality occurs between concurrent projects for similar species, the Ministry will be able to note the occurrences and coordinate with Sun-Canadian to adjust construction activities. Potential cumulative effects resulting from sensory disturbance (i.e., noise, air pollution and dust) are discussed below.

Provided that the above measures are undertaken, and provided that concurrent projects follow mitigation measures similar to those outlined in this report, adverse cumulative residual effects on wildlife and wildlife habitat will be of low probability and will be mitigated as coordinated through the MECP, and therefore are not anticipated to be significant.

Air Quality and Acoustic Environment

Potential residual effects on air quality associated with construction of the project and concurrent projects are an increase in noise and air pollutants from operation of vehicles and equipment, and an increase in dust from construction activities. Mitigation and protective measures for air quality and the acoustic environment are outlined in Section 4.4.5. Provided that the concurrent projects follow mitigation measures similar to those outlined in this report, cumulative effects will be of low magnitude and reversible. Therefore, adverse residual cumulative effects on air quality and the acoustic environment are not anticipated to be significant.

5.4.2 Operation and Maintenance – Year 2024

Development and maintenance activities which have a probability of proceeding during operation and maintenance of the project include:

- Road works: Future road rehabilitation and resurfacing
- Water works: Future installation of water and wastewater pipelines
- Pipeline construction and maintenance: Future pipeline construction and maintenance of existing hydrocarbon pipelines

Operation and maintenance activities undertaken by Sun-Canadian will be completed in a manner that considers potential impacts on natural heritage and socio-economic environment. Appropriate mitigation measures will be developed and implemented based on the proposed maintenance work. Sun-Canadian will obtain all necessary agency permits and approvals, as required. Given the limited scale of impact of any potential operation and maintenance activities, it is anticipated that residual impacts will be minimal and that should any interaction occur with other projects, significant adverse residual effects are not anticipated to be significant.



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5.5 SUMMARY OF CUMULATIVE EFFECTS

The potential cumulative effects of the project were assessed by considering development that has a high probability of proceeding just prior to or concurrent with construction of the project. An approximate 100 m boundary around the project site was used to assess the potential for additive and interactive effects of the project and other developments on environmental and socio-economic features.

Municipal projects may contribute to cumulative effects within the study boundaries. Improvements to municipal infrastructure such as bridges, culverts, drains or roads may occur during the operational phase of the project. The cumulative effects assessment determined that, provided the mitigation and protective measures outlined in this report are implemented and that concurrent projects implement similar mitigation and protective measures, potential cumulative effects are not anticipated to occur, or if they do occur are not anticipated to be significant.



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6.0 MONITORING AND CONTINGENCY PLANS

6.1 MONITORING

The primary objective of compliance and effects monitoring is to check that mitigation and protective measures are effectively implemented and to measure the impacts of activities associated with construction on environmental and socio-economic features. Ultimately, the knowledge gained from monitoring is used to avoid or reduce issues which may arise during construction of subsequent pipeline projects.

Previous pipeline construction experience, and a review of post-construction monitoring reports from other projects, indicates that impacts from pipeline construction are for the most part temporary. The mitigation and protective measures to eliminate or reduce impacts are well known and have been shown to be effective. Accordingly, Sun-Canadian should adhere to the following general monitoring practices:

- Trained personnel should be on-site to monitor construction and should be responsible for checking that the mitigation and protective measures and monitoring requirements within the ER are executed. Sun-Canadian should implement an orientation program for inspectors and Contractor personnel to provide information regarding Sun-Canadian's environmental program and commitments, as well as safety measures;
- Recommendations and commitments made in this ER and other applicable permits and reports should be incorporated into clearing and construction activities. The commitments of this ER and other permits and reports should become part of the contract specification with the Contractor selected to construct the project, as noted in section 5.8.4 of the OEB Environmental Guidelines;
- A walking inspection of the entire pipeline route should be done approximately one year after construction to determine whether areas require further rehabilitation. Additional rehabilitation measures should be completed as necessary, and additional follow-up monitoring should be conducted.

The following sections list specific environmental monitoring activities recommended for the project.

6.1.1 Exposed Soils

Where soils are exposed for construction activities, potential effects may include surface soil erosion, entry/exit pit slumping, and sedimentation of natural features. The movement of heavy machinery on wet soil may cause excessive rutting, compaction, and mixing of topsoil and subsoil. Improperly salvaged topsoil can result in mixing topsoil with subsoil, compaction, rutting and erosion, which can potentially decrease crop yields. Improper water discharge can lead to erosion, sedimentation or flooding. Monitoring of potential effects on exposed soils should occur during construction by Sun-Canadian's on-site inspection team. Restored areas should be inspected one year after construction for erosion, and restoration measures should occur as necessary.



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6.1.2 Water Wells

Before construction, a private water well survey should take place to assess domestic groundwater use near the proposed pipeline route and determine the need for a water well monitoring program, as outlined in Section 4.2.3.

6.1.3 Watercourse Crossing

The watercourse crossing has the potential to affect fish, fish habitat, and water quality. Sun-Canadian's on-site inspection team should oversee the watercourse crossing and confirm that work is conducted as outlined in Section 4.3.1, and as per the conditions of relevant permits (see Section 1.2.5).

6.1.4 Vegetation

For at least one year after construction, planted vegetation should be inspected for survival. Dead and diseased vegetation should be replaced in areas of severe dieback or in areas with important environmental functions (e.g. riparian or slope cover).

6.1.5 Species at Risk

Should SAR be identified during vegetation, wildlife, and/or wildlife habitat field surveys, construction monitoring may need to be undertaken. The exact nature of monitoring will be determined in consultation with the MECP and DFO and will depend on the species present.

6.1.6 Built Heritage Resources and Cultural Heritage Landscapes Resources

Any built heritage resources within 50 m of the proposed pipeline route will require site plan controls that will need monitoring. In addition, if a vibration assessment results in additional mitigation measures, these will need to be monitored where construction activities occur within 50 m of a built heritage resource. Further details are provided in Section 4.4.9.

6.1.7 Residents and Business

Construction activities will impact directly affected landowners and surrounding residents and businesses. During construction, a designated Sun-Canadian representative will be available to monitor and respond to requests and concerns voiced by residents and business owners. Landowners affected by construction will be notified in advance of construction activities in their area, as feasible. The notification will provide the contact information for a designated Sun-Canadian representative.

Sun-Canadian's on-site inspection team will also monitor the Contractors' implementation of the Traffic Management Plan, to see that site access to residences and businesses has been maintained and that traffic is not being unnecessarily interrupted.



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While efforts will be undertaken to reduce impacts, a comment tracking system will also be implemented. A Sun-Canadian representative will record the time and date of calls, the nature of the concern, the corrective action taken, and the time and date of follow-up contact.

Following completion of construction, Sun-Canadian will contact residents and businesses along the easement to continue ongoing communications where necessary. During the first two years, particular attention will be paid to monitoring and documenting impacts associated with construction of the proposed pipeline.

6.2 CONTINGENCY

Contingency planning is necessary to prevent a delayed or ineffective response to unexpected events or conditions that may occur during construction of the proposed pipeline. An essential element of contingency planning is the preparation of plans and procedures that can be implemented if unexpected events occur. The absence of contingency plans may result in short or long term environmental or socio-economic impacts and possibly threaten public safety.

The following unexpected events require contingency planning during construction: adverse weather causing watercourse sedimentation, human error causing accidental spills, and the discovery of unexpected finds. Although unexpected problems are not anticipated to occur during construction, Sun-Canadian and the Contractor should be prepared to act when unexpected events occur. Construction personnel should be made aware of and know how to implement contingency measures.

6.2.1 Inadvertent Releases during HDD

For the watercourse being crossed by HDD, operations should be monitored continuously by qualified personnel. An emergency response and contingency plan for an inadvertent fluid release should be developed by the Contractor and implemented during construction. At the very least, the plan should address containment, clean-up and remediation, alternative drilling/crossing plans, disposal of waste materials, monitoring and reporting.

6.2.2 Watercourse Sedimentation

Even with properly installed ESC measures, extreme runoff events could result in collapse of silt fencing, overflow or bypass of barriers, slope or bore pit failures, and other problems which could lead to sedimentation of watercourses.

If sedimentation occurs, immediate action should be taken to repair dysfunctional ESC features or install temporary measures that will contain the erosion as quickly as practical. When site conditions permit, permanent protection measures should be installed on erosion-susceptible surfaces. If the erosion and sedimentation results from a construction-related activity, the activity should be halted immediately until the situation is rectified.



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6.2.3 Accidental Spills

During construction, an accidental spill of fluids may occur. The impact of the spill will depend upon the magnitude, extent, and nature of the spill and the environmental and socio-economic conditions in which it takes place. Upon release of a hydrocarbon-based construction fluid, Sun-Canadian should immediately determine the magnitude and extent of the spill and rapidly take measures to contain it. Release of sediment should also be treated as a spill depending on the magnitude and extent. If necessary, the MECP Spills Action Center should be notified at 1-800-268-6060.

A Spills Response Plan should be developed, reviewed with personnel, and posted in site trailers. Spill containment equipment should be readily available, especially near watercourses. Personnel should be trained in the use of spill containment equipment.

Should a spill occur in the project area the spill response contingency plan should be implemented. Specifics of the contingency plan will be documented on site.

6.2.4 Unexpected Finds: Archaeological or Heritage Resources and Unknown Contaminated Soils

Should previously unknown archaeological or heritage resources be uncovered or suspected of being uncovered during construction, ground disturbance in the find location should cease immediately. The MHSTCI and an archaeologist licensed in the Province of Ontario should be notified immediately. A site-specific response plan should then be employed following further investigation of the specific find. The response plan would indicate under which conditions the ground disturbance activity in the find location may resume.

In the event that human remains are uncovered or suspected of being uncovered during ground disturbance, the above measures should be implemented along with notifying local police, the coroner's office, and the Cemeteries Regulation Unit of the Ontario Ministry of Government and Consumer Services (1-800-889-9768).

If previously unknown materials or contaminated soils are uncovered or suspected of being uncovered, construction in the find location should cease immediately. In such an instance, Sun-Canadian should retain expert advice on assessing and developing a plan to include soil sampling, handling, disposal and remediation.



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Conclusion
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7.0 CONCLUSION

The environmental study investigated data on the physical, biophysical, and socio-economic environment along the proposed pipeline route. In the opinion of Stantec, the recommended program of supplemental studies, mitigation and protective measures, and contingency measures are considered appropriate to protect the features encountered. Monitoring will assess whether mitigation and protective measures were effective in both the short and long term.

With the implementation of the recommendations in this report, on-going communication and consultation, and adherence to permit, regulatory and legislative requirements, potential adverse residual environmental and socio-economic impacts of the project are not anticipated to be significant.



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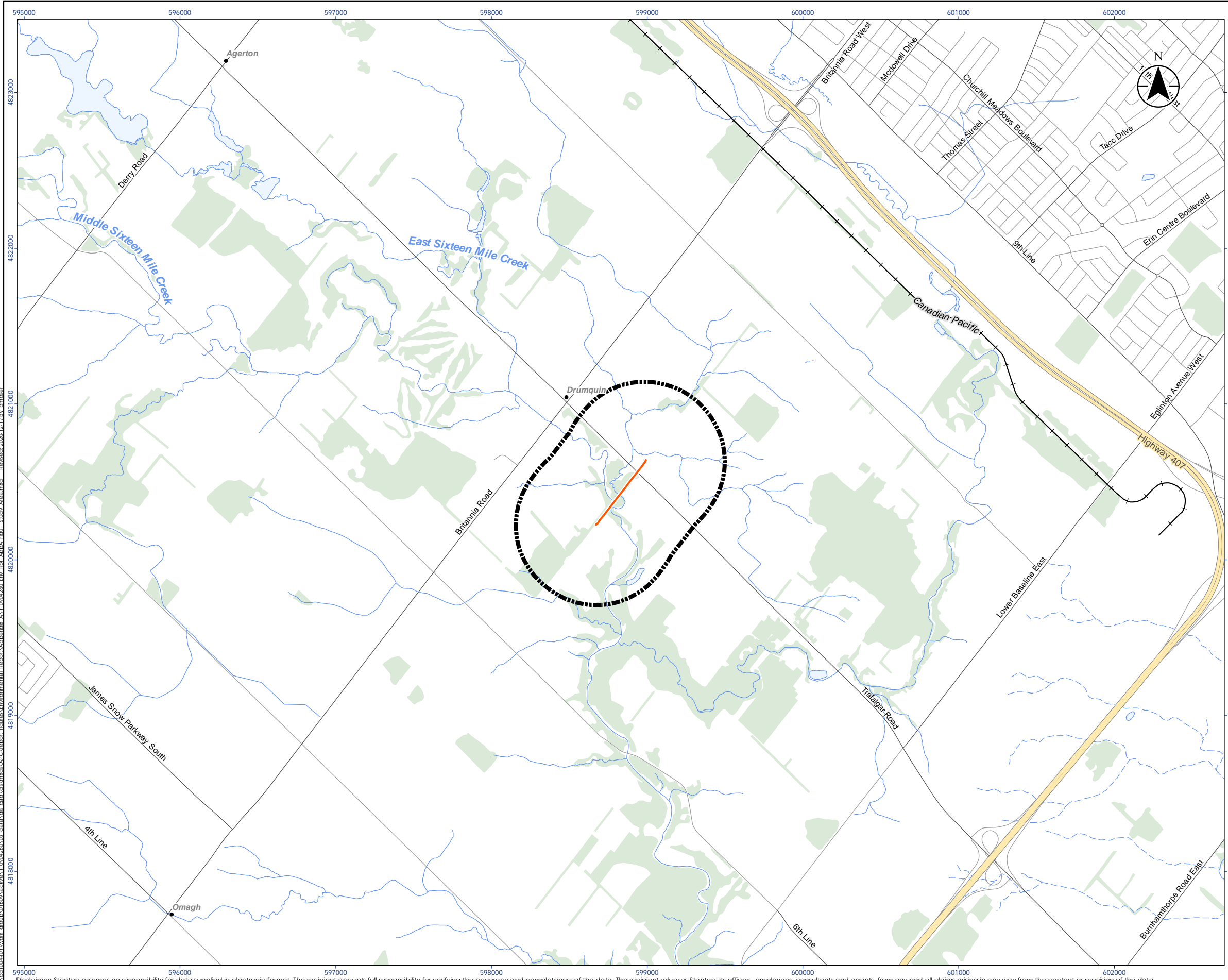
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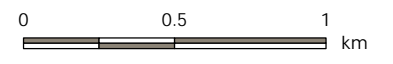
APPENDIX A: ROUTE FIGURES





Legend

- Project Study Area
- Proposed NPS 12 Replacement
- Expressway / Highway
- Major Road
- Minor Road
- Railway
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Wooded Area



1:25,000 (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, 2020.



Project Location: Town of Milton
 110904260 REVA
 Prepared by PRM on 2020-12-17
 Technical Review by MC on 2020-12-17

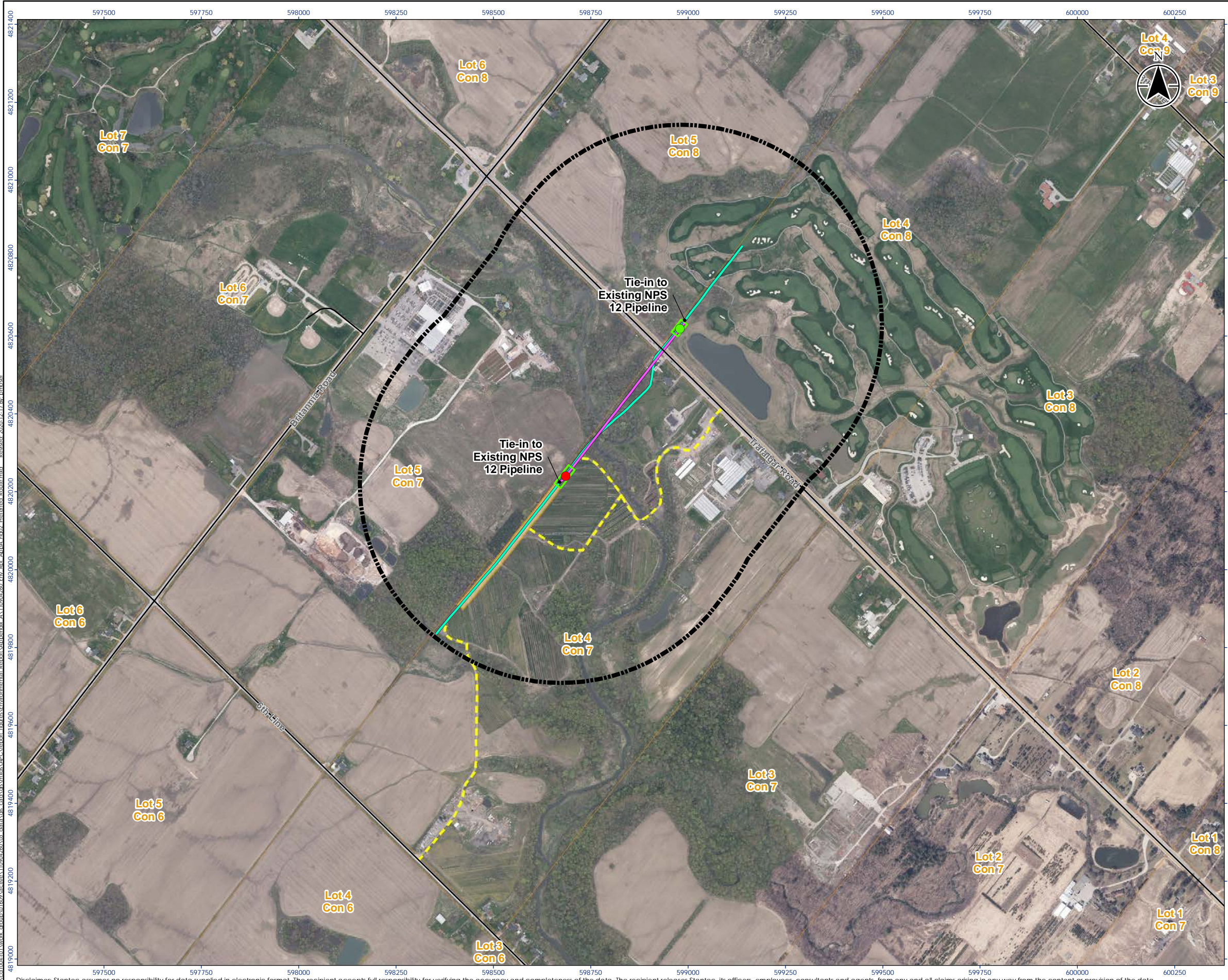
Client/Project:
SUN-CANADIAN PIPE LINE COMPANY LIMITED
NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.

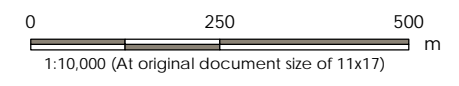
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Title

Study Area



- Legend**
- Project Study Area
 - HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - Existing Access
 - Road
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Lot Boundary



- 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, 2020.
 3. Orthoimagery © First Base Solutions, 2020. Imagery Date, 2019.



Project Location: Town of Milton
 110904260 REVA
 Prepared by PRM on 2020-12-17
 Technical Review by MC on 2020-12-17

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.
 2

Title
 Preferred Route

APPENDIX B: CONSULTATION



*APPENDIX B1:
PROJECT SUMMARY AND
CONTACT LIST*





June 6, 2020

VIA EMAIL – dan.delaquis@ontario.ca

Ministry of Energy, Northern Development and Mines
Mr. Dan Delaquis - Manager, Indigenous Energy Policy
77 Grenville Street, 6th floor Toronto ON M7A 2C1

Dear Mr. Delaquis,

RE: SCPL East Sixteen Mile Crossing Replacement

The purpose of this letter is to inform the Ministry of Energy, Northern Development and Mines that Sun Canadian Pipe Line Limited has identified the need to replace a segment of an existing pipeline near Trafalgar Road and south of Britannia Road in the Town of Milton. Accordingly, we will be submitting an application to the Ontario Energy Board and following the *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario 7th Edition 2016*.

Attachment 1 provides project description details for your review and aid in commentating on the obligations of the Crown's duty to consult for intra-provincial pipelines.

This important project is required for maintaining the integrity of the pipeline. We would appreciate expediting review and comment as soon as possible. Please do not hesitate to contact me with any questions.

Regards,

Susan J. Jackson
Manager Environment, Health & Safety

Attachment 1: East Sixteen Mile Crossing Replacement Project

Project Summary

Sun-Canadian Pipe Line (SCPL) has identified the need to replace approximately 500m segment of an existing 12 inch diameter pipeline (TRL system) near Trafalgar Road and south of Britannia Road in the Town of Milton. The existing pipeline segment crosses under East Sixteen Mile creek and has become exposed in several locations in the watercourse due to ongoing erosion and creek meander. This project intends to install a new segment of 12 inch diameter pipe via horizontal directional drilling at a greater depth to eliminate the environmental risks of the current pipe exposure.

Project Information

SCPL's TRL system supplies finished petroleum products including gasoline, jet fuel, and diesel fuels to terminals in Southern Ontario. The TRL system originates in Sarnia and has connections to distribution terminals in London, Pearson Airport, and Toronto. This system is critical to ensuring adequate supply of fuels products throughout the Greater Toronto Area.

The current segment of the TRL system that requires replacement is located in the Town of Milton. Drill entry is located on Piper's Heath golf course in Town of Milton. Drill exit is located on PAO Tree Nursery in Town of Milton. See Figure 1 below for existing and proposed pipeline routing as well as coordinates of the two temporary work locations. The drill entry and drill exit sites are both located on previously disturbed lands. Both sites will be accessed by existing roads. Temporary matting will be used at both work locations to minimize disturbance.

Indigenous Engagement

Earlier this month, we reached out to the Mississauga of the Credit and Six Nations of the Grand River by phone and by email to briefly introduce the project. While most administrations remain temporarily closed for the COVID-19 outbreak, we did receive a positive acknowledgement from the Mississauga of the Credit First Nation to participate in project discussions of the project in the near future.

Authorizations and Recommendations Required

This project is being planned in accordance with OEB regulations and will request a "Leave to Construct" under subsection 90 from the OEB. An environmental assessment will be completed as part of that process. Engagement with landowners, Indigenous communities, Conservation Halton, and the municipality will also be enacted. Other authorization, notification, permits, and/or approvals may be required and identified as part of this process.

Project Activities

Design of the new pipe segment will be done to ensure safe and reliable long-term operation of the pipeline system as well as compliance with Technical Standards and Safety Authority (TSSA) regulations and Canadian Standards Association (CSA) Z662 standard. Design of the horizontal directional drill plan

will be done to prevent drill fluid losses and ensure proper control of the drill path. Major phases of this project include engineering design, environmental assessment, landowner/Indigenous engagement, approvals, contractor selection, and construction/decommissioning.

Public consultation will be undertaken as part of the Leave to Construct process. Landowners impacted by this proposed work will be engaged and access agreements and/or easement agreements will be put in place. Identified landowners and tenants impacted by this work include:

- York Trafalgar Golf Corp
- Mr. Sundeep Ghuman
- MG&N Sihota
- Mr. V. Gagliardi
- Terra Greenhouses
- PAO Nursery

Construction will require temporary work sites at the drill entry and exit points. Both work sites have existing road access. Brush clearing and temporary matting will be needed to ensure a safe work space. The new pipe segment will be assembled, hydrotested, and installed from the drill exit location. The TRL pipeline system will then be shut down and drained, and the new pipe segment will be tied in at the drill entry and exit locations. The existing pipe removed from service will be cleaned, capped, and filled with grout. All work locations will then be backfilled and returned to their original condition.

Potential Environmental Effects and Mitigation Measures

The Environmental Assessment will assess physical, natural and socio-economical features potentially impacted by construction activities (such as minor brushing and ground disturbance at the drill entry and exit). Mitigation measures will be recommended as part of the screening to minimize potential adverse effects to the environment. The mitigation recommendations, together with SCPL project management processes, should effectively serve to protect environmental features within the proposed work locations.

It is anticipated that the majority of adverse and/or socio-economic effects will be construction-related temporary and transitory, and likely avoided by locating the drill sites outside of the creek valley and on previously disturbed areas.

Project Benefits

This project will eliminate the environmental risk due to exposed pipe in the East Sixteen Mile Creek watershed. It will ensure continued reliable operation of the TRL system to allow fuel supply to be maintained to the Greater Toronto Area.

Contact Information

Regulatory Affairs, Indigenous Relations and Environment Matters:
Susan Jackson
sjackson@sun-canadian.com
647-465-8159

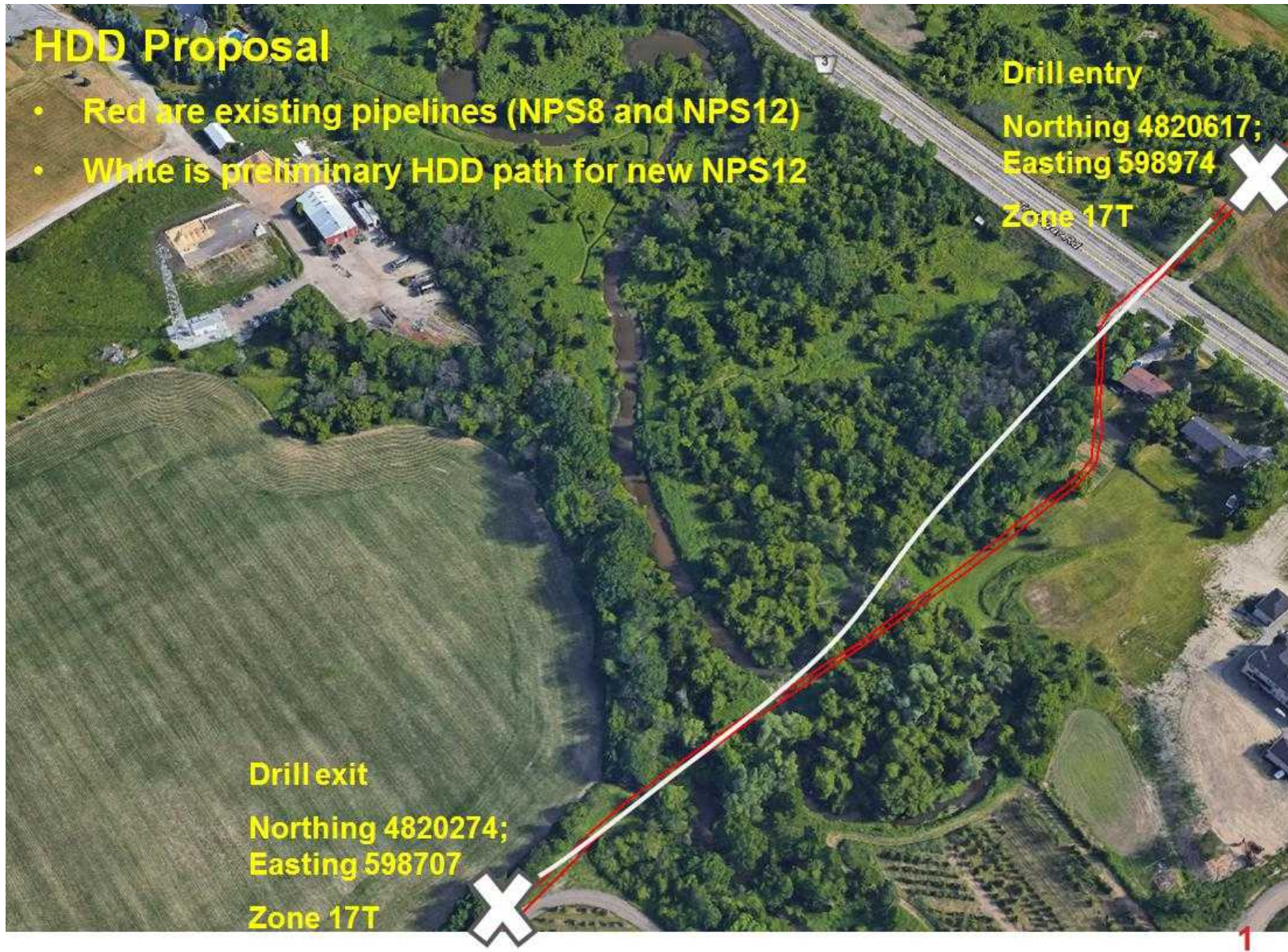
Technical Contact:

Peter Martens

pmartens@sun-canadian.com

289-230-4350

Figure 1: Map of HDD proposal



**NPS 12 East Sixteen Mile Creek Pipeline Replacement Project:
Environmental Report**

Agency Contacts

First Name	Last Name	Title	Representing	Address	Town	Province	Postal Code	Phone	Email
Brad	Allen	District Manager, Aurora District	Ministry of Natural Resources and Forestry	50 Bloomington Rd	Aurora	ON	L4G 0L8	905-713-7372	brad.allan@ontario.ca
Maria	Jawaid	District Planner, Aurora District	Ministry of Natural Resources and Forestry	50 Bloomington Rd	Aurora	ON	L4G 0L8	907-713-7367	maria.jawaid@ontario.ca
James	Hamilton	Manager, Heritage Planning Unit	Ministry of Heritage, Sport, Tourism and Culture Industries	401 Bay Street	Toronto	ON	M7A 0A7	416-212-7505	james.hamilton@ontario.ca
Ben	Davis	Regulations Officer	Conservation Halton	2596 Britannia Road West	Burlington	ON	L7P 0G3	905-336-1158 x 2278	bdavis@hrca.on.ca
Anneleis	Eckert	Rural Planner	Ministry of Agriculture, Food and Rural Affairs	6484 Wellington Road 7	Elora	ON	N0B 1S0	519-827-6040	anneleis.eckert@ontario.ca

OPCC Contacts

First Name	Last Name	Title	Representing	Address	Town	Province	Postal Code	Phone	Email
Zora	Crnojacki		Ontario Energy Board	PO Box 2319, 2300 Yonge Street, 26th Floor	Toronto	ON	M4P 1E4	416-440-8104	zora.crnojacki@oeb.ca
Helma	Geerts	Land Use Policy & Stewardship	Ministry of Agriculture, Food and Rural Affairs	1 Stone Road West, 3rd Floor SE	Guelph	ON	N1G 4Y2	519-546-7423	helma.geerts@ontario.ca
Dan	Minkin	Heritage Planner	Ministry of Heritage, Sport, Tourism and Culture Industries	401 Bay Street	Toronto	ON	M7A 0A7	416-314-7147	dan.minkin@ontario.ca
Tony	Difabio		Ministry of Transportation	301 St. Paul Street, 2nd Floor	St. Catharines	ON	L3R 7R4	905-704-2656	tony.difabio@ontario.ca
Kourosh	Manouchehri		Technical Standards and Safety Authority	345 Carlingview Drive	Toronto	ON	M9W 6N9	416-734-3539	kmanouchehri@tssa.org
Sally	Renwick	Team Lead, Environmental Planning, Land Use and Environmental Planning Section	Ministry of Natural Resources and Forestry	300 Water Street	Peterborough	ON	K9J 8M5	705-755-5195	sally.renwick@ontario.ca
Scott	Oliver	Western Municipal Services Office	Ministry of Municipal Affairs and Housing	659 Exeter Rd, 2nd Floor	London	ON	N6E 1L3	519-873-4033	scott.oliver@ontario.ca
			Ministry of Environment, Conservation and Parks, Central Region	Place Nouveau 9th Flr, 5775 Yonge St	Toronto	ON	M2M 4J1		eanotification.cregion@ontario.ca
Cory	Ostrowka	Environmental Specialist, Environmental Management	Infrastructure Ontario	1 Dundas Street West, Suite 2000	Toronto	ON	M5G 2L5	416-571-8294	cory.ostrowka@infrastructureontario.ca
Jason	McCullough	Senior Advisor, Indigenous Energy Policy Unit	Ministry of Energy, Northern Development and Mines	6th Floor, 77 Grenville Street	Toronto	ON	M7A 2C1	416-526-2963	jason.mccullough@ontario.ca
Debbie	Scanlon	Manager Approvals Section	Ministry of Environment, Conservation and Parks	40 St. Clair Av. W, 14th Floor	Toronto	ON	M4V 1M2	647-627-5917	sourceprotectionscreening@ontario.ca

**NPS 12 East Sixteen Mile Creek Pipeline Replacement Project:
Environmental Report**

Municipal Contacts

First Name	Last Name	Title	Representing	Address	Town	Province	Postal Code	Phone	Email
Barbara	Koopmans	Commissioner, Planning & Development	Town of Milton	150 Mary Street	Milton	ON	L9T 6Z5	905-878-7252 x 2398	planning@milton.ca
Troy	McHarg	Commissioner, Corporate Services/Town Clerk	Town of Milton	150 Mary Street	Milton	ON	L9T 6Z5	905-878-7252	townclerk@milton.ca
Graham	Milne	Regional Clerk	Halton Region	1151 Bronte Road	Oakville	ON	L6M 3L1	905-825-6000 x 7110	graham.milne@halton.ca
Robert	Clackett	Senior Planner	Halton Region	1151 Bronte Road	Oakville	ON	L6M 3L1	905-825-600 x 7554	robert.clackett@halton.ca
Diana	Jiona	Manager, Infrastructure & Right of Way	Town of Milton	150 Mary Street	Milton	ON	L9T 6Z5	905-878-7252 x 2513	diana.jiona@milton.ca
Shawn	Clelow		Town of Milton	150 Mary Street	Milton	ON	L9T 6Z5		shawn.clelow@milton.ca

*APPENDIX B2:
NEWSPAPER NOTICE*



GOING THE DISTANCE IN HONOUR OF DEPARTED DAD

#HUMANSOFHALTON

ROLAND CILLIERS

rcilliers@metroland.com

InsideHalton.com's #HumansofHalton series is aimed at showcasing the exceptional, influential and just plain remarkable people in our community. Know of a Milton, Burlington, Oakville or Halton Hills resident who should be featured? Email us at rcilliers@metroland.com or

HUNT CHRYSLER FIAT
GET APPROVED NOW!
 CALL US
 905-876-2580
 OR VISIT US AT
 WWW.HUNTCHRYSLERFIAT.COM

tweet using the hashtag #HumansofHalton. Frank Burnett was described by those who knew him as a charming and caring man, right up to the end.

On Saturday (Aug. 15), his son, Jeff Burnett, cycled 250 kilometres as part of a live-streamed journey to honour his father and raise awareness and funds for ALS — the disease that ultimately took Frank.

Here are four things to know about this remarkable quest and the people who were central to it.

1. The meaning in the miles. Jeff's Aug. 15 journey was picked for a particular reason. He began at his childhood home in Milton and travelled all the way to his dad's final resting place in Leith. The route retraced the same path they did as a family over 35 years earlier for regular happy trips on Owen Sound.

2. A brutal ordeal. In the later part of his life, Jeff began documenting his father's decline as a result of ALS through social media channels. He wanted to show the reality of anguish that the disease brought as it cut through his body. He did this in hopes of shining a light on this little understood disease.

3. Ride-along supporters took part in the journey as Jeff live-streamed the whole



Jeff Burnett photo

Jeff Burnett celebrated the life of his father with a 250 km bike journey. He hopes to raise awareness and money for ALS - the disease which ultimately resulted in the death of his father, Frank Burnett.

way.

4. It's about an inspirational man who was lost.

"You will be challenged with adversity,

in life, which means troubles. You have to be strong, work through them, try and understand them, and learn from them." —

Frank Burnett

NOTICE OF COMMENCEMENT

Sun-Canadian Pipe Line Replacement Project: NPS 12 E16M Creek Pipeline Replacement Project

The Project

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

The Process

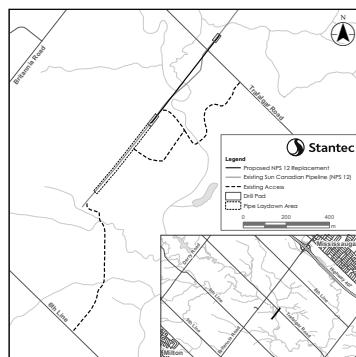
As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Additional project information is available at:
<http://sun-canadian.com/media-releases/>

If you have any project-related questions or would like to provide input, please contact:

16milecreekreplacement@stantec.com.



BARNETT
 REAL ESTATE TEAM
 Katherine Barnett
 Broker
 905-858-3434
 cell 416-856-5161
 www.katherinebarnett.com
 sales@katherinebarnett.com



Gorgeous 4 bedroom, 3 bathroom detached home with double car garage backing onto greenspace in Milton. Beautifully landscaped lot with a large stone patio, gazebo and mature trees for added privacy. Featuring hardwood floors, upgraded kitchen, with quartz countertops, gorgeous fireplace with stone wall, main floor laundry and separate dining room. Fantastic location walking distance to schools, Bristol District Park, Metro Plaza, and walking/bike trails.



BARNETT
 REAL ESTATE TEAM
 Katherine Barnett
 Broker
 905-858-3434
 cell 416-856-5161
 www.katherinebarnett.com
 sales@katherinebarnett.com



Stunning 2 bedroom freehold townhome in the desirable Willmott neighbourhood. Quiet low traffic street, steps to Sunny Mount Park, off leash dog park, school and Milton Marketplace plaza. Main floor laundry room, spacious living/dining room with a walkout to balcony, hardwood floors and stairs. Kitchen with gas stove and breakfast bar. No sidewalk, parking up to 3 cars. Contact Katherine to view this beautiful property.

*APPENDIX B3:
LETTERS*





Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

August 21, 2020
File: 110904260

«First_Name» «Last_Name», «Title»
«Representing»
«Address»
«Town», «Province» «Postal_Code»
«Email_»

SENT VIA EMAIL

Dear «First_Name» «Last_Name»,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

A map of the proposed pipeline route is attached (the map was inadvertently not included with the previous letter, dated August 20th).

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

August 21, 2020

Page 2 of 2

Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement Project

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com.
Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.



Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.



August 12, 2020

Haudenosaunee Confederacy Chiefs Council
c/o Haudenosaunee Development Institute
P.O. Box 714
Ohsweken, ON N0A 1M0
HaudenosauneeConfederacy.ca

SENT VIA EMAIL

Haudenosaunee Confederacy Council,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

The Haudenosaunee Confederacy Council is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun-Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line

Attachment: Map of Proposed Pipeline Route



- c. Tracey General, Haudenosaunee Development Institute
- Todd Williams, Haudenosaunee Development Institute
- Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



August 12, 2020

Maxime Picard
Huron-Wendat
255 place chef Michel Laveau
Wendake, QC G0A 4V0
administration@cnhw.qc.ca

SENT VIA EMAIL

Dear Mr. Picard,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

The Huron-Wendat First Nation is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun-Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line

Attachment: Map of Proposed Pipeline Route



c. Administration, Huron-Wendat First Nation
Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



August 12, 2020

Mark LaForme
Mississauga of the Credit First Nation
2789 Mississauga Road, R. R. #6
Hagersville ON N0A 1H0
mark.laforme@mcfn.ca

SENT VIA EMAIL

Dear Mr. LaForme,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Mississauga of the Credit First Nation is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun-Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line



Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



August 12, 2020

Lonny Bomberry
Six Nations Lands & Resources
Six Nations of the Grand River Elected Council
PO Box 5000
Oshweken, ON
lonnybomberry@sixnations.ca

SENT VIA EMAIL

Dear Mr. Bomberry,

Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement Project

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Six Nations of the Grand River First Nation is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun-Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line



Attachment: Map of Proposed Pipeline Route

c. Dawn LaForme, Six Nations of the Grand River First Nation
Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

August 25, 2020
File: 110904260

Attention: Milton Green Environmental Association
info@miltongreen.org

SENT VIA EMAIL

Dear Sir / Madam,

Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement Project

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com.

Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.

Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

August 21, 2020
File: 110904260

«Name1»
«Name2»
«Address1»
«Address2_RR»
«City», «Prov» «PostalCode»

Dear «Name1» and «Name2»,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

You are receiving this letter because the Project is located on or in proximity to your property. A map of the proposed pipeline route is attached (the map was inadvertently not included with the previous letter, dated August 20th).

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Please feel free to share this letter with your neighbours. If you are a landowner, it would also be appreciated if this letter could be shared with your tenants.

August 21, 2020

Page 2 of 2

Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement Project

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com.
Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.



Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.

September 24, 2020
File: 110904260

Dear Landowner/Resident,

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

The purpose of this letter is to provide you with an update on Project activities as the Project is located on or in proximity to your property. A map of the proposed pipeline route is attached.

Project Overview

- Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline, which crosses East Sixteen Mile Creek in Milton, ON.
- Sun-Canadian is proposing to replace a portion of the existing pipeline with approximately 480 metres of new, deeper pipeline and eliminate three areas of shallow cover in East Sixteen Mile Creek.
- A section of the replaced pipe will be constructed outside the existing right-of-way (RoW); to be installed using Horizontal Directional Drilling (HDD).
- If approved by the Ontario Energy Board (OEB), construction of the replaced pipeline could begin as early as Summer 2021 and be complete by the end of 2021.

Environmental Study Process

The environmental study and Environmental Report will be completed as per the OEB's "Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)."

The study will:

- Undertake consultation with landowners, municipalities and agencies to understand the views of interested and potentially affected parties.
- Consult and engage with Indigenous communities to understand interests and potential impacts.
- Identify potential impacts of the Project
- Develop environmental mitigation and protective measures to avoid or reduce potential impacts.
- Develop appropriate environmental inspection, monitoring and follow-up programs, as necessary.

Ontario Energy Board Process

The Ontario Energy Board (OEB) is the body that regulates hydrocarbon projects in Ontario, in the public interest. The application to the OEB will include information on the Project including:

- The need for the Project
- Environmental Report and mitigation measures
- Pipeline design and construction
- Land requirements
- Consultation with Indigenous Communities
- Consultation with various stakeholders including landowners and government agencies

The OEB will then hold a public hearing to review the Project. If the OEB determines that the Project is in the public interest it will approve construction of the Project.

Aquatic Resources

Sun-Canadian recognizes the importance of protecting aquatic resources during construction and will implement recognized mitigation measures to reduce possible environmental effects.

- The Study Area contains two (2) watercourses – Sixteen Mile Creek and East Sixteen Mile Creek.
- The pipeline will only cross East Sixteen Mile Creek and will be crossed using the HDD method.
- Silver Shiner, an aquatic Species at Risk (SAR) under the Endangered Species Act (ESA) has been identified through background data review in East Sixteen Mile Creek.
- Standard erosion and sediment control measures will be used during construction to reduce potential impacts to fish and fish habitat.
- Monitoring will be in place for inadvertent returns of drilling mud during HDD installation process.

Terrestrial Resources

Preliminary field studies conducted by a terrestrial biologist identified the following features:

- **Species at Risk:** one (1) Butternut was identified at the southwest end of the Pipe Laydown Area.

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

- **Significant Wildlife Habitat:** large diameter trees observed in the Pipe Laydown Area and adjacent to the HDD Entry Pit Location (potential to provide candidate bat maternity roost habitat). Potential habitat for turtles in East Sixteen Mile Creek, however no potential turtle nesting habitat was observed.
- **Migratory Bird Nesting Habitat:** potential for migratory birds to nest throughout the Study Area.
- **Natural Vegetation Communities:** mid-aged to mature sugar maple forest (edge of the forest, overlaps with the Pipe Laydown Area) and small coniferous plantation (Scot's Pine) adjacent to the south end of the Pipe Laydown Area were identified. These vegetation communities are common in the province.
- **Designated Natural Heritage Features:** no designated natural heritage features identified in the Study Area.

Mitigation measures will be implemented to protect terrestrial resources and further developed through consultation with regulatory authorities during the permitting process.

Project Schedule

2020

Summer

- Start the environmental planning process
- Initiation of environmental field studies

Fall

- Stage 1 and 2 Archaeological Assessment
- Complete Environmental Report
- Circulate Environmental Report to agencies, Indigenous communities and landowners for comments
- Complete OEB filing application

2021

Spring

- Receive OEB approval, complete permitting, pipeline design and construction plan

September 24, 2020

Page 4 of 4

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

Summer

- Begin construction

Fall

- Conclude construction
- Site cleanup and restoration
- Pipeline in service

2022

- Post-construction monitoring

Please feel free to share this letter with your neighbours. If you are a landowner, it would also be appreciated if this letter could be shared with your tenants.

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com. Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.



Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.

Design with community in mind



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

December 9, 2020
File: 110904260

Dear Landowner/Resident,

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Second Project Update

The purpose of this letter is to provide you with an update on Project activities as the Project is located on or in proximity to your property. A map of the proposed pipeline route is attached.

Update to Project Activities

- Stage 1 Archaeological Assessment complete
- Stage 2 Archaeological Assessment scheduled for Spring 2021
- Additional natural heritage studies planned for the week of December 7th, 2020
- Completion of the Environmental Report anticipated by end of 2020

Please feel free to share this letter with your neighbours. If you are a landowner, it would also be appreciated if this letter could be shared with your tenants.

Please direct any questions, comments and/or concerns to the undersigned.

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com. Additional project information is available at: <http://sun-canadian.com/media-releases/>.

Regards,

Stantec Consulting Ltd.

Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

Attachment: Map of Proposed Pipeline Route
c. Peter Martens, Sun-Canadian Pipe Line Ltd.

*APPENDIX B4:
PROJECT CORRESPONDENCE*



**NPS 12 East Sixteen Mile Creek Pipeline Replacement Project:
Environmental Report**

OPCC CORRESPONDENCE

Line Item	Date of Communication	Agency	Correspondent	Method of Communication	Subject	Comment	Date of Response	Response and Issue Resolution (if applicable)	Follow-up Required
1	21-Aug-20	OPCC	OPCC members	Email	Notice of Commencement	Stantec on behalf of Sun Canadian provided an updated Notice of Commencement.			

PROVINCIAL AND FEDERAL GOVERNMENT AGENCY CORRESPONDENCE

Line Item	Date of Communication	Agency	Correspondent	Method of Communication	Subject	Comment	Date of Response	Response and Issue Resolution (if applicable)
1	21-Aug-20	All Agencies	N/A	Letter via Email	Notice of Commencement	Stantec on behalf of Sun Canadian provided a Notice of Commencement.	N/A	N/A
2	21-Aug-20	Ministry of Municipal Affairs and Housing	Erick Boyd	Email	Notice of Commencement	MMAH is forwarding the letter to their Central Region Planning Manager.	N/A	N/A
3	24-Aug-20	Ontario Ministry of Agriculture, Food and Rural Affairs	Anneleis Eckert	Email	Notice of Commencement	Anneleis requested to be added to the contact list.	N/A	N/A
4	31-Aug-20	Ministry of Natural Resources and Forestry	Maria Jawaid	Email	Notice of Commencement	MNRF noted they have no concerns with the project, but if any in-water works be required that they respect the appropriate timing windows.	N/A	N/A
5	8-Sep-20	Ministry of Heritage, Sport, Tourism and Culture Industries	Dan Minkin	Email	Notice of Commencement	MHSTCI provided comments on the project.	N/A	N/A

MUNICIPAL CORRESPONDENCE

Line Item	Date of Communication	Municipality	Correspondent	Method of Communication	Subject	Comment	Date of Response	Response and Issue Resolution (if applicable)	Follow-up Required
1	21-Aug-20	Town of Milton and Halton Region	N/A	Email	Notice of Commencement	Stantec on behalf of Sun Canadian provided a Notice of Commencement.	N/A	N/A	N/A
2	21-Aug-20	Town of Milton	Diana Jiona	Email	Notice of Commencement	Milton provided contact information updates for any future correspondence.	N/A	N/A	N/A
3	11-Sep-20	Town of Milton	Anthony Wong	Email	Municipal Heritage Interests	The Town of Milton contacted Stantec to identify the boundary of the study area.	14-Sep-20	Stantec replied to the request and provided a map showing the study area boundaries.	N/A
4	14-Sep-20	Town of Milton	Anthony Wong	Email	Municipal Heritage Interests	The Town of Milton provided information on the municipal heritage interests.	N/A	N/A	N/A
5	30-Sep-20	Halton Region	Robert Clackett	Email	General	Halton Region Senior Planner Robert Clackett informed the Project team he would be managing the 16 Mile Creek replacement from the Region's perspective. Mr. Clackett requested more details with respect to the project, and any critical deadlines to provide information.	05-Oct-20	Stantec responded to the Halton Region Senior Planner to clarify what details they are requesting. Stantec noted that the Environmental Report would be circulated for review in a few weeks, and asked to confirm who the appropriate contact at Halton Region would be.	N/A
6	19-Oct-20	Halton Region	Robert Clackett	Email	General	Halton Region Senior Planner Robert Clackett noted they would like to receive as much detail as possible, including all materials that have been released to the public to date and confirmed the appropriate contact at Halton Region moving forward.	03-Nov-20	Stantec responded to the Halton Region Senior Planner and stated all available information to date has been provided and noted that once more information is available it will be provided.	N/A

**NPS 12 East Sixteen Mile Creek Pipeline Replacement Project:
Environmental Report**

INDIGENOUS CORRESPONDENCE

Line Item	Date of Communication	Community	Correspondent	Method of Communication	Subject	Comment	Date of Response	Response and Issue Resolution (if applicable)	Follow-up Required
1	28-Jul-20	Ministry of Energy, Northern Development and Mines	Dan Delaquis	Email	Project Description and Duty to Consult	The MENDM responded to Sun Canadian's Project Description and Duty to Consult request, dated on June 6, 2020 and provided a list of indigenous communities that should be consulted on the basis that they have or may have constitutionally protected Aboriginal or Treaty rights that may be adversely affected by the Project.	N/A	N/A	N/A
2	12-Aug-20	Haudenosaunee Confederacy Chiefs Council (HCCC)	Haudenosaunee Confederacy Council	Letter via Email	Notice of Commencement	Sun Canadian notified HCCC of the Project in a Notice of Commencement letter, sent via email.	N/A	N/A	N/A
3	12-Aug-20	Huron Wendat Nation (HWN)	M.Picard	Letter via Email	Notice of Commencement	Sun Canadian notified HWN of the Project in a Notice of Commencement letter, sent via email.	N/A	N/A	N/A
4	12-Aug-20	Mississauga of the Credit First Nation (MCFN)	M. LaForme	Letter via Email	Notice of Commencement	Sun Canadian notified MCFN of the Project in a Notice of Commencement letter, sent via email.	N/A	N/A	N/A
5	12-Aug-20	Six Nations of the Grand River (SNGR) Elected Council	L. Bomberry	Letter via Email	Notice of Commencement	Sun Canadian notified SNGR Elected Council of the Project in a Notice of Commencement letter, sent via email.	N/A	N/A	N/A
6	9-Sep-20	Huron Wendat Nation (HWN)	M. Picard	Virtual Meeting	Discussion of the proposed Project	The HWN and Sun Canadian held a virtual meeting to discuss the Project. The HWN noted they expect the project design to preserve cultural resources as necessary. This may include additional measures resulting from any Stage 3 or beyond findings. The HWN noted their interest in the Project is with archaeology. Accordingly, the HWN will participate in all archaeology associated with this project - SCPL noted they will ensure its archaeological consultant works with HWN.	N/A	N/A	N/A
7	22-Sep-20	Six Nations of the Grand River (SNGR) Elected Council	L. Bomberry Robbin Vanstone Jen Mt. Pleasant Dawn LaForme Tanya Hill-Mountour	Virtual Meeting	Discussion of the proposed Project	SNGR and Sun Canadian held a virtual meeting to discuss the Project. SNGR would like to participate in the Project via construction monitoring during the construction phase of the project and during archaeology work.	N/A	N/A	N/A
8	23-Sep-20	Six Nations of the Grand River (SNGR) Elected Council	J. MtPleasant	Letter via Email	Discussion of the proposed Project	In response to the virtual meeting and presentation held on September 22, SNGR Elected Council provided a letter to Sun Canadian detailing historical treaties made between the Haudenosaunee (people of the Six Nations) and settlers and the Crown. SNGR Elected Council noted their communities shared interest in Stewardship, the Environment, and Wildlife, and encouraged all levels of government, developers and affiliates to act honourably when engaging with SNGR.	N/A	N/A	N/A
9	5-Oct-20	Mississauga of the Credit First Nation (MCFN)	M. LaForme F.Sault M. DeVries	Virtual Meeting	Discussion of the proposed Project	The MCFN and Sun Canadian held a virtual meeting to discuss the Project. The MCFN requested participation in all environmental studies and monitoring, and noted they will participate in the planned Stage 1&2 archaeology (under current monitor agreement).	N/A	N/A	N/A

**NPS 12 East Sixteen Mile Creek Pipeline Replacement Project:
Environmental Report**

PUBLIC CORRESPONDENCE

Line Item	Date of Communication	Affiliation (if any)	Correspondent	Method of Communication	Subject	Comment	Date of Response	Response and Issue Resolution (if applicable)	Follow-up Required
1	21-Aug-20	N/A	N/A	Letter	Notice of Commencement	Stantec on behalf of Sun Canadian provided the Notice of Commencement.	N/A	N/A	N/A
2	24-Sep-20	N/A	N/A	Letter	Project Update	Stantec on behalf of Sun Canadian provided a project update via hand delivered letter.	N/A	N/A	N/A
3	8-Dec-20	N/A	N/A	Letter	Second Project Update	Stantec on behalf of Sun Canadian provided a second project update via hand delivered letter.	N/A	N/A	N/A

THIRD-PARTY CORRESPONDENCE

Line Item	Date of Communication	Company / Association / Group	Correspondent	Method of Communication	Subject	Comment	Date of Response	Response and Issue Resolution (if applicable)	Follow-up Required
1	25-Aug-20	Milton Green Environmental Association	N/A	Email	Notice of Commencement	Stantec on behalf of Sun Canadian provided the Notice of Commencement.			

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:56 AM
To: brad.allan@ontario.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_BAllen_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:32 PM
To: brad.allan@ontario.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
Cell: (437) 235-2984
Jacqueline.Corr@stantec.com



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 Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:56 AM
To: bdavis@hrca.on.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_BDavis_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:34 PM
To: bdavis@hrca.on.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Thank you,
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Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:57 AM
To: planning@milton.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_BKoopmans_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:34 PM
To: planning@milton.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

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Jackie Corr, HBAsc, MES

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Jacqueline.Corr@stantec.com



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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:57 AM
To: curt.benson@halton.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_CBenson_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:35 PM
To: curt.benson@halton.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Thank you,
Jackie

Jackie Corr, HBAsc, MES
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Assessment and Permitting Team
Stantec
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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:57 AM
To: 'Ostrowka, Cory (IO)'
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_COstrowka_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:35 PM
To: Ostrowka, Cory (IO) <Cory.Ostrowka@infrastructureontario.ca>
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Jackie Corr, HBAsc, MES
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 Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:57 AM
To: Marriott, David (OMAFRA)
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_DMarriott_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:36 PM
To: Marriott, David (OMAFRA) <David.Marriott@ontario.ca>
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
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300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
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Jacqueline.Corr@stantec.com



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 Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 8:59 AM
To: dan.minkin@ontario.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_DMinkin_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:36 PM
To: dan.minkin@ontario.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

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Jackie

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 Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:01 AM
To: sourceprotectionscreening@ontario.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_DScanlon_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:37 PM
To: sourceprotectionscreening@ontario.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Thank you,
Jackie

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 Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:33 AM
To: erick.boyd@Ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_EBoyd_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

Environmental Consultant
Assessment and Permitting Team
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300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
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 Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:02 AM
To: graham.milne@halton.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_GMilne_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:37 PM
To: graham.milne@halton.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

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Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
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Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:02 AM
To: helma.geerts@ontario.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_HGeerts_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:38 PM
To: helma.geerts@ontario.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
Cell: (437) 235-2984
Jacqueline.Corr@stantec.com



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Please consider the environment before printing this email.

Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:03 AM
To: 'james.hamilton@ontario.ca'
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_JHamilton_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:38 PM
To: james.hamilton@ontario.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:03 AM
To: jason.mccullough@ontario.ca
Cc: Candido, Mike
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_JMcCullough_20200820.pdf

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:39 PM
To: 'jason.mccullough@ontario.ca' <jason.mccullough@ontario.ca>
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:19 AM
To: jen.turnbull@ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_JTurnbull_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:23 AM
To: kmanouchehri@tssa.org
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_KManouchehri_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:23 AM
To: michele.doncaster@ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_MDoncaster_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Thank you,
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Jackie Corr, HBAsc, MES

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:24 AM
To: maria.jawaid@ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_MJawaid_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:25 AM
To: environment.toronto@ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_MoE_Conserv-Parks_20200820.pdf

Good morning,

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Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:25 AM
To: Scott.Oliver@ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_SOliver_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Assessment and Permitting Team
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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:25 AM
To: sally.renwick@ontario.ca
Cc: Bradley, Michael
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_SRenwick_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:26 AM
To: Tony.Difabio@ontario.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_TDifabio_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Assessment and Permitting Team
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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:27 AM
To: townclerk@milton.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_TMchArg_20200820.pdf

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

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Hartwig, Emily

From: Corr, Jacqueline
Sent: Friday, August 21, 2020 9:28 AM
To: Zora.Crnojacki@oeb.ca
Cc: Candido, Mike
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Attachments: let_NoC_ZCrnojacki_20200820.pdf

Good morning,

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Thank you,
Jackie

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From: Boyd, Erick (MMAH)
To: [Corr, Jacqueline](#)
Cc: [Watt, Heather \(MMAH\)](#)
Subject: FW: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Friday, August 21, 2020 9:43:07 AM
Attachments: [let_NoC_EBoyd_20200820.pdf](#)

Hi Jackie,

Thanks for your email regarding the Sun-Canadian Pipe Line EA. I am sending this to Heather Watt, my planning manager colleague in our Central Region as this project is within her region.

Erick

Erick Boyd, RPP, MCIP

Manager, Community Planning and Development
Ministry of Municipal Affairs and Housing
Municipal Services Office - Western
659 Exeter Road, 2nd Floor
London, ON N6E 1L3
Ph.: 226-688-9058
Fax: 519-873-4018
Email: Erick.Boyd@ontario.ca

Please consider the environment before printing this email.

From: Corr, Jacqueline <Jacqueline.Corr@stantec.com>
Sent: August 21, 2020 9:33 AM
To: Boyd, Erick (MMAH) <Erick.Boyd@ontario.ca>
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Thank you,
Jackie

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Assessment and Permitting Team
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 Please consider the environment before printing this email.

From: [Eckert, Anneleis \(OMAFRA\)](#)
To: [Candido, Mike](#)
Cc: [Doncaster, Michele \(OMAFRA\)](#); [Marriott, David \(OMAFRA\)](#); [Geerts, Helma \(OMAFRA\)](#); [Turnbull, Jen \(OMAFRA\)](#)
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement
Date: Monday, August 24, 2020 8:44:01 AM

Good Morning Michael,

I am the OMAFRA rural planner that covers Halton. Please add my name to the contact list and remove:

Michele Doncaster, David Marriott, Helma Geerts, and Jen Turnbull.

A list of coverage areas and a map are available through this site:

<http://www.omafra.gov.on.ca/english/landuse/staff.htm>

Let me know if you need additional information.

Thank you,

Anneleis Eckert (pronouns she/her)

Rural Planner

Land Use Policy and Stewardship, Policy Division

Ontario Ministry of Agriculture, Food and Rural Affairs

6484 Wellington Road 7, Elora, ON, N0B 1S0

519-827-6040 | anneleis.eckert@ontario.ca

“Please Note: As part of providing [accessible customer service](#), please let me know if you have any accommodation needs or require communication supports or alternate formats.”

From: Jawaid, Maria (MNRF)
To: [Corr, Jacqueline](#)
Cc: [Fortini, Natosha \(MNRF\)](#)
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Monday, August 31, 2020 5:14:11 PM
Attachments: [image001.png](#)

Hi Jacqueline,

Thank you for the opportunity to comment on the Sun-Canadian Pipeline Replacement Project occurring in Milton Ontario.

The project includes the replacement of an existing pipeline across the East Sixteen Mile Creek. MNRF has no concerns with this project, however notes that should any in-water works be required, they respect the appropriate timing window. Our records indicate that this reach of the Creek is occupied by Silver Shiner, a Species at Risk under the *Endangered Species Act*. As such, MNRF recommends that the project team contact MECP for a timing window to help inform when in water activities would be appropriate.

Please let me know if you have any questions.

Sincerely,

Maria Jawaid (she/her)

District Planner | Aurora District
Ministry of Natural Resources and Forestry
50 Bloomington Road, 3rd Floor, Aurora, ON | L4G 0L8
☎ 905-713-7367 | ✉ maria.jawaid@ontario.ca



From: Corr, Jacqueline <Jacqueline.Corr@stantec.com>
Sent: August-21-20 9:24 AM
To: Jawaid, Maria (MNRF) <Maria.Jawaid@ontario.ca>
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

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Thank you,
Jackie

Jackie Corr, HBAsc, MES

Environmental Consultant
Assessment and Permitting Team

Stantec

300W-675 Cochrane Drive, Markham ON L3R 0B8

Phone: (905) 944-7785

Cell: (437) 235-2984

Jacqueline.Corr@stantec.com



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From: Harvey, Joseph (MHSTCI)
To: [Candido, Mike](#)
Cc: zora.crnojacki@oeb.ca; [Minkin, Dan \(MHSTCI\)](#); [Barboza, Karla \(MHSTCI\)](#); [Corr, Jacqueline](#)
Subject: File 0012763: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Tuesday, September 8, 2020 12:24:58 PM
Attachments: [2020-09-08_SunCanadian-MHSTCI-Ltr.pdf](#)

Michael Candido,

Please find attached MHSTCI comments on the above referenced project. Please do not hesitate to contact Dan Minkin if you have any questions.

Joseph Harvey

On behalf of

Dan Minkin
Heritage Planner
Heritage Planning Unit
Dan.Minkin@ontario.ca

**Ministry of Heritage, Sport,
Tourism and Culture Industries**

Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7
Tel: 416.786.7553

**Ministère des Industries du Patrimoine,
du Sport, du Tourisme et de la Culture**

Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto, ON M7A 0A7
Tél: 416.786.7553



September 8, 2020

EMAIL ONLY

Michael Candido
Project Manager
Stantec Consulting Ltd.
1-70 Southgate Drive
Guelph, ON N1G 4P5
michael.candido@stantec.com

MTCS File # : 0012763
Proponent : Sun-Canadian Pipe Line Company Limited (Sun-Canadian)
Project : NPS 12 E16M Creek Pipeline Replacement Project
Location : Town of Milton

Dear Michael Candido:

Thank you for contacting the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) about the above-referenced project, which requires Ontario Energy Board (OEB)'s leave to construction under the Ontario Energy Board Act.

Please note that the OEB issued the [Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition](#) to assist applicants how to identify, manage and document environmental impacts. The Guidelines encourage applicants to consult with the Ontario Pipeline Coordinating Committee (which MHSTCI is a member) and other agencies. MHSTCI's interest in this process relates to its mandate of conserving Ontario's cultural heritage, which includes:

- Archaeological resources, including land and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Among the planning activities outlined in Chapter 2 of the Guidelines, an applicant is advised to:

- describe the rationale for study area delineation (including construction staging, land requirements);
- identify existing baseline environmental conditions;
- identify potential environmental impacts expected to occur during construction and operation of the project, including cumulative impacts;
- describe proposed measures to mitigate potential negative impacts.

This letter provides advice on how to incorporate consideration of cultural heritage in the above-mentioned planning activities and expands on sections 4.3 and 5.3 of the Guidelines by outlining the technical cultural heritage studies and level of detail required to address cultural heritage in pipeline and facilities projects. The outcomes and recommendations of the studies will be reported in the Environmental Report and form the basis for any future commitments.

Project Summary

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill.

Identifying Cultural Heritage Resources

While some cultural heritage resources may have already been formally identified, others may be identified through assessment.

Archaeological Resources (Land and Marine, if applicable)

MHSTCI recommends that, as a best practice, a combined Stage 1-2 archaeological assessment (AA) be completed for the entire study area during the planning phase.

At a minimum, a Stage 1 AA will be undertaken for the entire study area during the planning phase. The results of the Stage 1 AA will inform the OEB and will be summarized in the Environmental Report. If the Stage 1 AA recommends further AA(s), then MHSTCI recommends that further stages of AA be completed as early as possible during the design phase of the project, and prior to the completion of detailed design.

Archaeological assessments are required to be undertaken by an archaeologist licenced under the *Ontario Heritage Act*, who is responsible for submitting the report directly to MHSTCI for review.

The Environmental Report must include specific information from the AA report(s). The Executive Summary of each AA report provides a brief summary of the work completed and the recommendations for next steps, whether for further archaeological assessment, in which case the report will include a map that identifies those areas, or for no further assessment. The Environmental Report must also include clear commitments to undertake any further AA stages recommended, and a timeline for their completion.

Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken for the entire study area during the planning phase to inform the OEB and will be summarized in the Environmental Report. This study will:

1. Identify existing baseline cultural heritage conditions within the study area.
 - Study Area: The consultants preparing the Cultural Heritage Report will need to define a study area and explain their rationale. The common practice has been to define a study area as including the right-of-way (ROW) and a 50-metre buffer (construction zone) on either side of the ROW.
 - The report will include a historical summary of the study area and will identify all known or potential built heritage resources and cultural heritage landscapes in the study area. MHSTCI has developed screening criteria that may assist with this exercise: [Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Landscapes](#).

2. Identify preliminary potential project-specific impacts on the known and potential built heritage resources and cultural heritage landscapes that have been identified. The report should include a description of the anticipated impact to each known or potential built heritage resource or cultural heritage landscape that has been identified.
3. Recommend measures to avoid or mitigate potential negative impacts to known or potential built heritage resources and cultural heritage landscapes. The proposed mitigation measures are to inform the next steps of project planning and design.

Where a known or potential built heritage resource or cultural heritage landscape may be directly and adversely impacted¹, and where it has not yet been evaluated for Cultural Heritage Value or Interest (CHVI), completion of a Cultural Heritage Evaluation Report (CHER) is required to fully understand its CHVI and level of significance. The CHER must be completed as part of the Environmental Report. If a potential resource is found to be of CHVI, then a Heritage Impact Assessment (HIA) will be undertaken by a qualified person. The HIA will be completed in consultation with MHSTCI and the proponent as early as possible during detail design, following the OEB's Leave to Construct.

While some cultural heritage landscapes are contained within individual property boundaries, others span across multiple properties. For certain cultural heritage landscapes, it will be more appropriate for the CHER and HIA to include multiple properties, in order to reflect the extent of that cultural heritage landscape in its entirety.

Cultural Heritage Reports will be undertaken by a qualified person who has expertise, recent experience, and knowledge relevant to the type of cultural heritage resources being considered and the nature of the activity being proposed.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Reporting

The findings of the above-mentioned studies should be summarized as part of the Environmental Report discussion of existing conditions, impact assessment, mitigation, and future commitments. Commitments for further studies should clearly state what is to be done, who is responsible for implementation, and when. Recommendations from the technical cultural heritage studies described above should be reflected as commitments in the Environmental Report.

MHSTCI welcomes the opportunity to review and comment upon relevant sections of the draft Environmental Report, before the final draft Environmental Report is submitted to the OPCC for review.

¹ A direct adverse impact would have a permanent and irreversible negative effect on the cultural heritage value or interest of a property or result in the loss of a heritage attribute on all or part of the property. Examples include, but are not limited to: removal or demolition of a heritage attribute, land disturbance, alterations that are not sympathetic to the CHVI of the property, introduction of new elements that diminish the integrity of the property, changing the character of the property, intensification of the property without conservation of heritage attributes.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the OEB process. If you have any questions, require clarification, or would like additional examples to assist with project reporting, do not hesitate to contact Dan Minkin.

Sincerely,

Joseph Harvey
On behalf of

Dan Minkin
Heritage Planner
Heritage Planning Unit
Dan.Minkin@ontario.ca

Copied to: Jackie Corr, Environmental Consultant, Stantec Consulting Ltd
Zora Crnojacki, Project Advisor, Ontario Energy Board

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MHSTCI makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MHSTCI be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MHSTCI if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*.

If human remains are encountered, all activities must cease immediately and the local police as well as the Registrar, Burials of the Ministry of Government and Consumer Services must be contacted. In situations where human remains are associated with archaeological resources, MHSTCI should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

Ministry of Energy, Northern
Development and Mines

77 Grenville Street
6th Floor
Toronto ON M7A 2C1

Ministère de l'Énergie, du
Développement du Nord et des
Mines

77, rue Grenville
6^e étage
Toronto ON M7A 2C1



VIA EMAIL

July 28, 2020

Susan Jackson
Manager Environment, Health & Safety
Sun-Canadian Pipe Line
150 – 6th Avenue S.W.
Calgary, Alberta T2P 3E3

Re: SCPL East Sixteen Mile Crossing Replacement

Dear Susan Jackson:

Thank you for your email dated June 11, 2020 notifying the Ministry of Energy, Northern Development and Mines (ENDM) of Sun-Canadian Pipe Line's intention to apply to the Ontario Energy Board (OEB) for Leave to Construct for the SCPL East Sixteen Mile Crossing Replacement (the Project).

I understand that Sun-Canadian Pipe Line is has identified the need to replace approximately 500m segment of an existing 12-inch diameter pipeline (TRL system) near Trafalgar Road and south of Britannia Road in the Town of Milton. The existing pipeline segment crosses under East Sixteen Mile creek and has become exposed in several locations in the watercourse due to ongoing erosion and creek meander. This project intends to install a new segment of 12-inch diameter pipe via horizontal directional drilling at a greater depth to eliminate the environmental risks of the current pipe exposure.

On behalf of the Government of Ontario (the Crown), ENDM has reviewed the information provided by Sun-Canadian Pipe Line with respect to the Project and assessed it against the Crown's current understanding of the interests and rights of Aboriginal communities who hold or claim Aboriginal or treaty rights protected under Section 35 of Canada's Constitution Act 1982 (Indigenous Communities) in the area. In doing so, ENDM has determined that the Project may have the potential to affect such Indigenous communities.

The Crown has a constitutional duty to consult and, where appropriate, accommodate Indigenous communities when the Crown contemplates conduct that might adversely impact established or asserted Aboriginal or Treaty rights. These consultations are in addition to consultation imposed by statute.

While the legal responsibility to meet the duty to consult lies with the Crown, the Crown may delegate the day-to-day, procedural aspects of consultation to project Proponents. Such a delegation by the Crown to Proponents is routine practice for ENDM.

I am writing to advise you that on behalf of the Crown, ENDM is delegating the procedural aspects of consultation in respect of the Project to Sun-Canadian Pipe Line (Proponent) through this letter. ENDM expects that the Proponent will undertake the procedural aspects of consultation with respect to any regulated requirements for the proposed Project. The Crown will fulfill the substantive aspects of consultation and retain oversight over all aspects of the process for fulfilling the Crown’s duty.

Please see the appendix for information on the roles and responsibilities of both the Crown and the Proponent.

Based on the Crown’s assessment of First Nation and Métis community rights and potential project impacts, the following Indigenous communities should be consulted on the basis that they have or may have constitutionally protected Aboriginal or Treaty rights that may be adversely affected by the Project.

Community	Mailing Address
Mississaugas of the New Credit First Nation	2789 Mississauga Road R.R. #6 Hagersville, ON N0A 1H0
Six Nations of the Grand River *	Six Nations of the Grand River Elected Council PO Box 5000 Ohsweken, Ontario N0A 1M0 Haudenosaunee Confederacy Chiefs Council P.O Box 714 Ohsweken, ON N0A 1M0
Huron Wendat**	255, place Chef Michel Laveau Wendake, QC G0A 4V0

**Please note, proponents are required to consult with both, Six Nations Elected Council and Haudenosaunee Confederacy Chiefs Council (HCCC). Please copy Haudenosaunee Development Institute (HDI) on all correspondence to Haudenosaunee Confederacy Chiefs Council (HCCC).*

***interests are specific to archeological resources*

This rights-based consultation list is based on information that is subject to change. Consultation is ongoing throughout the duration of the project, including project development and design, consultation, approvals, construction, operation and decommissioning. First Nation and Métis communities may make new rights assertions

at any time, and further project related developments can occur that may require additional First Nation and/or Métis communities to be notified and/or consulted. If you become aware of potential rights impacts on Indigenous communities that are not listed above at any stage of project, please bring this to the attention of ENDM with any supporting information regarding the claim at your earliest convenience.

ENDM is assuming a coordinating role within government in relation to rights-based Aboriginal consultation on the Project. We recommend contacting the following ministry representatives if you have any questions or concerns relating to a specific ministry's mandate:

Ministry/Contact	Phone/Email
Ministry of Energy, Northern Development and Mines Kristen Bromfield – Policy Advisor, Indigenous Energy Policy Unit	(416) 735-3297 kristen.bromfield@ontario.ca
Ministry of Environment, Conservation and Parks Peter Brown – Consultation Advisor, Environmental Assessment and Permissions Division	(416) 314-0149 peter.brown@ontario.ca
Ministry of Transportation Donna Bigelow - Team Lead, Indigenous Relations Branch	(647) 537-9423 donna.bigelow@ontario.ca
Ministry of Government and Consumer Services Uyen Ha – Senior Policy Advisor, Infrastructure Projects - Realty	(437) 994-8446 Uyen.ha@ontario.ca
Ministry of Heritage, Sport, Tourism and Culture Industries Karla Barboza - Team Lead, Heritage, Tourism and Culture Division	(416) 314-7120 karla.barboza@ontario.ca

Acknowledgement

By accepting this letter, the Proponent acknowledges this Crown delegation and the procedural consultation responsibilities enumerated in the appendix. If you have any questions about this request, you may contact Kristen Bromfield (see above).

I trust that this information provides clarity and direction regarding the respective roles of the Crown and Sun-Canadian Pipe Line. If you have any questions about this letter or require any additional information, please contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dan Delaquis', with a stylized flourish at the end.

Dan Delaquis
Manager, Indigenous Energy Policy

C: Ontario Pipeline Coordinating Committee (OPCC)

APPENDIX: PROCEDURAL CONSULTATION

Roles and Responsibilities Delegated to the Proponent

On behalf of the Crown, please be advised that your responsibilities as Project Proponent for this Project include:

- providing notice and information about the Project to Indigenous communities, with sufficient detail and at a stage in the process that allows the communities to prepare their views on the Project and, if appropriate, for changes to be made to the Project. This can include:
 - accurate, complete and plain language information including a detailed description of the nature and scope of the Project and translations into Aboriginal languages where appropriate;
 - maps of the Project location and any other affected area(s);
 - information about the potential negative effects of the Project on the environment, including their severity, geographic scope and likely duration. This can include, but is not limited to, effects on ecologically sensitive areas, water bodies, wetlands, forests or the habitat of species at risk and habitat corridors;
 - a description of other provincial or federal approvals that may be required for the Project to proceed;
 - whether the Project is on privately owned or Crown controlled land;
 - any information the Proponent may have on the potential effects of the Project, including particularly any likely adverse impacts on established or asserted Aboriginal or treaty rights;
 - a written request asking the Indigenous community to provide in writing or through a face-to-face meeting:
 - any information available to them that should be considered when preparing the Project documentation;
 - any information the community may have about any potential adverse impacts on their Aboriginal or treaty rights; and
 - any suggested measures for avoiding, minimizing or mitigating potential adverse impacts;
 - information about how information provided by the Indigenous community as part of the consultation process will be collected, stored, used, and shared for their approval;
 - identification of any mechanisms that will be applied to avoid, minimize or mitigate potential adverse impacts;
 - identification of a requested timeline for response from the community and the anticipated timeline for meeting Project milestones following each notification;

- an indication of the Proponent's availability to discuss the process and provide further information about the Project;
- the Proponent's contact information; and
- any additional information that might be helpful to the community;
- following up, as necessary, with Indigenous communities to ensure they received Project notices and information and are aware of the opportunity to comment, raise questions or concerns and identify potential adverse impacts on their established or asserted rights;
- gathering information about how the Project may adversely affect Aboriginal or treaty rights;
- bearing the reasonable costs associated with the procedural aspects of consultation (paying for meeting costs, making technical support available, etc.) and considering reasonable requests by communities for capacity funding to assist in participating in the consultation process;
- considering and responding to comments and concerns raised by Indigenous communities and answering questions about the Project and its potential impacts on Aboriginal or treaty rights;
- as appropriate, discussing and implementing changes to the Project in response to concerns raised by Indigenous communities. This could include modifying the Project to avoid or minimize an impact on an Aboriginal or treaty right (e.g. altering the season when construction will occur to avoid interference with mating or migratory patterns of wildlife); and
- informing Indigenous communities about how their concerns were taken into consideration and whether the Project proposal was altered in response. It is considered a best practice to provide the Indigenous community with a copy of the consultation record as part of this step for verification.

If you are unclear about the nature of a concern raised by an Indigenous community, you should seek clarification and further details from the community, provide opportunities to listen to community concerns and discuss options, and clarify any issues that fall outside the scope of the consultation process. These steps should be taken to ensure that the consultation process is meaningful and that concerns are heard and, where possible, addressed.

You can also seek guidance from the Crown at any time. It is recommended that you contact the Crown if you are unsure about how to deal with a concern raised by an Indigenous community, particularly if the concern relates to a potential adverse impact on established or asserted Aboriginal or treaty rights.

The consultation process must maintain sufficient flexibility to respond to new information, and we request that you make all reasonable efforts to build positive relationships with all Indigenous communities potentially affected by the Project. If a community is unresponsive to efforts to notify and consult, you should nonetheless make attempts to update the community on the progress of the Project, the environmental assessment (if applicable) and other regulatory approvals.

If you reach a business arrangement with an Indigenous community that may affect or relate to the Crown's duty to consult, we ask that that Crown be advised of those aspects of such an arrangement that may relate to or affect the Crown's consultation obligations, and that the community itself be apprised of the Proponent's intent to so-apprise the Crown. Whether or not any such business arrangements may be reached with any community, the Crown expects the Proponent to fulfill all of its delegated procedural consultation responsibilities to the satisfaction of the Crown.

If the Crown considers that there are outstanding issues related to consultation, the Crown may directly undertake additional consultation with Indigenous communities, which could result in delays to the Project. The Crown reserves the right to provide further instructions or add communities throughout the consultation process.

Roles and responsibilities assumed directly by the Crown

The role of the Crown in fulfilling any duty to consult and accommodate in relation to this Project includes:

- identifying for the Proponent, and updating as appropriate, the Indigenous communities to consult for the purposes of fulfillment of the Crown duty;
- carrying out, from time to time, any necessary assessment of the extent of consultation or, where appropriate, accommodation, required for the project to proceed;
- supervising the aspects of the consultation process delegated to the Proponent;
- determining in the course of Project approvals whether the consultation of Indigenous communities was sufficient;
- determining in the course of Project approvals whether accommodation of Indigenous communities, if required, is appropriate and sufficient.

Consultation Record

It is important to ensure that all consultation activities undertaken with Indigenous communities are fully documented. This includes all attempts to notify or consult the community, all interactions with and feedback from the community, and all efforts to respond to community concerns. Crown regulators

require a complete consultation record in order to assess whether Aboriginal consultation and any necessary accommodation is sufficient for the Project to receive Ontario government approvals. The consultation record should include, but not be limited to, the following:

- a list of the identified Indigenous communities that were contacted;
- evidence that notices and Project information were distributed to, and received by, the Indigenous communities (via courier slips, follow up phone calls, etc.). Where a community has been non-responsive to multiple efforts to contact the community, a record of such multiple attempts and the responses or lack thereof.
- a written summary of consultations with Indigenous communities and appended documentation such as copies of notices, any meeting summaries or notes including where the meeting took place and who attended, and any other correspondence (e.g., letters and electronic communications sent and received, dates and records of all phone calls);
- responses and information provided by Indigenous communities during the consultation process. This includes information on Aboriginal or treaty rights, traditional lands, claims, or cultural heritage features and information on potential adverse impacts on such Aboriginal or treaty rights and measures for avoiding, minimizing or mitigating potential adverse impacts to those rights; and
- a summary of the rights/concerns, and potential adverse impacts on Aboriginal or treaty rights or on sites of cultural significance (e.g. burial grounds, archaeological sites), identified by Indigenous communities; how comments or concerns were considered or addressed; and any changes to the Project as a result of consultation, such as:
 - changing the Project scope or design;
 - changing the timing of proposed activities;
 - minimizing or altering the site footprint or location of the proposed activity;
 - avoiding impacts to the Aboriginal interest;
 - environmental monitoring; and
 - other mitigation strategies.

As part of its oversight role, the Crown may, at any time during the consultation and approvals stage of the Project, request records from the Proponent relating to consultations with Indigenous communities. Any records provided to the Crown will be subject to the *Freedom of Information and Protection of Privacy Act*, however may be exempted from disclosure under section 15.1 (Relations with

Aboriginal communities) of the Act. Additionally, please note that the information provided to the Crown may also be subject to disclosure where required under any other applicable laws.

The contents of what will make up the consultation record should be shared at the onset with the Indigenous communities consulted with and their permission should be obtained. It is considered a best practice to share the record with the Indigenous community prior to finalizing it to ensure it is a robust and accurate record of the consultation process.



August 12, 2020

Haudenosaunee Confederacy Chiefs Council
c/o Haudenosaunee Development Institute
P.O. Box 714
Ohsweken, ON N0A 1M0
HaudenosauneeConfederacy.ca

SENT VIA EMAIL

Haudenosaunee Confederacy Council,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

The Haudenosaunee Confederacy Council is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun-Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line

Attachment: Map of Proposed Pipeline Route



c. Tracey General, Haudenosaunee Development Institute
Todd Williams, Haudenosaunee Development Institute
Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



August 12, 2020

Maxime Picard
Huron-Wendat
255 place chef Michel Laveau
Wendake, QC G0A 4V0
administration@cnhw.qc.ca

SENT VIA EMAIL

Dear Mr. Picard,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

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An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

The Huron-Wendat First Nation is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun-Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line

Attachment: Map of Proposed Pipeline Route



c. Administration, Huron-Wendat First Nation
Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



August 12, 2020

Mark LaForme
Mississauga of the Credit First Nation
2789 Mississauga Road, R. R. #6
Hagersville ON N0A 1H0
mark.laforme@mcfn.ca

SENT VIA EMAIL

Dear Mr. LaForme,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Mississauga of the Credit First Nation is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun-Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line



Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



August 12, 2020

Lonny Bomberry
Six Nations Lands & Resources
Six Nations of the Grand River Elected Council
PO Box 5000
Oshweken, ON
lonnybomberry@sixnations.ca

SENT VIA EMAIL

Dear Mr. Bomberry,

Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement Project

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016). The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mail outs, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Six Nations of the Grand River First Nation is invited to provide comments regarding the proposed project. Specifically, Stantec and Sun Canadian are seeking any information available from your community that should be considered when preparing the Project documentation, information about any potential adverse impacts that the proposed project may have on constitutionally protected aboriginal or treaty rights and any measures for avoiding, minimizing or mitigating those potential adverse impacts. Stantec and Sun-Canadian are also seeking background environmental and socio- economic information that may be useful in compiling an inventory.

We would be pleased to hold a virtual meeting (during these COVID-19 times) with you to introduce the project and discuss the topics outlined above. Please let us know if you are interested in meeting this September and if so, provide potential meeting dates that accommodate your schedule.

Regards,

S. Jackson
Manager, Environment Health and Safety
Sun-Canadian Pipe Line



Attachment: Map of Proposed Pipeline Route

c. Dawn LaForme, Six Nations of the Grand River First Nation
Peter Martens, Pipeline Engineer, Sun Canadian Pipe Line



MEETING MINUTES

E16 Mile Creek Pipeline Segment Replacement Project - Meeting #1

Wednesday September 9, 2020 - VIA MS Teams

Attendees:

Huron-Wendat:

M. Picard – Project Coordinator

Sun-Canadian Pipe Line (SCPL):

S. Jackson – Manager Environment, Health and Safety

P. Martens – Pipeline Engineer

Regrets:

M. Vincent – Project Coordinator, Huron Wendat

SUMMARY NOTES OF MEETING

PRESENTATION BY SCPL :

- Purpose: The purpose of the meeting is for Sun-Canadian Pipe Line Limited to introduce and share information regarding the proposed Project and to hear from the Huron-Wendat as to how they wish to participate in the Project.
- Presentation (power point): “NPS 12 E16M Creek Pipeline Segment Replacement Project” with project details, and mapping.

QUESTION & ANSWER:

- Q-HW: What is the overall length of the pipeline system, the length of the pipe segment and access routes to the drill sites?
 - A-SCPL: Overall length of pipeline system: NPS12 is approximately 300 kms long; NPS 8 is approximately 240 km long; proposed pipe (NPS 12) segment replacement length is approximately 500 m long; access roads are along existing drives (shown in slide 7) with the exception of approximately 100 m which will be matted.
- Q-HW: Does SCPL have a policy for archaeological sites and protecting cultural resources?
 - A-SCPL: SCPL aims to meet or exceed regulatory standards for archaeological sites which includes the protection of cultural resources. SCPL has worked successfully with the Huron-Wendat on archaeology for another project just recently in the summer and fall of 2019.

SUMMARY OF COMMENTS:

- Huron-Wendat:
 - The Huron-Wendat expect the project design to preserve cultural resources as necessary. This may include additional measures resulting from any Stage 3 or beyond findings.
 - The Huron-Wendat confirms its interests in this project remain with archaeology only. Accordingly, the Huron-Wendat will participate in all archaeology associated with this project – SCPL to ensure its archaeological consultant works with Huron-Wendat.

○ There are no further questions or comments from the Huron-Wendat at this time



MEETING MINUTES

E16 Mile Creek Pipeline Segment Replacement Project - Meeting #1

Monday October 5, 2020 - VIA MS Teams

Attendees:

Mississauga's of Credit River:

M. LaForme – Director, DOCA

F. Sault – Consultation Manager

M. DeVries – Archaeological Coordinator

Sun-Canadian Pipe Line (SCPL):

S. Jackson – Manager Environment, Health and Safety

SUMMARY NOTES OF MEETING

PRESENTATION BY SCPL :

- Purpose: The purpose of the meeting is for Sun-Canadian Pipe Line Limited to introduce and share information regarding the proposed Project and to hear from the Mississauga's of the Credit First Nation of the Grand River as to how they wish to participate in the Project.
- Presentation (power point): "NPS 12 E16M Creek Pipeline Segment Replacement Project" with project details, and mapping.

QUESTION & ANSWER:

- Q-MCFN: What is the name of the golf course at the drill entry location?
 - A-SCPL: Piper's Health Golf Club <http://pipersheath.com/>
- Q-MCFN: When did the environmental survey take place? When will the report from this survey be available?
 - A-SCPL: The survey was on July 28. The survey report is complete and will be included in the Environmental Report.

SUMMARY OF COMMENTS:

- MCFN:
 - requests participation in all environmental studies and monitoring
 - will participate in the planned Stage 1&2 archaeology (under current monitor agreement)
 - has no further questions or comments at this time



MEETING MINUTES

E16 Mile Creek Pipeline Segment Replacement Project - Meeting #1

Tuesday September 22, 2020 - VIA MS Teams

Attendees:

Six Nations of the Grand River (SNGR):

L. Bomberry – Director, Lands & Resources
Robbin Vanstone – Land Use Officer
Jen Mt. Pleasant – Consultation Point Person
Dawn LaForme – Secretary/Receptionist
Tanya Hill-Mountour – Archaeological Coordinator

Sun-Canadian Pipe Line (SCPL):

S. Jackson – Manager Environment, Health and Safety

Regrets:

H. Hill – Chief, SNGR
N. Wright - Councilor
W. Bomberry – Wildlife Manager
P. Monture – Lands and Treaty Rights Consultant

SUMMARY

PRESENTATION BY SCPL:

- Purpose: The purpose of the meeting is for Sun-Canadian Pipe Line Limited to introduce and share information regarding the proposed Project and to hear from the SNGR as to how they wish to participate in the Project.
- Presentation (power point): “NPS 12 E16M Creek Pipeline Segment Replacement Project” with project details, and mapping.

QUESTION & ANSWER:

- Q-SNGR: We have been hearing news in Sarnia about First Nations objective to refineries, how is SCPL handling those issues?
 - A-SCPL: Sun Canadian does not control, operate or own a refinery, we are distribution ('shippers') only. This project is located solely in the Town of Milton, Ontario.
- Q-SNGR: What are the refined petroleum products?
 - A-SCPL: Jet, gasoline and diesel fuels.

- Q-SNGR: Is the access a road or not?
 - A-SCPL: All access to drill exit location is with existing roads. Access to drill entry will be via public road except for final ~100m to drill site, which will be matted. The existing access to the drill exit pit is shown with dashed yellow lines on the Project Location figure in the presentation and labelled as “Existing Access”.
- Q-SNGR: what is the name of the golf course that the entrance point is on?
 - A-SCPL: Piper’s Health Golf Course
- Q-SNGR: what specific measures will Sun Canadian take to protect the Silver Shiner?
 - A-SCPL: Both work sites will have appropriate erosion and sediment controls in place around them. A drilling fluid release contingency plan will be prepared and kept on-site to effectively address inadvertent releases of sediment through frac-outs, or other releases of sediment laden water from the project site. Spills containment and clean-up procedures will be implemented immediately in the unlikely event of a spill. If a sediment spill occurs within the watercourse, adequate isolation of the release will be provided to contain the sediment. Additional measures will include having a supply of materials readily available that can be used to isolate an inadvertent release during drilling operations (i.e sand bags, straw bales, silt fencing)
- Q-SNGR: What will be the impact of this project to the Silver Shiner?
 - A-SCPL: There is no expected impact on Silver Shiner due to depth of bore under East Sixteen Mile Creek. One of the primary reasons for selecting horizontal directional drilling installation is to avoid disruption to the creek system. The points of entry and exit for horizontal directional drilling will be outside the limits of the East Sixteen Mile Creek valley. Therefore, there will be no disturbance in the active channel of the watercourse, nearshore habitats, or floodplain and riparian areas. No areas considered to be fish habitat or habitat for Silver Shiner will be disturbed.
- Q-SNGR: is SCPL working with Conservation Halton on this project?
 - A-SCPL: Conservation Halton is part of the OEB review process and will be sent a copy of the Environmental Report for review and comment, if requested. Additionally SCPL will be working with Conservation Halton during the permitting process. All conditions of permit approval will be implemented.
- Q-SNGR: Can you provide information on the drilling fluids, how they will be managed and where/how they will be disposed of?
 - A-SCPL: Bentonite and polymers shall be the only approved lubricants permitted for horizontal directional drilling. Any additives used shall be chemically inert, biodegradable and non-toxic. No petroleum-based additives shall be permitted. No fluid will be approved or utilized that does not comply with permit requirements and environmental regulations. As previously mentioned a drilling fluid release contingency plan will be prepared and kept on-site. If inadvertent surface releases of drilling fluids occur, they shall be immediately contained with hand placed barriers (i.e. straw bales, sand bags, silt fencing, etc.) and collected using pumps as practical. If the amount of the surface return is not great enough to allow practical collection, the affected area shall be diluted with fresh water and the fluid will be allowed to dry and dissipate naturally. If the amount of the surface return exceeds what can be contained with hand placed barriers, then small collection sumps (less than 3 cubic metres) may be used. If the amount of the surface return exceeds that which can be contained and collected using small sumps, horizontal directional drilling operations shall be suspended until surface return volumes can be brought under control.

- Q-SNGR: when will the detailed mitigation efforts be available? We want to input into these prior.
 - A-SCPL: Detailed mitigation measures will be available in the draft Environmental Report that will be circulated for review and comment. Mitigation measures may be refined and built upon during the permitting process based on consultation and feedback from regulatory agencies and other stakeholders.
- Q-SNGR: How many trees will be taken down? How many will be put back up?
 - A-SCPL: We are targeting and expect to achieve minimum tree removal aside from tree nursery trees. All tree removal will be occurring on private property and replacement details will be determined through consultation with those individuals.
- Q-SNGR: how will SCPL identify a leak in the pipe if it is 20 metres underground?
 - A-SCPL: SCPL maintains a leak detection system at all times during pipeline operation. Depth of pipe has no impact on the operation of our leak detection. In addition, the new pipe run is fully pressure tested prior to installation and again once it is in place underground.
- Q-SNGR: How far below the surface will the new segment of pipe be?
 - A-SCPL: approximately 20 metres deep average for the straight portion of the pipe. However the pipe could be as deep as approximately 25 metres and as shallow as 16.4 metres through this stretch. At the drill entry and exit locations, the pipe will be more than 5 metres deep after approximately 20 metres of horizontal distance.

DISCUSSION:

- SNGR commends SCPL for reaching out to the Six Nations early on in the project and are looking forward to working with SCPL on this project
- SNGR would like to participate in this project:
 - via construction monitoring during the construction phase of this project
 - archaeology



23 September 2020

Re: Sun-Canadian Pipe Line Company Limited: NPS 12 E16M Creek Pipeline Replacement Project

Sge:noh, Sekon, Hello:

Six Nations of the Grand River territory is the largest First Nation in Canada with a population of over 27,000 people. Since European contact, significant treaties were made between the Haudenosaunee (People of the Six Nations) and settlers and the Crown, which are recognized and affirmed in Section 35 of the *Canadian Constitution Act, 1982*.

These treaties which were all conducted on a Nation to Nation basis, include but are not limited to:

- Guswenta or Two Row Wampum Treaty, 1613: Outlines the relationship that settlers are to have with the Haudenosaunee people while they reside (or develop) on Haudenosaunee territory;
- Fort Albany Treaty also known as Nanfan Treaty, 1701: Sets out the borders of the Beaver Hunting Grounds for the purposes of hunting, fishing and gathering and harvesting medicines and food, in which the Haudenosaunee people are to thrive on and enjoy forever.
- Treaty of Niagara, 1764: Includes at least 24 signatory Nations, including the Haudenosaunee and the Crown. This treaty is the result of and can be taken into consideration with the Royal Proclamation of 1763. It was understood and mutually agreed on that although the Crown assumed sovereignty of what is known today as Canada, the land was to stay in the possession of its rightful titleholders, Indigenous people.
- Haldimand Proclamation Treaty, 1784: A tract of land granted to the Haudenosaunee people, six miles on either side of the Grand River, in Southern Ontario, from its mouth to its source and consisting of roughly 950,000 acres.
- Jay Treaty, 1794: Made between Great Britain and the United States and stipulates that Indigenous people may travel freely across international boundaries.

Six Nations of the Grand Rivers' "Aboriginal" and Treaty Rights throughout Southern Ontario are well documented through archaeological findings, historical facts and written Treaty

Agreements. The Haldimand Treaty and the 1701 Fort Albany/Nanfan Treaty have been recognized in past court proceedings and are presented as factual evidence in the ongoing litigation between Six Nations of the Grand River and Crowns Canada and Ontario.

Due to loss of land through questionable means, the people of the Six Nations were forced onto a smaller parcel of land which is known today as Six Nations of the Grand River Territory, Reserve No. 40, consisting of roughly 46, 000 acres and is located within the boundaries of the Haldimand Tract. To address loss of land, Six Nations filed litigation against both Crown Canada and Crown Ontario in 1995. These land claims continue to be stalled in the courts, by both governments while Six Nations continues to be subjected to encroachment on their lands by extensive development.

Stewardship

According to Indigenous ways of knowing, developers and their associates, including municipalities, need to be held to the highest standard when it comes to land stewardship. They have a responsibility to take care of the land for as long as that development and project exists. When we refer to “land” we also include: waters and wetlands; air; resources; wildlife; birds and other winged species; and, aquatic life.

In order to live a more sustainable lifestyle we must minimize our adverse impacts in regards to waters, land, resources and air. We cannot keep pushing animals to the brink of extinction, particularly by continually destroying their natural habitat. This also means that any development, construction, or associated activity related to the proposed project should not be conducted during mating, nesting or hibernating seasons of any species that lives within the project development area.

Indigenous lives are governed by the laws of respect for Mother Earth and we as Haudenosaunee people must remain adamant that any person or group that develops within our treaty territories, must respect and adhere to these same laws.

All of this goes far beyond an environmental stance, it is traditional Indigenous knowledge, culture and ways of knowing to ensure everyone who resides on and engages in development and/or construction on Haudenosaunee Treaty lands is held to the same and highest standard. This, in essence, makes developers, agencies and/or governments “co-stewards” of the natural environment on which these project(s) reside.

Environment

In terms of adverse impacts to the environment, Six Nations of the Grand River feels that a replacement/mitigation ratio of 10:1 is well within the parameters of conscious environmental stewardship. For instance, for every one fish that may not survive the construction process, ten fish should be the replacement ratio. For every one tree that needs to be removed, regardless of the current state of health of that tree, ten healthy trees should be planted to mitigate that loss and if a specific habitat whether it is bird, reptilian, fish, or wildlife is destroyed, the potential for more habitats of the same kind should replace it.

Kayanase is an ecological restoration and native plant and seed business based out of Six Nations of the Grand River Territory. Please refer to their website for recommendations on Indigenous plant species (<https://kayanasegreenhouse.weebly.com/>).

Wildlife

Part of the role of the Wildlife Manager of the Six Nations of the Grand River is to review hunting and fishing licenses for Six Nations community members. Every year thousands of Six Nations community members exercise their right to hunt, trap, fish, and gather medicines within both the Haldimand Tract and Nanfan/Fort Albany Treaty areas. This is both a right and a practice that would have been exercised throughout the year, each year since time immemorial.

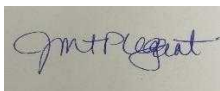
Today, hunters, trappers, anglers, spear fishers and medicine gatherers do not tend to share the exact locations of their hunting/fishing/medicine gathering areas for cultural reasons. Six Nations may not be able to provide specific frequency or duration associated with harvesting traditional activities in the vicinity of the Project area but these practices would have been a part of their day-to-day lives. It also important to note that Haudenosaunee people have always practiced responsible and sustainable hunting, fishing and medicine gathering practices. That is, there are times of the year when hunting was allowed of certain species. There were certain types of fish that would not be harvested, ie pregnant and spawning fish. There are also traditional Haudenosaunee guidelines as to what types of animals should not be killed, including but not limited to: those that are pregnant, babies and pack elders.

Conclusion

We encourage all levels of government, developers and their affiliates to act honourably when engaging with the Six Nations of the Grand River and to familiarize yourselves with the culture and history of our people and to do so utilizing appropriate sources of knowledge and information that is respectful and truthful.

Thank you for taking our concerns into consideration.

Sincerely,



Jen MtPleasant
Consultation Point Person
Consultation & Accommodation Process Team
Lands & Resources Department
Six Nations of the Grand River Elected Council

From: [Corr, Jacqueline](#)
To: townclerk@milton.ca
Cc: [Candido, Mike](#)
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Friday, August 21, 2020 9:27:00 AM
Attachments: [let_NoC_TMcHarg_20200820.pdf](#)

Good morning,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES

Environmental Consultant
Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
Cell: (437) 235-2984
Jacqueline.Corr@stantec.com



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From: [Candido, Mike](#)
To: diana.jiona@milton.ca; [16 Mile Creek Replacement](#)
Cc: Shawn.Clewlow@milton.ca
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Monday, August 24, 2020 10:36:59 AM
Attachments: [RE Sun-Canadian Pipe Line Replacement Project - Notice of Commencement.msg](#)
[image001.png](#)

Hi Diana. I will update the contact list for the project as per your directions below.

An updated letter (see attached) was sent later Friday with a map of the project location. The first letter did not have the map attached – my apologies. Once you have an opportunity to review the map please let me know if you have any questions. Thanks.

Mike

Michael Candido CAN-CISEC
Project Manager - Assessment and Permitting

Direct: 519 780-8139
Mobile: 519 829-8159
Fax: 519 836-2493
michael.candido@stantec.com

Stantec
1-70 Southgate Drive
Guelph ON N1G 4P5



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From: diana.jiona@milton.ca <diana.jiona@milton.ca>
Sent: Friday, August 21, 2020 11:17 AM
To: [16 Mile Creek Replacement](#) <16milecreekreplacement@stantec.com>; [Candido, Mike](#) <michael.candido@stantec.com>
Cc: Shawn.Clewlow@milton.ca
Subject: re: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Hi Michael,

In reference to the letter attached, can you please ensure that any future communication related to this project is sent through to myself at diana.jiona@milton.ca with a cc to Shawn Clewlow at shawn.clewlow@milton.ca

If any work related to this project is required within the Town of Milton's right of way or within property owned by the Town, the permitting requirements would be identified by our group, and depending on the scope of work, may involve other departments as well.

If you have any plans at this point showing the work proposed in Milton, that would be appreciated.

Thanks in advance,

Diana



Diana Jiona, P.Eng.
Manager, Infrastructure & Right Of Way
150 Mary Street, Milton ON, L9T 6Z5
905-878-7252 x2513
www.milton.ca

The Town of Milton is re-opening as it is safe to do so for the community and our staff. We continue to serve you online or by phone for many services.
For information about our services and continued closures, visit Milton.ca/coronavirus

Confidentiality notice: This message and any attachments are intended only for the recipient named above. This message may contain confidential or personal information that may be subject to the Municipal Freedom of Information Act and must not be distributed or disclosed to unauthorized persons. If you received this message in error, please notify the sender immediately. Thank you for your assistance.

From: [Corr, Jacqueline](#)
To: planning@milton.ca
Cc: [Candido, Mike](#)
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Friday, August 21, 2020 8:56:00 AM
Attachments: [let_NoC_BKoopmans_20200820.pdf](#)

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:34 PM
To: planning@milton.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
Cell: (437) 235-2984
Jacqueline.Corr@stantec.com



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From: [Corr, Jacqueline](#)
To: curt.benson@halton.ca
Cc: [Candido, Mike](#)
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Friday, August 21, 2020 8:56:00 AM
Attachments: [let_NoC_CBenson_20200820.pdf](#)

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:35 PM
To: curt.benson@halton.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
Cell: (437) 235-2984
Jacqueline.Corr@stantec.com



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From: [Corr, Jacqueline](#)
To: graham.milne@halton.ca
Cc: [Candido, Mike](#)
Subject: RE: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement
Date: Friday, August 21, 2020 9:01:00 AM
Attachments: [let_NoC_GMilne_20200820.pdf](#)

Good morning,

My apologies, please see the attached Notice. The previous version was missing the map attachment.

Thank you,
Jackie

From: Corr, Jacqueline
Sent: Thursday, August 20, 2020 2:37 PM
To: graham.milne@halton.ca
Cc: Candido, Mike <michael.candido@stantec.com>
Subject: Sun-Canadian Pipe Line Replacement Project - Notice of Commencement

Good afternoon,

Please see attached the Notice of Commencement regarding the proposed Sun-Canadian Pipe Line Replacement Project.

Should you have any questions, or require additional information regarding the project, please contact Mike Candido (cc'd).

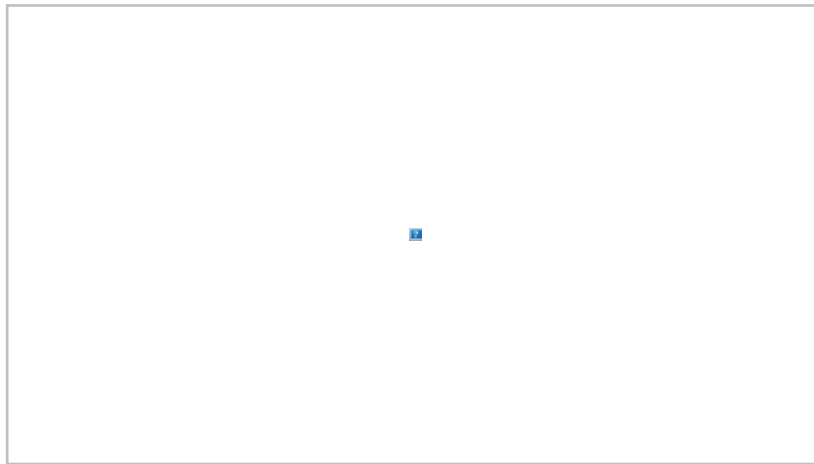
Thank you,
Jackie

Jackie Corr, HBAsc, MES
Environmental Consultant
Assessment and Permitting Team
Stantec
300W-675 Cochrane Drive, Markham ON L3R 0B8
Phone: (905) 944-7785
Cell: (437) 235-2984
Jacqueline.Corr@stantec.com



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Regards,

From: noreply@esolutionsgroup.ca <noreply@esolutionsgroup.ca>
Sent: Friday, September 11, 2020 12:51 PM
To: MB_Planning@milton.ca <Incoming-Planning.Email@milton.ca>
Subject: Website feedback - Heritage Milton - Frank Smith Ref #: 2020-09-11-048

Hello Development Services,

Please note the following response to Planning and Development has been submitted at Friday September 11th 2020 12:51 PM with reference number 2020-09-11-048.

- **First Name:**
Frank
- **Last Name**
Smith
- **Street Address:**
171 Queens Avenue, 600
- **Town**
London
- **Postal Code:**
n6a5j7
- **Email Address:**
frank.smith@stantec.com
- **Phone number:**
519 675-6665
- **Category**
Heritage Milton
- **Comments**
To Whom it May Concern:

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project

Stantec Consulting Ltd. has been retained by Sun-Canadian Pipe Line Company Limited (SCPL) to prepare a Heritage Overview as part of an environmental study for the NPS 12 E16M Pipeline Replacement Project. SCPL is proposing to replace the existing pipeline in the vicinity of the East Sixteen Mile Creek crossing with approximately 480 m of new deeper pipe and eliminate three areas of shallow soil cover. The new pipeline will be installed by horizontal directional drill. The Study Area is located within the following Lots and Concessions in the former Trafalgar Township, now part of the Town of Milton.

- Lots 4-5, Concession 7
- Lots 4-5, Concession 8

Are you aware of any municipal heritage interests within or adjacent to the Study Area?

For the ease of review, mapping has been provided depicting the proposed Study Area. This map appears in draft form and may contain confidential information not yet released to the public. We ask that you maintain confidentiality when responding to this inquiry.

Regards,
STANTEC CONSULTING LTD.

[This is an automated email notification -- please do not respond]



esolutionsNoReply -External Contact

. ON,
www.milton.ca

From: [Clackett, Robert](#)
To: [16 Mile Creek Replacement](#)
Subject: 16 Mile Creek Replacement - Halton Region Introduction
Date: Wednesday, September 30, 2020 10:40:47 AM

Good morning,

I wanted take the time to introduce myself. My name is Robert Clackett and I am the Sr. Planner at Halton Region responsible for matters in the Town of Milton. As such, I will be managing the 16 Mile Creek replacement from the Region's perspective.

I was wondering if you could please provide me with more details with respect to the project. Additionally, could you also provide the critical deadlines that have been set out? With this information we can provide you with a set of comprehensive comments in a timely manner.

In the meantime, if you have any further questions of the Region please do not hesitate to contact me.

Thank you,

Robert Clackett, MCIP, RPP
Senior Planner
Planning Services
Legislative & Planning Services
Halton Region
905-825-6000, ext. 7554 | 1-866-442-5866



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From: Candido, Mike
Sent: Tuesday, November 3, 2020 11:58 AM
To: Clackett, Robert <Robert.Clackett@halton.ca>
Subject: RE: 16 Mile Creek Replacement - Halton Region Introduction

Hi Robert. That is all the information that is available at this time. Once more information is available I will ensure it is sent along for your review. Thanks.

Mike

Michael Candido B.Sc. (Env.), CAN-CISEC
Project Manager - Assessment and Permitting

Direct: 519 780-8139
Mobile: 519 829-8159
Fax: 519 836-2493
michael.candido@stantec.com

Stantec
1-70 Southgate Drive
Guelph ON N1G 4P5



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From: Clackett, Robert <Robert.Clackett@halton.ca>
Sent: Monday, October 19, 2020 8:40 PM
To: Candido, Mike <michael.candido@stantec.com>
Subject: RE: 16 Mile Creek Replacement - Halton Region Introduction

Hi Michael ,

Thank you for your email. We are just looking for as much detail as possible at this point to start to complete a fulsome review. If all the material that has been released is all that is available for public review, then that is fine. I just wanted to make sure that I had all that was available.

Yes, moving forward, please replace Curt Benson's name with mine.

Thanks,

Robert

From: Candido, Mike <michael.candido@stantec.com>
Sent: Monday, October 5, 2020 4:12 PM
To: Clackett, Robert <Robert.Clackett@halton.ca>
Subject: RE: 16 Mile Creek Replacement - Halton Region Introduction

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If you are unsure or need assistance please contact the IT Service Desk.

Hello Robert and thank you for your email. Can you specify the details that you are looking for?

The environmental report for the project is scheduled to be circulated for review and comment in the upcoming weeks.

For future project communications should I replace Curt Benson (who received the initial project notification) with yourself on the project contact list?

Mike

Michael Candido CAN-CISEC
Project Manager - Assessment and Permitting

Direct: 519 780-8139
Mobile: 519 829-8159
Fax: 519 836-2493
michael.candido@stantec.com

Stantec
1-70 Southgate Drive
Guelph ON N1G 4P5



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From: Clackett, Robert <Robert.Clackett@halton.ca>
Sent: Wednesday, September 30, 2020 10:55 AM
To: Candido, Mike <michael.candido@stantec.com>
Subject: FW: 16 Mile Creek Replacement - Halton Region Introduction

Good morning Mike,

Please see my introduction/info request below. I had sent it before being provided with your email contact info.

Thanks,
Robert

Robert Clackett, MCIP, RPP

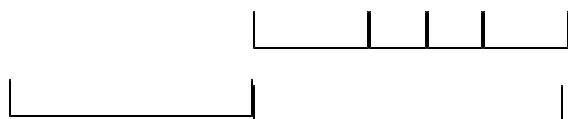
Senior Planner

Planning Services

Legislative & Planning Services

Halton Region

905-825-6000, ext. 7554 | 1-866-442-5866



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From: Clackett, Robert

Sent: Wednesday, September 30, 2020 10:41 AM

To: '16milecreekreplacement@stantec.com' <16milecreekreplacement@stantec.com>

Subject: 16 Mile Creek Replacement - Halton Region Introduction

Good morning,

I wanted take the time to introduce myself. My name is Robert Clackett and I am the Sr. Planner at Halton Region responsible for matters in the Town of Milton. As such, I will be managing the 16 Mile Creek replacement from the Region's perspective.

I was wondering if you could please provide me with more details with respect to the project. Additionally, could you also provide the critical deadlines that have been set out? With this information we can provide you with a set of comprehensive comments in a timely manner.

In the meantime, if you have any further questions of the Region please do not hesitate to contact me.

Thank you,



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

August 25, 2020
File: 110904260

Attention: Milton Green Environmental Association
info@miltongreen.org

SENT VIA EMAIL

Dear Sir / Madam,

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com.

Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.

Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

August 21, 2020
File: 110904260

Dear Landowner / Resident

**Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M
Creek Pipeline Replacement Project**

Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton, Ontario. Sun-Canadian is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way within a new alignment to account for the installation of the pipe by a horizontal directional drill. Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board.

You are receiving this letter because the Project is located near/adjacent to your property. A map of the proposed pipeline route is attached (the map was inadvertently not included with the previous letter, dated August 20th).

As an integral part of this project, Sun-Canadian has hired Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed pipeline and related facilities. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The environmental study process includes consultation and engagement with landowners, municipalities, agencies, Indigenous communities, and other interested parties through notices, mailouts, and meetings.

An Environmental Report, summarizing the results of the environmental study, will accompany Sun Canadian's application to the OEB, whose review and approval is required before the proposed project can proceed. The Environmental Report for the proposed project is anticipated to be completed and submitted to the OEB as early as fall of 2020 as part of the overall project application.

Please feel free to share this letter with your neighbours. If you are a landowner, it would also be appreciated if this letter could be shared with your tenants.

August 21, 2020

Page 2 of 2

Reference: Sun-Canadian Pipe Line Replacement Project – Notice of Commencement: NPS 12 E16M Creek Pipeline Replacement Project

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com.
Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.



Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

September 24, 2020
File: 110904260

Dear Landowner/Resident,

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

The purpose of this letter is to provide you with an update on Project activities as the Project is located on or in proximity to your property. A map of the proposed pipeline route is attached.

Project Overview

- Sun-Canadian Pipe Line Company Limited (Sun-Canadian) owns and operates the NPS12 pipeline, which crosses East Sixteen Mile Creek in Milton, ON.
- Sun-Canadian is proposing to replace a portion of the existing pipeline with approximately 480 metres of new, deeper pipeline and eliminate three areas of shallow cover in East Sixteen Mile Creek.
- A section of the replaced pipe will be constructed outside the existing right-of-way (RoW); to be installed using Horizontal Directional Drilling (HDD).
- If approved by the Ontario Energy Board (OEB), construction of the replaced pipeline could begin as early as Summer 2021 and be complete by the end of 2021.

Environmental Study Process

The environmental study and Environmental Report will be completed as per the OEB's "Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)."

The study will:

- Undertake consultation with landowners, municipalities and agencies to understand the views of interested and potentially affected parties.
- Consult and engage with Indigenous communities to understand interests and potential impacts.
- Identify potential impacts of the Project
- Develop environmental mitigation and protective measures to avoid or reduce potential impacts.
- Develop appropriate environmental inspection, monitoring and follow-up programs, as necessary.

September 24, 2020

Page 2 of 4

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

Ontario Energy Board Process

The Ontario Energy Board (OEB) is the body that regulates hydrocarbon projects in Ontario, in the public interest. The application to the OEB will include information on the Project including:

- The need for the Project
- Environmental Report and mitigation measures
- Pipeline design and construction
- Land requirements
- Consultation with Indigenous Communities
- Consultation with various stakeholders including landowners and government agencies

The OEB will then hold a public hearing to review the Project. If the OEB determines that the Project is in the public interest it will approve construction of the Project.

Aquatic Resources

Sun-Canadian recognizes the importance of protecting aquatic resources during construction and will implement recognized mitigation measures to reduce possible environmental effects.

- The Study Area contains two (2) watercourses – Sixteen Mile Creek and East Sixteen Mile Creek.
- The pipeline will only cross East Sixteen Mile Creek and will be crossed using the HDD method.
- Silver Shiner, an aquatic Species at Risk (SAR) under the Endangered Species Act (ESA) has been identified through background data review in East Sixteen Mile Creek.
- Standard erosion and sediment control measures will be used during construction to reduce potential impacts to fish and fish habitat.
- Monitoring will be in place for inadvertent returns of drilling mud during HDD installation process.

Terrestrial Resources

Preliminary field studies conducted by a terrestrial biologist identified the following features:

- **Species at Risk:** one (1) Butternut was identified at the southwest end of the Pipe Laydown Area.

Design with community in mind

September 24, 2020

Page 3 of 4

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

- **Significant Wildlife Habitat:** large diameter trees observed in the Pipe Laydown Area and adjacent to the HDD Entry Pit Location (potential to provide candidate bat maternity roost habitat). Potential habitat for turtles in East Sixteen Mile Creek, however no potential turtle nesting habitat was observed.
- **Migratory Bird Nesting Habitat:** potential for migratory birds to nest throughout the Study Area.
- **Natural Vegetation Communities:** mid-aged to mature sugar maple forest (edge of the forest, overlaps with the Pipe Laydown Area) and small coniferous plantation (Scot's Pine) adjacent to the south end of the Pipe Laydown Area were identified. These vegetation communities are common in the province.
- **Designated Natural Heritage Features:** no designated natural heritage features identified in the Study Area.

Mitigation measures will be implemented to protect terrestrial resources and further developed through consultation with regulatory authorities during the permitting process.

Project Schedule

2020

Summer

- Start the environmental planning process
- Initiation of environmental field studies

Fall

- Stage 1 and 2 Archaeological Assessment
- Complete Environmental Report
- Circulate Environmental Report to agencies, Indigenous communities and landowners for comments
- Complete OEB filing application

2021

Spring

- Receive OEB approval, complete permitting, pipeline design and construction plan

September 24, 2020

Page 4 of 4

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Project Update

Summer

- Begin construction

Fall

- Conclude construction
- Site cleanup and restoration
- Pipeline in service

2022

- Post-construction monitoring

Please feel free to share this letter with your neighbours. If you are a landowner, it would also be appreciated if this letter could be shared with your tenants.

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com. Additional project information is available at: <http://sun-canadian.com/media-releases/>

Regards,

Stantec Consulting Ltd.



Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

Attachment: Map of Proposed Pipeline Route

c. Peter Martens, Sun-Canadian Pipe Line Ltd.



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

December 9, 2020
File: 110904260

Dear Landowner/Resident,

Reference: Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project – Second Project Update

The purpose of this letter is to provide you with an update on Project activities as the Project is located on or in proximity to your property. A map of the proposed pipeline route is attached.

Update to Project Activities

- Stage 1 Archaeological Assessment complete
- Stage 2 Archaeological Assessment scheduled for Spring 2021
- Additional natural heritage studies planned for the week of December 7th, 2020
- Completion of the Environmental Report anticipated by end of 2020

Please feel free to share this letter with your neighbours. If you are a landowner, it would also be appreciated if this letter could be shared with your tenants.

Please direct any questions, comments and/or concerns to the undersigned.

If you would like to learn more about the project, please email 16milecreekreplacement@stantec.com. Additional project information is available at: <http://sun-canadian.com/media-releases/>.

Regards,

Stantec Consulting Ltd.

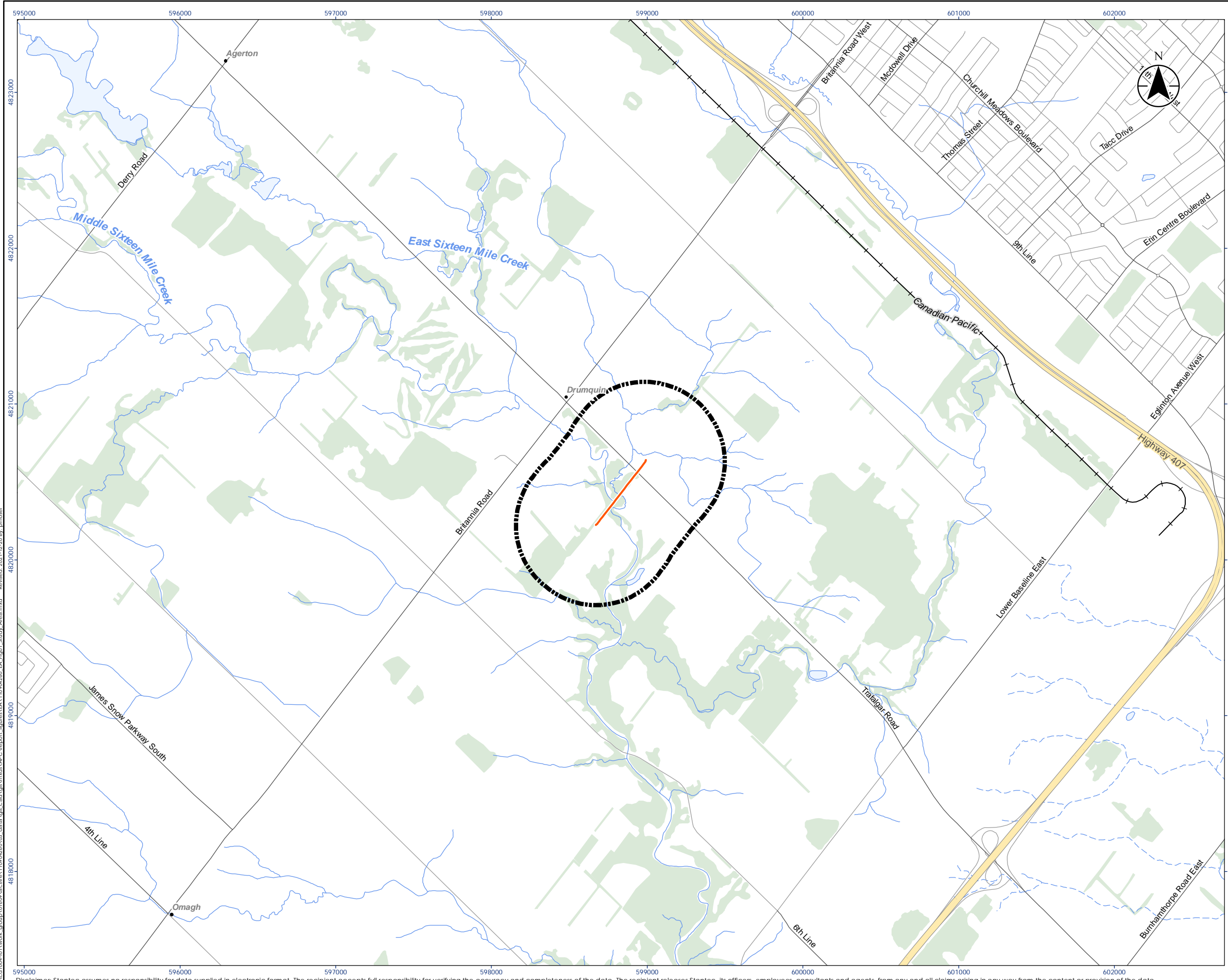
A handwritten signature in black ink, appearing to read "Michael Candido".

Michael Candido CAN-CISEC
Project Manager
Assessment and Permitting
Stantec Consulting
1-70 Southgate Drive
Guelph, ON N1G 4P5

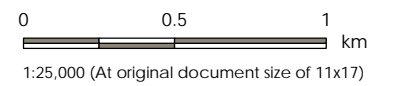
Attachment: Map of Proposed Pipeline Route
c. Peter Martens, Sun-Canadian Pipe Line Ltd.

APPENDIX C: EXISTING CONDITIONS FIGURES

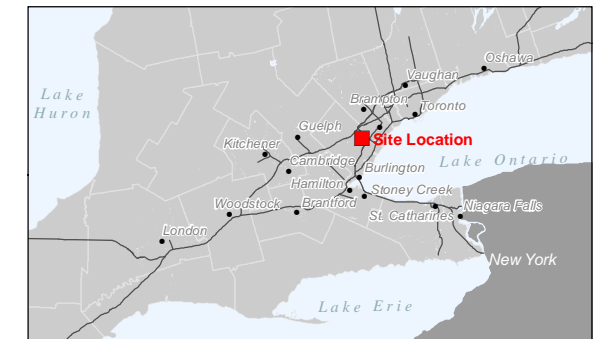




- Legend**
- Proposed NPS 12 Replacement
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Railway
 - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - ▭ Waterbody
 - ▭ Wooded Area
 - ▭ Project Study Area



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
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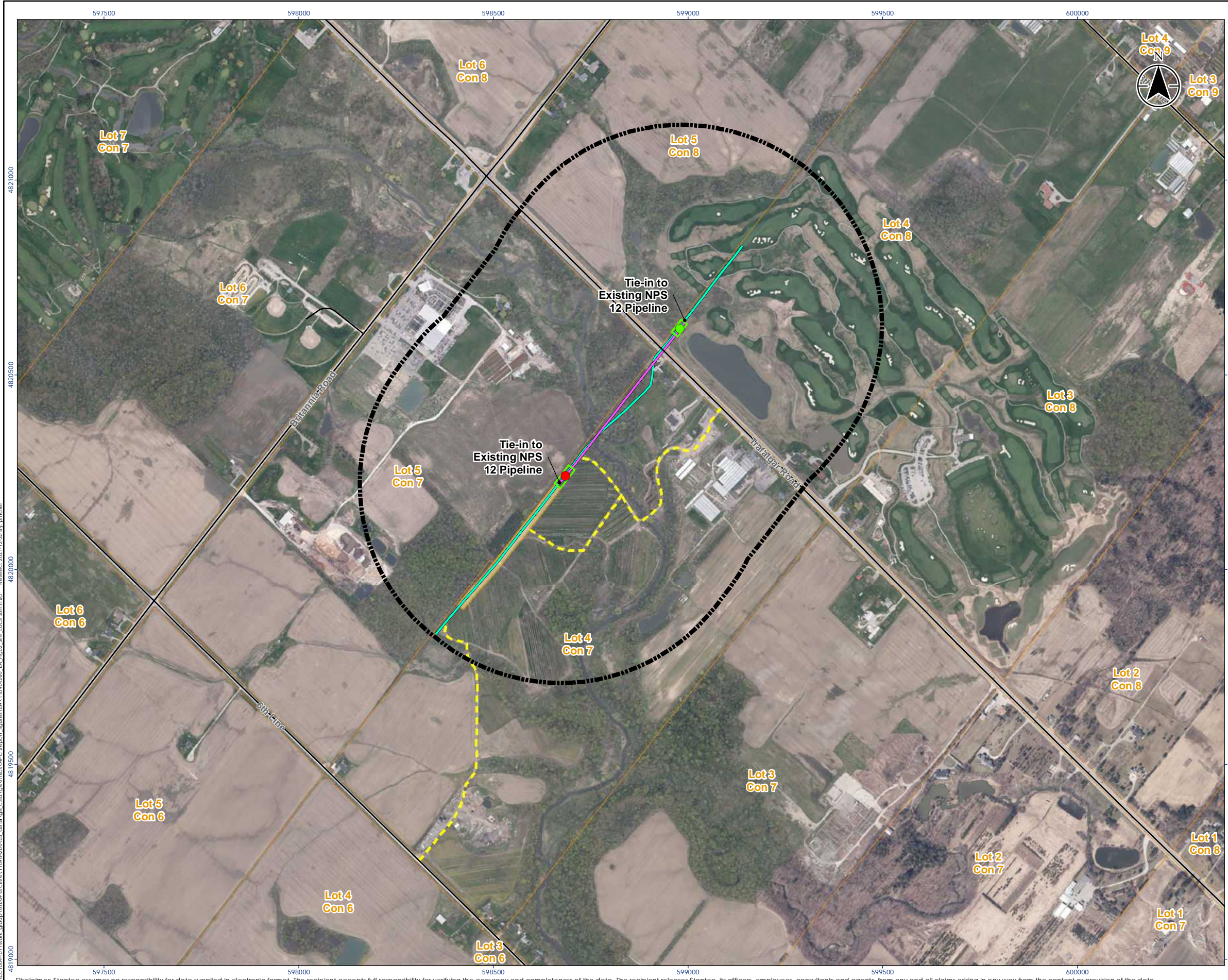
Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
SUN-CANADIAN PIPE LINE COMPANY LIMITED
NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.: **1**
 Title: **Study Area**

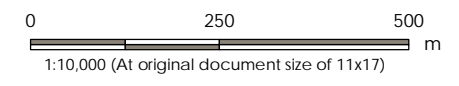
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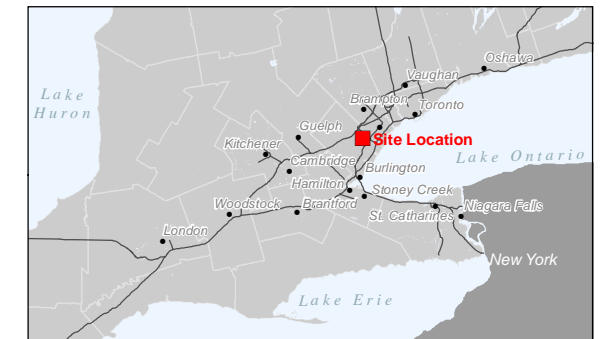


Legend

- HDD Entry Point
- HDD Exit Point
- Existing Sun Canadian Pipeline (NPS 12)
- Proposed NPS 12 Replacement
- Existing Access
- Road
- Drill Pad (Entry & Exit)
- Pipe Laydown Area
- Lot Boundary
- Project Study Area



- Notes
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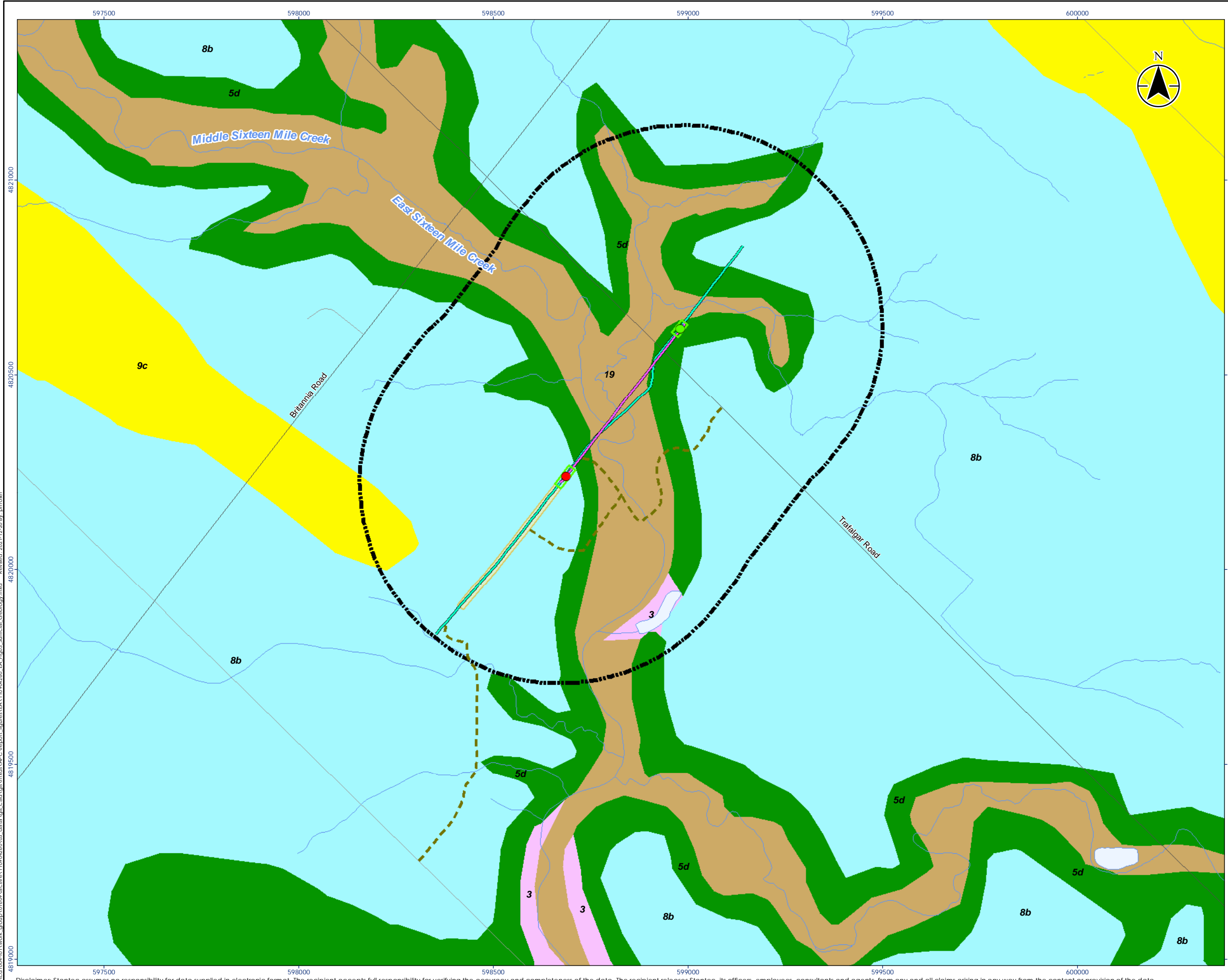
Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project: SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

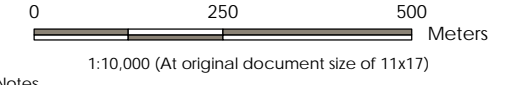
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Title: Site Location

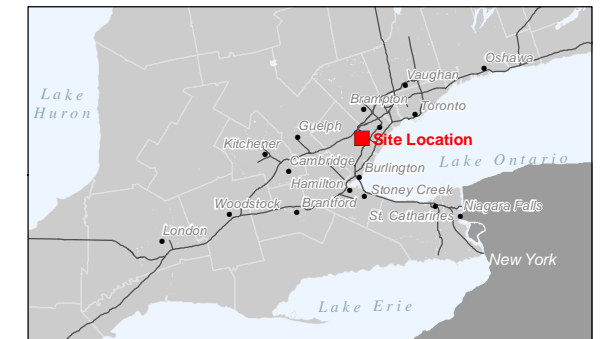
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 Revised: 2021-12-20 By: pmoser
 4819500
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- Legend**
- HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - - - Existing Access
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Railway
 - - - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
- Surficial Geology**
- 19: Modern alluvial deposits
 - 9c: Coarse-textured glaciolacustrine deposits (Foresore-basinal deposits)
 - 8b: Fine-textured glaciolacustrine deposits (Interbedded flow till, rainout deposits and silt and clay)
 - 5d: Glaciolacustrine-derived silty to clayey till
 - 3: Paleozoic bedrock
- Project Study Area



- Notes**
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 3. Surficial geology data source: Ontario Geological Survey 2010. Surficial geology of Southern Ontario: Ontario Geological Survey, Miscellaneous Release-Data 128-REV ISBN 978-1-4435-2483-4.



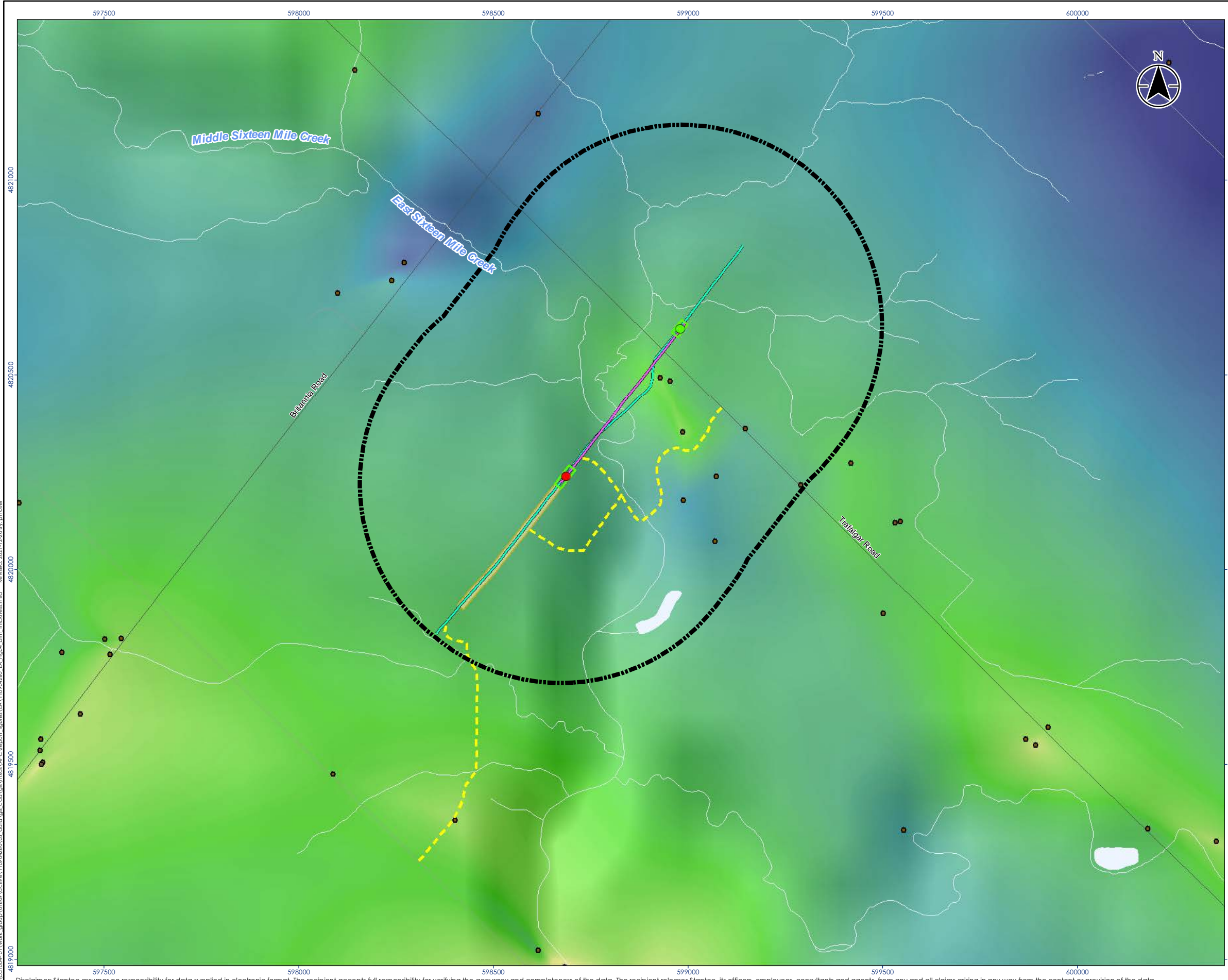
Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.:
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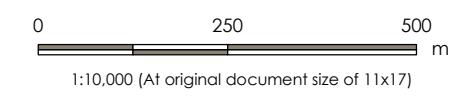
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Legend

- HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - Existing Access
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Railway
 - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Project Study Area
- Drift Thickness (m)
 High : 20
 Low : 5



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
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 3. Drift thickness data source: Gao, C., Shiota, J., Kelly, R.J., Brunton, F.R. and van Haften, S. 2006. Bedrock topography and overburden thickness mapping, Southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 207.



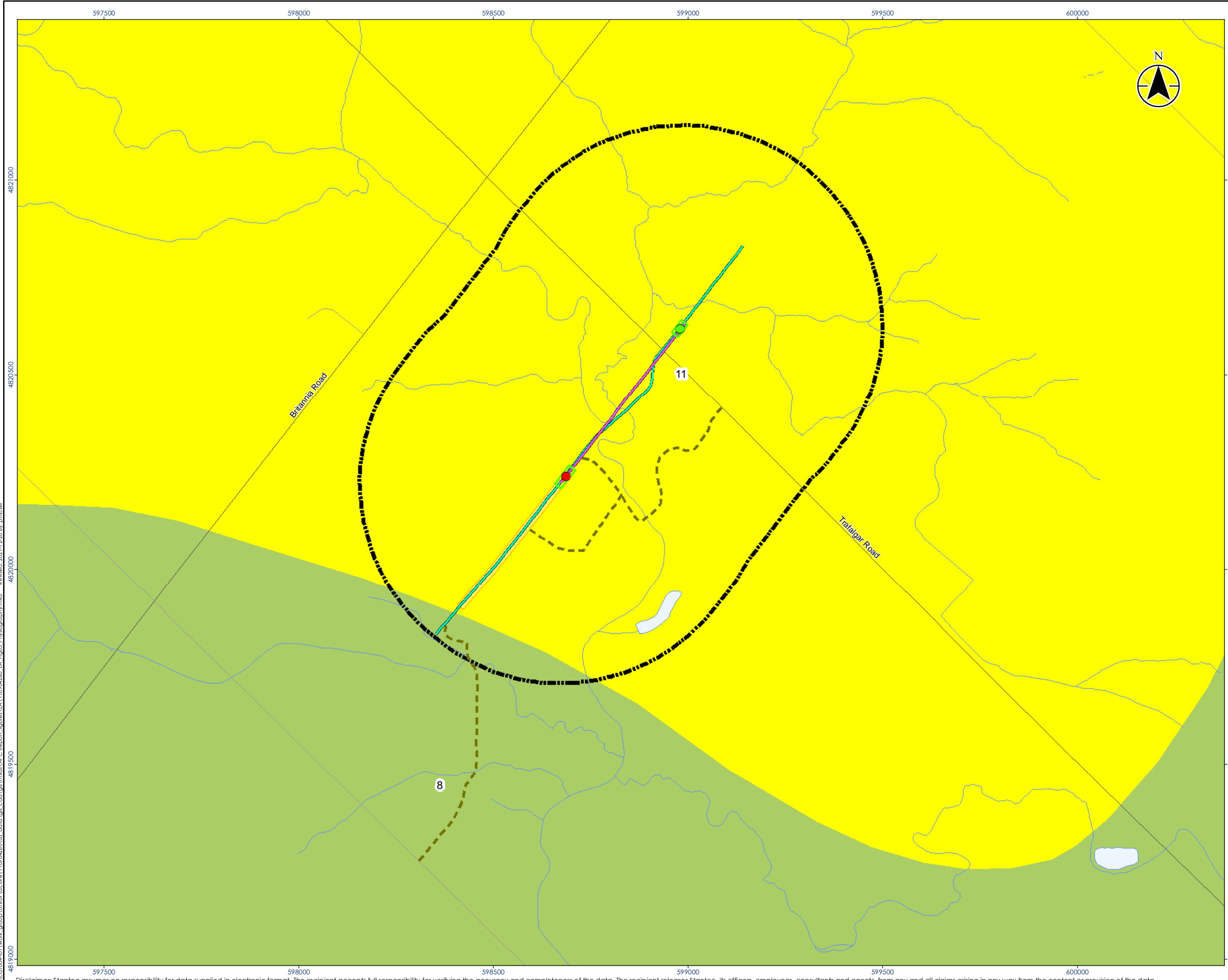
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 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 SUN - E16M PIPE REPLACEMENT

Figure No.
 4

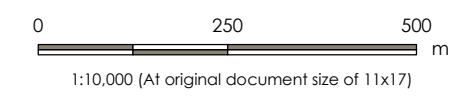
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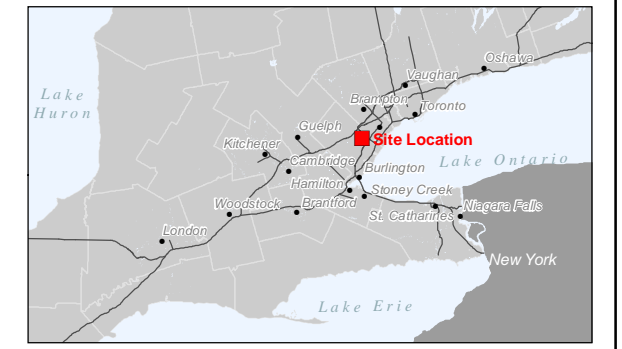


Legend

- HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - - - Existing Access
 - Major Road
 - Minor Road
 - - - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - · - · - Project Study Area
- Physiography
- 8: Bevelled Till Plains
 - 11: Sand Plains



- Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
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 3. Physiography data source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 228.



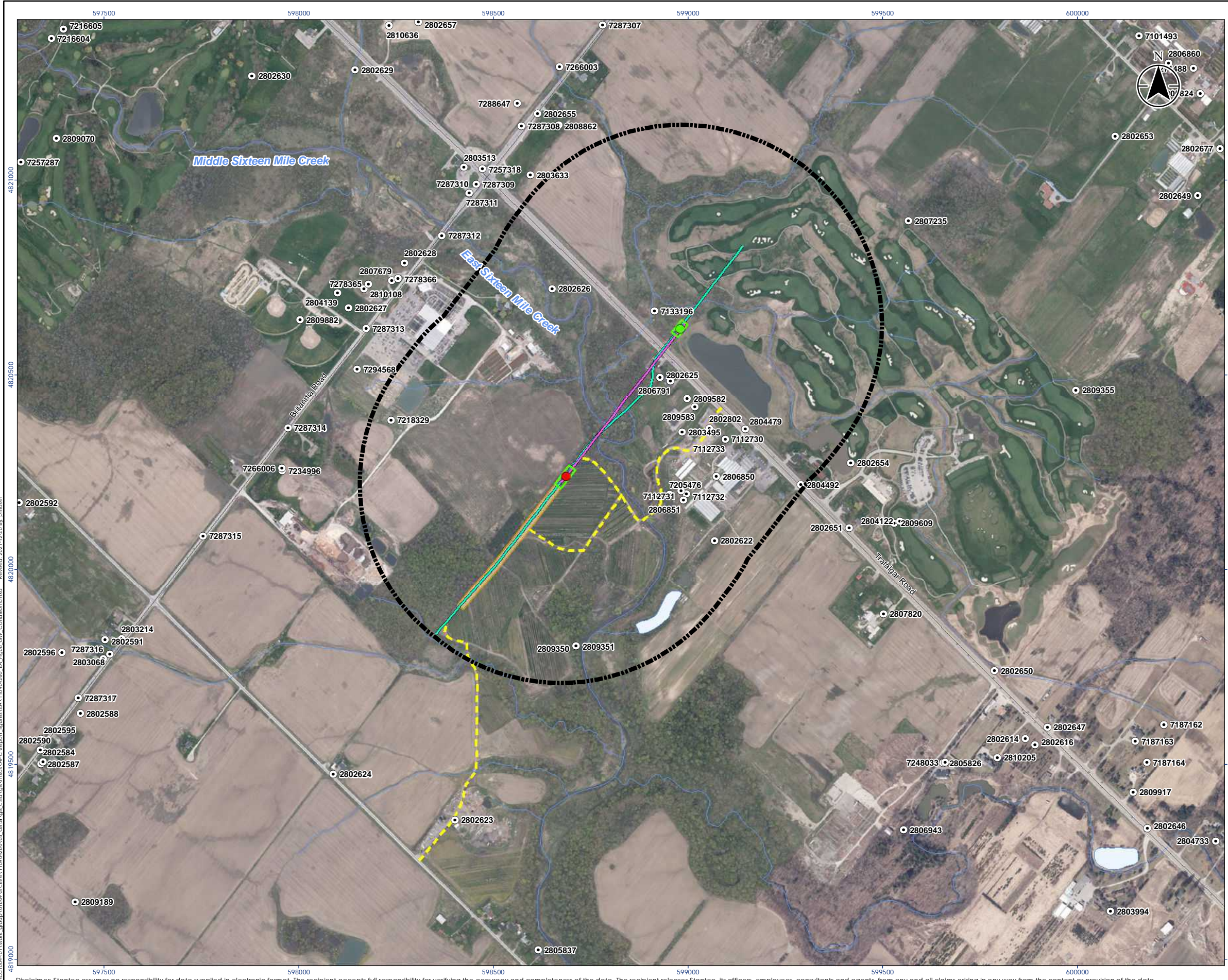
Project Location: Town of Milton
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 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

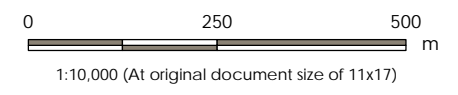
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Title
 Physiography

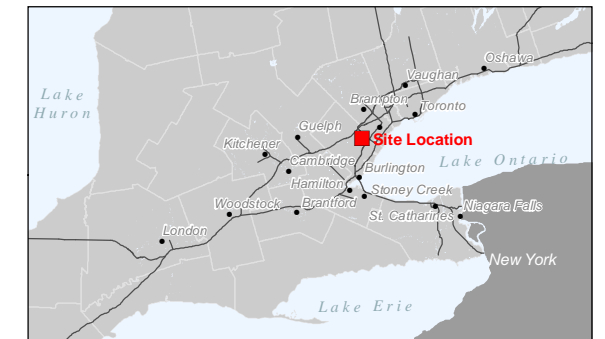
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 Revised: 2021-12-20 By: pmoser
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- Legend**
- HDD Entry Point
 - HDD Exit Point
 - Water Well Location
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - Existing Access
 - Major Road
 - Minor Road
 - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Project Study Area



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 4. MECP water well record locations have been positioned based on published UTM coordinates and their locations should be considered approximate.



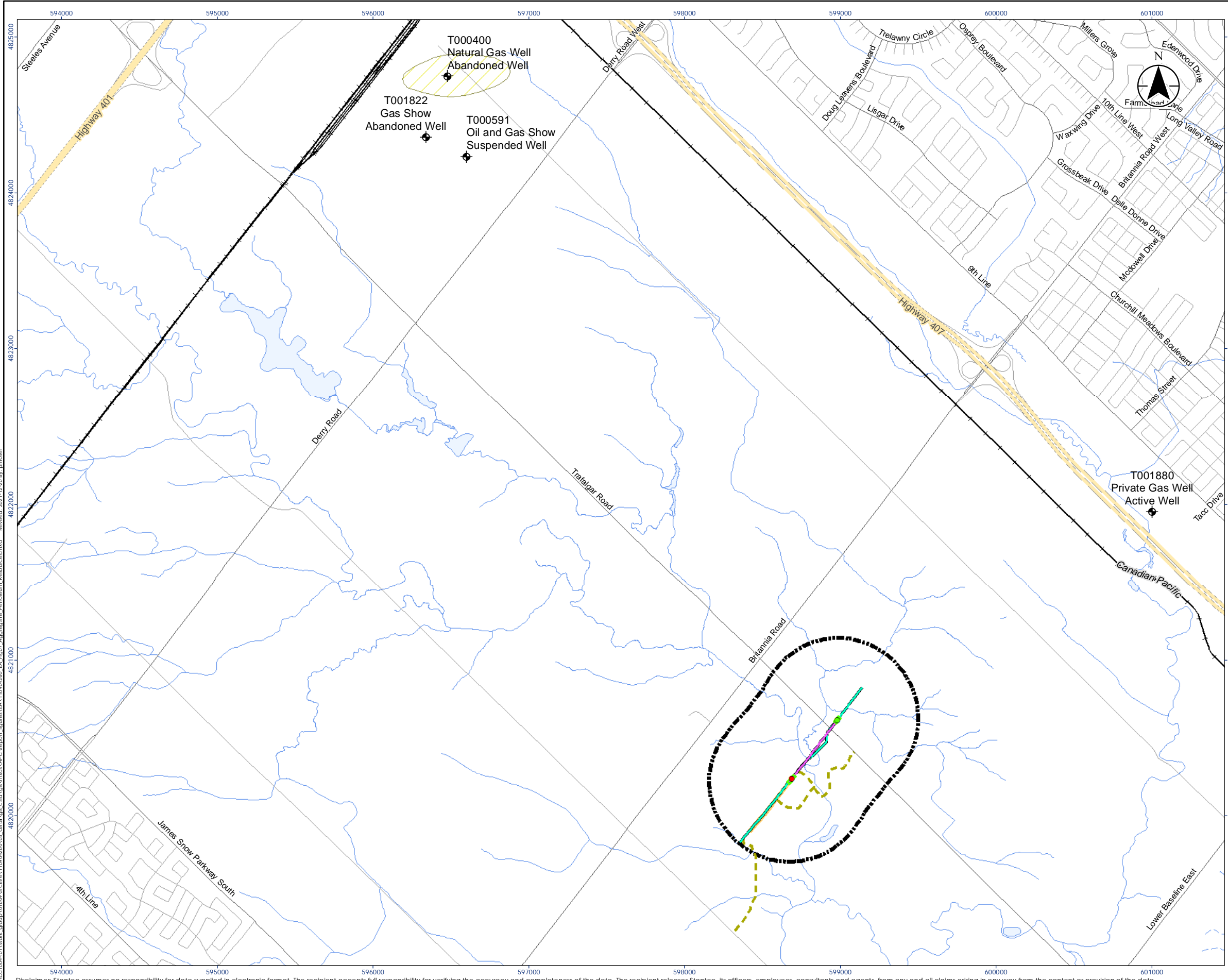
Project Location: Town of Milton
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Client/Project:
SUN-CANADIAN PIPE LINE COMPANY LIMITED
NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

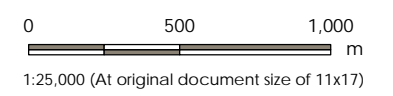
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- Legend**
- HDD Entry Point
 - HDD Exit Point
 - ◆ Petroleum Well
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - Existing Access
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Railway
 - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Project Study Area
 - Petroleum Pool
 - Natural Gas Pool - Abandoned



Notes
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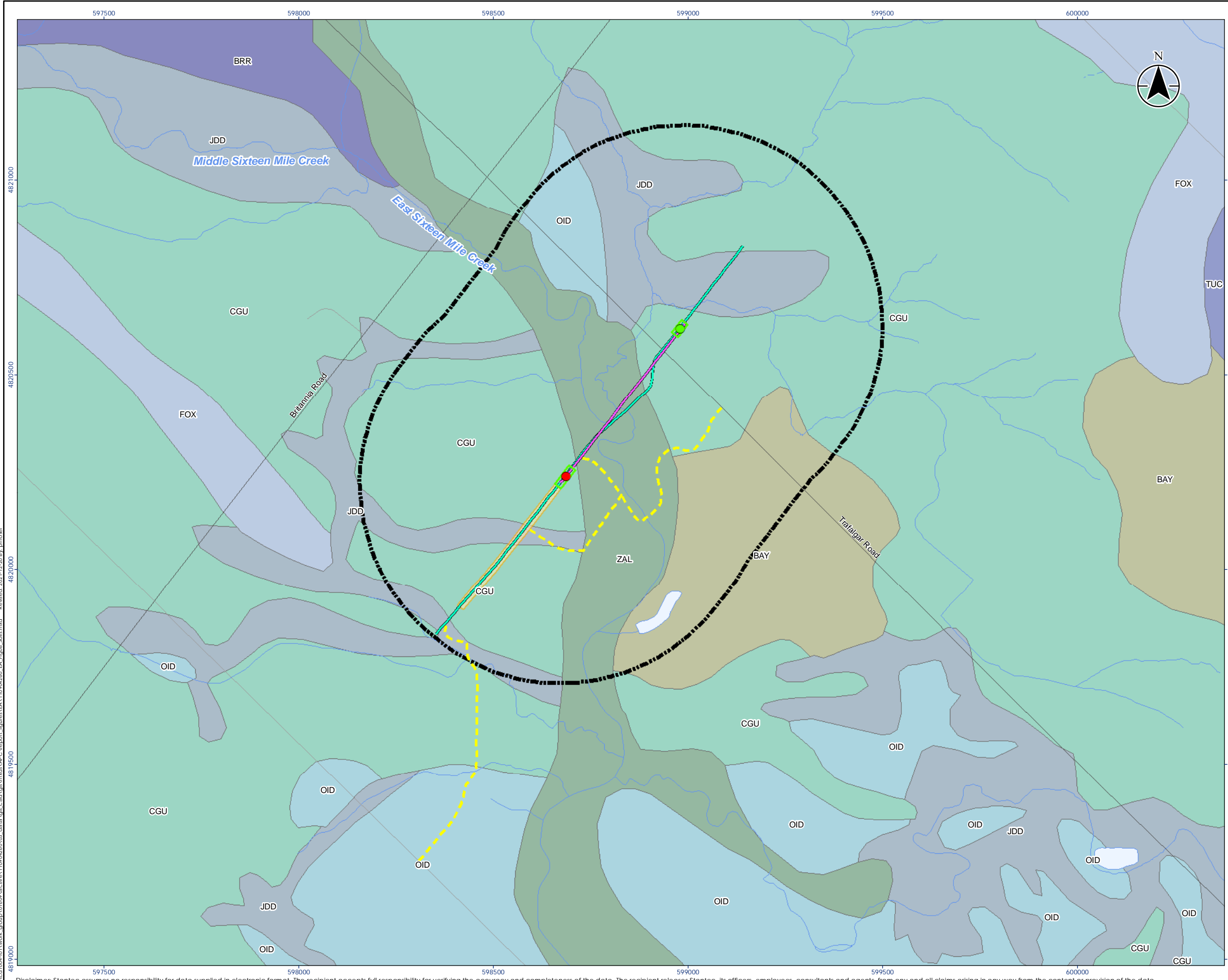


Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20
 110904260 REVA

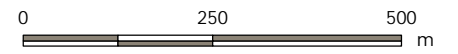
Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

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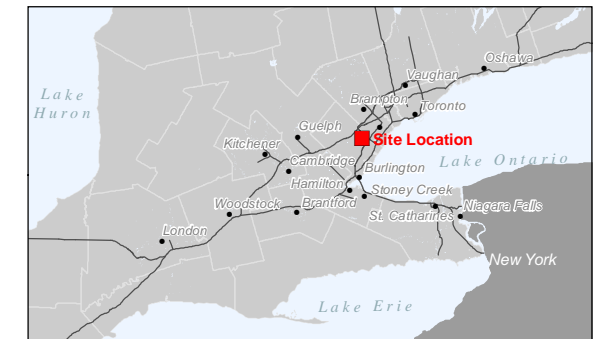


- Legend**
- HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - - - Existing Access
 - - - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Project Study Area
- Soil Type**
- BAY, BRADY SANDY LOAM
 - BRR, BERRIEN SANDY LOAM
 - CGU, CHINGUACOUSY CLAY LOAM
 - FOX, FOX SANDY LOAM
 - JDD, JEDDO CLAY LOAM
 - OID, ONEIDA CLAY LOAM
 - TUC, TUSCOLA SILT LOAM
 - ZAL, BOTTOM LAND



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- Notes**
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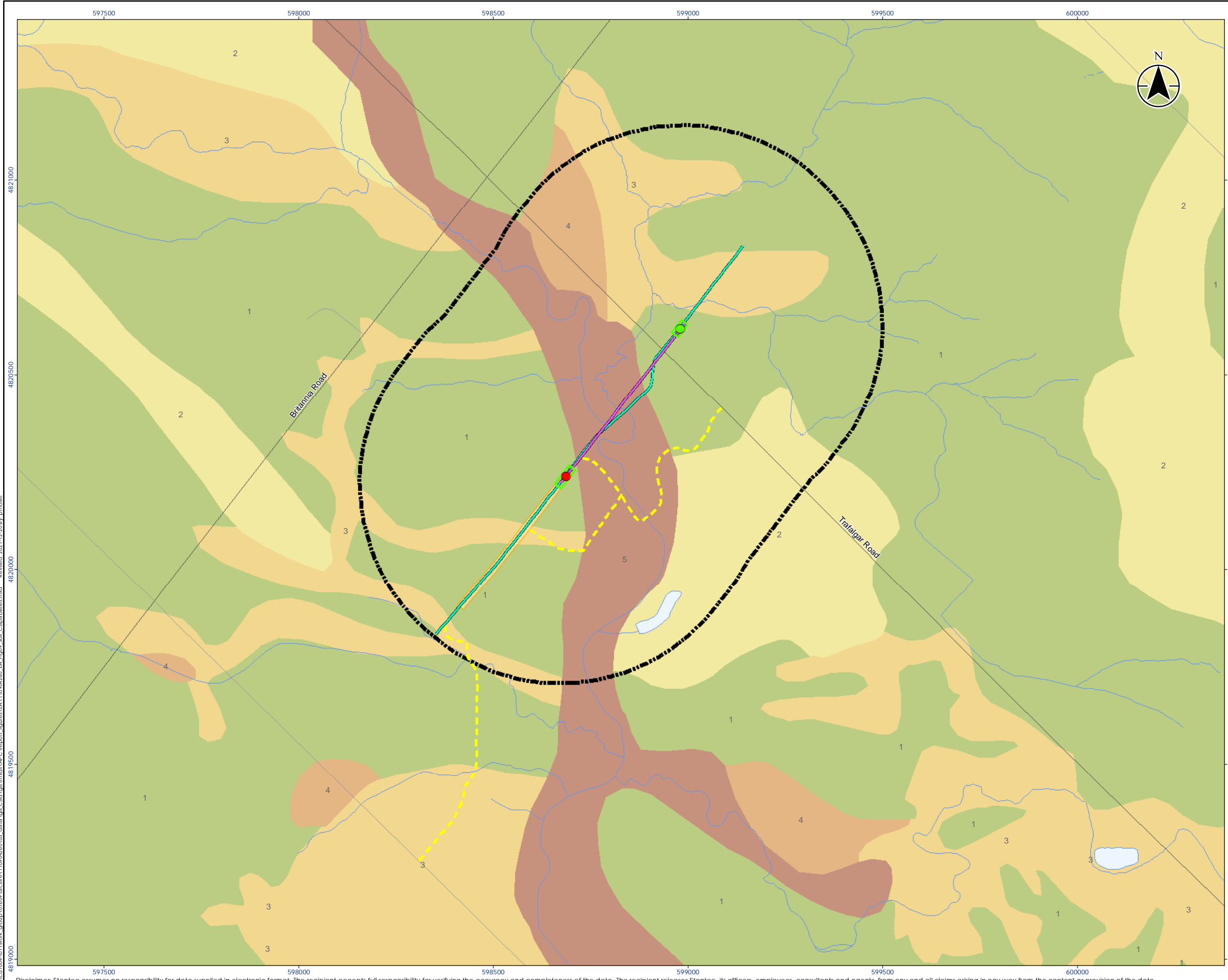
Project Location: Town of Milton
 110904260 REVA
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.
 8

Title
 Soil Types

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Legend

- HDD Entry Point
- HDD Exit Point
- Existing Sun Canadian Pipeline (NPS 12)
- Proposed NPS 12 Replacement
- - - Existing Access
- - - Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Drill Pad (Entry & Exit)
- Pipe Laydown Area
- Project Study Area

Soil Capability Classification of Agriculture

- 1: Soils in this class have no significant limitations in use for crops
- 2: Soils in this class have moderate limitations that restrict the range of crops or require moderate conservation practices
- 3: Soils in this class have moderately severe limitations that restrict the range of crops or require special conservation practices
- 4: Soils in this class have severe limitations that restrict the range of crops or require special conservation practices
- 5: Soils in this class have very severe limitations that restrict their capability in producing perennial forage crops, and improvement practices are feasible

0 250 500 m

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Notes

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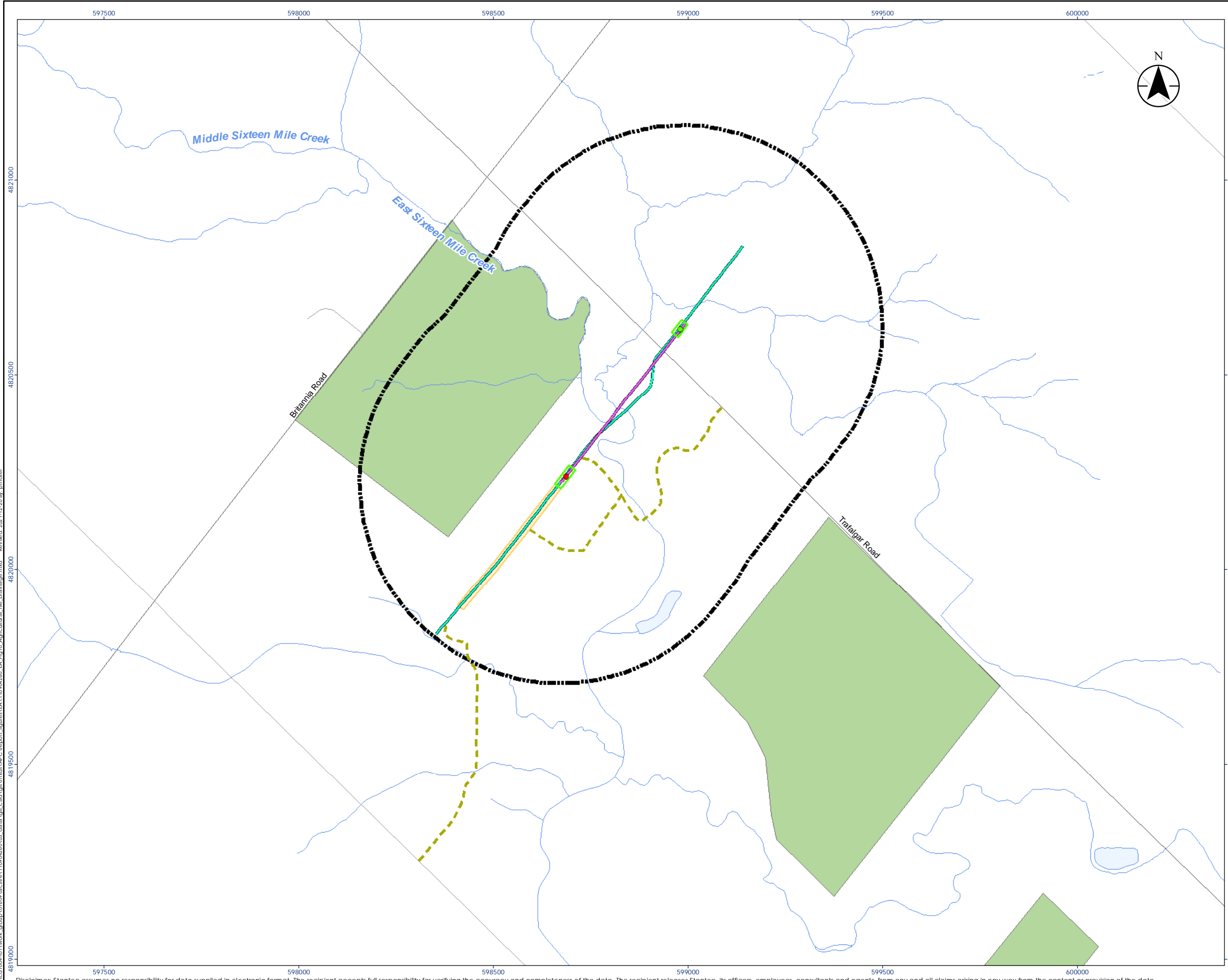
Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.
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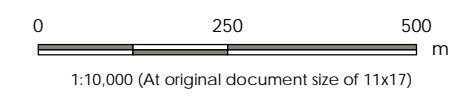
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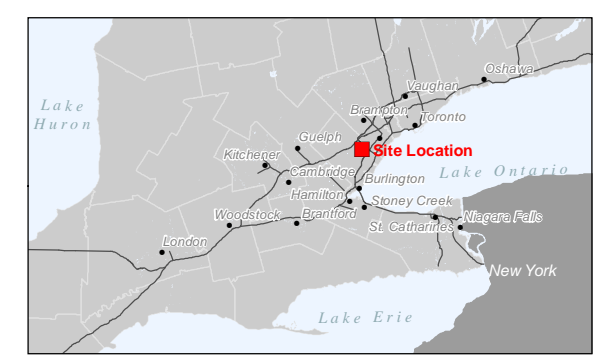


Legend

- HDD Entry Point
- HDD Exit Point
- Existing Sun Canadian Pipeline (NPS 12)
- Proposed NPS 12 Replacement
- Existing Access
- Major Road
- Minor Road
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Drill Pad (Entry & Exit)
- Pipe Laydown Area
- Project Study Area
- Tile System Type**
- Systematic



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
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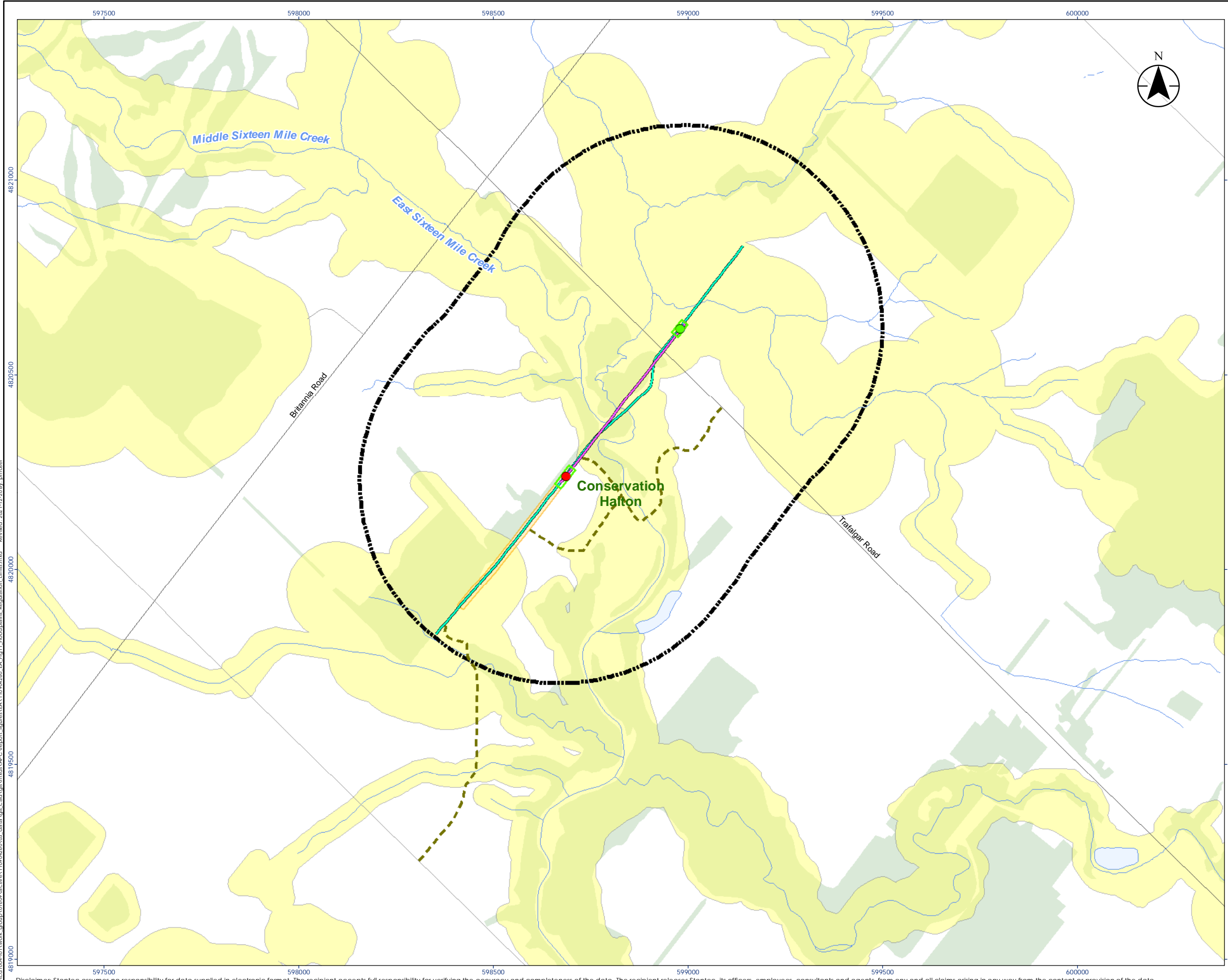


Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

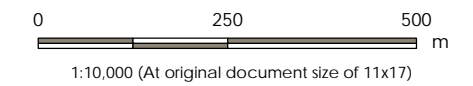
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 Title: Known Agricultural Tile Drainage

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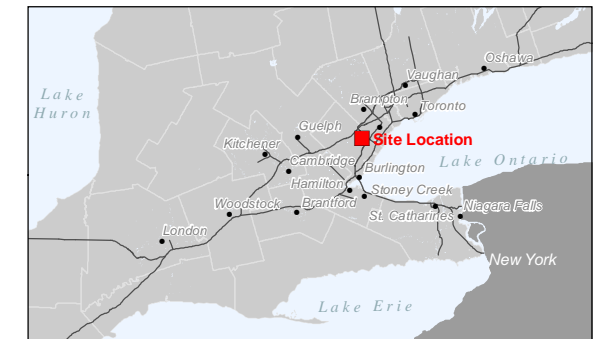


Legend

- HDD Entry Point
- HDD Exit Point
- Existing Sun Canadian Pipeline (NPS 12)
- Proposed NPS 12 Replacement
- Existing Access
- Major Road
- Minor Road
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Wooded Area
- Regulated Area
- Drill Pad (Entry & Exit)
- Pipe Laydown Area
- Study Area



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
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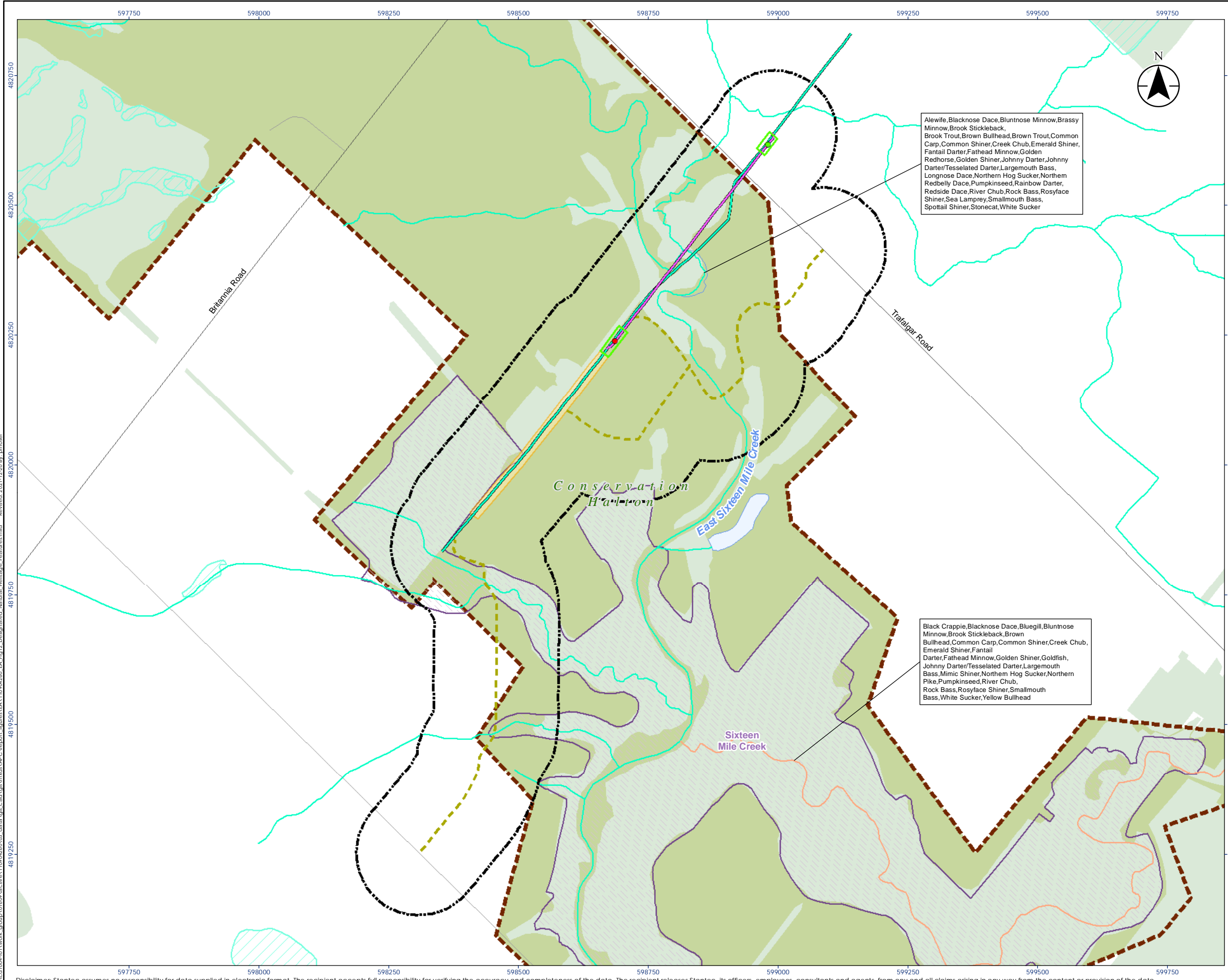
Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
SUN-CANADIAN PIPE LINE COMPANY LIMITED
NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.
11

Title
Floodplains and Regulation Limits

\\cd1004.01\work_group\0606\active\110904260\03_data\gis_cad\gis\mxd\APC\report_figures\EA\110904260_EA_Fig11_Floodplains_Regulation_Limits.mxd Revised: 2021-12-20 By: pmoser

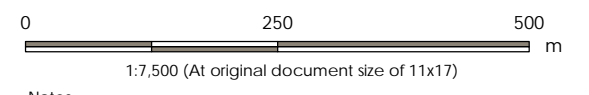


Alewife, Blacknose Dace, Bluntnose Minnow, Brassy Minnow, Brook Stickleback, Brook Trout, Brown Bullhead, Brown Trout, Common Carp, Common Shiner, Creek Chub, Emerald Shiner, Fantail Darter, Fathead Minnow, Golden Redhorse, Golden Shiner, Johnny Darter, Johnny Darter, Tesselated Darter, Largemouth Bass, Longnose Dace, Northern Hog Sucker, Northern Redbelly Dace, Pumpkinseed, Rainbow Darter, Redside Dace, River Chub, Rock Bass, Rosyface Shiner, Sea Lamprey, Smallmouth Bass, Spottail Shiner, Stonecat, White Sucker

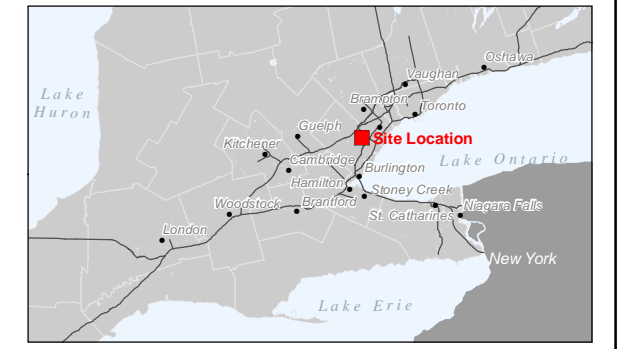
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- Legend**
- HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - Existing Access
 - Major Road
 - Minor Road
 - Thermal Regime, Cool
 - Thermal Regime, Warm
 - Watercourse (Permanent)
 - Waterbody
 - Wetland, Not evaluated per OWES
 - Candidate ANSI, Life Science
 - Wooded Area
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Project Buffer (120 m)
 - Greenbelt Designation
 - Protected Countryside
 - Greenbelt Plan Boundary



Notes
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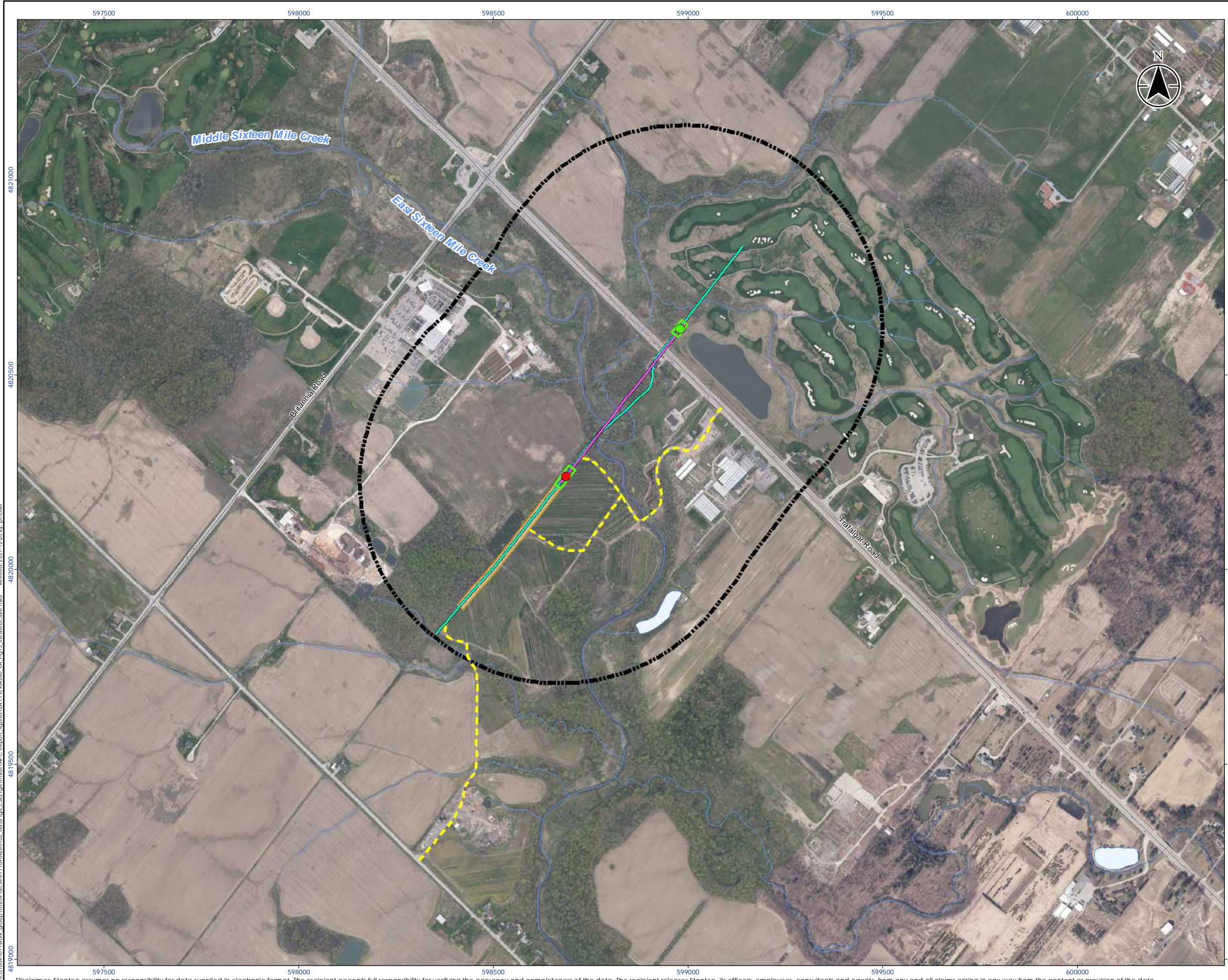
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 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.
 12
 Title
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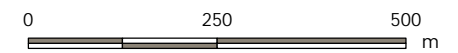
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 Revised: 2021-12-20 By: jpmoser

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Legend

- HDD Entry Point
- HDD Exit Point
- Existing Sun Canadian Pipeline (NPS 12)
- Proposed NPS 12 Replacement
- - - Existing Access
- Major Road
- Minor Road
- - - Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Drill Pad (Entry & Exit)
- Pipe Laydown Area
- Project Study Area



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

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
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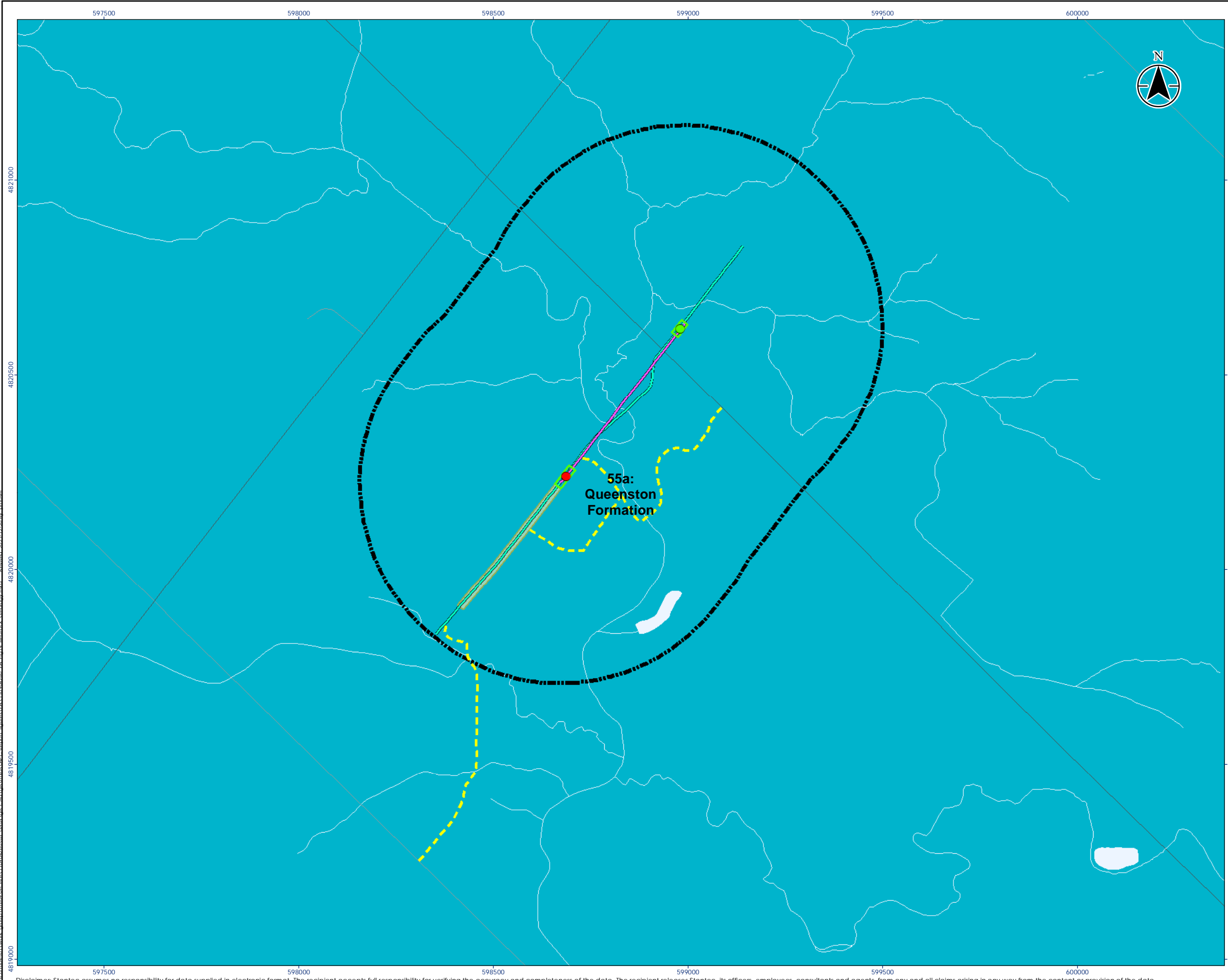
Project Location: Town of Milton
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

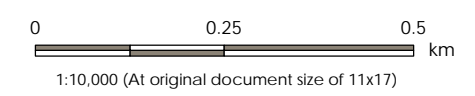
Figure No.
 13

Title
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 Features

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 Revised: 2021-12-20 By: pmoser
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- Legend
- HDD Entry Point
 - HDD Exit Point
 - Existing Sun Canadian Pipeline (NPS 12)
 - Proposed NPS 12 Replacement
 - Existing Access
 - Major Road
 - Minor Road
 - Watercourse (Intermittent)
 - Watercourse (Permanent)
 - Waterbody
 - Drill Pad (Entry & Exit)
 - Pipe Laydown Area
 - Project Study Area
 - Bedrock Geology
 - 55a: Queenston Fm.



- 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. Bedrock geology data source: Ontario Geological Survey 2011, 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release-Data 126-Revision 1. ISBN 978-1-4435-5704-7 (CD) ISBN 978-1-4435-5705-4



Project Location: City of Hamilton
 City of Hamilton
 110904260 REVA
 Prepared by PRM on 2021-12-20
 Technical Review by MC on 2021-12-20

Client/Project:
 SUN-CANADIAN PIPE LINE COMPANY LIMITED
 NPS 12 E16M CREEK PIPELINE REPLACEMENT PROJECT

Figure No.
 14
 Title
 Bedrock Geology

APPENDIX D: TERRESTRIAL HABITAT



Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
SEASONAL CONCENTRATION AREAS			
Waterfowl Stopover and Staging Area (Terrestrial and Aquatic)	Field with evidence of annual spring flooding from meltwater or runoff; aquatic habitats such as ponds, marshes, lakes, bays, and watercourses used during migration, including large marshy wetlands.	Vegetation and wildlife habitat assessments completed on July 28, 2020 in addition to air photo interpretation was used to assess features in proximity to the proposed pipeline replacement that may support waterfowl stopover and staging areas.	Pond present in study area, east of Trafalgar Road. Results of habitat assessment determined habitat not suitable due to a lack of aquatic vegetation. Other suitable staging habitat absent in proximity to the proposed pipeline replacement.
Shorebird Migratory Stopover Area	Beaches and un-vegetated shorelines of lakes, rivers, and wetlands.	Vegetation and wildlife habitat assessments completed on July 28, 2020 were used to assess features in proximity to the proposed pipeline replacement that may support migratory shorebirds.	Natural unvegetated shoreline habitat is absent in proximity to the proposed pipeline replacement.
Raptor Wintering Area	Combination of fields and woodland (>20 ha).	Vegetation and wildlife habitat assessments completed on July 28, 2020 in addition to air photo interpretation were used to assess features in proximity to the proposed pipeline replacement that may support wintering raptors.	Suitable upland habitat is absent in proximity to the proposed pipeline replacement.
Bat Hibernacula	Hibernacula may be found in caves, mine shafts, underground foundations and karsts.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation were used to assess features in proximity to the proposed pipeline replacement that may support bat hibernacula.	Crevices, caves or abandoned mines are absent in proximity to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
Bat Maternity Colonies	Maternity colonies considered significant wildlife habitat are found in forested ecosites.	<p>Vegetation and wildlife habitat assessments conducted on July 28, 2020 were used to assess features in proximity to the proposed pipeline replacement that may support bat maternity colonies.</p> <p>A bat roost survey was conducted on December 9, 2020 to record candidate bat maternity colonies in the forested communities in the Study Area.</p>	<p>Forest habitat is present in proximity to the proposed pipeline laydown area and replacement footprint. Large diameter trees were observed during July 2020 site investigations in the pipe laydown area and a large bur oak was identified adjacent to the HDD entry location.</p> <p>During December 2020 bat tree roost survey nine candidate bat maternity roost trees were identified in the forested communities adjacent to the proposed pipeline laydown area and two candidate bat maternity roost trees were identified in the forested community adjacent to the pipeline replacement footprint. Removal of these candidate trees is not anticipated as part of the pipeline replacement project.</p>
Turtle Wintering Areas	Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen. Water has to be deep enough not to freeze and have soft mud substrate.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation were used to assess features in proximity to the proposed pipeline replacement that may support areas of permanent standing water but not deep enough to freeze.	East Sixteen Mile Creek may provide turtle overwintering habitat.
Reptile Hibernaculum	Rock piles or slopes, stone fences, crumbling foundations	Vegetation and wildlife habitat assessments conducted on July 28, 2020 were used to document features in proximity to the proposed pipeline replacement that may support snake hibernacula.	Rock piles/fences and crumbling foundations are absent in proximity to the proposed pipeline replacement.
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff)	Eroding banks, sandy hills, steep slopes, rock faces or piles	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation was used to assess features in proximity to the proposed pipeline replacement that may support bank and cliff colonial bird breeding habitat.	Suitable bank and cliff habitat are absent in proximity to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
Colonial-Nesting Bird Breeding Habitat (Tree/Shrubs)	Dead trees in large marshes and lakes, flooded timber, and shrubs, with nests of colonially nesting heron species.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 were used to assess features in proximity to the proposed pipeline replacement that may support tree and shrub colonial bird breeding habitat.	LIO identified the presence of mixed wader nesting colonies. Tree/shrub colonial bird nests were absent in proximity to the proposed pipeline replacement.
Colonial-Nesting Bird Breeding Habitat (Ground)	Rock islands and peninsulas in a lake or large river.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 were used to assess features in proximity to the proposed pipeline replacement that may support ground colonial bird breeding habitat.	Nests for ground-nesting colonial birds were absent in proximity to the proposed pipeline replacement.
Migratory Butterfly Stopover Areas	Meadows and forests that are a minimum of 10 ha and are located within 5km of Lake Ontario.	GIS analysis was used to measure distance from the Lake Ontario shoreline.	Not located within 5 km of Lake Ontario.
Landbird Migratory Stopover Areas	Woodlands of a minimum size located within 5 km of Lake Ontario.	GIS analysis was used to measure distance from the Lake Ontario shoreline.	Not located within 5 km of Lake Ontario.
Deer Winter Congregation Areas	Deer winter congregation's areas are mapped by MNRF and species use surveys are not required.	The LIO database was used to identify deer winter congregation areas.	Deer wintering areas absent in proximity to the proposed pipeline replacement.
RARE VEGETATION COMMUNITIES			
Sand Barren, Alvar, Cliffs and Talus Slopes	Sand barren, Alvar, Cliff and Talus ELC Community Classes, and other areas of exposed bed rock and patchy soil development, near vertical exposed bedrock and slopes of rock rubble.	Vegetation surveys conducted on July 28, 2020 and air photo interpretation were used to assess vegetation communities in proximity to the proposed pipeline replacement.	Barren, alvar, cliff, and talus slopes absent in proximity to the proposed pipeline replacement.
Old-growth Forest	Relatively undisturbed, structurally complex; dominant trees > 100 years' old.	Vegetation surveys conducted on July 28, 2020 and air photo interpretation were used to assess vegetation communities in proximity to the proposed pipeline replacement.	Old-growth forests absent in proximity to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
Tallgrass Prairie and Savannah	Open canopy habitats (tree cover < 60%) dominated by prairie species.	Vegetation surveys conducted on July 28, 2020 and air photo interpretation were used to assess vegetation communities in proximity to the proposed pipeline replacement.	Prairie and savannahs absent in proximity to the proposed pipeline replacement.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities listed by the NHIC.	Vegetation surveys conducted on July 28, 2020 and air photo interpretation were used to assess vegetation communities in proximity to the proposed pipeline replacement.	Rare vegetation communities absent in proximity to the proposed pipeline replacement.
SPECIALIZED HABITAT FOR WILDLIFE			
Waterfowl Nesting Area	Upland habitats adjacent to wetlands (within 120m).	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation were used to assess features in proximity to the proposed pipeline replacement that may support waterfowl nesting.	Wetlands absent in proximity to the proposed pipeline replacement.
Bald Eagle and Osprey nesting, Foraging, and Perching Habitat	Treed communities adjacent to rivers, lakes, ponds, and other wetlands with stick nests of Bald Eagle or Osprey.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation were used to assess features in proximity to the proposed pipeline replacement that may support Bald Eagle and Osprey nesting.	Bald Eagle and Osprey nests absent in proximity to the proposed pipeline replacement.
Woodland Raptor Nesting Habitat	Forested ELC communities >30 ha with 10 ha of interior habitat.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation and GIS analysis were used to assess features in proximity to the proposed pipeline replacement that may support nesting habitat for woodland raptors.	Suitable forests (i.e., >10 ha of interior habitat) absent within proximity to the proposed pipeline replacement.
Turtle Nesting Areas	Exposed soil, including sand and gravel in open sunny areas near wetlands.	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation was used to assess features in proximity to the proposed pipeline replacement that may support turtle nesting areas.	Exposed soils absent within proximity to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
Seeps and Springs	Any forested area with groundwater at surface within the headwaters of a stream or river system	Site investigations conducted on July 28, 2020 and air photo interpretation was used to assess areas/features of groundwater upwelling, including seeps and springs.	Seeps and springs absent within proximity to the proposed pipeline replacement.
Amphibian Breeding Habitat (Woodland and Wetland)	Treed uplands with vernal pools, and wetland ecosites	Vegetation and wildlife habitat assessments conducted on July 28, 2020 in addition to air photo interpretation were used in proximity to the proposed pipeline replacement that may support woodland breeding amphibians.	Wetland and vernal pools absent within proximity to the proposed pipeline replacement.
Woodland Area-sensitive Bird Breeding Habitat	Large mature forest stands, woodlots >30ha and >200m from the forest edge.	Vegetation assessments conducted on July 28, 2020 in addition to air photo interpretation and GIS analysis were used to determine whether woodlots that occurred in proximity to the proposed pipeline replacement were >30 ha with interior habitat present (>200 m from edge).	Suitable forests (with interior habitat) absent in proximity to the proposed pipeline replacement.
HABITAT FOR SPECIES OF CONSERVATION CONCERN			
Marsh Bird Breeding Habitat	Wetlands with shallow water and emergent aquatic vegetation.	Vegetation assessments conducted on July 28, 2020 in addition to air photo interpretation were used to identify marshes with shallow water and emergent vegetation in proximity to the proposed pipeline replacement that may support marsh breeding birds.	Wetlands absent in proximity to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
Open Country Bird Breeding Habitat	Large grasslands and fields (>30ha).	Vegetation assessments conducted on July 28, 2020 in addition to air photo interpretation and GIS analysis were used to identify grassland communities in proximity to the proposed pipeline replacement that may support area-sensitive breeding birds.	Large grasslands and fields absent in proximity to the proposed pipeline replacement.
Shrub/Early Successional Bird Breeding Habitat	Large shrub and thicket habitats (>10ha).	Vegetation assessments conducted on July 28, 2020 in addition to air photo interpretation and GIS analysis were used to identify large communities that may support shrub/early successional breeding birds.	Large shrub and thickets absent in proximity to the proposed pipeline replacement.
Terrestrial Crayfish	Wet meadows and edges of shallow marshes.	Vegetation assessments conducted on July 28, 2020 and air photo interpretation were used to identify shallow marsh and meadow marsh communities that occurred in proximity to the proposed pipeline replacement. Searches for crayfish chimneys were conducted during wildlife habitat assessments.	Terrestrial crayfish are absent in proximity to the proposed pipeline replacement.
SPECIES OF CONSERVATION CONCERN			
Eastern Milksnake	The Milksnake is frequently reported in and around buildings, especially old structures. However, it is found in a variety of habitats, including prairies, pastures, hayfields, rocky hillsides and a wide variety of forest types. Two important features of ideal habitat are proximity to water, and suitable locations for basking and egg-laying sites may include compost or manure piles, stumps, under boards, or in loose soil (COSEWIC, 2002).	Vegetation and habitat assessments conducted on July 28, 2020 were used to identify suitable habitat to support Eastern Milksnakes in proximity to the proposed pipeline replacement.	Suitable basking and nesting site absent in proximity to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
Eastern Wood-Pewee	The Eastern Wood-Pewee is a forest bird of deciduous and mixed woods. Nest-site selection favors open space near the nest, typically provided by clearings, roadways, water, and forest edges. Nests are cryptic as they are covered with lichens, typically appearing like a knot on top of a branch and little is known about nesting behavior (Cadman et al, 2007).	Vegetation and habitat assessments conducted on July 28, 2020 were used to identify suitable habitat to support Eastern Wood-pewee in proximity to the proposed pipeline replacement.	Suitable forested habitat is present adjacent to the proposed pipeline replacement.
Red-headed Woodpecker	The Red-headed Woodpecker Occupies a wide range of habitats, but most are characterized by open areas for feeding; snags for roosting, and a secure food supply. This species requires multiple snags for nesting, roosting, and foraging. Some of the habitats used are open deciduous and riparian woodlands, orchards, parks, agricultural lands, savanna-like grasslands, beaver ponds with snags, forest edges, burned forests, and flooded bottomland forests. Habitats are similar in both breeding and wintering range, but winter distribution most determined by presence of food. Have been known to move north in winter if mast is heavy (N.A.S., 2012; Smith et al, 2000).	Vegetation and habitat assessments conducted on July 28, 2020 were used to identify suitable habitat to support Red-headed Woodpecker in proximity to the proposed pipeline replacement.	Open woodlands absent in proximity to the proposed pipeline replacement.
Snapping Turtle	Snapping Turtles inhabit ponds, sloughs, streams, rivers, and shallow bays that are characterized by slow moving water, aquatic vegetation, and soft bottoms. Females show strong nest site fidelity and nest in sand or gravel banks at waterway edges in late May or early June (COSEWIC, 2008).	Vegetation and habitat assessments conducted on July 28, 2020 were used to identify suitable habitat to support Snapping Turtles in proximity to the proposed pipeline replacement.	Eastern Sixteen Mile Creek may support summer and overwintering habitat for Snapping Turtles.
Wood Thrush	Wood Thrush prefer deciduous and mixed forests in southern Ontario, ranging from small and isolated to large and contiguous woodlots. The presence of tall trees and a thick understory are preferred (Cadman et al., 2007).	Vegetation and habitat assessments conducted on July 28, 2020 were used to identify suitable habitat to support Wood Thrush in proximity to the proposed pipeline replacement.	Suitable forested habitat is present adjacent to the proposed pipeline replacement.

Appendix D-1 Wildlife Habitat Assessment in Proximity to Proposed Pipeline Replacement (Ecoregion 6E)

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment
ANIMAL MOVEMENT CORRIDORS			
Amphibian Movement Corridor	Corridors may be found in all ecosites associated with water. Determined based on identifying significant amphibian breeding habitat (wetland).	Identified after Amphibian Breeding Habitat - Wetland is confirmed. Movement corridors should be considered when amphibian breeding habitat is confirmed as SWH from Amphibian Breeding Habitat (Wetland).	Wetland and vernal pools absent within proximity to the proposed pipeline replacement.
Deer Movement Corridor	Corridors may be found in all forested ecosites. Determined based on MNR identifying Deer Wintering Areas.	Movement corridors should be considered when Deer Wintering Areas are identified.	Deer wintering areas absent within proximity to the proposed pipeline replacement.

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Smith, K. G., J. H. Withgott, and P. G. Rodewald. 2000. Red-headed Woodpecker (*Melanerpes erythrocephalus*). In The Birds of North America, No. 518 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

**APPENDIX E:
STAGE 1 AND 2 ARCHAEOLOGICAL
ASSESSMENT REPORTS**



Stage 1 Archaeological Assessment



**Stage 1 Archaeological Assessment
Sun-Canadian Pipe Line
NPS12 Pipeline Replacement (E16M)
Part of Lot 4, Concessions 7 and 8 New Survey
Geographic Township of Trafalgar (North)
Now the Town of Milton
Regional Municipality of Halton, Ontario**

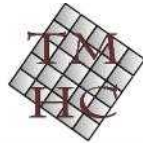
Submitted to

Sun-Canadian Pipe Line
P.O. Box 470
Waterdown, Ontario, L0R 2H0

and

The Ontario Ministry of Heritage, Sport, Tourism and Culture Industries

Prepared by



**Timmins Martelle
Heritage Consultants Inc.**

**@ the Museum of Ontario Archaeology
1600 Attawandaron Road, London, ON N6G 3M6
Phone: (519) 641-7222 Fax: (519) 641-7220**

Archaeological License: Matthew Beaudoin, Ph.D., P324
Our File: 2020-206
PIF Number: P324-0571-2020

January 2021
Original report submitted to the Ministry of Heritage, Sport, Tourism and Culture
Industries
7 January 2021

Executive Summary

Sun-Canadian Pipe Line Company Limited (SPCL) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton. SCPL is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way (ROW) within a new alignment to account for the installation of the pipe by a horizontal directional drill (HDD). Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board (OEB).

Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted to carry out a Stage 1 archaeological assessment of lands with potential for impact by proposed pipeline maintenance in the Town of Milton. The project area is roughly 1.507 ha in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. The project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road, East Sixteen Mile Creek and its unnamed tributary. The Stage 1 archaeological assessment was undertaken as part of SCPL's submission of the OEB. All work was done in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). The purpose of the Stage 1 archaeological assessment was to establish whether there was potential for archaeological resources to exist within the project area.

The Stage 1 background study included a review of current land use, historic and modern maps, past settlement history for the area and a consideration of topographic and physiographic features, soils, and drainage. It also involved a review of previously registered archaeological resources within 1 km of the project area, and previous archaeological assessments within 50 m. The background study indicated that the property had potential for the recovery of archaeological resources due the proximity (i.e., within 300 m) to several features that signal archaeological potential, namely: 1) a watercourse (East Branch of Sixteen Mile Creek and a tributary of the East Branch of Sixteen Mile Creek); 2) mapped 19th century structures (Sam Anderson's and John Hall's farmsteads); and, 3) previously registered archaeological sites (AjGw-60, AjGw-264, AjGw-320, AjGw-321 and AjGw-322).

A Stage 1 property inspection was also conducted to further evaluate the current conditions within the project area. Based on the information compiled in the background study and property inspection, the following recommendations are made:

- 1) The areas of woodlot, the tree farm and the manicured lawns have archaeological potential and require Stage 2 archaeological assessment (55.5%; 0.837 ha). In keeping with provincial standards, these unploughable areas are recommended for test pit survey using a 5 m transect interval.



- 2) The sloped areas (1.0%; 0.015 ha), low-lying and wet areas (0.8%; 0.016 ha), and the obviously disturbed areas (27.6%; 0.416 ha) are considered to be of low archaeological potential and were photo-documented and no further work is recommended.
- 3) The Trafalgar Road ROW and the Project area to the east of Trafalgar Road have been previously assessed and no further work is recommended (15.1%; 0.227 ha).
- 4) If the Project area is changed to incorporate lands not included in this report, additional archaeological assessment may be required.

These recommendations are subject to the conditions laid out in Section 7.0 of this report and to the Ministry of Heritage, Sport, Tourism and Culture Industries' review and acceptance of this report into the provincial register.



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Project Personnel

Project Coordinators:	Matthew Beaudoin, Ph.D. (P324) Liam Browne, M.A. (P1048)
Report Production:	Liam Browne, M.A. (P1048)
GIS Technician:	David Gostick, B.A.
Field Director:	Liam Browne, M.A. (P1048)



**Stage 1 Archaeological Assessment
Sun-Canadian Pipe Line
NPS12 Pipeline Replacement (E16M)
Part of Lot 4, Concessions 7 and 8 New Survey
Geographic Township of Trafalgar (North)
Now the Town of Milton
Regional Municipality of Halton, Ontario**

1.0 PROJECT CONTEXT

1.1 Development Context

1.1.1 Introduction

Sun-Canadian Pipe Line Company Limited (SPCL) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton. SCPL is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way (ROW) within a new alignment to account for the installation of the pipe by a horizontal directional drill (HDD). Construction of the replacement pipeline could begin as early as Summer 2021 and be complete by the end of 2021, subject to approval by the Ontario Energy Board (OEB).

Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted to carry out a Stage 1 archaeological assessment of lands with potential for impact by proposed pipeline maintenance in the Town of Milton. The project area is roughly 1.507 ha in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. The project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road, East Sixteen Mile Creek and its unnamed tributary. The Stage 1 archaeological assessment was undertaken as part of SCPL's submission of the OEB. All work was done in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). The purpose of the Stage 1 archaeological assessment was to establish whether there was potential for archaeological resources to exist within the project area.

All archaeological consulting activities were performed under the Professional Archaeological License of Matthew Beaudoin, Ph.D. (P324) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was obtained by SCPL.



1.1.2 Purpose and Legislative Context

The Stage 1 archaeological assessment work was conducted in accordance with Section 4.3.4 Cultural Heritage Resources in the *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2016). The purpose of a Stage 1 background study is to determine if there are known cultural resources within the proposed areas of impact or potential for such resources to exist. Subsequently, it can act as a planning tool by identifying areas of concern that, where possible, could be avoided to minimize environmental impact. It is also used to determine the need for a Stage 2 field assessment involving the search for archaeological sites. If significant sites are found, a strategy (usually avoidance, preservation or excavation) must be put forth for their mitigation.

The Regional Municipality of Halton's *Master Plan of Archaeological Resources* is a planning tool developed to implement these requirements by identifying areas where there is potential for archaeological sites to exist. If properties are deemed to have potential for archaeological sites, a Stage 1 and 2 archaeological assessment is required.

2.0 STAGE 1 BACKGROUND STUDY

2.1 Research Methods and Sources

A Stage 1 overview and background study was conducted to gather information about known and potential cultural heritage resources within the Project area. According to the *Standards and Guidelines*, a Stage 1 background study must include a review of:

- an up-to-date listing of sites from the Ontario's Past Portal for 1 km around the Project area;
- reports of previous archaeological fieldwork within a radius of 50 m around the Project area;
- topographic maps at 1:10,000 (recent and historical) or the most detailed scale available;
- historic settlement maps (e.g., historical atlas, surveys);
- archaeological management plans or other archaeological potential mapping (when available); and
- commemorative plaques or monuments on or near the Project area.

For this Project, the following activities were carried out to satisfy or exceed the above requirements:

- a database search was completed through the Ministry of Heritage, Sport, Tourism and Culture Industries' Past Portal (PastPort) system that compiled a list of registered archaeological sites within 1 km of the Project area (completed November 20th, 2020);



- a review of known prior archaeological reports for the Project area and adjacent lands
(note: the Ministry of Heritage, Sport, Tourism and Culture Industries currently does not keep a publicly accessible record of archaeological assessments carried out in the Province of Ontario, so a complete inventory of prior assessment work nearby is not available);
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers provided by geographynetwork.ca;
- detailed mapping providing by the client was also reviewed;
- a series of historic maps and photographs was reviewed related to post-1800 land settlement; and,
- additional sources of information were also consulted, including modern aerial photographs, local history accounts, soils and physiography data provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), and both 1:50,000 (Natural Resources Canada) and finer scale topographic mapping.

There are no commemorative plaques or monuments within the immediate vicinity of the Project area.

The Project area falls within the Regional Municipality of Halton's *Master Plan of Archaeological Resources* (ASI 2008). This document provides an archaeological site potential model based on the mapped locations of registered archaeological sites, local environmental characteristics and other features indicating archaeological potential.

When compiled, this information was used to create a summary of the characteristics of the subject lands, in an effort to evaluate their archaeological potential. The Province (MTC 2011 – Section 1.3.1) has recently defined the criteria that identify archaeological potential as:

- previously identified archaeological sites;
- water sources;
 - primary water sources (lakes, rivers, streams, creeks);
 - secondary water courses (intermittent streams and creeks, springs, marshes, swamps);
 - features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in topography, shorelines of drained lakes or marshes, cobble beaches);
 - accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, 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 that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases; there



- may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings;
- resource areas, including:
 - food or medicinal plants (e.g., migratory routes, spawning areas, prairie);
 - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert);
 - early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining);
 - areas of early 19th century settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.
 - early historical transportation routes (e.g., trails, passes, roads, railways, portage routes);
 - property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial, or municipal historic landmark or site; and
 - property that local histories or informants have identified with possible archaeological sites, historical events, activities or occupations.

In southern Ontario (south of the Canadian Shield), any lands within 300 m of any of the features listed above is considered to have potential for the discovery of archaeological resources.

Typically, a Stage 1 assessment will determine potential for Indigenous and historic era sites independently. This is due to the fact that lifeways varied considerably during these eras so that criteria used to evaluate potential for each type of site also varies.

It should be noted that some factors can also negate the potential for discovery of intact archaeological deposits. Subsection 1.3.2 of the *Standards and Guidelines* indicates that archaeological potential can be removed in instances where land has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. Major disturbances indicating removal of archaeological potential include, but are not limited to:

- quarrying;
- major landscaping involving grading below topsoil;
- building footprints; and
- sewage and infrastructure development.

Some activities (agricultural cultivation, surface landscaping, installation of gravel trails, etc.) may result in minor alterations to the surface topsoil but do not necessarily affect or remove archaeological potential. It is not uncommon for archaeological sites, including structural foundations, subsurface features and burials, to be found intact beneath major surface features like roadways and parking lots. Archaeological potential is, therefore, not removed in cases where there is a chance of deeply buried deposits, as in a developed or



urban context or floodplain where modern features or alluvial soils can effectively cap and preserve archaeological resources.

2.2 Project Context: Archaeological Context

2.2.1 Project Area: Overview and Physical Setting

The Project area is roughly 1.5 hectares in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), Halton County, Ontario. (Map 1 and 2). The Project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road and the watercourses.

The Project area falls within the Peel Plain physiographic region, as defined by Chapman and Putnam (1984; Map 3). The Peel Plain is a relatively flat tract of clay soils that covers large portions of the Regional Municipalities of York, Peel, and Halton. The plain is dominated by till soils that contain large amounts of shale and limestone. The Project area occurs within a sand plain surrounded by bevelled till plains. The extreme southwestern end of the Project area falls within the bevelled till plain. The soil types within the Project area are Chinguacousy Clay Loam, Jeddo Clay Loam and Bottom Land (Map 4). The most prominent soil type is Chinguacousy Clay Loam, an imperfectly drained calcareous clay loam (Gillespie et al. 1971:27). To the west of Trafalgar Road, small pockets of Jeddo Clay Loam, which is a poorly drained soil, are present. The ravine associated with East Sixteen Mile Creek is identified as Bottom Land.

The Project area is located within the East Sixteen Mile Creek watershed (Map 5). East Sixteen Mile Creek is located west of Trafalgar Road between the Drill Entry Area and Drill Exit Area portions of the Project area. A tributary of East Sixteen Mile Creek is located approximately 100 m to the west of the western edge of the Project area. The Drill Entry Area is adjacent to a ravine which features two small, unnamed tributaries of East Sixteen Mile Creek.

A general reconstruction of 19th-century vegetation is made possible through the consultation of mapping which visually depicts the descriptive and anecdotal accounts contained in early surveyors' log books. The early 19th-century vegetation in both Lot 4, Concessions 7 and 8 have been described as predominantly maple-beech forest with hemlock and basswood (Findlay 1974).

2.2.2 Summary of Registered or Known Archaeological Sites

According to the Ministry of Heritage, Sport, Tourism and Culture Industries' registered site database (accessed November 20th, 2020), there are 20 registered archaeological sites within 1 km of the Project area.



Of the 20 registered sites, four are 19th-century settler homesteads, one is a Late Archaic period Indigenous findspot, one is Late Archaic period Indigenous artifact scatter, one is a Middle Archaic period Indigenous findspot, one is a Late Archaic and Early Woodland period Indigenous artifact scatter, and the remaining 12 are Indigenous findspots or artifact scatters which cannot be dated. A total of five sites are located within 300 m of the Project area: AjGw-60, AjGw-264, AjGw-320, AjGw-321 and AjGw-322.

The nearest of these sites is AjGw-264, which is a 19th-century homestead located approximately 125 m south of the Drill Entry Area. This site has been fully mitigated and its former location falls within what is now a large artificial pond.

Table 1: Registered Archaeological Sites within 1 km of the Project Area

Borden Number	Site Name	Time Period	Affinity	Site Type
AjGw-60	Robert Plant	19 th -Century	Settler	Homestead
AjGw-59		Pre-Contact	Indigenous	Unknown
AjGw-58		Late Archaic	Indigenous	Scatter
AjGw-57		Pre-Contact	Indigenous	Findspot
AjGw-569		Middle Archaic	Indigenous	Findspot
AjGw-568		Pre-Contact	Indigenous	Scatter
AjGw-566	H1	19 th -Century	Settler	Homestead
AjGw-56		Pre-Contact	Indigenous	Scatter
AjGw-55		Pre-Contact	Indigenous	Findspot
AjGw-52		Pre-Contact	Indigenous	Scatter
AjGw-51	Nursery 2	Pre-Contact	Indigenous	Findspot
AjGw-50	Nursery 1	Pre-Contact	Indigenous	Scatter
AjGw-393	York II	Pre-Contact	Indigenous	Unknown
AjGw-392	York I	Pre-Contact	Indigenous	Unknown
AjGw-323	Gruehl III	Late Archaic	Indigenous	Findspot
AjGw-322	Gruehl II	Pre-Contact	Indigenous	Scatter
AjGw-321	Gruehl I	Pre-Contact	Indigenous	Scatter
AjGw-320	Hall II	19 th -Century	Settler	Homestead
AjGw-264	Hall I	19 th -Century	Settler	Homestead
AjGw-19	Nielsen	Late Archaic, Early Woodland	Indigenous	Scatter

2.2.3 Summary of Past Archaeological Investigations within 50m

During the course of this study, records of four archaeological investigations within 50 m of the Project area were identified. Each of these investigations involved the assessment of areas that fall within the current Project area. However, it should be noted that the Ministry of Heritage, Sport, Tourism and Culture Industries currently does not provide an inventory of archaeological assessments to assist in this determination.

In 1996, Leslie Currie undertook a Stage 1 assessment of the east and west Trafalgar Road right-of-way (ROW) between Highway 403 and a point 500 m north of the intersection of Trafalgar Road and Britannia Road ahead of a proposed widening of Trafalgar Road from two lanes to four. The Stage 1 background research determined that



the Project area retained archaeological potential and would therefore require a Stage 2 survey. In keeping with provincial standards, any ploughed agricultural lands were recommended for pedestrian survey, using a 5 m transect interval. Any non-ploughable lands are recommended for a test pit survey at a 5 m transect interval. The details of this Stage 1 archaeological assessment were presented in a report entitled *The Stage 1 Archaeological Assessment, Trafalgar Road (RR3) Widening and Reconstruction, Highway 403 to North of Britannia Road, Regional Municipality of Halton* (Currie 1996; licensee Leslie Currie; PIF 95-073).

In 1996, Leslie Currie and Associates undertook a Stage 2 assessment of the east and west Trafalgar Road ROW between Highway 403 and a point 500 m north of the intersection of Trafalgar Road and Britannia Road ahead of a proposed widening of Trafalgar Road from two lanes to four. The Stage 2 assessment methodology consisted of a pedestrian survey at a 5 m transect interval of any ploughed agricultural lands and a test pit survey at a 5 m transect interval of any non-ploughable lands. The area assessed included the portions of the Drill Path within the current Trafalgar Road ROW (Maps 6 and 12). The Stage 2 survey resulted in the discovery of three archaeological sites: AjGw-263 (Site 1), AjGw-264 (Site 2), and AjGw-265 (Smith). AjGw-263 and AjGw-264 were both recommended for Stage 3 assessment to evaluate their cultural and archaeological significance as well as to identify the portion of these sites which would be impacted by the road widening. AjGw-265 was recommended for Stage 3 and Stage 4 assessment to evaluate their cultural and archaeological significance as well as to identify the portion of these sites which would be impacted by the road widening. According to MHSTCI's registered site database AjGw-264 is located approximately 125 m south of the Drill Entry Area portion of the current project area. The details of this Stage 2 archaeological assessment were presented in a report entitled: *The Stage 2 Archaeological Assessment, Trafalgar Road (RR3) Widening and Reconstruction, Highway 403 to North of Britannia Road, Regional Municipality of Halton* (Leslie Currie and Associates 1996; licensee Leslie Currie; PIF 96-052).

In 2001, Archaeological Assessments Ltd. undertook a Stage 1-2 assessment of an 80 hectare parcel of land forming part of Lots 4 and 5, Concession 8 New Survey, Geographic Township of Trafalgar (North) prior to the development of the land for use as a golf course (SD Map 1). The Stage 1 background research determined that the property retained archaeological potential and was therefore was subject to a Stage 2 survey. The area assessed included the entire Drill Entry Area portion of the current Project area as well as the very northeastern end of the Drill Path (Map 12). As the property at that time consisted of three separate agricultural fields it was assessed through a pedestrian survey at 5 m transect intervals. The Stage 2 survey resulted in the identification of 12 archaeological locations including: one 19th century homestead (AjGw-320, Featherstone/Hall 2); two Indigenous campsites of unknown age (AjGw-321, Greuhl I; AjGw-321, Greuhl II); one Late Archaic findspot (AgGw-323); and eight non-diagnostic Indigenous findspots. The survey also resulted in the relocation of AjGw-64 (Hall); a 19th century homestead site previously identified in 1996. AjGw-64 (Hall), AjGw-320 (Featherstone/Hall 2), AjGw-321 (Greuhl I) and AjGw-321 (Greuhl II) were recommended



for further investigation. The details of this Stage 1-2 archaeological assessment were presented in a report entitled *The Stage 1-2 Archaeological Assessment of the Proposed Trafalgar-Britannia Golf Course, Part of Lots 4 & 5, Concession 8, Town of Milton, Halton Region* (Archaeological Assessments Ltd. 2001; licensee Richard Sutton; CIF 2001-035-010).

In 2005, Archaeological Assessments Ltd. completed the Stage 4 excavations of AjGw-264 and AjGw-320 that they previously identified within the Britannia Links Golf Course. This work consisted of the mechanical topsoil removal and feature documentation at both 19th-century sites. Both sites were entirely excavated and were of no further archaeological concern. The details of this Stage 4 archaeological assessment were presented in a report entitled *The Stage 4 Excavation of the Hall Site (AjGw-264) and the Featherston Site (AjGw-320), Britannia Golf Course, Town File LOPA-01/00 and Z-03/00 Revised, Town of Milton, Halton Region* (Archaeological Assessments Ltd. 2007; licensee Richard Sutton; CIF P013-147).

2.2.4 Dates of Archaeological Fieldwork

The Stage 1 property inspection was conducted on November 19th, 2020 under sunny and clear weather conditions. The field director was Liam Browne (P1048).

2.3 Project Context: Historical Context

2.3.1 Indigenous Settlement in Milton

There is archaeological evidence of Indigenous settlement in Milton and vicinity since the time of glacial retreat some 12,000 years ago through to the modern era. Nonetheless, our knowledge of past Indigenous land use in the area is incomplete due primarily to a lack of archeological investigation of many areas prior to urban development. Nonetheless, using province-wide and region-specific data, a general model of Indigenous settlement in the area can be proposed. The following paragraphs provide a basic textual summary of the known general cultural trends and archaeological periods and a tabular summary appears in Table 2.



Table 2: Cultural Chronology for Indigenous Settlement in Milton

Period		Time Range (circa)	Diagnostic Features	Complexes	
Paleo	Early	9000-8400 B.C.	Fluted projectile points	Gainy, Barnes, Crowfield	
	Late	8400-8000 B.C.	Non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate	
Archaic	Early	8000-6000 B.C.	Serrated, notched, bifurcate base points	Nettling	
	Middle	6000-2500 B.C.	Stemmed, side & corner notched points	Brewerton, Otter Creek, Stanley/Neville	
	Late	2000-1800 B.C.	Narrow points	Lamoka	
		1800-1500 B.C.	Broad points	Genesee, Adder Orchard, Perkiomen	
		1500-1100 B.C.	Small points	Crawford Knoll	
	Terminal	1100-950 B.C.	First true cemeteries	Hind	
Woodland	Early	950-400 B.C.	Expanding stemmed points, Vinette pottery	Meadowood	
	Middle	400 B.C.- A.D. 500	Dentate, pseudo-scallop pottery	Saugeen	
	Transitional	A.D. 500-900	First corn, cord-wrapped stick pottery	Princess Point	
	Late	A.D. 900-1300	First villages, corn horticulture, longhouses	Glen Meyer, Pickering	
		A.D. 1300-1400	Large villages and houses	Uren, Middleport	
		A.D. 1400-1650	Tribal emergence, territoriality	Neutral Iroquois, Wendat	
Contact		Indigenous	A.D. 1650 - present	Treaties, mixture of Indigenous & European items	Mississauga, Six Nations
		Settler	A.D. 1796 - present	English goods, homesteads	European settlement, pioneer life

Paleo Period

The first human populations to inhabit the area came to the region between 10,000 and 12,000 years ago, coincident with the end of the last period of glaciation. Climate and environmental conditions were significantly different than they are today; local environs would not have been welcoming to anything but short-term settlement. Termed Paleo by archaeologists, Ontario's first peoples would have crossed the landscape in small groups (i.e., bands or family units) searching for food, particularly migratory game species. In this area, caribou may have provided the staple of Paleo diet, supplemented by wild plants, small game and fish. Given the low density of populations on the landscape at this time and their mobile nature, Paleo sites are small and ephemeral. They are usually identified by the presence of distinctive fluted projectile points, usually manufactured on high quality raw materials, including Onondaga chert from the Niagara Escarpment and Fossil Hill chert from Blue Mountains. Paleo sites have commonly been found in association with relic glacial lakeshores throughout Ontario.

Archaic Period

Settlement and subsistence patterns changed significantly during the Archaic period as both the landscape and ecosystem adjusted to the retreat of the glaciers. Building on earlier patterns, early Archaic populations continued the mobile lifestyle of their predecessors. Through time and with the development of more resource rich local environments, these groups gradually reduced the size of the territories they exploited on a regular basis. A seasonal pattern of warm season riverine or lakeshore settlements and interior cold weather occupations has been documented in the archaeological record. The large cold-weather mammals that formed the basis of the Paleo subsistence pattern became extinct or moved northward with the onset of warmer climate conditions. Thus, Archaic populations had a more varied diet, exploiting a range of plant, bird, mammal and fish



species. Over time, reliance on specific food resources like fish, deer and nuts became more pronounced and the presence of more hospitable environments and resource abundance led to the expansion of band and family sizes. This is evident in the archaeological record in the form of larger sites and aggregation camps, where several families or bands would come together in times of plenty. The change to more preferable environmental circumstances led to a rise in population density. As a result, Archaic sites are more plentiful than those from the earlier period. 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 (where and when preserved) and waste flakes, a by-product of the tool making process.

Early, Middle and Transitional Woodland Periods

Significant changes in cultural and environmental patterns are witnessed in the Early, Middle and Transitional Woodland periods (ca. 950 B.C. to A.D. 1000). Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, one of the most significant changes by Woodland times is the appearance of artifacts manufactured from modeled clay and the emergence of more sedentary villages. The Woodland Period is often defined by the occurrence of pottery, storage facilities and residential areas similar to those that define the early agricultural or Neolithic period in Europe. The earliest pottery was crudely made by the coiling method and early house structures were simple oval enclosures. Both the Early and Middle Woodland sub-periods are characterized by an elaborate burial complex that in some areas in Ontario involved the construction of large burial mounds. Trade in exotic items, including rare stone and shell objects, became common at this time, reflecting interconnections between Ontario populations and those in the Ohio and Mississippi river valleys to the south.

Late Woodland Period

Beginning circa A.D. 1000 the archaeological record documents the emergence of more substantial, semi-permanent settlements and the adoption of corn horticulture. These developments are most often associated with Iroquoian-speaking populations, the ancestors of the Wendat (Huron), Tionontati (Petun) and Attawandaron (Neutral) nations who were known to have resided in the province at the time of the arrival of the first European explorers and missionaries. Iroquoian villages incorporated a number of longhouses, multi-family dwellings that contained several families related through the female line. Precontact Iroquoian sites may be identified by a predominance of well-made pottery decorated with various simple and geometric motifs, triangular projectile points, clay pipes and ground stone artifacts. Sites post-dating European contact are recognized through the appearance of various items of European manufacture. The latter include materials acquired by trade (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) in addition to the personal items of European visitors and Jesuit missionaries (e.g., finger rings, stoneware, rosaries, and glassware).



Large Iroquoian village sites, many presumably Huron-Wendat, are known along the upper and middle areas of the Humber and Don rivers, which clearly demonstrates the Iroquoian use of the waterfront on the north shore of Lake Ontario prior to European contact. When European explorers and missionaries arrived in Ontario in the 17th century, the Huron-Wendat no longer inhabited the lakeshore and instead occupied a vast area between Lake Simcoe and Georgian Bay. By 1650, many Wendat had fled their 17th century homeland due to the onset of epidemic disease and increasing raids by Five Nations Iroquois groups who had established an increasing presence along Lake Ontario. At least two major Seneca villages were established on the Rouge River later that century. At the same time, Algonquian-speaking populations were utilizing the watershed for hunting and trapping.

By the 17th century, the Seneca no longer inhabited the Lake Ontario shores and the Algonquin-speaking Mississaugas began moving southward into the area. It was the Mississaugas who had settled the area by the time the British arrived in the late 18th century and from whom the Crown secured land for settlement.

2.3.2 19th Century and Municipal Settlement

Halton County

Halton County was named after Major William Mathew Halton, a British Army officer, who was appointed in 1805 as Secretary to Lieutenant-Governor Sir Francis Gore. Settlers started to arrive in the county in the early 1780s. The south portion of the county was first settled by United Empire Loyalists, while the north part mainly by immigrants from the British Isles. Along with Wentworth County, Halton County was created in 1816 as part of the Gore District consisting of the townships of Trafalgar, Nelson, Flamborough and Beverly, among other lands and was further expanded in 1821. When the Gore District was abolished in 1850, some townships were withdrawn from its boundaries with only the townships of Esquesing, Trafalgar, Nassageweya and Nelson remaining. As settlement progressed, several towns and villages developed mainly within the south portion of the county (Walker & Miles 1877).

Township of Trafalgar and Crown – Indigenous Peoples Treaty Context

In 1805 a treaty was signed between the British Crown and the Anishnabeg (Mississaugas) for an estimated area of 84,000 acres, with a mile-wide strip of land on either side of the Credit River reserved for the Anishnabeg (Walker and Miles 1877:60). The Anishnabeg occupied the lands along Lake Ontario during the 17th and 18th centuries. The lands were surveyed in 1806 by Samuel Street Wilmot and divided into the townships of Toronto, Trafalgar and Nelson. The first European settlement in the Township of Trafalgar is said to have taken place in 1807. In 1818 William Claus met with the Anishnabeg to propose the purchase of an additional 648,000 acres of land which lay to the north of the land previously purchased in 1805. Faced with the continual inflow of settlers to the lands north of Lake Ontario and the accelerating erosion of their traditional



economy and resource base the Chief Ajetance, on behalf of the Anishnabeg, agreed to cede these lands to the Crown in return for £522.10 of goods paid annually. The treaty ceding these lands is known as the Ajetance Treaty, No. 19 (1818) (Durcic 2017). A portion of the land purchased was incorporated into an expanded Trafalgar Township, this land was known as the “new survey.” Like the County of Halton in general, the township was settled by immigrants who came directly from the British Isles or by United Empire Loyalist families who journeyed here from Niagara (Clarke 1955:11). Early settlement focused on Sixteen Mile Creek which provided a source of power for grist and saw mills. The earliest settlers concentrated in the then tiny communities like Milton and Oakville. By 1817 the township boasted 548 occupants. The mills soon attracted both industrial and residential growth. Smaller communities including Palermo, Postville (later Trafalgar), Sheridan, Proudfoot Hollow, Merton, Bronte Station, Glenorchy, Ash, Snider, Omaha, Auburn, Drumquin and the Boyne soon appeared through the township. By mid-century, the population of Trafalgar Township grew to over 4,000 (Walker and Miles 1877:59).

Town of Milton

The earliest settlers to what would come to be known as Milton were Jasper Martin and his wife Sarah who emigrated from England in 1821. After constructing a grist mill on Sixteen Mile Creek, Martin went on to build a sawmill, ashery, and small store, thus establishing himself as one of the most important early pioneers in the entire county. This is evidenced by the community’s earliest moniker, “Martin’s Mills”. Following his death in 1833 Jasper’s four sons suggested the town’s name be changed to Milton, after the renowned poet, which was obviously well received (Cook 1977:4-5). It should be noted that Milton hosted the first (provisional) County Council in July 1853 (Walker and Miles 1877:54).

2.3.3 Review of Historic Maps and Imagery

The project area falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario.

According to the 1860 Tremaine Map (Map 7), the northeastern half of Lot 4, Concession 7 is owned by Sam Anderson. The southwestern half of Lot 4, Concession 7 is owned by Margaret Ford. The southwestern ¼ of Lot 4, Concession 8 is owned by John Hall. No structures are depicted on either property or within the vicinity of the project area. Trafalgar Road is shown as open at this time. The East Branch of Sixteen Mile Creek is shown within the Drill Path portion of the project area. The community of Drumquin is shown approximately 600 m northwest of the project area. The only structure depicted in the community is an inn is at the eastern corner of the intersection of Trafalgar Road and Britannia Road.

According to the 1877 Illustrated Historical Atlas Map (Map 8), the northeastern half of Lot 4, Concession 7 is owned by Sam Anderson. Anderson’s home and orchard are shown immediately to the southwest of Trafalgar Road near to the centre of his portion of



the lot. The southwestern half of Lot 4, Concession 7 is owned by Hamilton Ford. Ford's home and orchard are shown near to the centre of his portion of the lot, set back a distance from 6th Line. The southwestern ¼ of Lot 4, Concession 8 is owned by John R. Hall. Hall's home, a secondary structure and orchard are shown to the northeast of Trafalgar Road near to the centre of his portion of the lot. Anderson and Hall's structures are both within 300 m of the project area. There are no additional structures depicted within 300 m of the project area on adjacent lots. An unnamed tributary of the East Branch of Sixteen Mile Creek is shown approximately 65 m northwest of the Drill Entry Area portion of the project area. The community of Drumquin is shown approximately 600 m northwest of the project area. The community has grown since the drafting of the 1860 Tremaine Map (Map 7), now a post office and structures are depicted at all four corners of the intersection of Trafalgar Road and Britannia Road.

Several historical aerial photographs of the project area were also reviewed. The 1954 aerial photograph (Map 9) depicts the area currently occupied by the tree farm as a ploughed agricultural field. The project area runs along the northern edge of the field. The East Sixteen Mile Creek ravine area appears largely as it does today. It is difficult to determine the land use of the area between East Sixteen Mile Creek and Trafalgar Road however beyond the area immediately to the northeast of the creek it appears to be a ploughed agricultural field bounded by a treeline. At this time the dwelling at 5636 Trafalgar Road has not yet been built. The area to the northeast of Trafalgar Road appears to be a ploughed agricultural field. Trafalgar Road at this time is a two-lane roadway. The 2010 aerial photograph (Map 10) depicts the reforestation of the area between East Sixteen Mile Creek and Trafalgar Road as well as the dwelling at 5636 Trafalgar Road. The deposition of a large amount of soil in the Drill Entry Area to the northeast of Trafalgar Road is apparent. The 2015 aerial photograph (Map 11) depicts the conversion of the ploughed agricultural field in the southwestern half of the project area to a tree farm. A roadway is shown running along the northern edge of the former agricultural field.

3.0 STAGE 1 PROPERTY INSPECTION

A Stage 1 property inspection was conducted to document and evaluate the current conditions of the project area.

The Pipe Laydown Area contains a paved roadway running northeast-southwest with a woodlot on its northern side and a planted tree farm on its southern side (Images 1 and 2). The Drill Exit contains the paved roadway and a larger section of the tree farm (Image 3). The Drill Path contains a portion of the paved roadway, as well as an open area atop a steep slope leading down to the East Sixteen Mile Creek ravine (Image 4). The ravine at the base of the slope is dry and features some scrub brush (Image 5). The Drill Path crosses East Sixteen Mile Creek and runs along its northern bank before crossing the unnamed tributary of East Sixteen Mile Creek (Image 6). The area to the east of the creek is comprised of a woodlot (Image 7). A steep slope leads down to this woodlot from the area of the dwelling at 5636 Trafalgar Road (Image 8). The portion of the Drill Path within the 5636 Trafalgar Road is landscaped but it not clear that archaeological potential has been



removed from this area (Image 9). The northeastern end of the Drill Path and the Drill Entry Area on the eastern side of Trafalgar Road is artificially built up and is now a significantly elevated area (Image 10).

The results of the Stage 1 archaeological assessment, as well as the location and orientation of report photographs, are presented on Map 12. The proponent map was provided as a KMZ files, so we have not presented the Stage 1 results on the proponent mapping.

4.0 ANALYSIS AND CONCLUSIONS

As noted in Section 2.1, the Province of Ontario has identified numerous factors that signal the potential of a property to contain archaeological resources. The Stage 1 background study included a review of current land use, historic and modern maps, registered archaeological sites and previous archaeological studies, past settlement history for the area and a consideration of topographic and physiographic features, soils and drainage. According to the map-based review and background research, potential for the discovery of archaeological sites is indicated by the proximity to (within 300 m):

- 1) a watercourse (East Sixteen Mile Creek and a tributary of the East Branch of Sixteen Mile Creek);
- 2) mapped 19th century structures (Sam Anderson's and John Hall's farmsteads); and,
- 3) previously registered archaeological sites (AjGw-60, AjGw-264, AjGw-320, AjGw-321 and AjGw-322).

The Stage 1 property inspection visually confirmed that the areas of woodlot, the planted tree farm area and the ravine within the Pipe Laydown Area, the Drill Exit Area and the Drill Path have archaeological potential and require Stage 2 archaeological assessment (55.5%; 0.837 ha). The sloped areas (1.0%; 0.015 ha), low-lying and wet areas (0.8%; 0.016 ha), and the obviously disturbed areas (27.6%; 0.416 ha) are considered to be of low archaeological potential and were photo-documented and no further work is recommended. The Trafalgar Road ROW and the Project area to the east of Trafalgar Road have been previously assessed and no further work is recommended (15.1%; 0.227 ha).

Table 3: Documentary Records

Field Notes and Field Maps	Dated November 19 th , 2020
Photo Catalogue	September 22 nd , 2020 (27 digital photos)
Location of Records	1600 Attawandaron Road, London, Ontario N6G 3M6



5.0 RECOMMENDATIONS

Based on the information compiled in the background study and property inspection, the following recommendations are made:

- 1) The areas of woodlot, the tree farm and the manicured lawns have archaeological potential and require Stage 2 archaeological assessment (55.5%; 0.837 ha). In keeping with provincial standards, these unploughable areas are recommended for test pit survey using a 5 m transect interval.
- 2) The sloped areas (1.0%; 0.015 ha), low-lying and wet areas (0.8%; 0.016 ha), and the obviously disturbed areas (27.6%; 0.416 ha) are considered to be of low archaeological potential and were photo-documented and no further work is recommended.
- 3) The Trafalgar Road ROW and the Project area to the east of Trafalgar Road have been previously assessed and no further work is recommended (15.1%; 0.227 ha).
- 4) If the Project area is changed to incorporate lands not included in this report, additional archaeological assessment may be required.

These recommendations are subject to the conditions laid out in Section 7.0 of this report and to the Ministry of Heritage, Sport, Tourism and Culture Industries' review and acceptance of this report into the provincial register.



6.0 SUMMARY

Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted to carry out a Stage 1 archaeological assessment of lands with potential for impact by proposed pipeline maintenance in the Town of Milton. The project area is roughly 1.507 ha in size and falls within Lot 4, Concession 7 and Lot 4, Concession 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. The project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road, East Sixteen Mile Creek and its unnamed tributary. The Stage 1 archaeological assessment was undertaken as part of SCPL's emerging Indigenous relations program in advance of the proposed maintenance. Background research indicated that the project area was in proximity to features signalling archaeological potential and a Stage 1 property inspection was undertaken. The Stage 1 property inspection visually confirmed that the areas of woodlot, the planted tree farm area and the ravine within the Pipe Laydown Area, the Drill Exit Area and the Drill Path have archaeological potential and require Stage 2 archaeological assessment (55.5%, 0.837 ha). The sloped areas (1.0%, 0.015 ha) consisting of the steep slope leading down to the East Sixteen Mile Creek ravine and the steep slope leading down from 5636 Trafalgar Road within the Drill Path are considered to be of low archaeological potential. The low-lying and wet areas (0.8%, 0.016 ha) within the Drill Path associated with courses of East Sixteen Mile Creek and the tributary of the East Branch of Sixteen Mile Creek are considered to be of low archaeological potential. The sections of paved roadway within the Pipe Laydown Area, the Drill Exit Area and the Drill Path have been previously disturbed (27.6%, 0.416 ha). The artificially built up area on the eastern side of Trafalgar Road within the Drill Path and the Drill Entry Area and the western ROW of Trafalgar Road have been previously assessed (15.1%, 0.227 ha).



7.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Heritage, Sport, Tourism and Culture Industries, 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* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries and Cemetery Closures, Ontario Ministry of Government and Consumer Services. Nancy Watkins is the Registrar. Her telephone number is 416 212-7499 and her e-mail address is Nancy.Watkins@ontario.ca.



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9.0 IMAGES



Image 1: Woodlot, Tree Farm and Paved Roadway Conditions (looking northeast)



Image 2: Paved Surface of Roadway in Pipe Laydown Area, Drill Exit Area and Drill Path



Image 3: Overview of Woodlot, Paved Roadway and Tree Farm Conditions (looking northeast)



Image 4: Top of Slope Leading Down to East Sixteen Mile Creek (looking northeast)



Image 5: Ravine and Slope Leading Down to East Sixteen Mile Creek (looking northeast)



Image 6: East Sixteen Mile Creek (looking northeast)

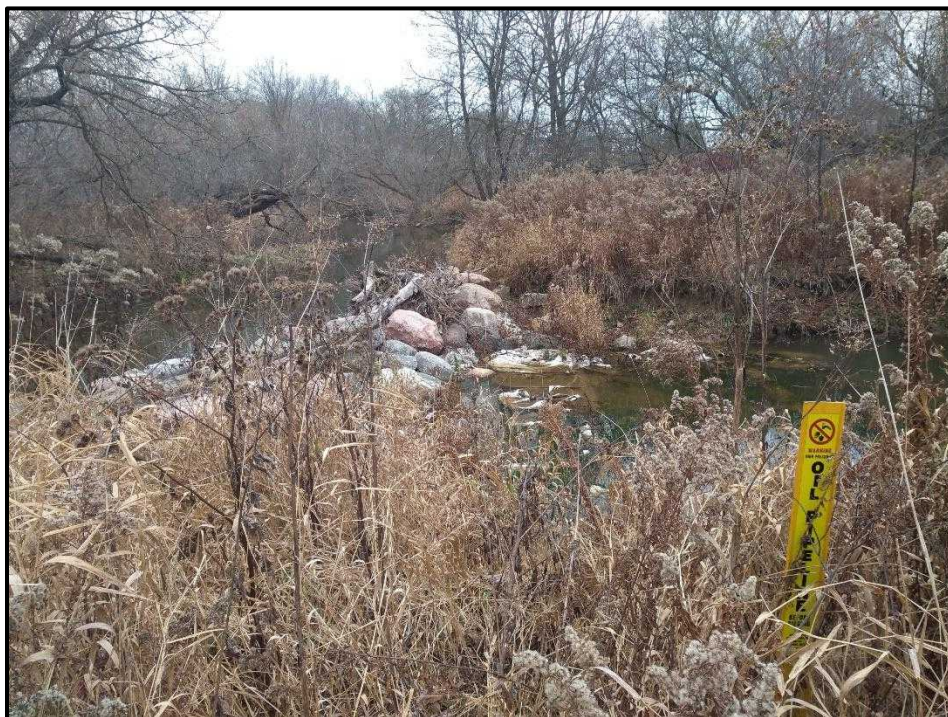


Image 7: Woodlot East of East Sixteen Mile Creek (looking northeast)



Image 8: Steeply Slope from 5636 Trafalgar Road (looking north)



Image 9: 5636 Trafalgar Road (looking southwest)

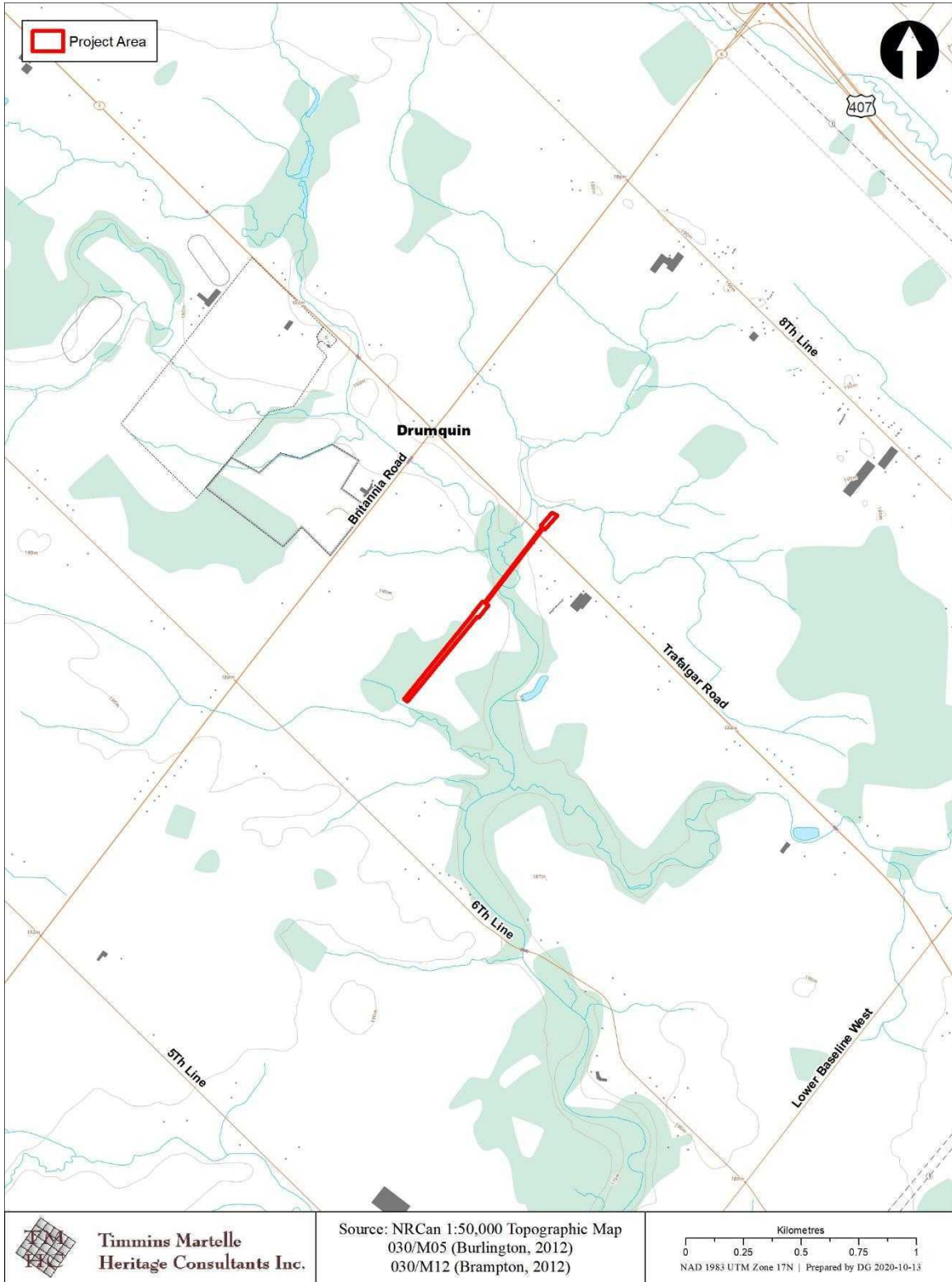


Image 10: Previously Assessed Area East of Trafalgar Road (looking northeast)



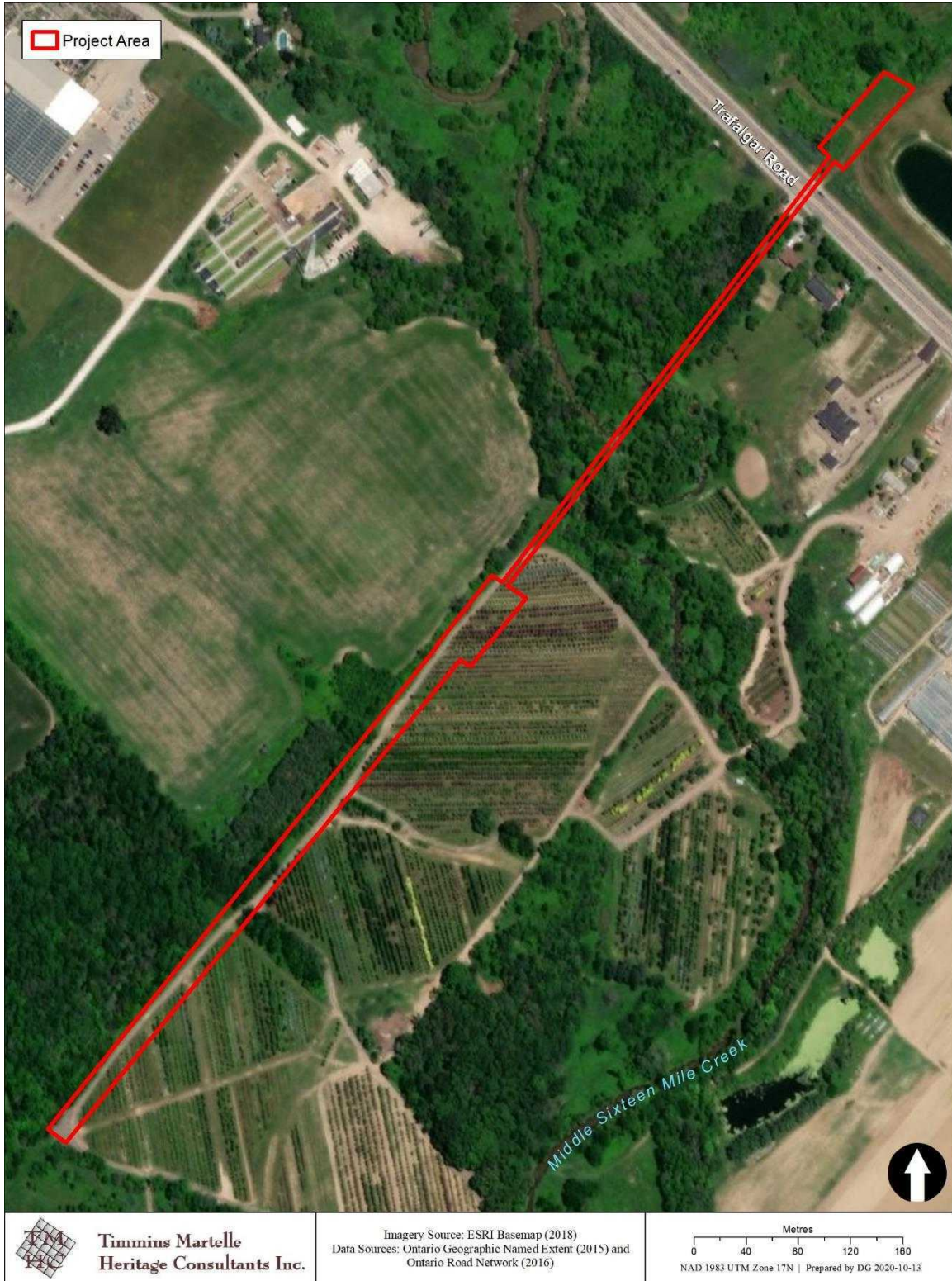
10.0 MAPS





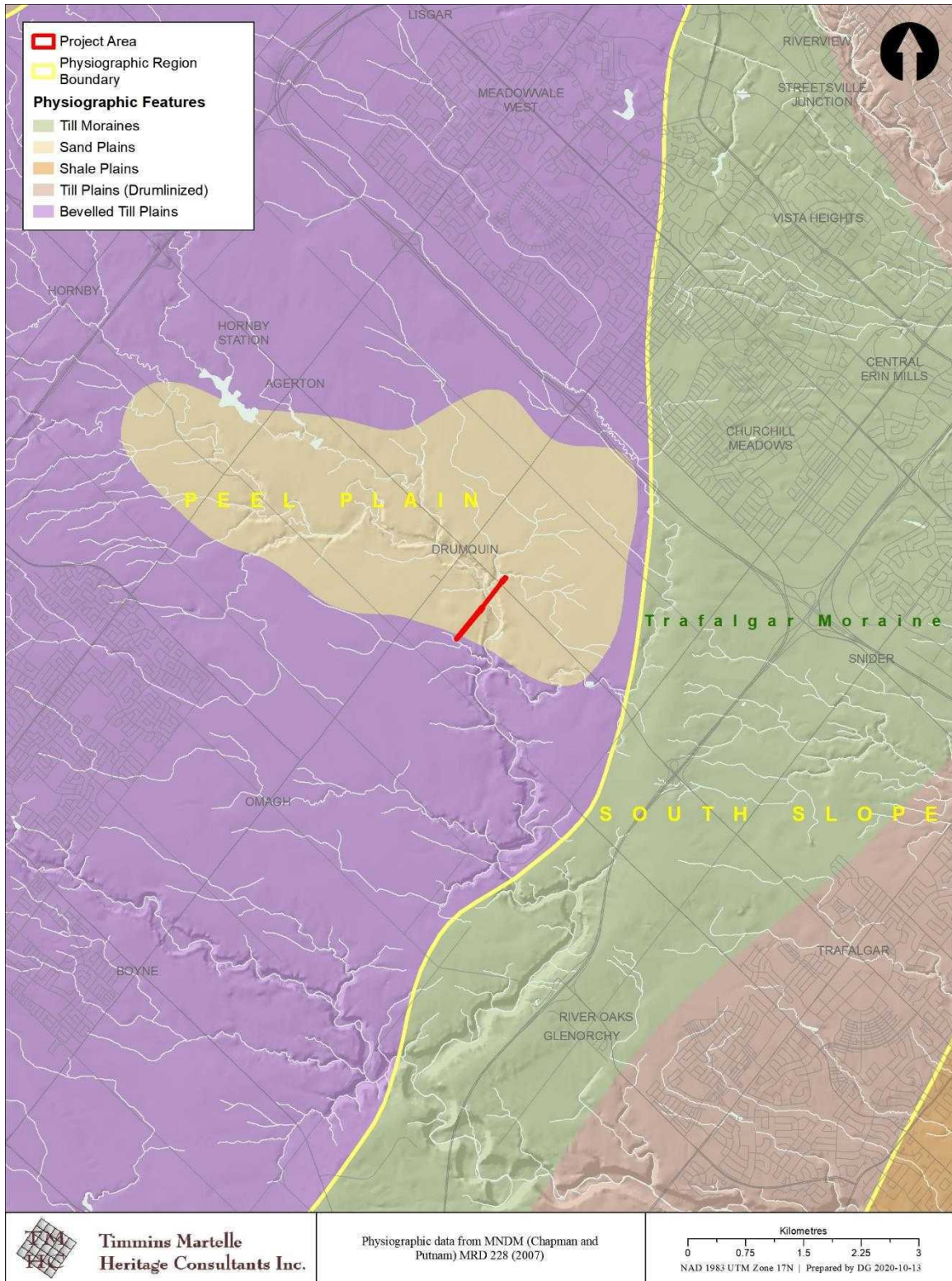
Map 1: Location of the Project Area in Milton, ON





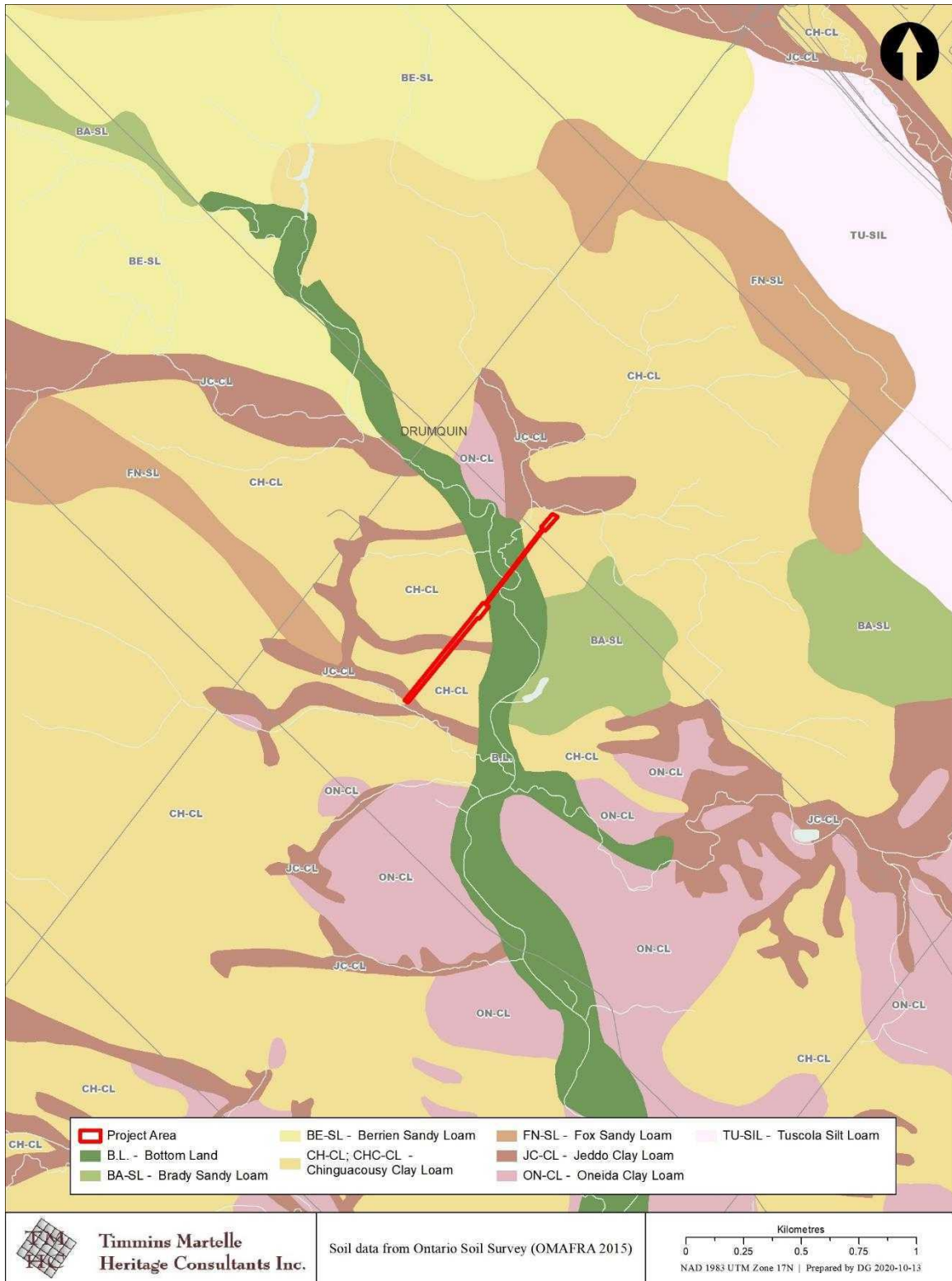
Map 2: Aerial Photograph Showing the Location of the Project Area in Milton





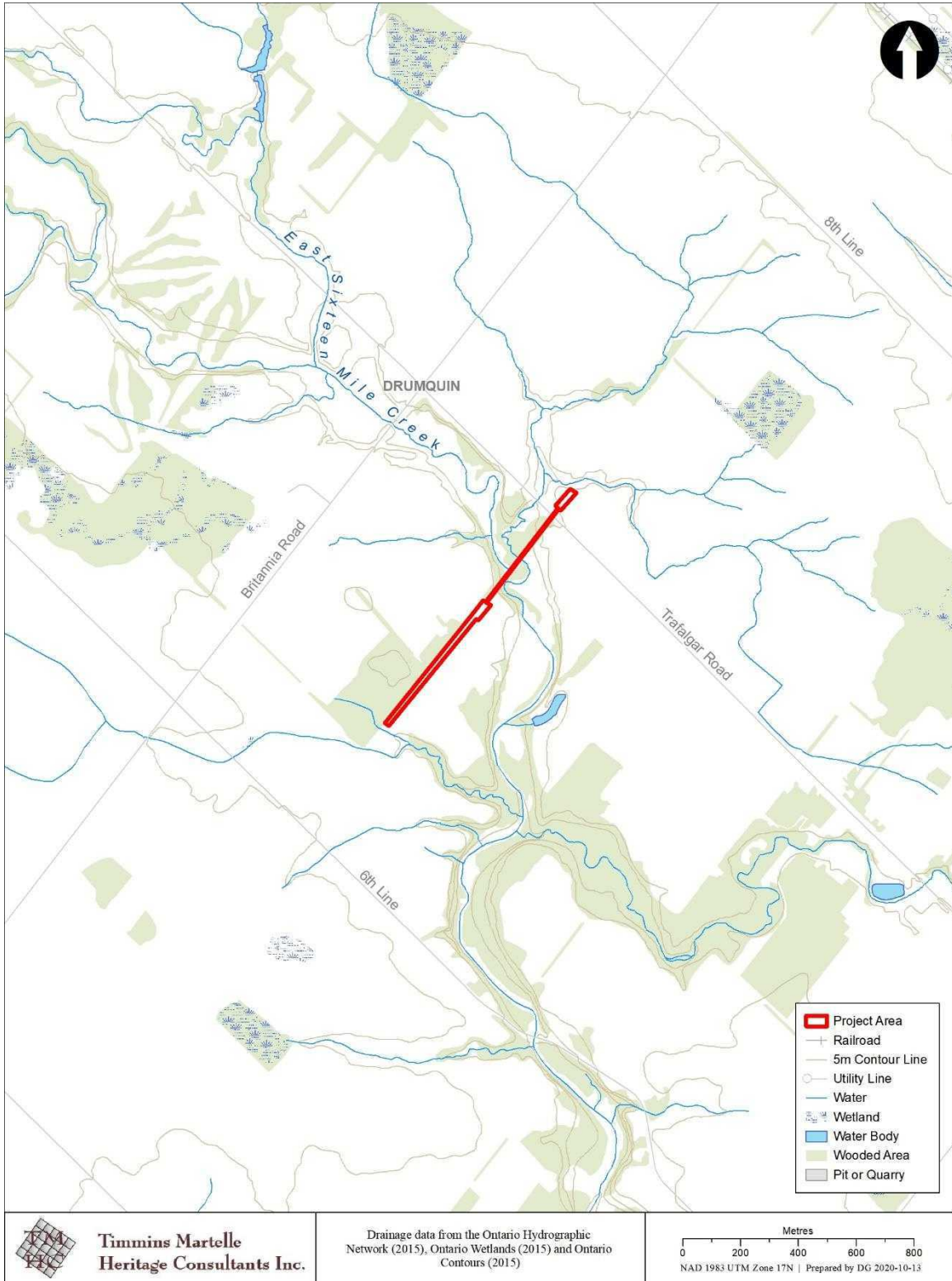
Map 3: Physiography Within the Vicinity of the Project Area



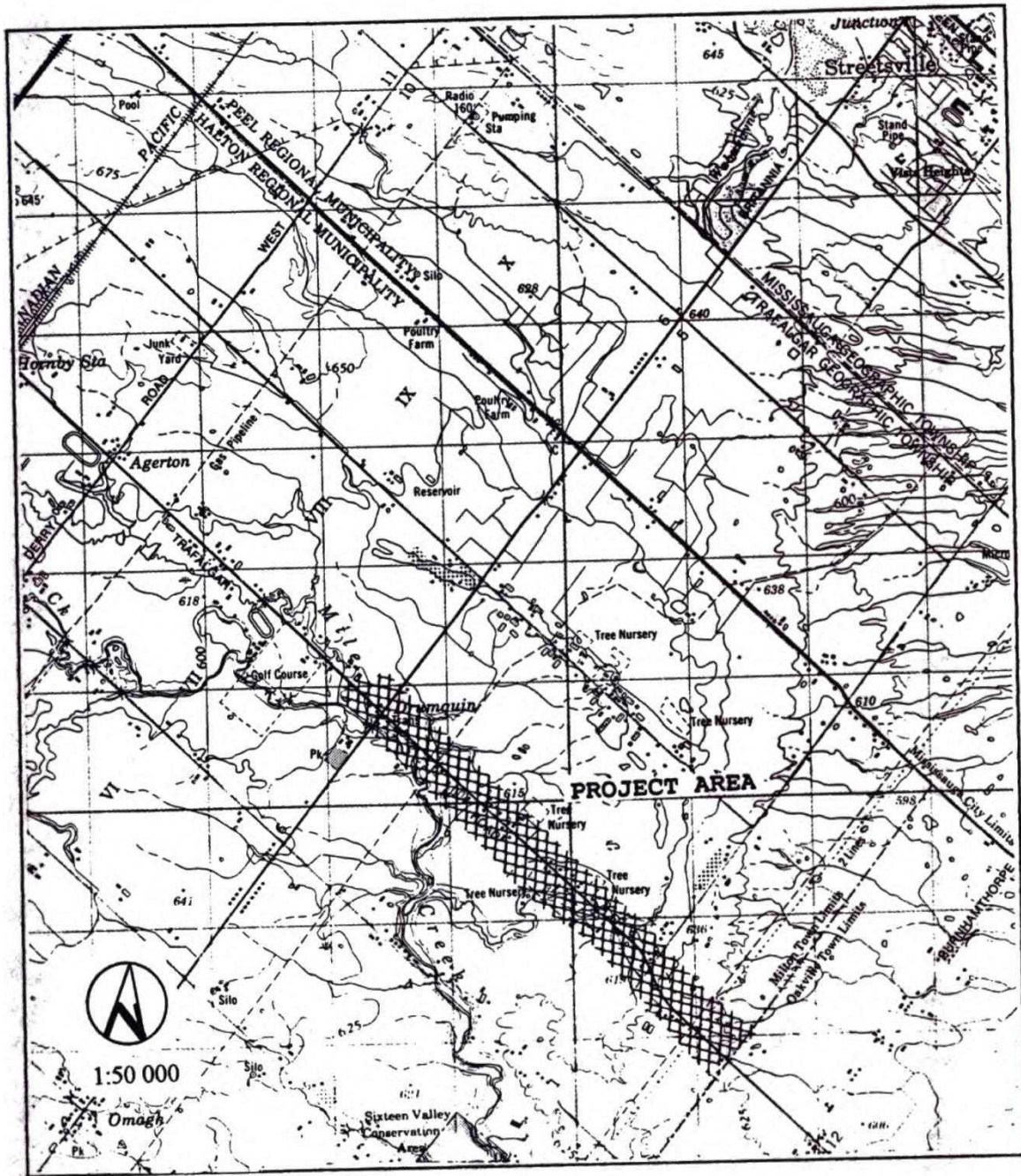


Map 4: Soils Within the Vicinity of the Project Area



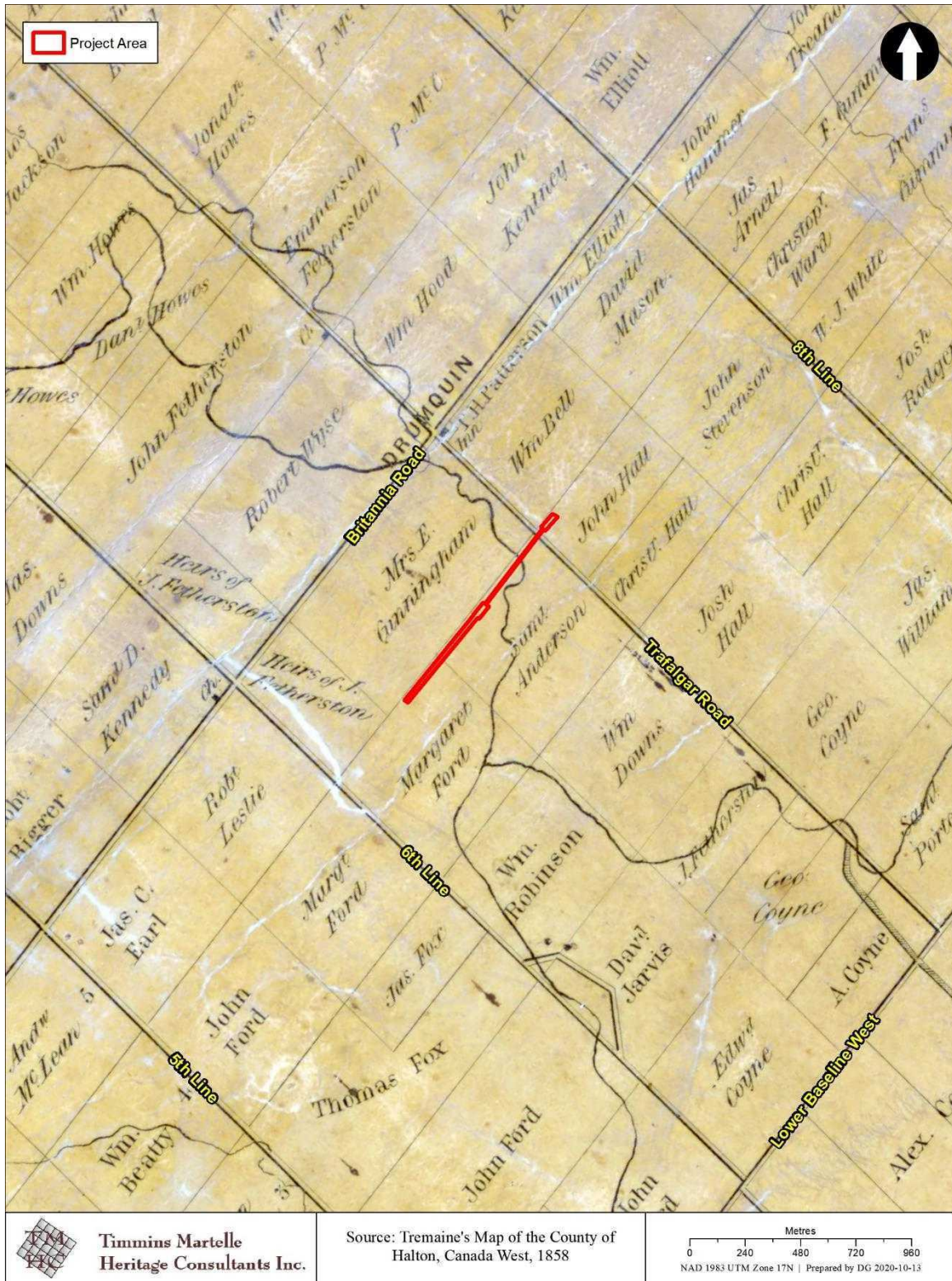


Map 5: Drainage Within the Vicinity of the Project Area



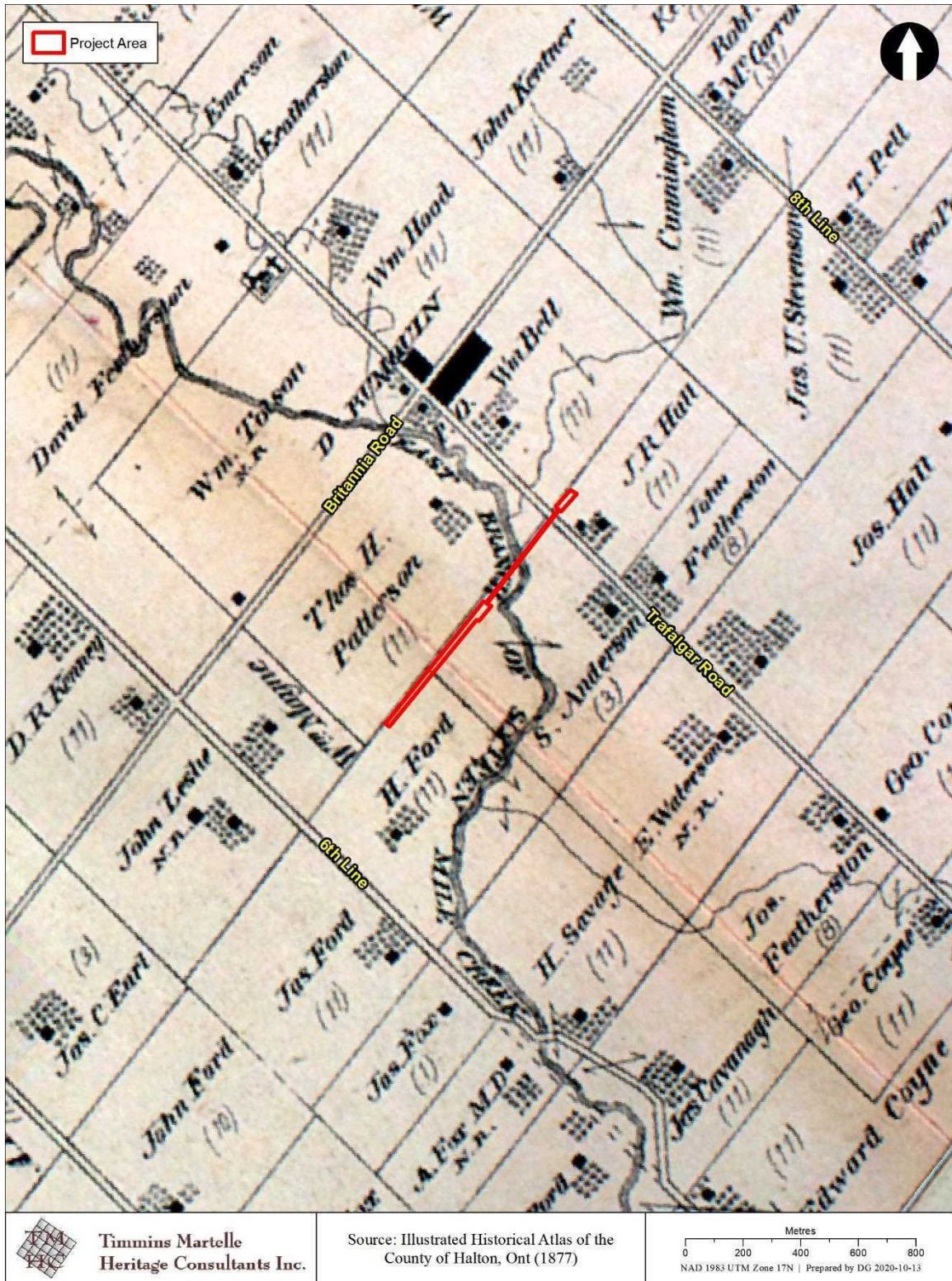
Map 6: Leslie Currie and Associates (1996) Stage 2 Project Area





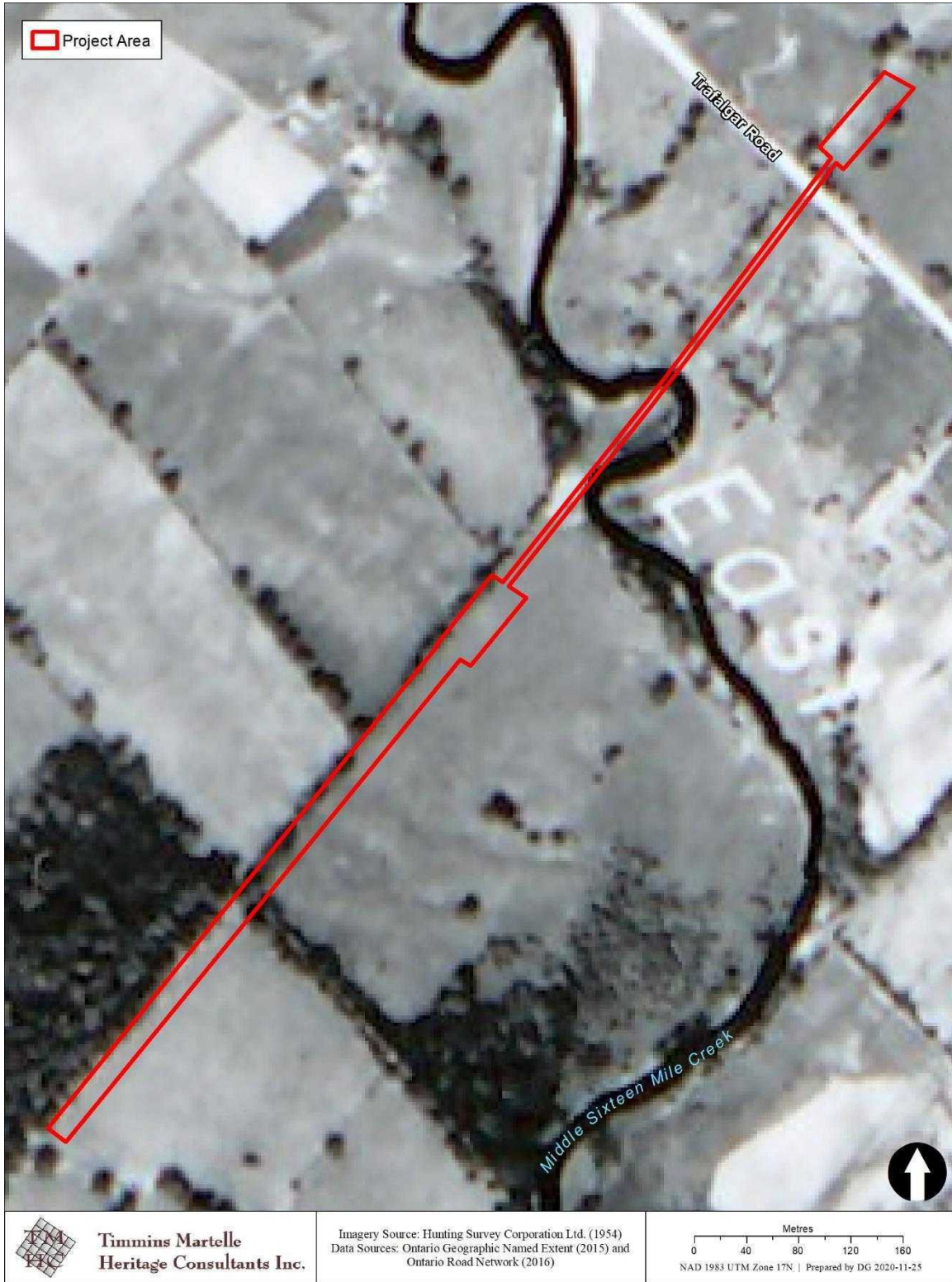
Map 7: Project Area Shown on an 1858 Map of Halton County, ON





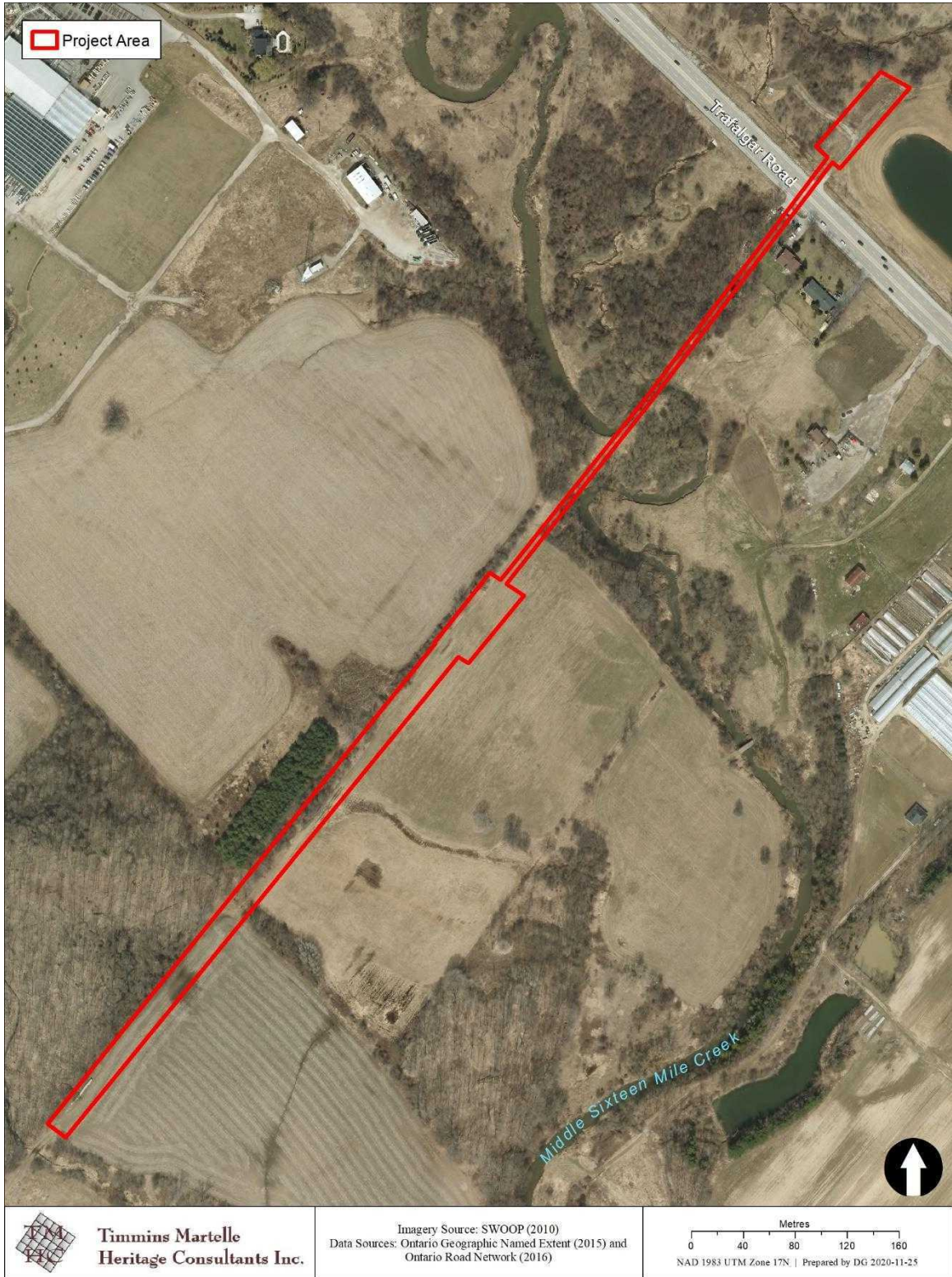
Map 8: Project Area Shown on an 1877 Map of Halton County, ON





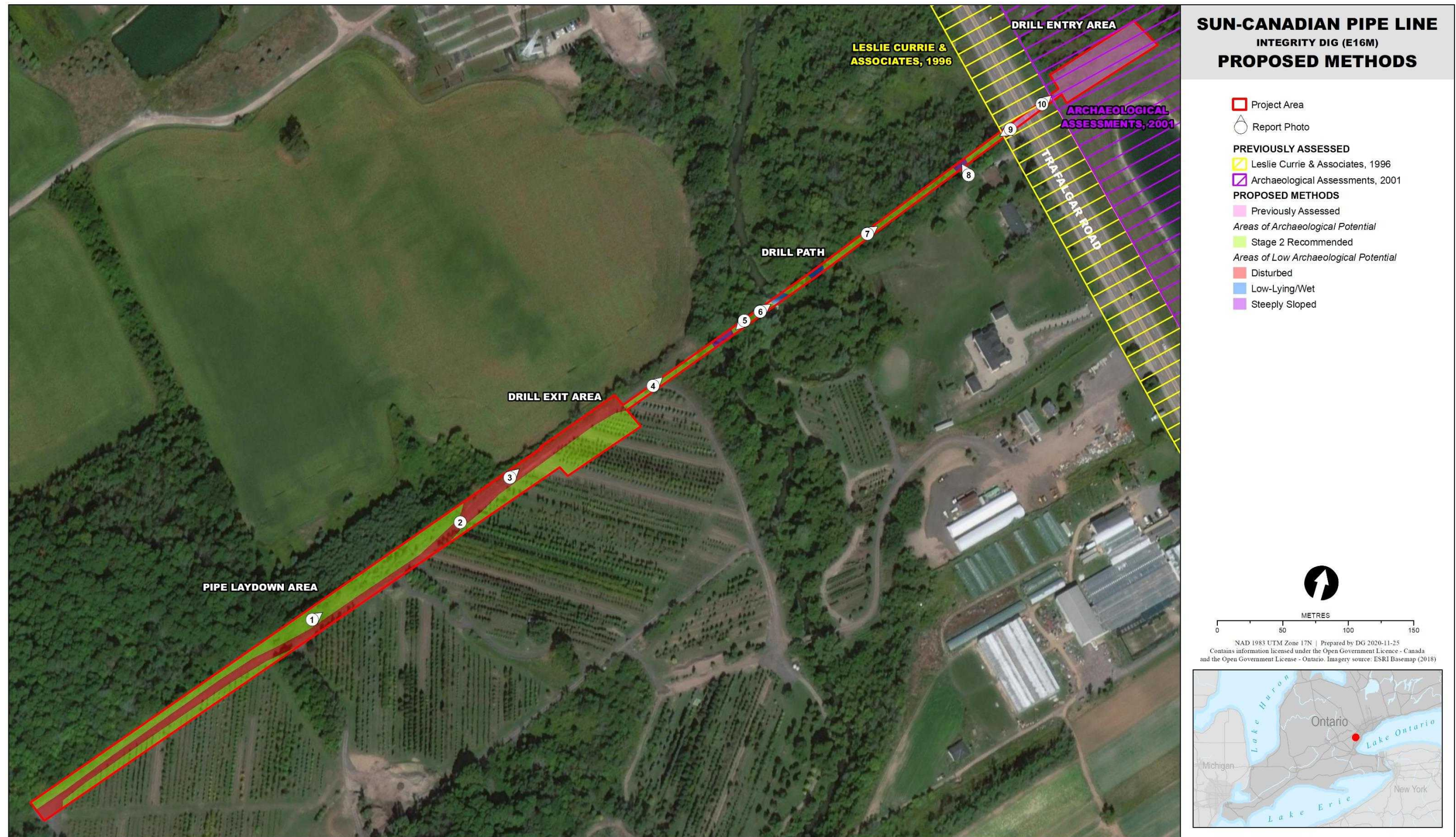
Map 9: Location of the Project Area Shown on a 1954 Aerial Photograph





Map 10: Location of the Project Area Shown on a 2010 Aerial Photograph





Stage 2 Archaeological Assessment



**Stage 2 Archaeological Assessment
Sun-Canadian Pipe Line
NPS12 Pipeline Replacement (E16M)
Part of Lot 4, Concessions 7 and 8 New Survey
Geographic Township of Trafalgar (North)
Now the Town of Milton
Regional Municipality of Halton, Ontario**

Original Report

Submitted to:
Ministry of Heritage, Sport, Tourism and Culture Industries

Prepared for:
Sun-Canadian Pipe Line
P.O. Box 470
Waterdown, Ontario, L0R 2H0

Prepared by:
TMHC Inc.
1108 Dundas Street East, Unit 105
London, ON N5W 3A7
519-641-7222
tmhc.ca



Licensee: Matthew Beaudoin, Ph.D., P324
PIF No: P324-0576-2020
Project No: 2020-206
Dated: July 13, 2021



EXECUTIVE SUMMARY

Sun-Canadian Pipe Line Company Limited (SPCL) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton. SCPL is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way (ROW) within a new alignment to account for the installation of the pipe by a horizontal directional drill (HDD). Construction of the replacement pipeline could begin as early as Summer 2022 and be complete by the end of 2022, subject to approval by the Ontario Energy Board (OEB).

In 2020, Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted to carry out a Stage 1 archaeological assessment of lands with potential for impact by proposed pipeline maintenance in the Town of Milton. The project area is roughly 1.52 ha in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. The Stage 1 archaeological assessment was undertaken as part of SCPL's submission of the OEB. The Stage 1 assessment determined that the project area retains archaeological potential and therefore will require Stage 2 archaeological assessment.

In 2021, TMHC was contracted to carry out the Stage 2 archaeological assessment. The project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road, East Sixteen Mile Creek and its unnamed tributary. The purpose of the assessment was to determine whether there were archaeological resources present within the project area.

The project area consists of non-ploughable lands; these were subject to Stage 2 assessment via standard test pit survey at a 5 m transect interval (62.5%; 0.95 ha), in keeping with provincial standards. A portion of the project area was determined in the field to have witnessed prior disturbance due to extensive landscaping, and test pits were found to contain disturbed soils. For these areas, the test pit interval was extended to 10 m, with the focus being to confirm the presence of disturbance and establish its spatial extent (0.02 ha; 1.3%). The remainder of the project area consists of gravel roadways that were previously disturbed (0.02 ha; 1.3%), as well as low-lying and wet zones (2.6%; 0.04 ha;) and steeply sloped lands (1.3%; 0.02 ha), deemed of low archaeological potential and photo-documented. Lastly, 15.1% (0.23 ha) of the project area was previously assessed.

The Stage 2 field assessment resulted in the discovery of one archaeological location. Our recommendations with respect to each of this location is presented below.

- 1) *Location 1* is an isolated Indigenous findspot consisting of three pieces of chipping detritus for which a more specific cultural or temporal affiliation cannot be assigned. This findspot does not meet provincial criteria for Stage 3 assessment and no further work is recommended as it is considered fully documented.

Our recommendations are subject to the conditions laid out in Section 4.0 of this report and to the MHSTCI' review and acceptance of this report into the provincial registry.



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PROJECT PERSONNEL

Project Manager	Matthew Beaudoin, Ph.D. (P324)
Project Administrator	Kellie Theaker
Health and Safety Coordinator	Amanda DiLoreto-Bendek, M.A. (R317)
Fieldwork Coordination	Johnathan Freeman, M.A. (P274)
Field Director	Matthew Severn, B.A. (R1093)
Field Technician	Mallory Atell, M.Sc. Lara Curasev, B.A. Daniel Amacker Paton Manzara
Lab Technician	Rachelle Carter, B.A.
Artifact Analysis	Matthew Beaudoin, Ph.D. (P324)
GIS Mapping	David Gostick, B.A.
Report Writer	Katelyn Mather, M.A. (R443)
Senior Review	Matthew Beaudoin, Ph.D. (P324)



INDIGENOUS PARTICIPANTS

Six Nations of the Grand River Elected Council (SNGREC)

Coordinator Tanya Hill-Montour

Fieldwork Monitor Travis Porter

Haudenosaunee Development Institute (HDI)

Coordinator Wayne Hill

Fieldwork Monitors Phil Henry

Mississaugas of the Credit First Nation (MCFN)

Coordinator Megan DeVries

Huron-Wendat Nation (HWN)

Coordinator Valérie Janssen

Fieldwork Monitor Vincent Dion



ABOUT TMHC

Established in 2003, with a head office in London, Ontario, TMHC provides a broad range of archaeological assessment heritage planning and consultation services throughout the Province of Ontario, founded on over forty years of progressive and responsible experience. We provide consulting services for Indigenous communities, municipal heritage planning and training, public outreach and educational programs, and have established specialties in community engagement, cemetery investigations, faunal analysis and ground penetrating radar surveys. Since TMHC's inception, we have evolved with the needs of our clients, the demands of the regulatory environment, and the growth in the industry.

Since 2004, TMHC has held retainers with Infrastructure Ontario (formerly the Ontario Realty Corporation), Hydro One, the Ministry of Transportation and the City of Hamilton. Presently, TMHC was successfully added to the Infrastructure Ontario, Ministry of Transportation, Hydro One, Metrolinx, and Niagara Parks retainers. In addition, TMHC has successfully managed a wider variety of highly sensitive, large, and complicated projects and have a proven track record in successfully managing and navigating them to completion. In 2013, TMHC earned the Ontario Archaeological Society's award for Excellence in Cultural Resource Management.

KEY STAFF BIOS

Matthew Beaudoin, PhD., Principal, Manager – Archaeological Assessments

Matthew Beaudoin received a Ph.D. in Anthropology from Western University in 2013 and became a Principal at TMHC in 2019. During his archaeological career, Matthew has conducted extensive field research and artifact analysis on Indigenous and Settler sites from Labrador and Ontario. In addition, Matthew has also conducted ethnographic projects in Labrador. Since joining TMHC in 2008, Matthew has been involved with several notable projects, such as the Imperial Oil's Waterdown to Finch Project, the Camp Ipperwash Project, and the Scugog Island Natural Gas Pipeline Project.

Matthew is an active member of the Canadian Archaeological Association, the Ontario Archaeological Association, the Ontario Historical Society, the World Archaeology Congress, the Council for Northeastern Historical Archaeology, the Society for American Archaeology, and the Society for Historical Archaeology.



STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the “Report”) has been prepared by Timmins Martelle Heritage Consultants Inc. (TMHC) for the benefit of the Client (the “Client”) in accordance with the agreement between TMHC and the Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations and conclusions contained in the Report (collectively, the “Information”):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”);
- represents TMHC’s professional judgment in light of the Limitation and industry standards for the preparation of similar reports;
- may be based on information provided to TMHC which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and section thereof should not be read out of such context; and
- was prepared for the specific purposes described in the Report and the Agreement.

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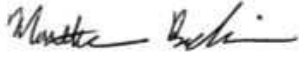
This Statement of Qualifications and Limitations is attached to, and forms part of the Report and any use of the Report is subject to the terms hereof.



QUALITY INFORMATION

Report prepared by: 

Katelyn Mather, M.A. (R443)
Report Writer/Staff Archaeologist

Report reviewed by: 

Matthew Beaudoin, Ph.D. (P324)
Principal/Manager of Archaeological Assessment



I PROJECT CONTEXT

I.1 Development Context

I.1.1 Introduction

Sun-Canadian Pipe Line Company Limited (SCPL) owns and operates the NPS12 pipeline which crosses East Sixteen Mile Creek in Milton. SCPL is proposing to replace the existing pipeline in the vicinity of the crossing with new deeper pipe and eliminate three areas of shallow soil cover. Part of the proposed pipeline replacement will be constructed outside of the existing right-of-way (ROW) within a new alignment to account for the installation of the pipe by a horizontal directional drill (HDD). Construction of the replacement pipeline could begin as early as Summer 2022 and be complete by the end of 2022, subject to approval by the Ontario Energy Board (OEB).

In 2020, Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted to carry out a Stage 1 archaeological assessment of lands with potential for impact by proposed pipeline maintenance in the Town of Milton. The project area is roughly 1.52 ha in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. The Stage 1 archaeological assessment was undertaken as part of SCPL's submission of the OEB. The Stage 1 assessment determined that the project area retains archaeological potential and therefore will require Stage 2 archaeological assessment.

In 2021, TMHC was contracted to carry out the Stage 2 archaeological assessment. The project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road, East Sixteen Mile Creek and its unnamed tributary. The purpose of the assessment was to determine whether there were archaeological resources present within the project area.

All archaeological assessment activities were performed under the professional archaeological license of Matthew Beaudoin, Ph.D. (P324) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011, "Standards and Guidelines"). Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands, including collecting artifacts when found, was obtained by SCPL.

I.1.2 Purpose and Legislative Context

The Stage 1 archaeological assessment work was conducted in accordance with Section 4.3.4 Cultural Heritage Resources in the Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (OEB 2016). The purpose of a Stage 1 background study is to determine if there are known cultural resources within the proposed areas of impact or potential for such resources to exist. Subsequently, it can act as a planning tool by identifying areas of concern that, where possible, could be avoided to minimize environmental impact. It is also used to determine the need for a Stage 2 field assessment involving the search for archaeological sites. If significant sites are found, a strategy (usually avoidance, preservation or excavation) must be put forth for their mitigation.

The Regional Municipality of Halton's Master Plan of Archaeological Resources is a planning tool developed to implement these requirements by identifying areas where there is potential for archaeological sites to exist. If



properties are deemed to have potential for archaeological sites, a Stage 1 and 2 archaeological assessment is required.

I.2 Project Context: Archaeological Context

1.2.1 Project Area: Overview and Physical Setting

The project area is roughly 1.52 hectares in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), Halton County, Ontario. (Map 1 and 2). The project area consists of the Drill Entry and Drill Exit Areas point on either side of Trafalgar Road, a linear Pipe Laydown Area west of Trafalgar Road, and the Drill Path beneath Trafalgar Road and the watercourses.

The project area falls within the Peel Plain physiographic region, as defined by Chapman and Putnam (1984; Map 3). The Peel Plain is a relatively flat tract of clay soils that covers large portions of the Regional Municipalities of York, Peel, and Halton. The plain is dominated by till soils that contain large amounts of shale and limestone. The project area occurs within a sand plain surrounded by bevelled till plains. The extreme southwestern end of the project area falls within the bevelled till plain. The soil types within the project area are Chinguacousy Clay Loam, Jeddo Clay Loam and Bottom Land (Map 4). The most prominent soil type is Chinguacousy Clay Loam, an imperfectly drained calcareous clay loam (Gillespie et al. 1971:27). To the west of Trafalgar Road, small pockets of Jeddo Clay Loam, which is a poorly drained soil, are present. The ravine associated with East Sixteen Mile Creek is identified as Bottom Land.

The project area is located within the East Sixteen Mile Creek watershed (Map 5). East Sixteen Mile Creek is located west of Trafalgar Road between the Drill Entry Area and Drill Exit Area portions of the project area. A tributary of East Sixteen Mile Creek is located approximately 100 m to the west of the western edge of the project area. The Drill Entry Area is adjacent to a ravine which features two small, unnamed tributaries of East Sixteen Mile Creek.

A general reconstruction of 19th-century vegetation is made possible through the consultation of mapping which visually depicts the descriptive and anecdotal accounts contained in early surveyors' logbooks. The early 19th-century vegetation in both Lot 4, Concessions 7 and 8 have been described as predominantly maple-beech forest with hemlock and basswood (Findlay 1974).

1.2.2 Summary of Registered or Known Archaeological Sites

According to the MHSTCI' registered site database (accessed November 20th, 2020), there are 20 registered archaeological sites within 1 km of the project area.

Of the 20 registered sites, four are 19th-century settler homesteads, one is a Late Archaic period Indigenous findspot, one is Late Archaic period Indigenous artifact scatter, one is a Middle Archaic period Indigenous findspot, one is a Late Archaic and Early Woodland period Indigenous artifact scatter, and the remaining 12 are Indigenous findspots or artifact scatters which cannot be dated. A total of five sites are located within 300 m of the project area: AjGw-60, AjGw-264, AjGw-320, AjGw-321 and AjGw-322.

The nearest of these sites is AjGw-264, which is a 19th-century homestead located approximately 125 m south of the Drill Entry Area. This site has been fully mitigated and its former location falls within what is now a large artificial pond.



Table I: Registered Archaeological Sites within 1 km of the Project Area

Borden Number	Site Name	Time Period	Affinity	Site Type	Status
AjGw-19	Nielsen	Late Archaic, Early Woodland	Aboriginal	Other - camp/campsite	
AjGw-50	Nursery 1	Pre-Contact	Aboriginal	Scatter	
AjGw-51	Nursery 2	Pre-Contact	Aboriginal	Findspot	
AjGw-52		Pre-Contact	Aboriginal	Scatter	
AjGw-55		Pre-Contact	Aboriginal	Findspot	
AjGw-56		Pre-Contact	Aboriginal	Scatter	
AjGw-57		Pre-Contact	Aboriginal	Findspot	
AjGw-58		Late Archaic	Aboriginal	Unknown	
AjGw-59		Pre-Contact	Aboriginal	Unknown	
AjGw-60	Robert Plant	Post-Contact	Euro-Canadian	Homestead	
AjGw-264	Hall I	Post-Contact	Euro-Canadian	Other - building, outbuilding	
AjGw-320	Hall II	Post-Contact	Euro-Canadian	Other - privy, homestead, midden	
AjGw-321	Gruehl I	Pre-Contact	Aboriginal	Other- camp/campsite	
AjGw-322	Gruehl II	Pre-Contact	Aboriginal	Scatter	
AjGw-323	Gruehl III	Late Archaic	Aboriginal	Findspot	
AjGw-392	York I	Pre-Contact	Aboriginal	Unknown	
AjGw-393	York II	Pre-Contact	Aboriginal	Unknown	
AjGw-566	HI	Post-Contact	Euro-Canadian	Homestead	Further CHVI
AjGw-568		Pre-Contact	Aboriginal	Unknown	Further CHVI
AjGw-569		Middle Archaic	Aboriginal	Findspot	No Further CHVI

1.2.3 Summary of Past Archaeological Investigations within 50 m

During the course of this study, records of five archaeological investigations within 50 m of the project area were identified. Each of these investigations involved the assessment of areas that fall within the current project area. However, it should be noted that the MHSTCI currently does not provide an inventory of archaeological assessments to assist in this determination.

1.2.3.1 Stage I Archaeological Assessment – Trafalgar Road Widening and Reconstruction

In 1996, Leslie Currie undertook a Stage I assessment of the east and west Trafalgar Road right-of-way (ROW) between Highway 403 and a point 500 m north of the intersection of Trafalgar Road and Britannia Road ahead of a proposed widening of Trafalgar Road from two lanes to four. The Stage I background research determined that the project area retained archaeological potential and would therefore require a Stage 2 survey. In keeping with provincial standards, any ploughed agricultural lands were recommended for pedestrian survey, using a 5 m transect interval. Any non-ploughable lands are recommended for a test pit survey at a 5 m transect interval. The details of this Stage I archaeological assessment were presented in a



report entitled *The Stage 1 Archaeological Assessment, Trafalgar Road (RR3) Widening and Reconstruction, Highway 403 to North of Britannia Road, Regional Municipality of Halton* (Currie 1996; licensee Leslie Currie; PIF 95-073).

1.2.3.2 Stage 2 Archaeological Assessment – Trafalgar Road Widening and Reconstruction (Map 6)

In 1996, Leslie Currie and Associates undertook a Stage 2 assessment of the east and west Trafalgar Road ROW between Highway 403 and a point 500 m north of the intersection of Trafalgar Road and Britannia Road ahead of a proposed widening of Trafalgar Road from two lanes to four. The Stage 2 assessment methodology consisted of a pedestrian survey at a 5 m transect interval of any ploughed agricultural lands and a test pit survey at a 5 m transect interval of any non-ploughable lands. The area assessed included the portions of the Drill Path within the current Trafalgar Road ROW (Maps 6 and 13). The Stage 2 survey resulted in the discovery of three archaeological sites: AjGw-263 (Site 1), AjGw-264 (Site 2), and AjGw-265 (Smith). AjGw-263 and AjGw-264 were both recommended for Stage 3 assessment to evaluate their cultural and archaeological significance as well as to identify the portion of these sites which would be impacted by the road widening. AjGw-265 was recommended for Stage 3 and Stage 4 assessment to evaluate their cultural and archaeological significance as well as to identify the portion of these sites which would be impacted by the road widening. According to MHSTCI's registered site database AjGw-264 is located approximately 125 m south of the Drill Entry Area portion of the current project area. The details of this Stage 2 archaeological assessment were presented in a report entitled: *The Stage 2 Archaeological Assessment, Trafalgar Road (RR3) Widening and Reconstruction, Highway 403 to North of Britannia Road, Regional Municipality of Halton* (Leslie Currie and Associates 1996; licensee Leslie Currie; PIF 96-052).

1.2.3.3 Stage 1-2 Archaeological Assessment – Proposed Trafalgar-Britannia Golf Course (SD Map 1)

In 2001, Archaeological Assessments Ltd. undertook a Stage 1-2 assessment of an 80-ha parcel of land forming part of Lots 4 and 5, Concession 8 New Survey, Geographic Township of Trafalgar (North) prior to the development of the land for use as a golf course (SD Map 1). The Stage 1 background research determined that the property retained archaeological potential and was therefore subject to a Stage 2 survey. The area assessed included the entire Drill Entry Area portion of the current project area as well as the very northeastern end of the Drill Path (Map 13). As the property at that time consisted of three separate agricultural fields it was assessed through a pedestrian survey at 5 m transect intervals. The Stage 2 survey resulted in the identification of 12 archaeological locations including: one 19th century homestead (AjGw-320, Featherstone/Hall 2); two Indigenous campsites of unknown age (AjGw-321, Greuhl I; AjGw-321, Greuhl II); one Late Archaic findspot (AgGw-323); and eight non-diagnostic Indigenous findspots. The survey also resulted in the relocation of AjGw-64 (Hall); a 19th century homestead site previously identified in 1996. AjGw-64 (Hall), AjGw-320 (Featherstone/Hall 2), AjGw-321 (Greuhl I) and AjGw-321 (Greuhl II) were recommended for further investigation. The details of this Stage 1-2 archaeological assessment were presented in a report entitled *The Stage 1-2 Archaeological Assessment of the Proposed Trafalgar-Britannia Golf Course, Part of Lots 4 & 5, Concession 8, Town of Milton, Halton Region* (Archaeological Assessments Ltd. 2001; licensee Richard Sutton; CIF 2001-035-010).

1.2.3.4 The Stage 4 Excavation – the Hall Site (AjGw-264) and the Featherston Site (AjGw-320)

In 2005, Archaeological Assessments Ltd. completed the Stage 4 excavations of AjGw-264 and AjGw-320 that they previously identified within the Britannia Links Golf Course. This work consisted of the mechanical topsoil removal and feature documentation at both 19th-century sites. Both sites were entirely excavated and were of no further archaeological concern. The details of this Stage 4 archaeological assessment were presented in a report entitled *The Stage 4 Excavation of the Hall Site (AjGw-264) and the Featherston Site (AjGw-*



320), *Britannia Golf Course, Town File LOPA-01/00 and Z-03/00 Revised, Town of Milton, Halton Region* (Archaeological Assessments Ltd. 2007; licensee Richard Sutton; CIF P013-147).

1.2.3.5 Stage I Archaeological Assessment – Sun-Canadian Pipe Line NPS12 Pipeline Replacement (E16M)

In 2020, TMHC conducted a Stage I archaeological assessment of lands with potential for impact by proposed pipeline maintenance in the Town of Milton. The Stage I archaeological assessment was undertaken as part of SCPL’s emerging Indigenous relations program in advance of the proposed maintenance. Background research indicated that the project area was in proximity to features signaling archaeological potential and a Stage I property inspection was undertaken. The Stage I property inspection visually confirmed that the areas of woodlot, the planted tree farm area and the ravine within the Pipe Laydown Area, the Drill Exit Area and the Drill Path have archaeological potential and require Stage 2 archaeological assessment. The remaining areas within the project Area were found to be sloped, low-lying and wet, previously disturbed, or previously assessed. The results of this assessment are presented in a report entitled *Stage I Archaeological Assessment, Sun-Canadian Pipe Line, NPS12 Pipeline Replacement (E16M), Part of Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), Now the Town of Milton, Regional Municipality of Halton, Ontario* (TMHC 2021; Licensee, Matthew Beaudoin; PIF P324-0571-2020).

1.2.4 Dates of Archaeological Fieldwork

The Stage 2 fieldwork was conducted on May 31 and June 3 and 4, 2021. Table 2 lists the weather conditions and field directors on those days.

Table 2: Dates of Fieldwork, Weather Conditions and Field Director

Dates of Fieldwork	Weather Conditions	Field Director
May 31, 2021	Sunny and warm	M. Severn, B.A. (R1093)
June 3, 2021	Overcast and hot	M. Severn, B.A. (R1093)
June 4, 2021	Sunny and hot	M. Severn, B.A. (R1093)



1.3 Project Context: Historical Context

1.3.1 First Peoples Settlement in Milton

The previous Stage 1 assessment report (TMHC 2021) provided detailed summaries of past Indigenous settlement in the general vicinity of the project area. As such, the same information is not repeated here. A summary of the themes and temporal periods of Indigenous settlement is provided in Table 3.

Table 3: Chronology of Indigenous Settlement in Milton

Period	Time Range	Diagnostic Features	Archaeological Complexes
Early Paleo	9000-8400 BCE	fluted projectile points	Gainey, Barnes, Crowfield
Late Pale	8400-8000 BCE	non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate
Early Archaic	8000-6000 BCE	serrated, notched, bifurcate base points	Nettling, Bifurcate Base Horizon
Middle Archaic	6000-2500 BCE	stemmed, side & corner notched points	Brewerton, Otter Creek, Stanly/Neville
Late Archaic	2000-1800 BCE	narrow points	Lamoka
Late Archaic	1800-1500 BCE	broad points	Genesee, Adder Orchard, Perkiomen
Late Archaic	1500-1100 BCE	small points	Crawford Knoll
Terminal Archaic	1100-950 BCE	first true cemeteries	Hind
Early Woodland	950-400 BCE	expanding stemmed points, Vnette pottery	Meadowood
Middle Woodland	400 BCE-500 CE	dentate, pseudo-scallop pottery	Saugeen
Transitional Woodland	500-900 CE	first corn, cord-wrapped stick pottery	Princess Point
Late Woodland	900-1300 CE	first villages, corn horticulture, longhouses	
Late Woodland	1300-1400 CE	large villages and houses	
Late Woodland	1400-1650 CE	tribal emergence, territoriality	
Contact Period - Indigenous	1700 CE-present	treaties, mixture of Indigenous & European items	
Contact Period - Settler	1796 CE-present	industrial goods, homesteads	pioneer life, municipal settlement



1.3.2 Treaty History

The treaty history of the for this area is complicated and contested. The earliest association of the project area is the far-reaching Five Nations' Beaver Hunting Grounds of the 1701 Fort Albany/Nanfan Treaty between the Haudenosaunee Confederacy and the British Crown (Six Nations of the Grand River n.d.).

The project area is encompassed by the Head of the Lake Purchase (Treaty #14). The Mississaugas of the Credit reached a provisional agreement with the Crown on August 2, 1805, to cede 70,784 acres of land bounded to the north by a boundary that ran six miles back from the shoreline of Lake Ontario; to the east by the lands within Toronto Purchase of 1787; and to the west by the Brant Tract (Duric 2017a). The Mississaugas were to receive £1000 of trade goods, the sole right of fisheries at the 12 Mile and 16 Mile Creeks, along with the ownership of each creek's flats, the sole right of fishing at the Credit River, and a 1-mile strip of land on either side of the river. Treaty 14 was signed September 5, 1806, which includes the modern cities of Oakville, Mississauga, and parts of Burlington.

1.3.3 Nineteenth-Century and Municipal Settlement

The previous Stage 1 assessment report (TMHC 2021) provided a detailed summary of 18th through 19th century settlement and municipal formation; therefore, only brief mention is provided here as a means of contextualizing former and current land use. The project area falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario.

According to the 1860 Tremaine Map (Map 7), the northeastern half of Lot 4, Concession 7 is owned by Sam Anderson. The southwestern half of Lot 4, Concession 7 is owned by Margaret Ford. The southwestern ¼ of Lot 4, Concession 8 is owned by John Hall. No structures are depicted on either property or within the vicinity of the project area. Trafalgar Road is shown as open at this time. The East Branch of Sixteen Mile Creek is shown within the Drill Path portion of the project area. The community of Drumquin is shown approximately 600 m northwest of the project area. The only structure depicted in the community is an inn is at the eastern corner of the intersection of Trafalgar Road and Britannia Road.

According to the 1877 Illustrated Historical Atlas Map (Map 8), the northeastern half of Lot 4, Concession 7 is owned by Sam Anderson. Anderson's home and orchard are shown immediately to the southwest of Trafalgar Road near to the centre of his portion of the lot. The southwestern half of Lot 4, Concession 7 is owned by Hamilton Ford. Ford's home and orchard are shown near to the centre of his portion of the lot, set back a distance from 6th Line. The southwestern ¼ of Lot 4, Concession 8 is owned by John R. Hall. Hall's home, a secondary structure and orchard are shown to the northeast of Trafalgar Road near to the centre of his portion of the lot. Anderson and Hall's structures are both within 300 m of the project area. There are no additional structures depicted within 300 m of the project area on adjacent lots. An unnamed tributary of the East Branch of Sixteen Mile Creek is shown approximately 65 m northwest of the Drill Entry Area portion of the project area. The community of Drumquin is shown approximately 600 m northwest of the project area. The community has grown since the drafting of the 1860 Tremaine Map (Map 7), now a post office and structures are depicted at all four corners of the intersection of Trafalgar Road and Britannia Road.

Several historical aerial photographs of the project area were also reviewed. The 1954 aerial photograph (Map 9) depicts the area currently occupied by the tree farm as a ploughed agricultural field. The project area runs along the northern edge of the field. The East Sixteen Mile Creek ravine area appears largely as it does today. It is difficult to determine the land use of the area between East Sixteen Mile Creek and Trafalgar Road



however beyond the area immediately to the northeast of the creek it appears to be a ploughed agricultural field bounded by a tree line. At this time, the dwelling at 5636 Trafalgar Road has not yet been built. The area to the northeast of Trafalgar Road appears to be a ploughed agricultural field. Trafalgar Road at this time is a two-lane roadway. The 2010 aerial photograph (Map 10) depicts the reforestation of the area between East Sixteen Mile Creek and Trafalgar Road as well as the dwelling at 5636 Trafalgar Road. The deposition of a large amount of soil in the Drill Entry Area to the northeast of Trafalgar Road is apparent. The 2015 aerial photograph (Map 11) depicts the conversion of the ploughed agricultural field in the southwestern half of the project area to a tree farm. A roadway is shown running along the northern edge of the former agricultural field.

2 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

2.1 Field Methods

All fieldwork was undertaken in good weather and lighting conditions. No conditions were encountered that would hinder the identification or recovery of artifacts. The property boundaries were determined in the field based on proponent mapping, landscape features, aerial mapping, and GPS co-ordinates.

The project area is comprised of non-ploughable lands (woodlot, manicured grass, grassed areas between rows of tree farm). As such, the project area was subject to a standard test pit assessment, employing a 5 m transect interval (62.5%; 0.95 ha; Images 1 to 3). Each test pit measured at least 30 cm (shovel-width) in diameter and was excavated into the first 5 cm of subsoil. The soil from each test pit was passed through 6 mm hardware cloth in an effort to retain any artifacts that may be present. Once screening was finished, the stratigraphy in the test pits was examined and then the pits were backfilled as best as possible, tamped down by foot and shovel and re-capped with sod. Test pitting extended up to 1 m from all standing features, including trees.

In the eastern portion of the project area the test pits contained roughly 30-40 cm of brown clay loam soil over tan-light brown clay loam subsoil (Image 4). In the western portion of the project area the test pits contained roughly 30-40 cm of brown sandy loam over tan-light brown sandy loam subsoil (Image 5). The soils changed near the creek, to a brown silt loam, and test pits were deeper, at 60-70 cm in depth (Image 6). Subsoil was a light brown-orange silt clay.

When cultural material was found during test pit survey, the survey interval was intensified (reduced to 2.5 metres) to determine the cultural significance and size of the site (Images 7 to 9). If an insufficient sample was recovered from the intensification a 1 m test unit was hand excavated atop of the original positive test pit.

A portion of the project area was determined in the field to have witnessed prior disturbance due to extensive landscaping, and test pits were found to contain disturbed soils. For these areas, the test pit interval was extended to 10 m, with the focus being to confirm the presence of disturbance and establish its spatial extent (0.02 ha; 1.3%; Image 10). These test pits contained 10-15 cm of tan clay over 15 cm of brown gravel fill, over 10 cm of brown sand over light brown silt clay subsoil (Image 11).

As per Section 2.1, Standard 2 of the *Standards and Guidelines* (MTC 2011:28-29), certain physical features and deep land alterations are considered as having low archaeological potential and are thus exempt from the standard test pit survey. Approximately 17.2% (0.26 ha) of the project area was visually assessed as disturbed during the Stage 1 property inspection, consisting of a gravel roadway.

Other low potential areas included low-lying and wet zones (approximately 2.6%; 0.04 ha; Images 12 – 13) and steeply sloped lands (approximately 1.3%, 0.02 ha; Images 14 – 15). All of these low potential areas were photo-documented but eliminated from survey, in keeping Section 2.1, Standard 2 of the *Standards and Guidelines* (MTC 2011:28-29). Lastly, 15.1% (0.23 ha) of the project area was previously assessed.

Maps 12 and 13 illustrate the Stage 2 field conditions and assessment methods; the location and orientation of all photographs appearing in this report are also shown on this map. Due to the fact that the proponent map was supplied in a GIS data format (shapefile), no separate map of Stage 2 assessment methods overlaid on the proponent map is provided.



2.2 Record of Finds

One archaeological site was discovered during the Stage 2 assessment. This has been designated Location 1. A general description of our findings at the site is provided below and more specific site location details appear in the Supplementary Documentation portion this report. Table 4 provides an inventory of the documentary records generated during this project.

All artifacts and files are currently being stored at the TMHC corporate office located at 1108 Dundas Street East, Unit 105

London, ON N5W 3A7. Artifacts are bagged individually with paper labels, sorted into a larger bag according to context, and organized by catalogue number.

This bag is located within the “Various Small Projects Completed in 2021” banker’s box, along with other small projects.

Table 4: Documentary Records

Date	Field Notes	Field Maps	Digital Images
May 31, 2021	Digital and hard copies	Digital and hard copies	27 Images
June 3, 2021	Digital and hard copies	Digital and hard copies	20 Images
June 4, 2021	Digital and hard copies	Digital and hard copies	29 Images

2.2.1 Location 1 (no Borden number assigned)

Location 1 is an Indigenous findspot identified during test pit survey of the western portion of the project area. It consisted of two positive test pits, each yielding a single flake (Test Pits 1 and 2). As not enough artifacts were recovered from the test pit excavation to determine if a Stage 3 archaeological assessment would be required, a Stage 2 test unit was excavated to collect further information, which yielded one additional flake. The soils within the unit consisted of 25 cm of brown clay loam over tan clay loam mottled with orange clay loam subsoil. All artifacts were collected according to their associated test pit or test unit.

A total of three flakes were collected at Location 1 (Table 5; Image 16) including two flake fragments on Onondaga chert, and one flake fragment on Kettle Point chert.

Table 5: Location 1 Stage 2 Artifact Catalogue

Cat.	Context	Layer/Depth	Artifact	n	Comments
1	Test Pit 1	ts, 0-30cm	chipping detritus	1	Kettle Point; fragmentary
2	Test Pit 2	ts, 0-30cm	chipping detritus	1	Onondaga; fragmentary
3	Test Unit	ts, 0-30cm	chipping detritus	1	Onondaga; fragmentary
			Total	3	



2.3 Analysis and Conclusions

A Stage 2 field assessment was carried out in keeping with the MHSTCI' *Standards and Guidelines* (MTC 2011). The Stage 2 field assessment resulted in the discovery of one archaeological location. Section 2.2 of the *Standards and Guidelines* establishes criteria whereby the cultural heritage value of archaeological finds can be evaluated and the need for follow up Stage 3 assessment and/or Stage 4 mitigation of construction impacts established. The archaeological location is evaluated below.

Location 1 is an Indigenous site identified by three flakes from two test pits and a test unit. As none of the artifacts were diagnostic, no specific cultural or temporal affiliation can be assigned to the site at this time. As fewer than five non-diagnostic artifacts within a 10 m by 10 m test pit area (MTC 2011:40; Section 2.2, Standard 1a.ii.2), *Location 1* does not have further cultural heritage value or interest (CHVI) under the provincial framework, and no further work is recommended.

2.4 Recommendations

A Stage 2 archaeological assessment was conducted for a roughly 1.52 ha project area, falling within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. All work met provincial standards and one archaeological location was identified during the Stage 2 assessment. Our recommendations with respect to each of this location is presented below.

- 1) *Location 1* is an isolated Indigenous findspot consisting of three pieces of chipping detritus for which a more specific cultural or temporal affiliation cannot be assigned. This findspot does not meet provincial criteria for Stage 3 assessment and no further work is recommended as it is considered fully documented.

Our recommendations are subject to the conditions laid out in Section 4.0 of this report and to the MHSTCI' review and acceptance of this report into the provincial registry.



3 SUMMARY

A Stage 2 archaeological assessment was conducted for a proposed pipeline maintenance in the Town of Milton. The project area is roughly 1.52 ha in size and falls within Lot 4, Concessions 7 and 8 New Survey, Geographic Township of Trafalgar (North), now Regional Municipality of Halton, Ontario. The Stage 2 assessment (test pit assessment at a 5 m and 10 m intervals) resulted in the identification of one archaeological location. The findspot does not meet provincial criteria for Stage 3 assessment and no further work is recommended as it is considered fully documented. As such, the project area should be considered free of archaeological concern and no further archaeological assessment is recommended.



4 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the MHSTCI as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the MHSTCI, 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* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and Crystal Forrest, A/Registrar of Burial Sites, Ontario Ministry of Government and Consumer Services. Her telephone number is 416-212-7499 and e-mail address is Crystal.Forrest@ontario.ca.

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



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6 IMAGES

Image 1: Test Pit Survey in Progress

Looking Northeast



Image 2: Test Pit Survey in Progress

Looking Southeast

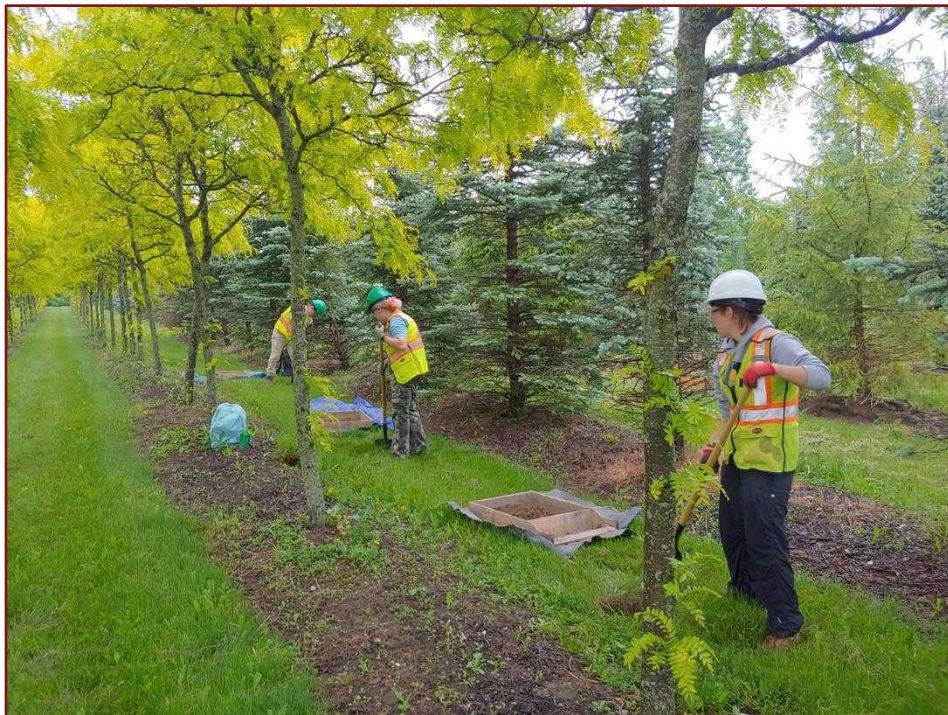




Image 3: Test Pit Survey in Progress

Looking Northeast



Image 4: Typical Test Pit, Eastern Portion



Image 5: Typical Test Pit, Western Portion



Image 6: Typical Test Pit Near Creek



Image 7: Location I Test Pit Intensification

Looking Northwest



Image 8: Location I Unit Excavation in Progress

Looking Southwest





Image 9: Location I Test Unit

Looking Northwest



Image 10: Test Pit Survey at 10 m Intervals

Looking Southwest

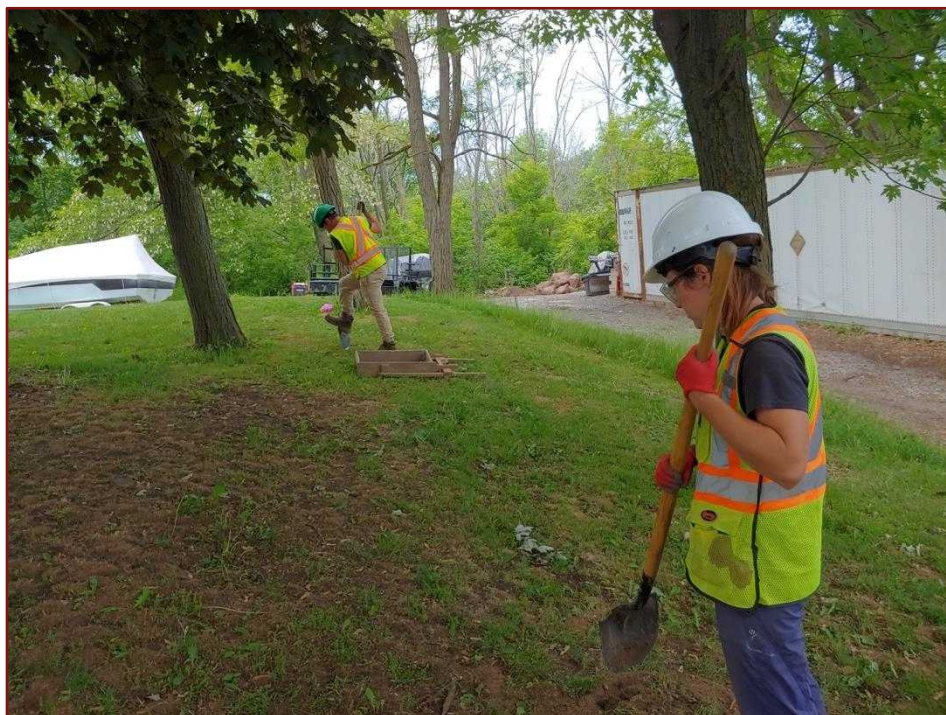


Image 11: Typical Disturbed Test Pit



Image 12: Creek Within Project Area

Looking Northeast

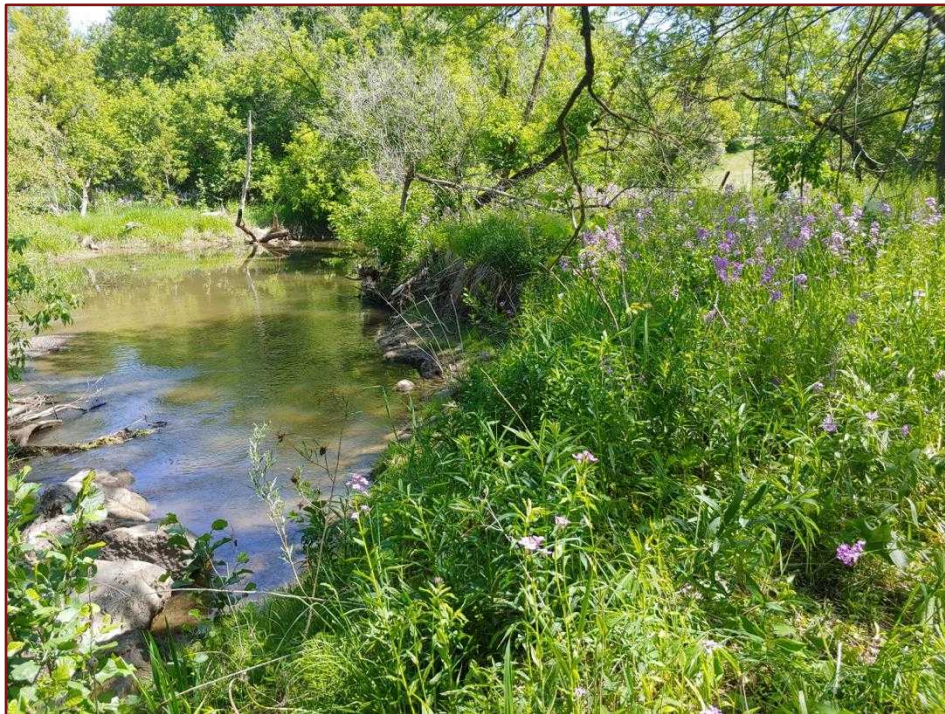


Image I3: Pond Within Project Area

Looking South



Image I4: Area of Slope Within Project Area

Looking Southwest

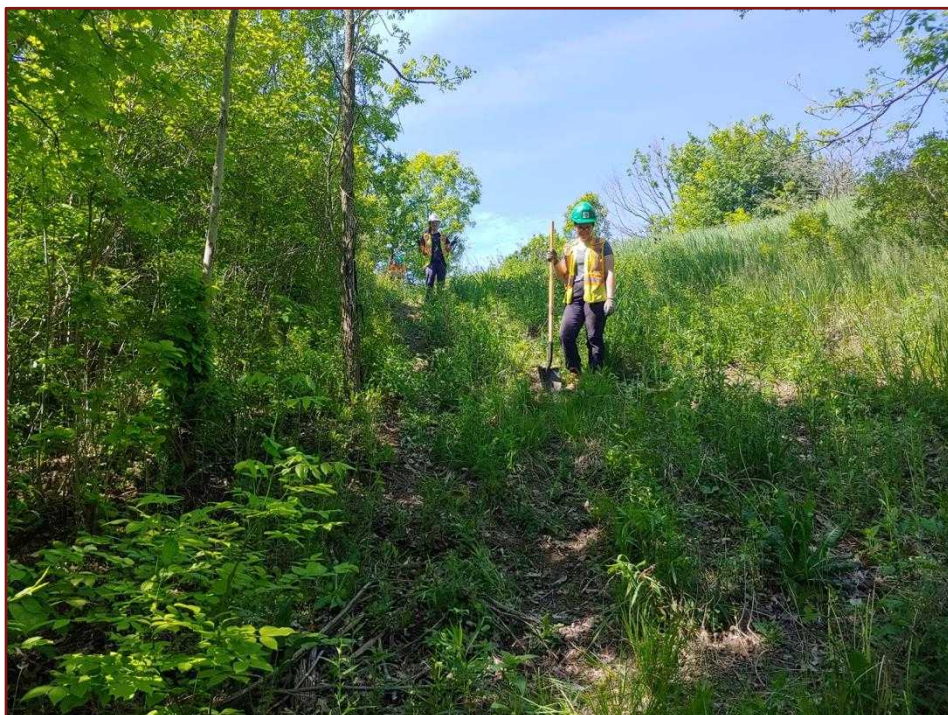


Image 15: Area of Slope Within Project Area

Looking Southwest



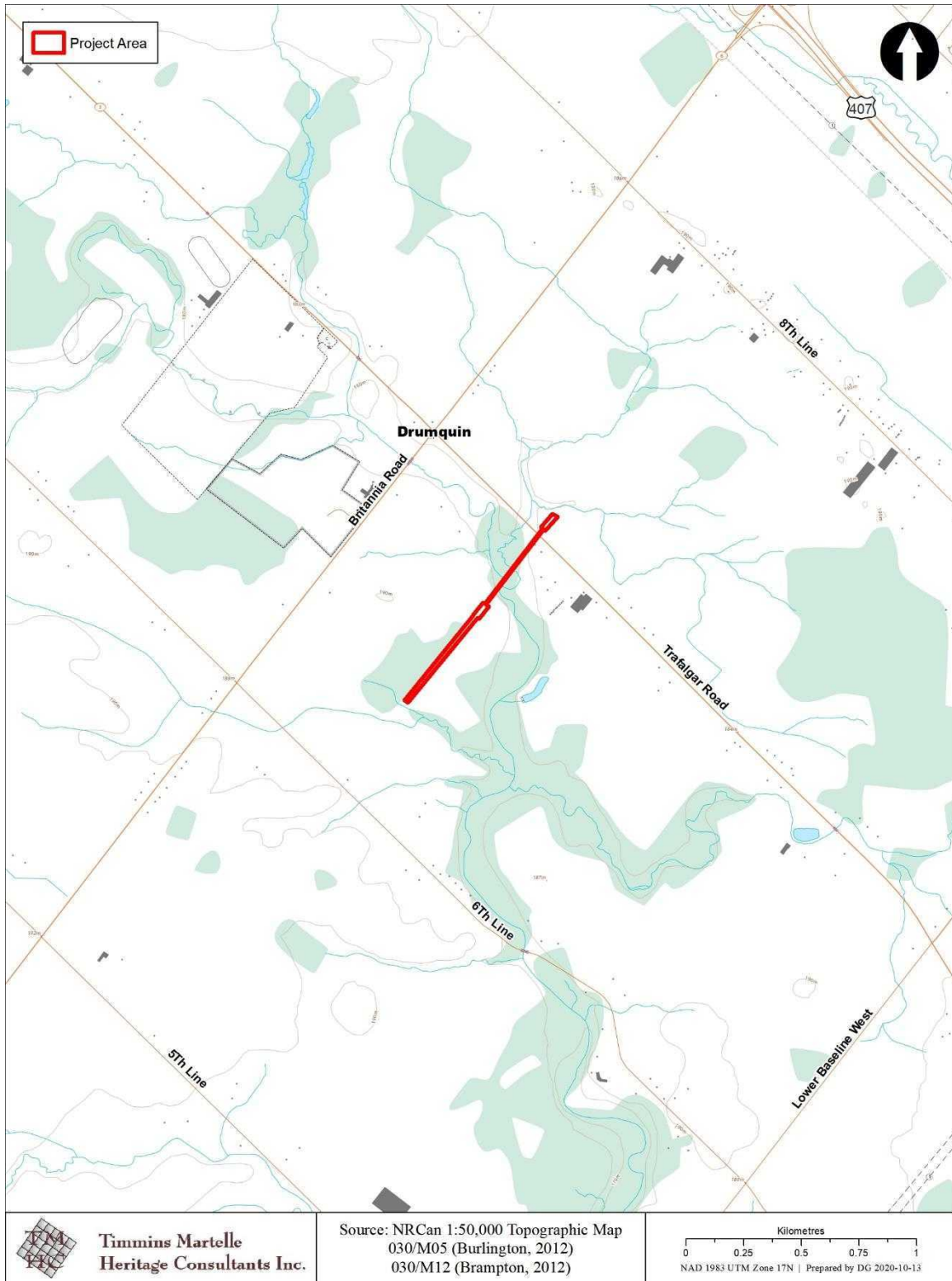
Image 16: Location 1 Stage 2 Artifacts



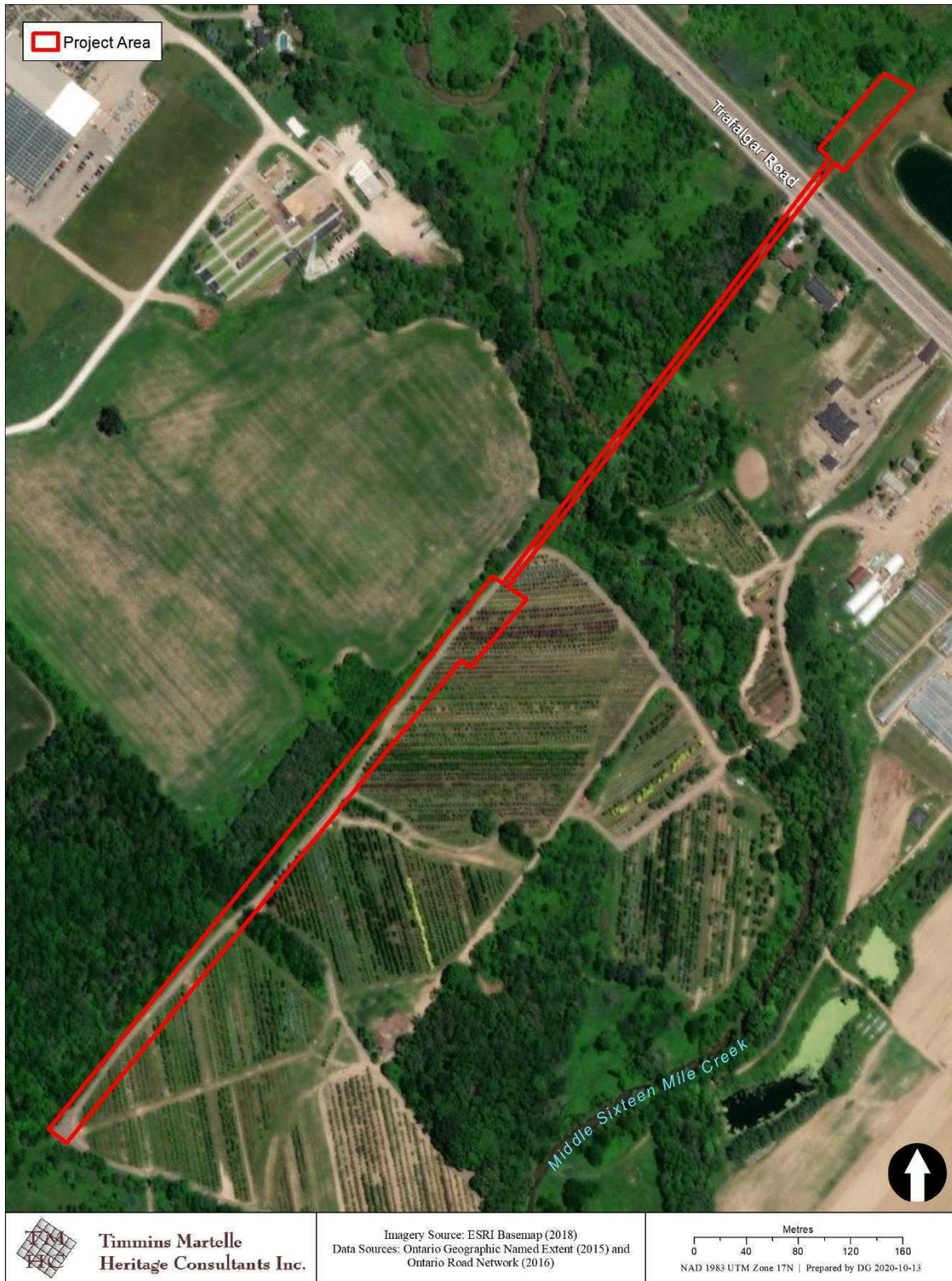
A) flake fragment, Kettle Point chert, cat. 1; B) flake fragment, Onondaga chert, cat. 2; C) flake fragment, Onondaga chert, cat. 3



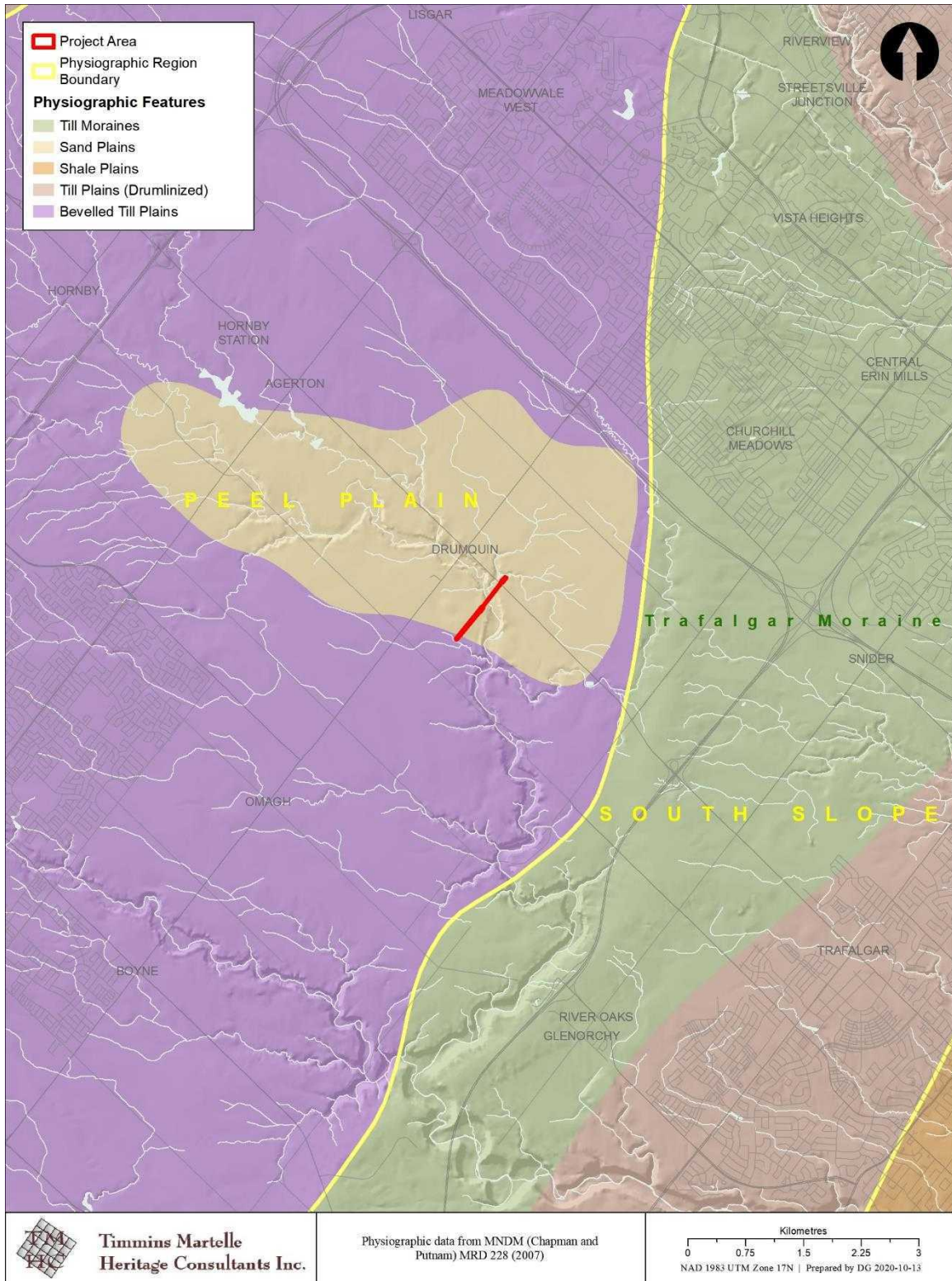
7 MAPS



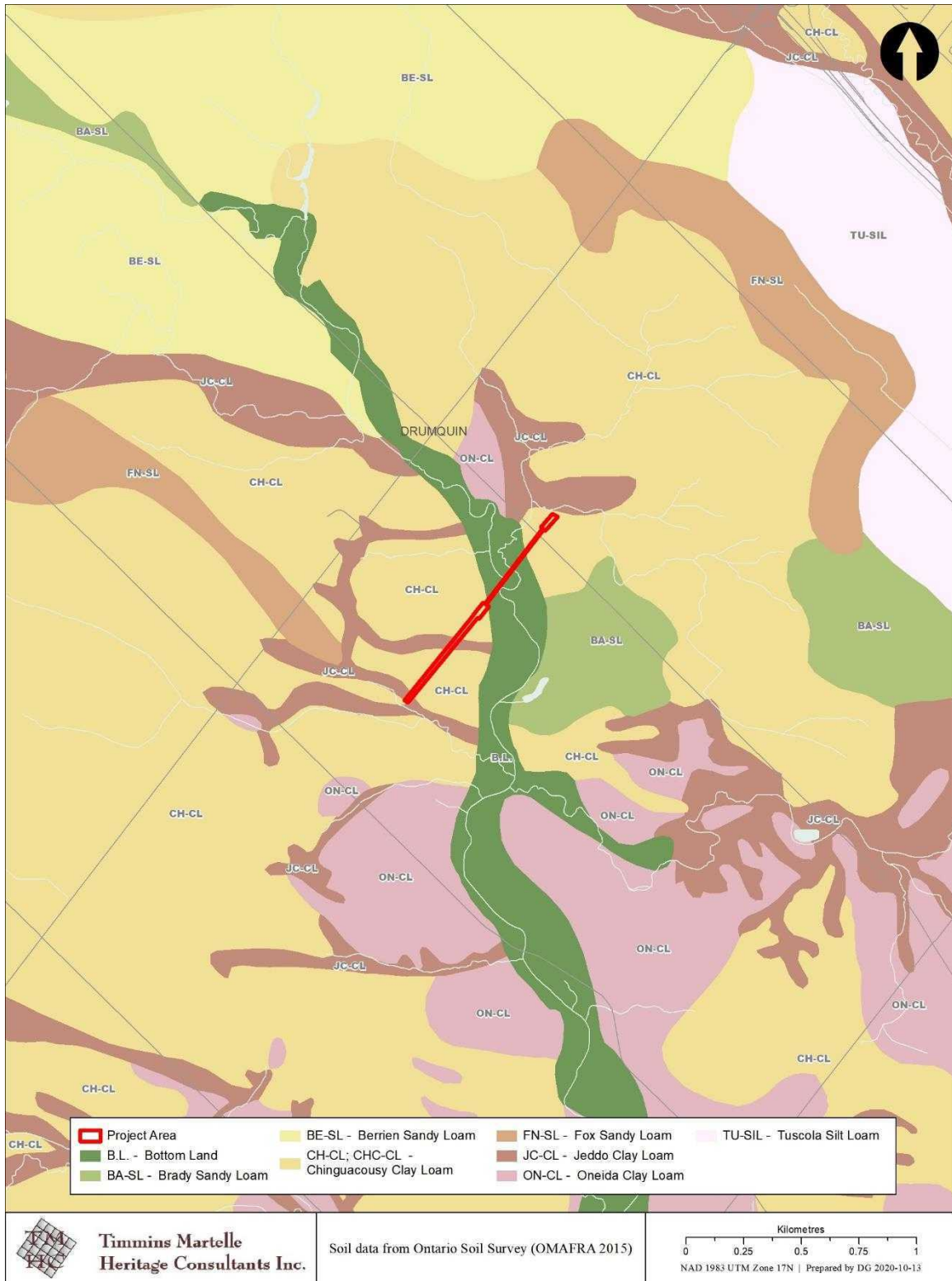
Map 1: Location of the Project Area in Milton, ON



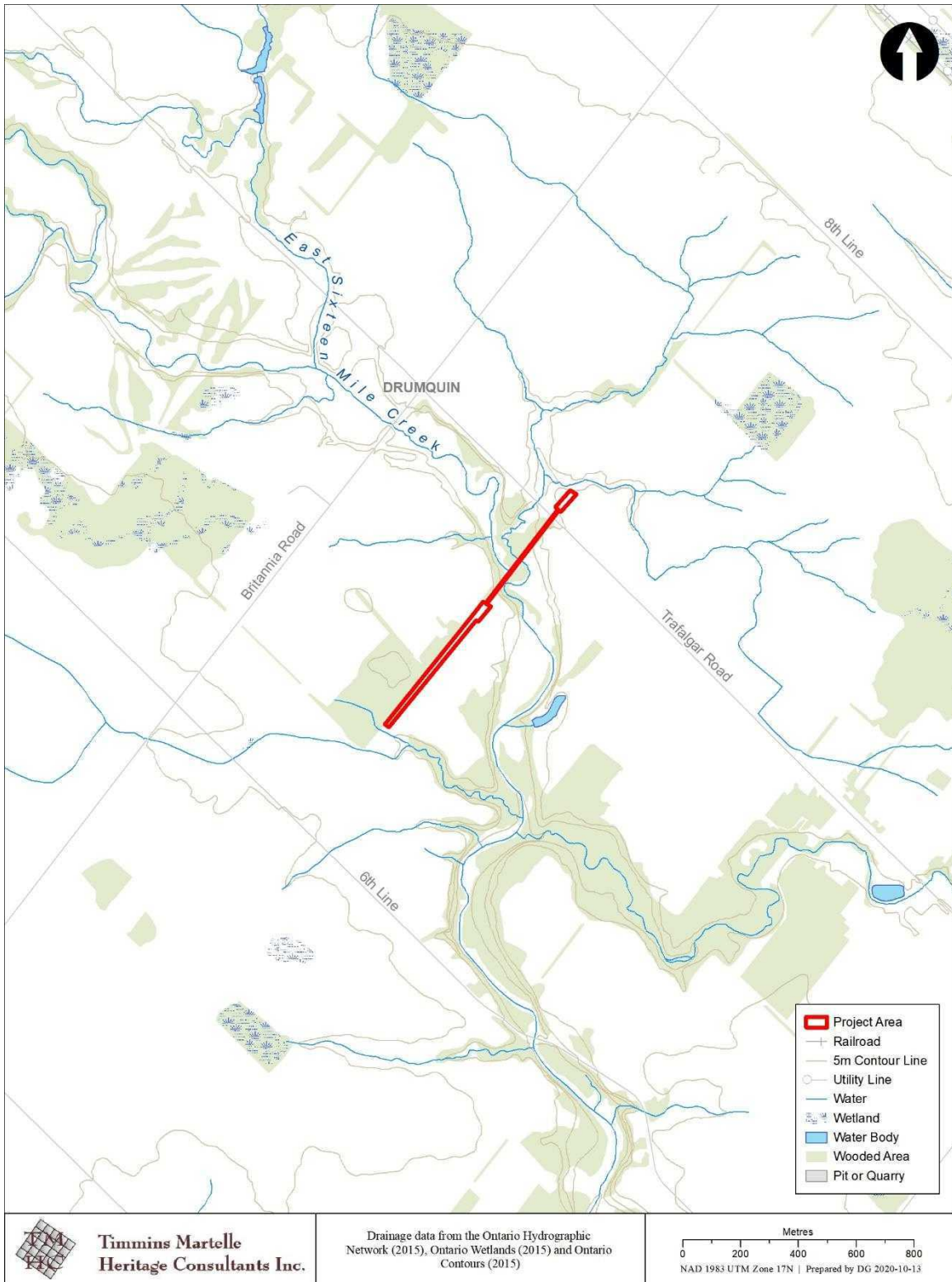
Map 2: Aerial Photograph Showing the Location of the Project Area



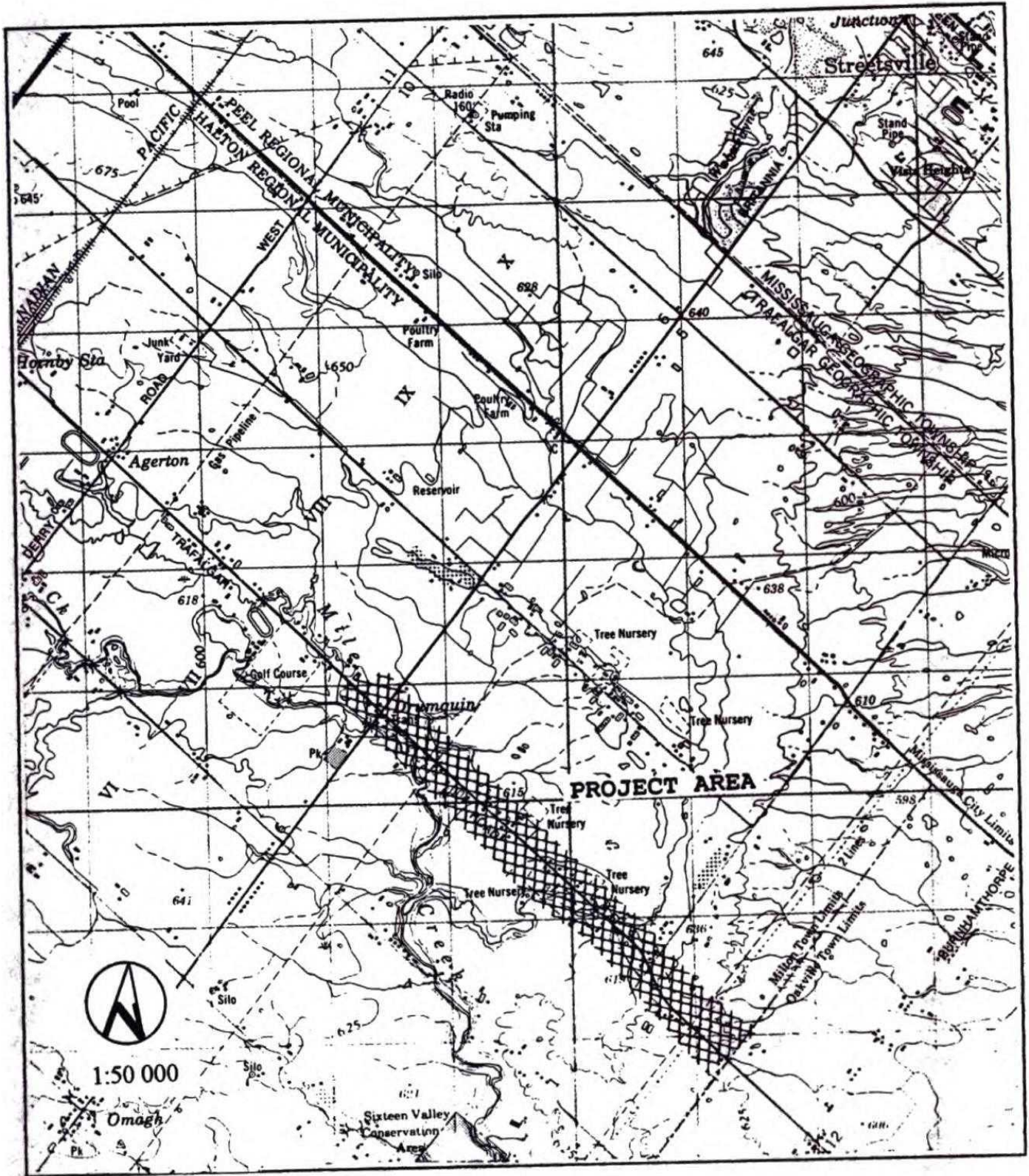
Map 3: Physiography Within the Vicinity of the Project Area



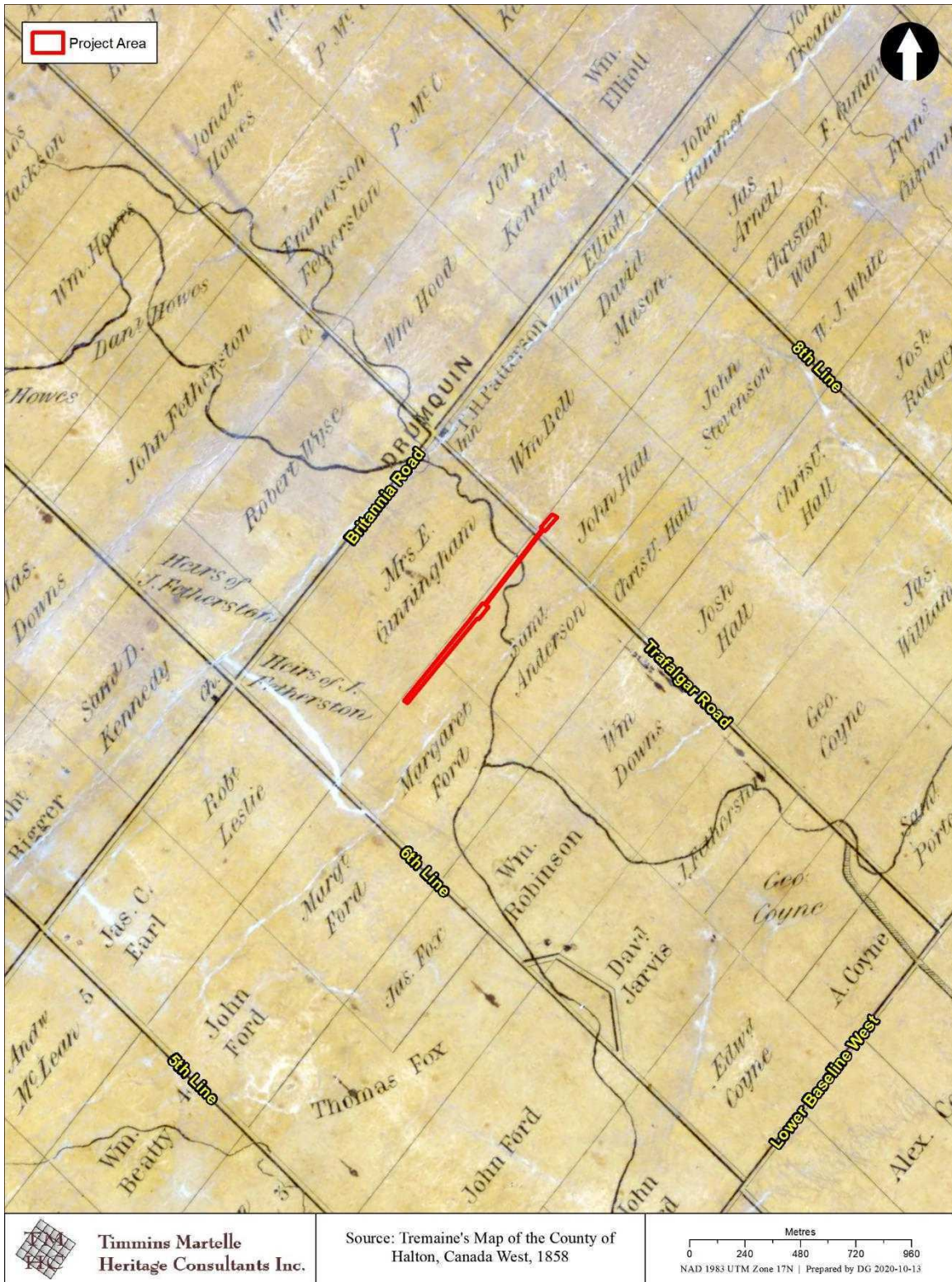
Map 4: Soils Within the Vicinity of the Project Area



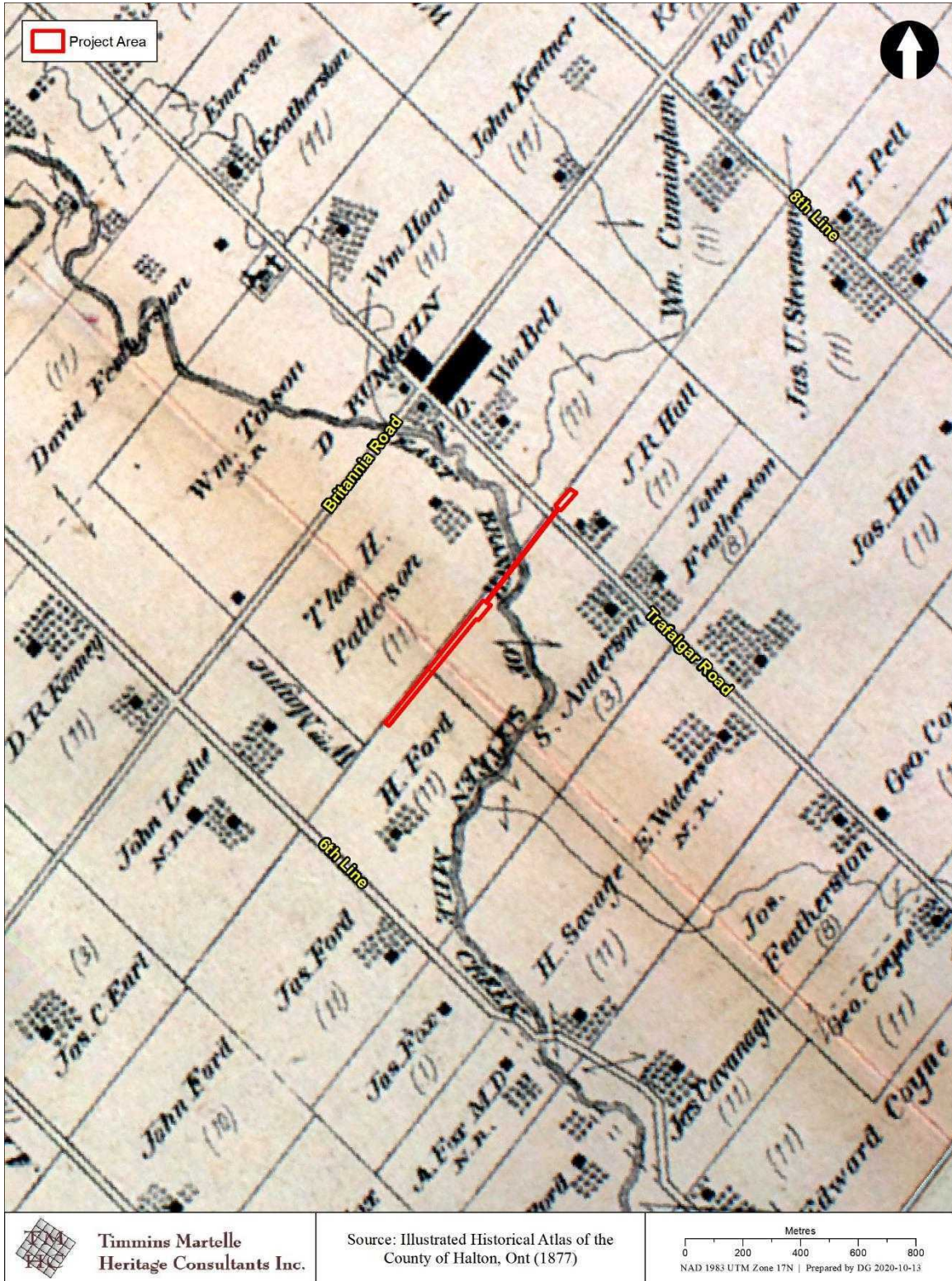
Map 5: Drainage Within the Vicinity of the Project Area



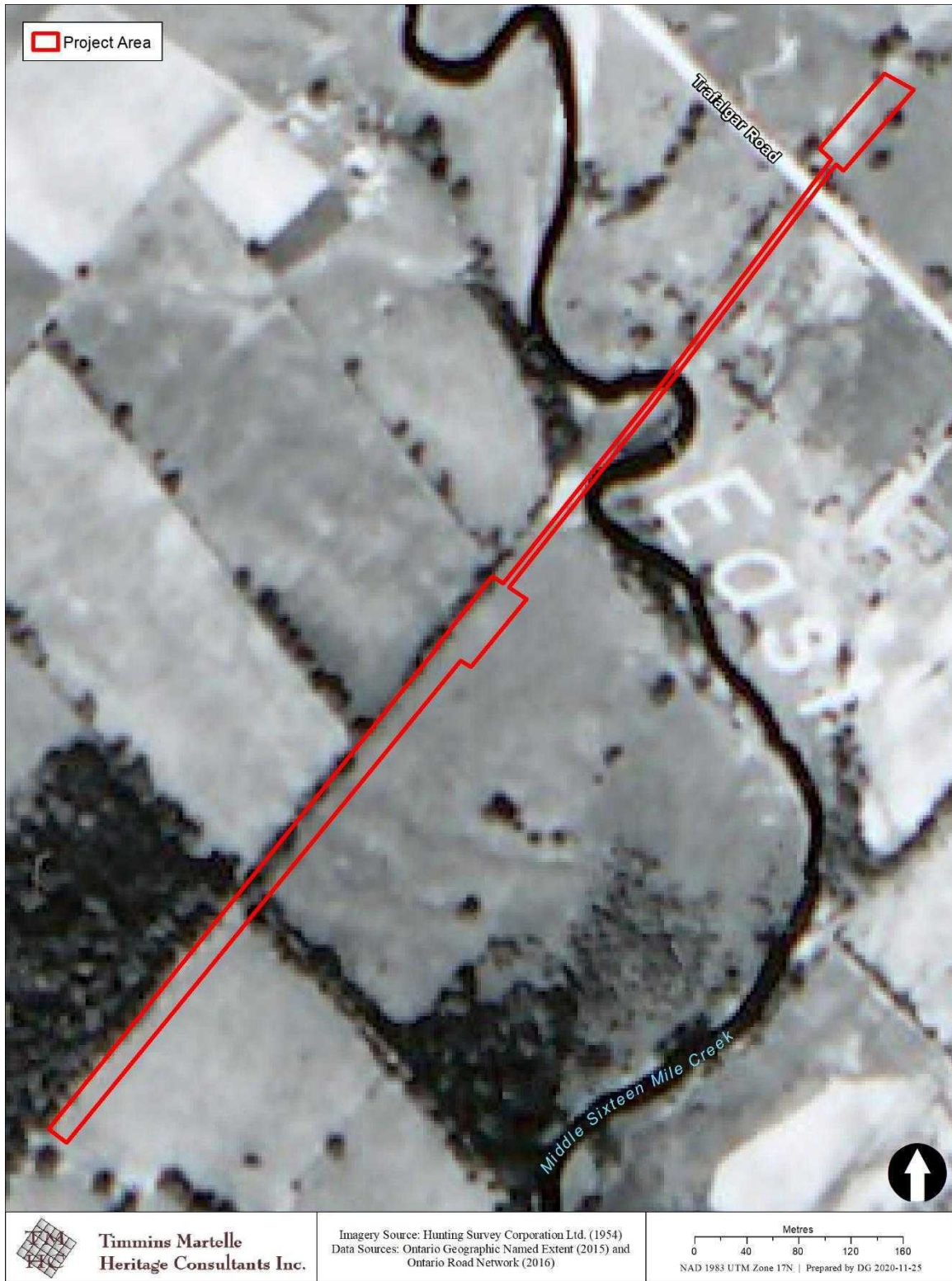
Map 6: Leslie Currie and Associates (1996) Stage 2 Project Area



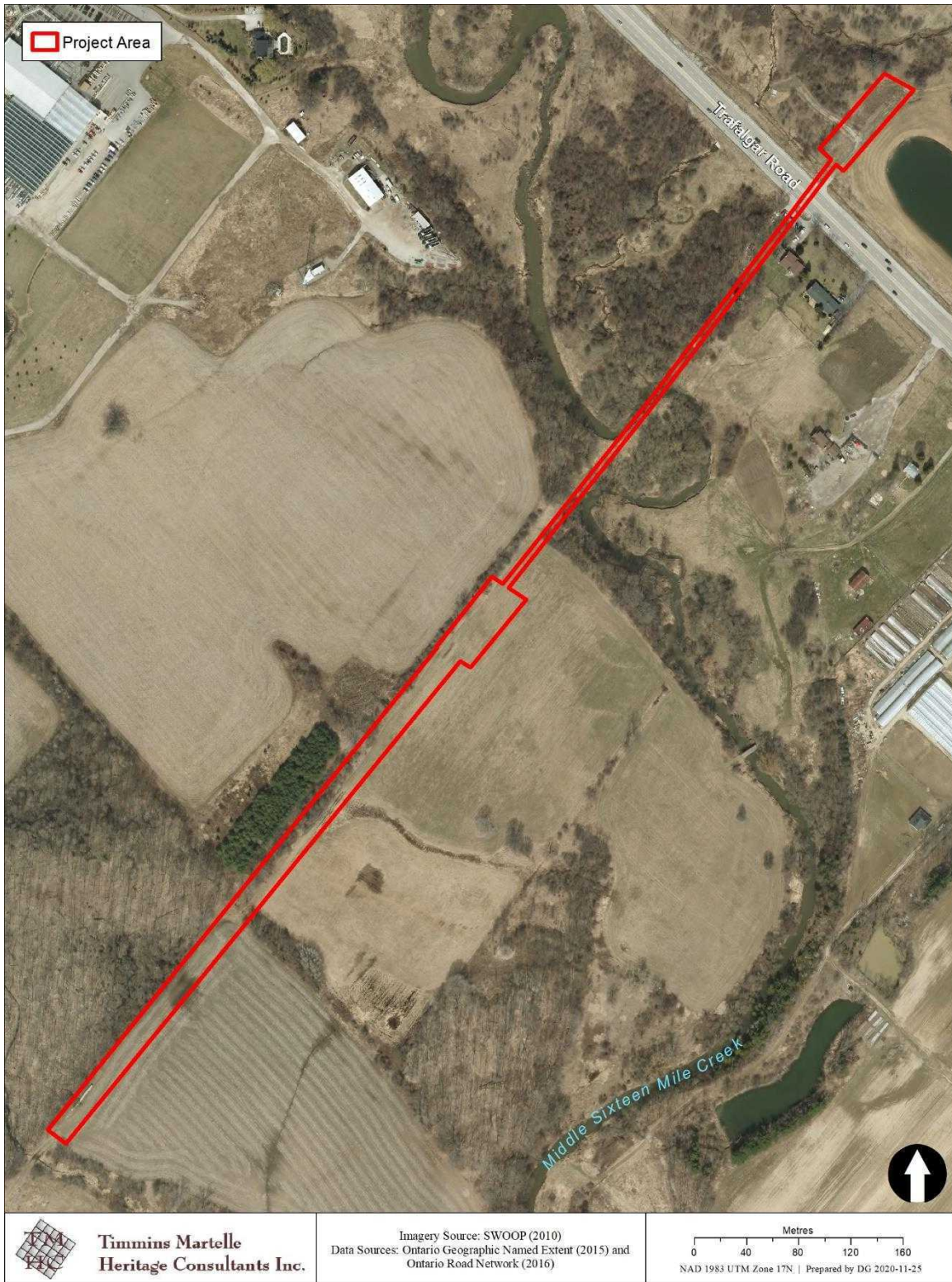
Map 7: Project Area Shown on an 1858 Map of Halton County, ON



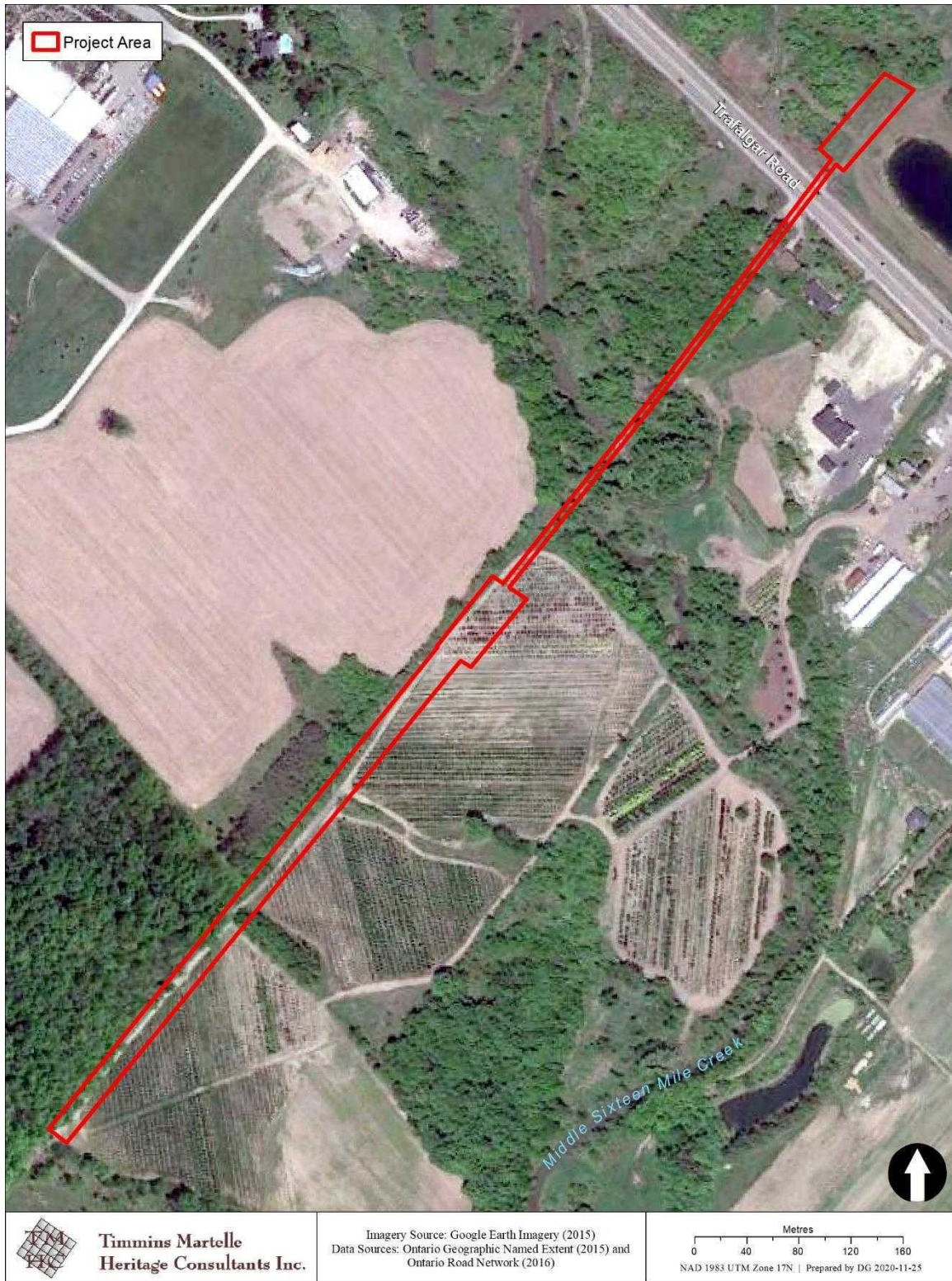
Map 8: Project Area Shown on an 1877 Map of Halton County, ON



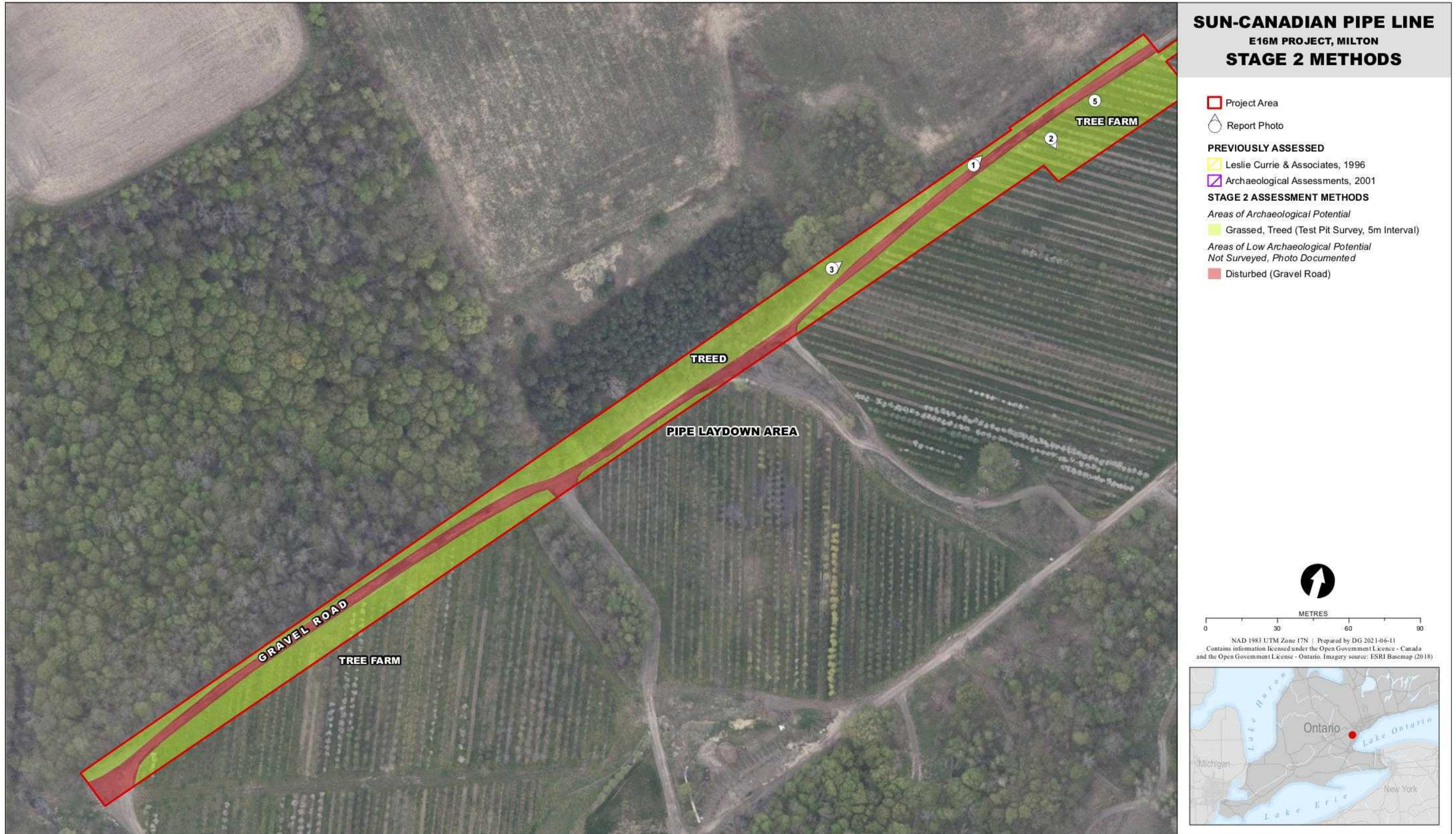
Map 9: Location of the Project Area Shown on a 1954 Aerial Photograph



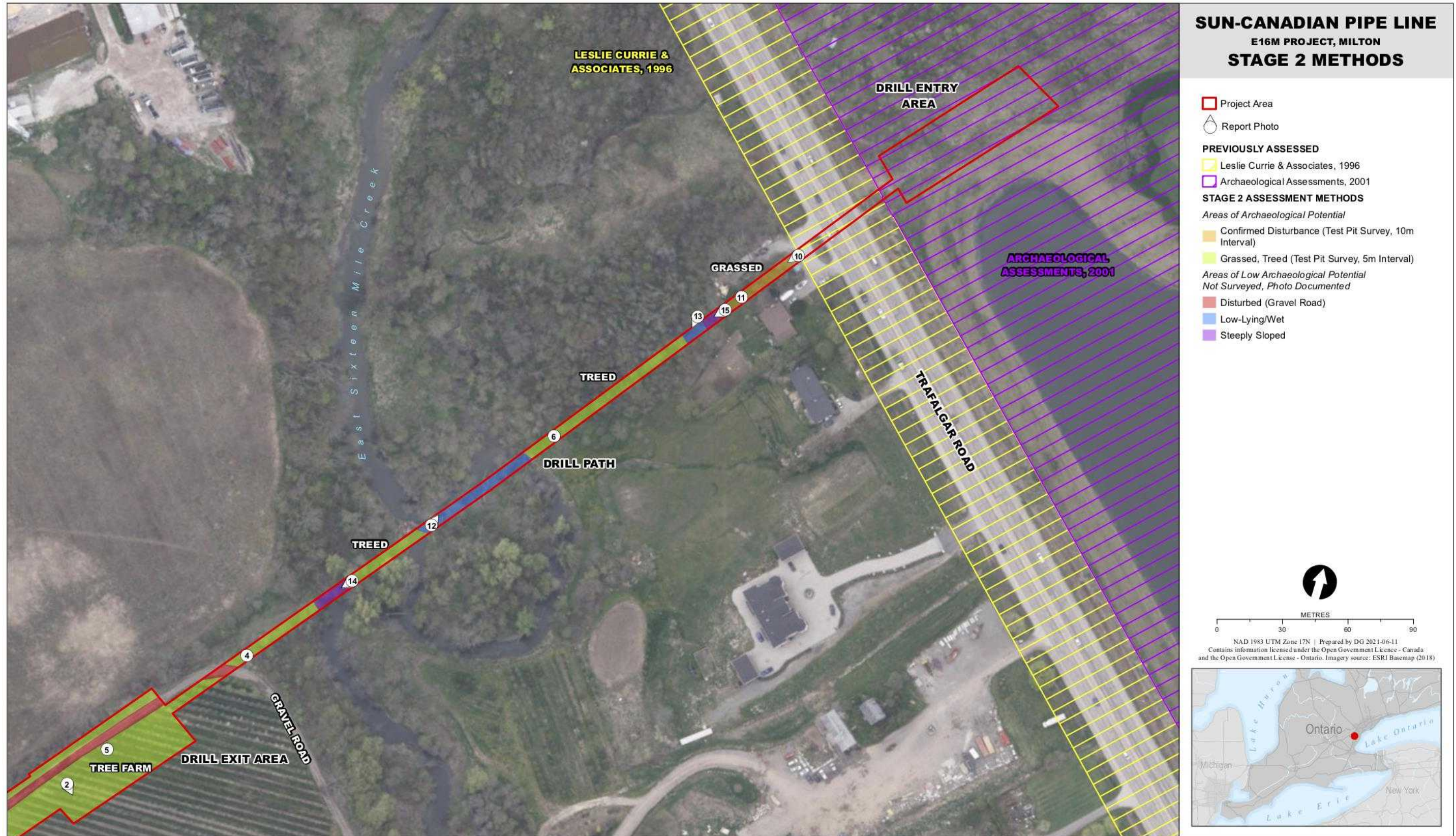
Map 10: Location of the Project Area Shown on a 2010 Aerial Photograph



Map 11: Location of the Project Area Shown on a 2015 Aerial Photograph



Map 12: Stage 2 Field Conditions and Assessment Methods (1 of 2)



Map 13: Stage 2 Field Conditions and Assessment Methods (2 of 2)

APPENDIX F: CULTURAL HERITAGE CHECKLIST



The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
 - is a recognized heritage property
 - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
 - the main project area
 - temporary storage
 - staging and working areas
 - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – [separate checklist](#)
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name

Sun-Canadian Pipe Line Company Limited NPS 12 E16M Creek Pipeline Replacement Project

Project or Property Location (upper and lower or single tier municipality)

Town of Milton, Region of Halton

Proponent Name

Sun-Canadian Pipe Line Company Limited

Proponent Contact Information

Peter Martens pmartens@sun-canadian.com

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the <i>Ontario Heritage Act</i> as being of cultural heritage value?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. a National Historic Site (or part of)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. designated under the <i>Heritage Railway Stations Protection Act</i> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. designated under the <i>Heritage Lighthouse Protection Act</i> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. has or is adjacent to a known burial site and/or cemetery?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. is in a Canadian Heritage River watershed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. contains buildings or structures that are 40 or more years old?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. has a special association with a community, person or historical event?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. contains or is part of a cultural heritage landscape?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
 - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's [Ontario Heritage Toolkit](#) or [Standards and Guidelines for Conservation of Provincial Heritage Properties](#).

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties](#) [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

- i. designated under the *Ontario Heritage Act*
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note:** To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
 - [Ontario Heritage Trust](#)
 - local land registry office (for a title search)
-

ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- [Ontario Heritage Trust](#) - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
 - municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
 - local land registry office (for a title search)
-

iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
 - municipal heritage planning staff
 - municipal heritage committee
-

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note:** To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
 - [Ontario Heritage Trust](#)
-

- v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the [National Historic Sites website](#).

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the [Directory of Designated Heritage Railway Stations](#).

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the [Heritage Lighthouses of Canada website](#).

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the [Federal Heritage Buildings Review Office](#).

See a [directory of all federal heritage designations](#).

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – [World Heritage Site website](#).

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- [municipal heritage committees](#) or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's [Heritage directory](#) – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a [list of plaques](#) commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a [list of plaques](#) commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – to [locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the [Canadian Heritage River System](#).

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide [Heritage Property Evaluation](#).

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- [municipal heritage committees](#) or local heritage organizations
- Ontario Historical Society's "[Heritage Directory](#)" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through [Ontario Trails](#).

APPENDIX 2 – INDIGENOUS CONSULTATION RECORDS AND SUPPORTING DOCUMENTATION